YAMAWA GENERAL CATALOG

[JIS • ANSI • DIN]

2023 - 2024

100th

Thanks & To the Future with You

Z-PRO





Think threads with YAMAWA

SINCE 1923

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YAMAWA Product Search and Tap Calculator Tool

A handy application for quick search

An easy-to-use application for helping you quickly and smoothly find products and information from anywhere, anytime

App Store

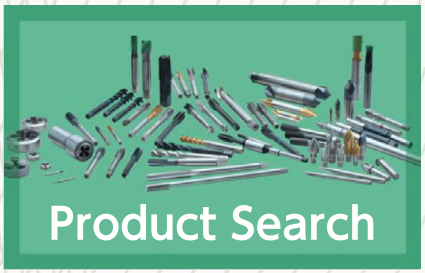
Google Play

Download now

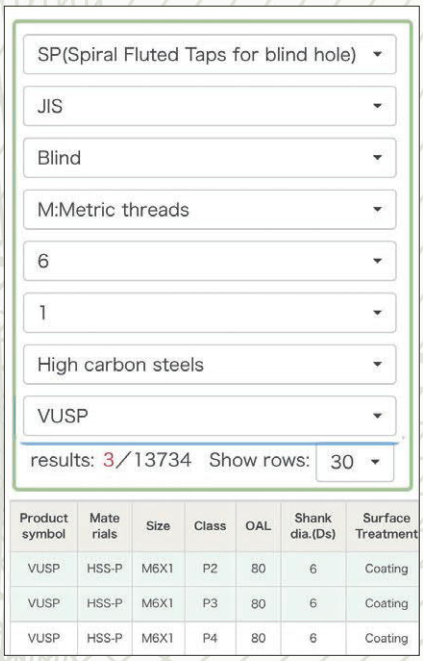


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Quickly find the right tap and tapping conditions!

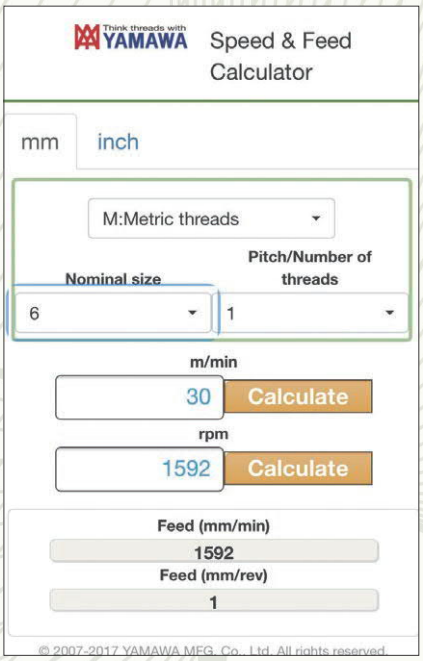


Easily find the right tap for the intended use.



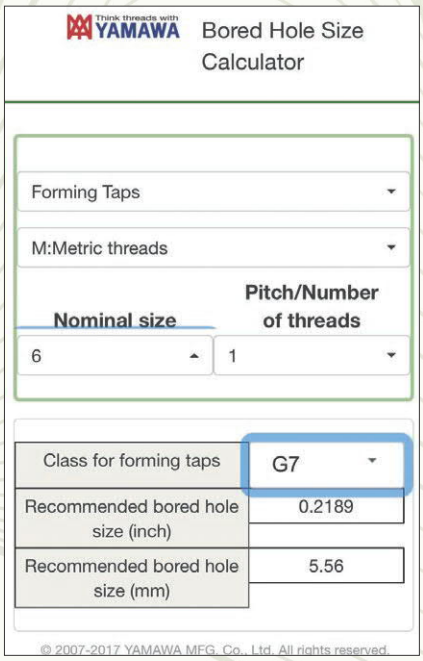
Speed & Feed

Use the handy calculator to convert a recommended tapping speed into revolution speed/feed.



Bored Hole Size

Use the handy tool to calculate a recommended bored hole size for a specific thread size.



Find products on your smartphone wherever you are.

At a production site



If you need a new tap on-site, search for it on your smartphone right away.

In a design department



Input search parameter to find the best suited tap for your design drawing from many of YAMAWA products.

At a trading company



If you find it difficult to search through many products, use the tool on your smartphone to narrow down the product candidates.

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YAMAWA GENERAL CATALOG

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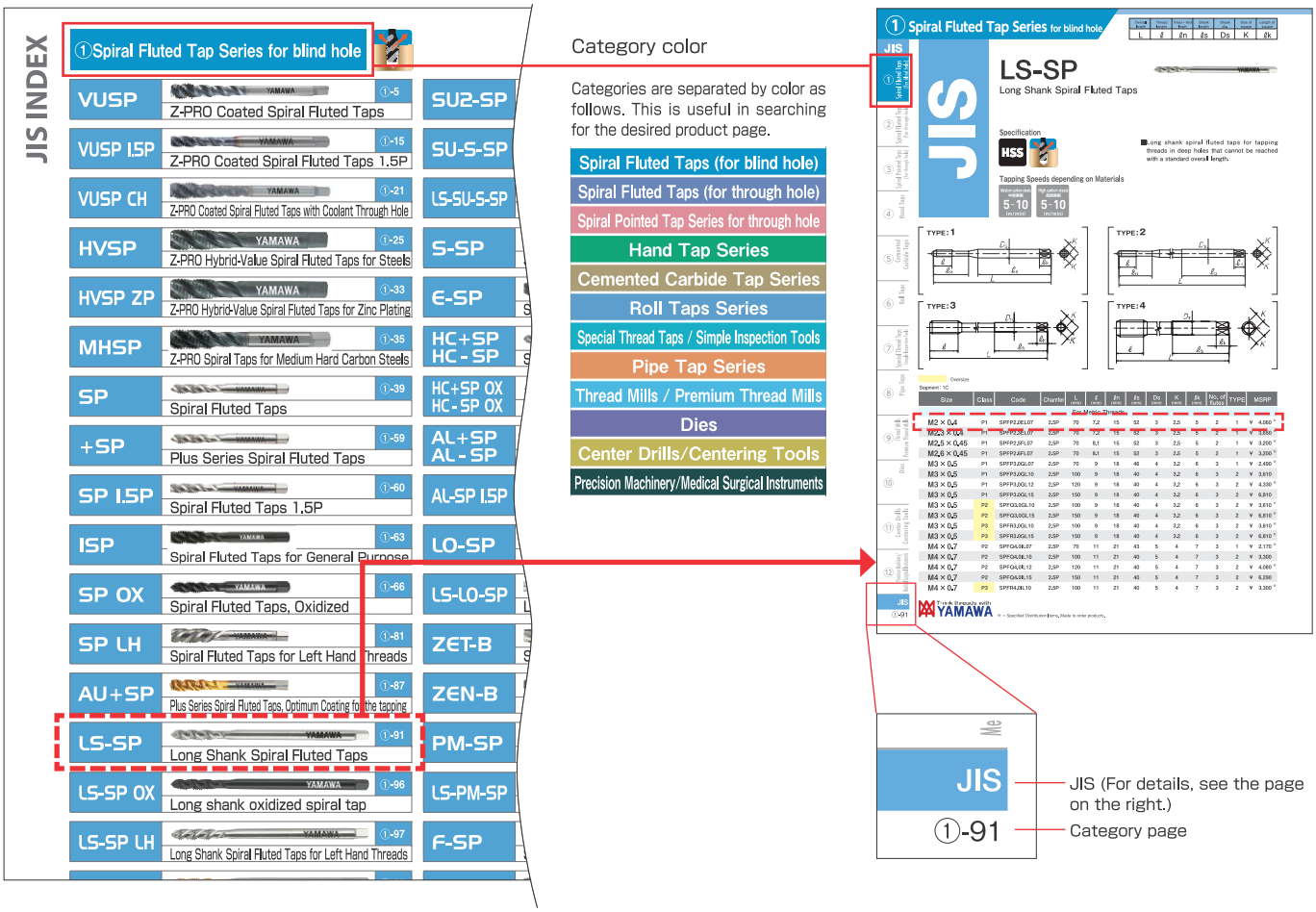
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How to Read the General Catalog

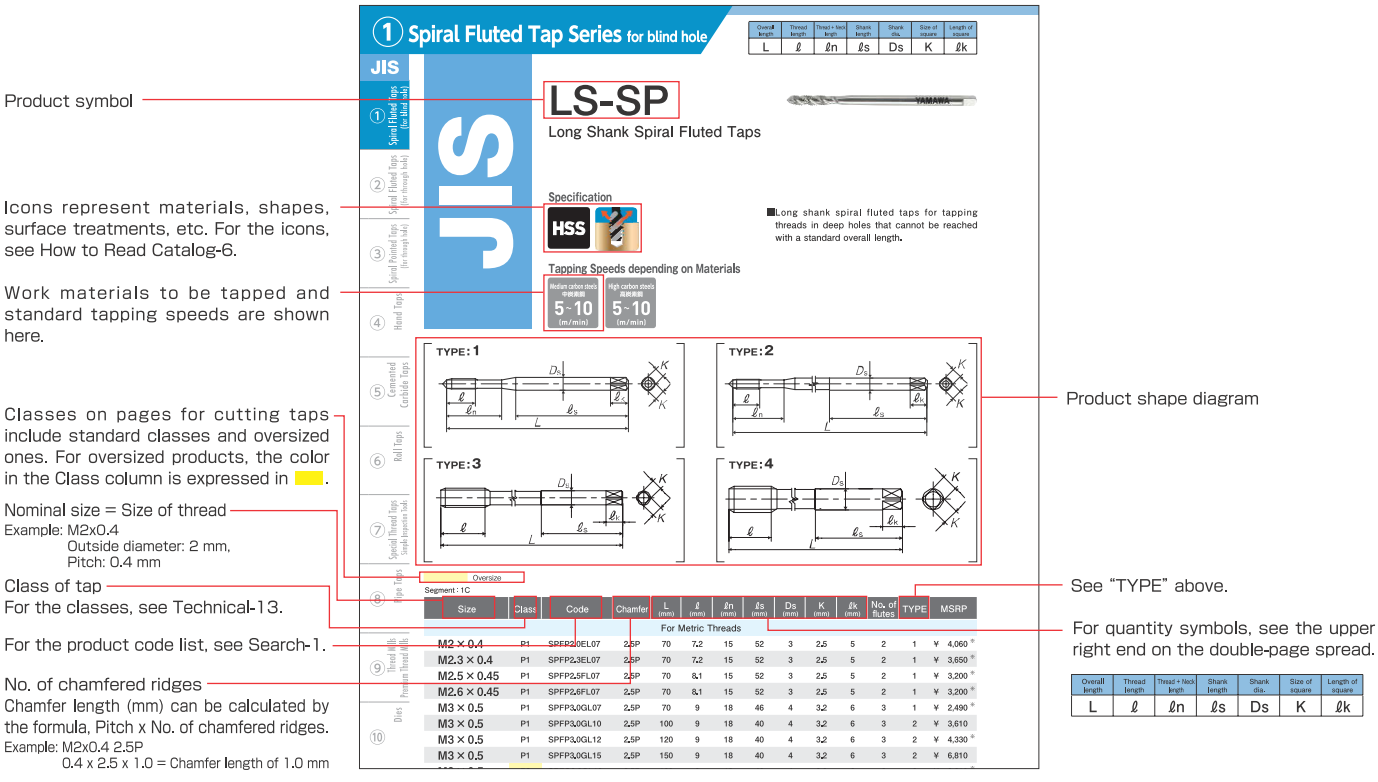
You can search for products in six ways: ❶ Line-ups arranged on products, ❷ Line-ups arranged on sizes, ❸ Work materials and tapping conditions, ❹ Product codes, ❺ Product symbols, and ❻ Work materials and cutting speeds.

❶ Searching from line-ups arranged on products: Line-ups arranged on products [Product Line-ups-0 to 13]

To search for + LS-SP M2x0.4



How to read product pages



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About JIS, DIN, and ANSI

▸ Difference in standard

There are broadly three types of standards for taps: JIS, DIN, and ANSI.

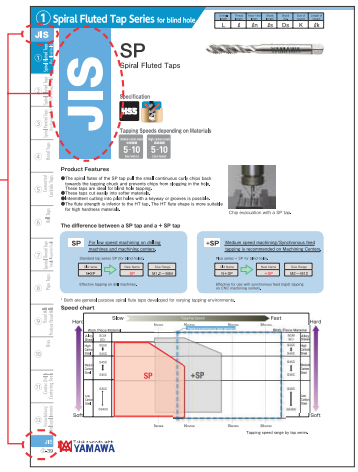
JIS: Based on Japanese national standards, and used especially in Asia. The shape size is expressed in mm.

DIN: Based on German national standards, and used especially in Europe. The shape size is expressed in mm. The overall length is longer than that in JIS.

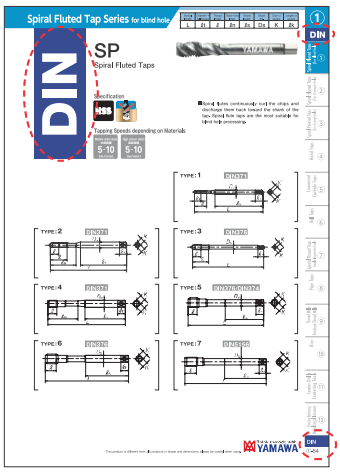
ANSI: Based on American national standards. The shape size is expressed in inches.

⚠ The standards for products are described here. When selecting a product, be careful enough not to confuse them.

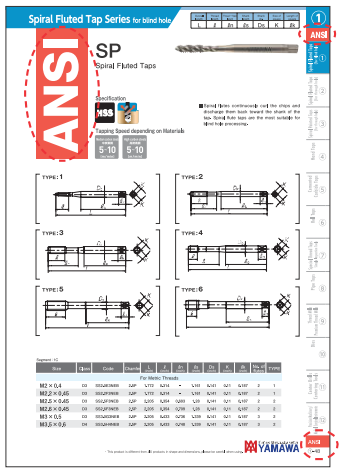
JIS



DIN



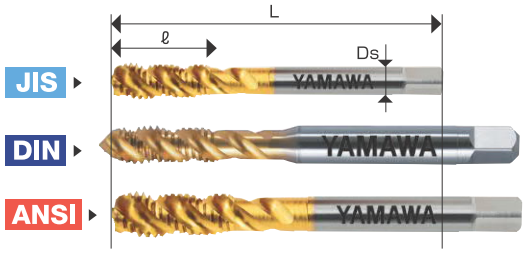
ANSI



▸ Difference in shape Example: M6x1

Standard	Overall length (L)	Thread length (ℓ)	Thread + Neck length (ℓn)	Shank dia. (Ds)	Size of square (K)	Length of square (ℓk)
JIS	62	15	26	6	4.5	7
DIN	80	15	30	6	4.9	8
ANSI	80.01 (3.15inch)	15 (0.591inch)	30 (1.181inch)	6.47 (0.255inch)	4.85 (0.191inch)	7.9 (0.312inch)

Be aware that, even if the shank diameter is the same, the same tap collet cannot be used because the size of square is different!



▸ Difference in accuracy Example: M6x1

JIS

M6 × 1	P2	SPQ6.0M	2.5P	62	15	26	33	6	4.5	7	3	3	¥ 1,280
M6 × 1	P2	SPQ6.0M-T	2.5P	62	15	26	33	6	4.5	7	3	4	¥ 1,280
M6 × 1	P3	SPR6.0M	2.5P	62	15	26	33	6	4.5	7	3	3	¥ 1,280
M6 × 1	P4	SPS6.0M	2.5P	62	15	26	33	6	4.5	7	3	3	¥ 1,280

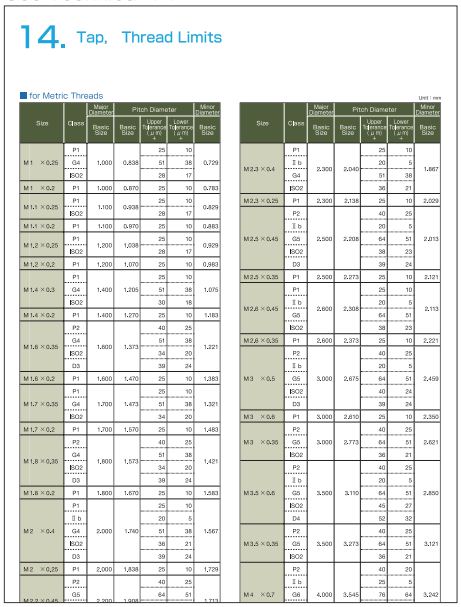
DIN

M6 × 1	ISO2	SD6.0MANEB	2.5P	80	11	15	30	45	6	4.9	8	3	2
M6 × 1	ISO2	SG6.0MANEB	2.5P	80	11	15	-	-	4.5	3.4	6	3	3
M6 × 1	ISO3	SD6.0MMNEB	2.5P	80	11	15	30	45	6	4.9	8	3	2

ANSI

M6 × 1	D5	SS6.0M5NEB	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2

See Technical-14.


14. Tap, Thread Limits

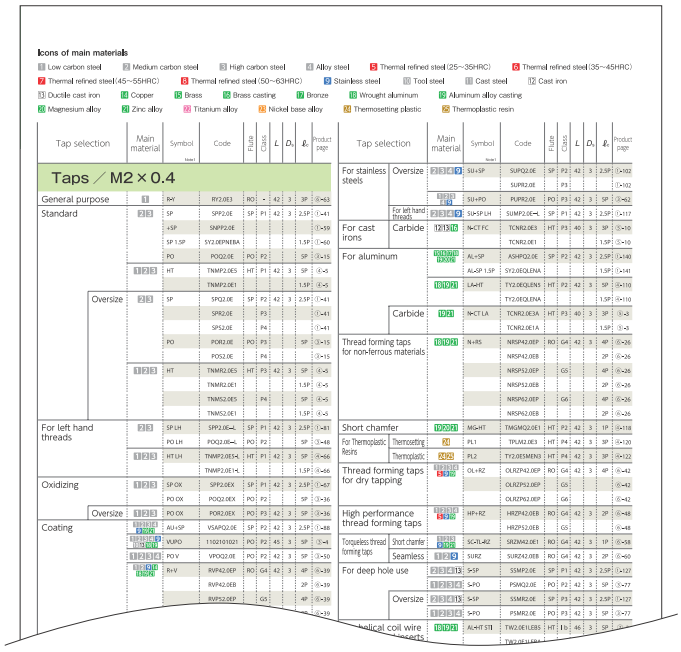
for Metric Threads

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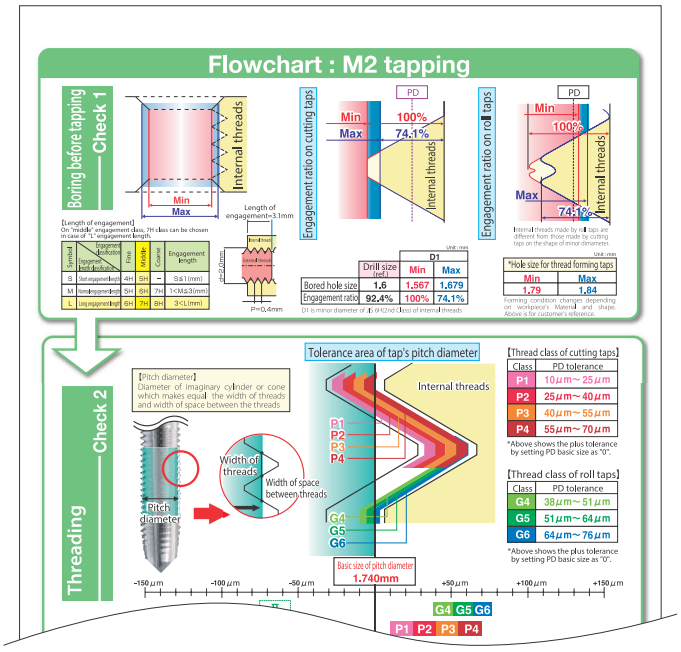
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How to Read the General Catalog

2 Searching from line-ups arranged on sizes: Line-ups arranged on sizes [Sizes-0 to 133]

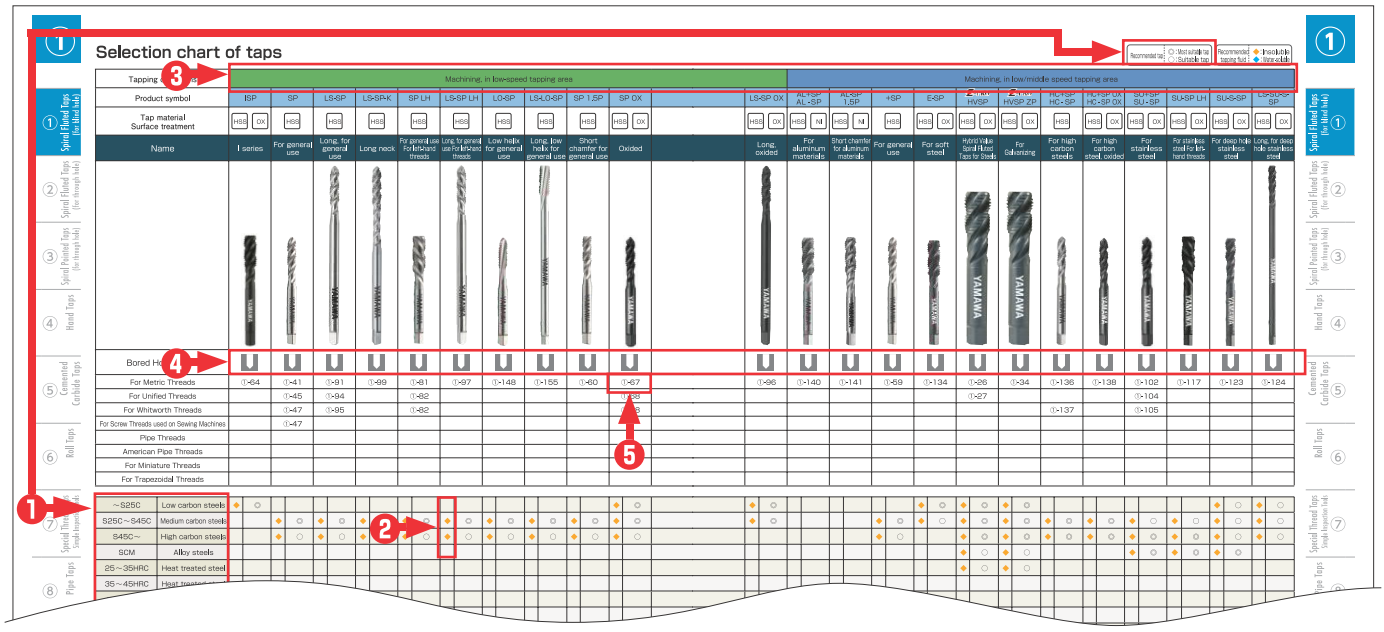


It is possible to select taps and dies from the size of the thread to tap. Available work materials, main shape sizes of products, and other information are also described here.
For details of products, see their respective pages.



For main sizes M2 to M12, the tapping flow is described, while the series of tapping steps, i.e. Boring before tapping → Threading → Gage check, is illustrated with figures.
Bored hole sizes, accuracy of internal threads, and accuracy of taps are also described here. Just seeing this page allows you to perform threading.

3 Searching from work materials and tapping conditions: Selection chart of taps [On the first page of each category section]



Check the following conditions.

[Work materials]
❶ Types of materials
Most suitable tap and suitable tap

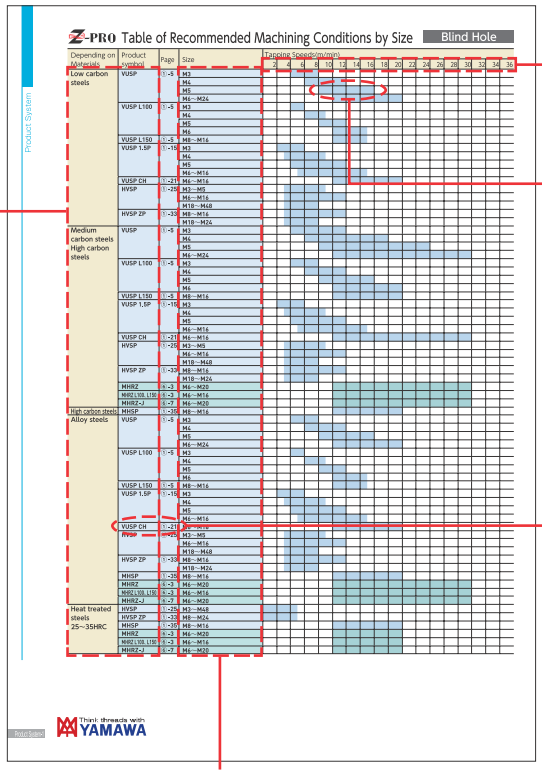
[Tapping conditions]
❷ Water-soluble or water-immiscible
❸ Machine and tapping conditions
❹ Hole shape (through hole or blind hole)

❺ Page No.

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4 Searching from work materials and cutting speeds: Speed chart [Product System-1 to 11]

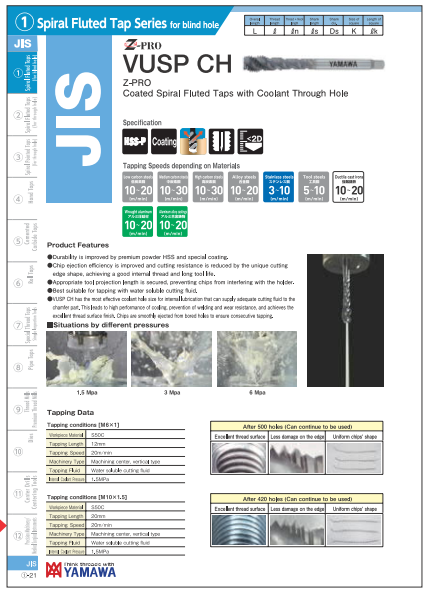


Work materials and typical grades are described here.

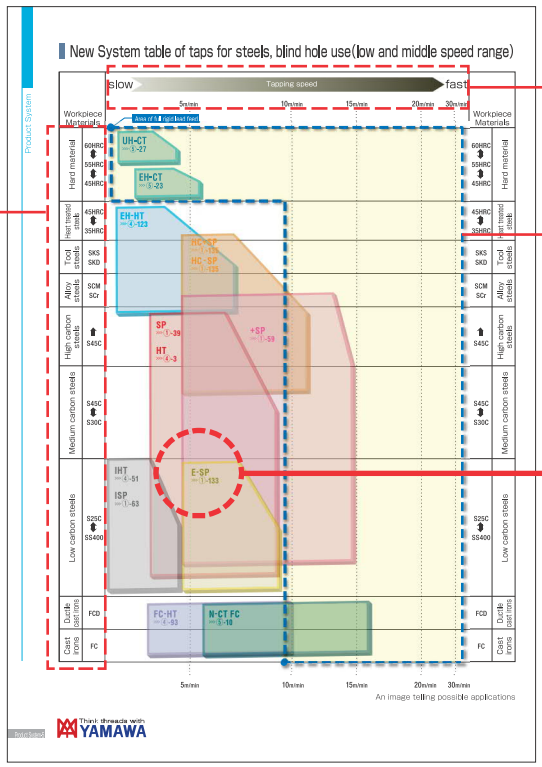
Tapping sizes are shown here.

Cutting speeds for respective tapping sizes are shown here. For thread diameters smaller than M6, it is recommended that the tapping speed is lowered as the thread diameter becomes smaller.

Represents the tap size range.



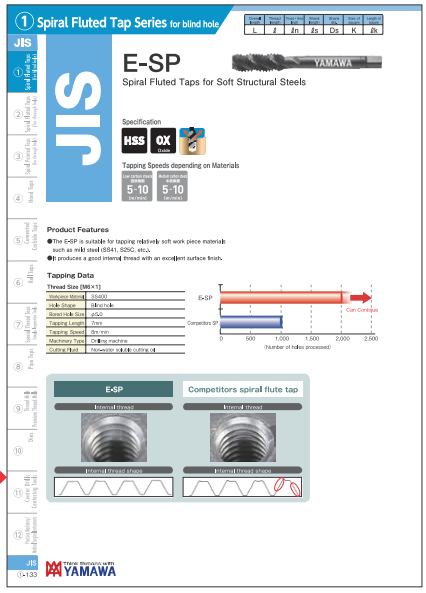
(Example) Bored hole shape: Blind hole, Workpiece: Low carbon steel, Tapping speed: 5 m/min



Work materials, typical symbol names, and hardness (HRC) are described here.

Tapping speeds are shown here.

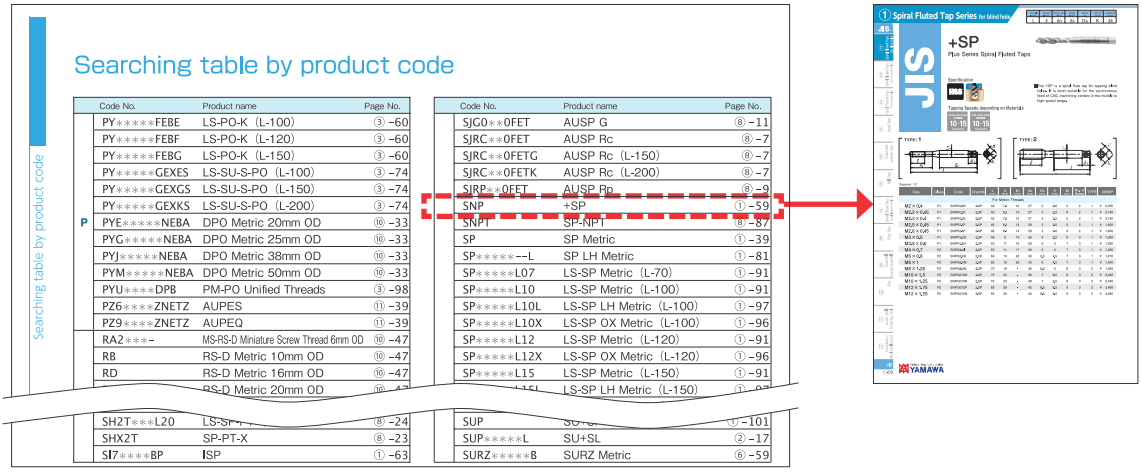
It is recommended that products in the blue dotted box are used for tapping with fully synchronized feed.



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How to Read the General Catalog

5 Searching from product codes: Searching table by product code [Search-1 to 5]



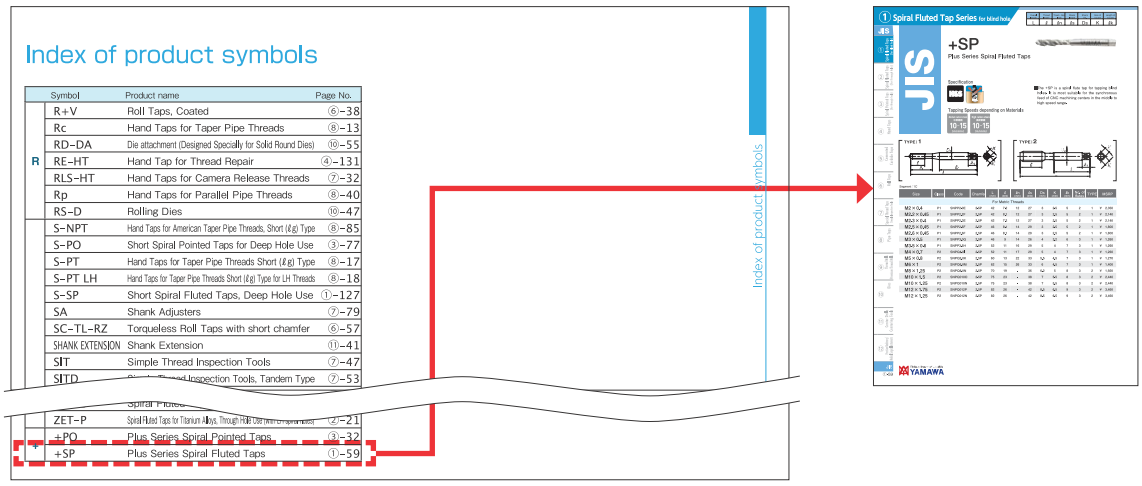
Searching table by product code

Searching table by product code

	Code No.	Product name	Page No.
P	PY*****FEBE	LS-PO-K (L-100)	③-60
	PY*****FEBF	LS-PO-K (L-120)	③-60
	PY*****FEBG	LS-PO-K (L-150)	③-60
	PY*****GEXES	LS-SU-S-PO (L-100)	③-74
	PY*****GEXGS	LS-SU-S-PO (L-150)	③-74
	PY*****GEXKS	LS-SU-S-PO (L-200)	③-74
	PYE*****NEBA	DPO Metric 20mm OD	⑩-33
	PYG*****NEBA	DPO Metric 25mm OD	⑩-33
	PYJ*****NEBA	DPO Metric 38mm OD	⑩-33
	PYM*****NEBA	DPO Metric 50mm OD	⑩-33
	PYU****DPB	PM-PO Unified Threads	③-98
	PZ6****ZNETZ	AUPES	⑪-39
	PZ9****ZNETZ	AUPEQ	⑪-39
	RA2***-	MS-RS-D Miniature Screw Thread 6mm OD	⑩-47
	RB	RS-D Metric 10mm OD	⑩-47
	RD	RS-D Metric 16mm OD	⑩-47
		RS-D Metric 20mm OD	⑩-47
	SH2T***L20	LS-SP [illegible]	⑧-24
	SHX2T	SP-PT-X	⑧-23
	SI7****BP	ISP	①-63

Code No.	Product name	Page No.
SJG0**0FET	AUSP G	⑧-11
SJRC**0FET	AUSP Rc	⑧-7
SJRC**0FETG	AUSP Rc (L-150)	⑧-7
SJRC**0FETK	AUSP Rc (L-200)	⑧-7
SJRP**0FET	AUSP Rp	⑧-9
SNP	+SP	①-59
SNPT	SP-NPT	⑧-87
SP	SP Metric	①-39
SP*****--L	SP LH Metric	①-81
SP*****L07	LS-SP Metric (L-70)	①-91
SP*****L10	LS-SP Metric (L-100)	①-91
SP*****L10L	LS-SP LH Metric (L-100)	①-97
SP*****L10X	LS-SP OX Metric (L-100)	①-96
SP*****L12	LS-SP Metric (L-120)	①-91
SP*****L12X	LS-SP OX Metric (L-120)	①-96
SP*****L15	LS-SP Metric (L-150)	①-91
	LS-SP LH Metric (L-150)	①
SUP		⑰-101
SUP*****L	SU+SL	②-17
SURZ*****B	SURZ Metric	⑥-59

6 Searching from product symbols: Index of product symbols [Search-6 to 8]



Index of product symbols

Index of product symbols

	Symbol	Product name	Page No.
R	R+V	Roll Taps, Coated	⑥-38
	Rc	Hand Taps for Taper Pipe Threads	⑧-13
	RD-DA	Die attachment (Designed Specially for Solid Round Dies)	⑩-55
	RE-HT	Hand Tap for Thread Repair	④-131
	RLS-HT	Hand Taps for Camera Release Threads	⑦-32
	Rp	Hand Taps for Parallel Pipe Threads	⑧-40
	RS-D	Rolling Dies	⑩-47
S	S-NPT	Hand Taps for American Taper Pipe Threads, Short (#g) Type	⑧-85
	S-PO	Short Spiral Pointed Taps for Deep Hole Use	③-77
	S-PT	Hand Taps for Taper Pipe Threads Short (#g) Type	⑧-17
	S-PT LH	Hand Taps for Taper Pipe Threads Short (#g) Type for LH Threads	⑧-18
	S-SP	Short Spiral Fluted Taps, Deep Hole Use	①-127
	SA	Shank Adjusters	⑦-79
	SC-TL-RZ	Torqueless Roll Taps with short chamfer	⑥-57
	SHANK EXTENSION	Shank Extension	⑪-41
	SIT	Simple Thread Inspection Tools	⑦-47
	SITD	[illegible] Inspection Tools, Tandem Type	⑦-53
	ZET-P	Spiral Fluted Taps for Titanium Alloys, Through Hole Use (With Oil Hole Type)	②-21
+	+PO	Plus Series Spiral Pointed Taps	③-32
	+SP	Plus Series Spiral Fluted Taps	①-59

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Explanation of icons

HSS — High speed steel

HSS-Co — High speed steel (Cobalt HSS)

HSS-P — Powder HSS

HF — Ultra micro grain cemented carbide

Alloy steel — Alloy steel

OX Oxide — Oxidizing

NI Nitride — Nitriding

NX Nitride+Oxide — Nitriding/Oxidizing

Coating — Coated


For blind hole with through coolant hole


For through hole with radial coolant hole



For left hand thread



For synchronized feeding



Number of threads on chamfer



Center drills left hand cut



Cutting length


Spiral pointed tap through hole use


Hand tap through hole use


Hand tap blind hole use


Spiral fluted tap through hole use


Spiral fluted tap blind hole use


Low spiral fluted tap blind hole use


Low spiral fluted tap blind hole use specially for horizontal tapping



Specification Tapping Speeds

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Z-PRO Table of Recommended Machining Conditions by Size

Blind Hole

Depending on Materials	Product symbol	Page	Size	Tapping Speeds(m/min) 2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
Low carbon steels	VUSP	①-5	M3			■	■														
			M4				■	■	■												
			M5					■	■	■	■										
			M6～M24						■	■	■	■	■								
	VUSP L100	①-5	M3			■															
			M4				■	■													
			M5					■	■												
			M6						■	■	■										
	VUSP L150	①-5	M8～M16						■	■	■										
	VUSP 1.5P	①-15	M3		■	■															
			M4		■	■	■	■													
			M5			■	■	■	■												
			M6～M16			■	■	■	■	■	■										
	VUSP CH	①-21	M6～M16						■	■	■	■	■								
	HVSP	①-25	M3～M5			■	■	■													
			M6～M16			■	■	■	■												
			M18～M48			■	■	■													
	HVSP ZP	①-33	M8～M16			■	■	■	■												
			M18～M24			■	■	■													
Medium carbon steels High carbon steels	VUSP	①-5	M3			■	■	■	■												
			M4				■	■	■	■	■	■									
			M5					■	■	■	■	■	■	■	■						
			M6～M24						■	■	■	■	■	■	■	■	■	■			
	VUSP L100	①-5	M3			■	■														
			M4				■	■	■												
			M5					■	■	■	■										
			M6						■	■	■	■	■								
	VUSP L150	①-5	M8～M16						■	■	■	■	■								
	VUSP 1.5P	①-15	M3		■	■															
			M4		■	■	■	■													
			M5			■	■	■	■												
			M6～M16			■	■	■	■	■	■										
	VUSP CH	①-21	M6～M16						■	■	■	■	■	■	■	■	■	■			
	HVSP	①-25	M3～M5			■	■	■	■												
			M6～M16			■	■	■	■	■											
			M18～M48			■	■	■													
	HVSP ZP	①-33	M8～M16			■	■	■	■	■											
			M18～M24			■	■	■													
	MHRZ	⑥-3	M6～M20						■	■	■	■	■	■	■	■	■	■			
	MHRZ L100、L150	⑥-3	M6～M16						■	■	■	■	■	■	■	■	■	■			
	MHRZ-J	⑥-7	M6～M20						■	■	■	■	■	■	■	■	■	■			
High carbon steels	MHSP	①-35	M8～M16						■	■	■	■	■								
Alloy steels	VUSP	①-5	M3			■	■														
			M4				■	■	■												
			M5					■	■	■	■										
			M6～M24						■	■	■	■	■								
	VUSP L100	①-5	M3			■															
			M4				■	■													
			M5					■	■												
			M6						■	■	■										
	VUSP L150	①-5	M8～M16						■	■	■										
	VUSP 1.5P	①-15	M3		■	■															
			M4		■	■	■	■													
			M5			■	■	■	■												
			M6～M16			■	■	■	■	■	■										
	VUSP CH	①-21	M6～M16						■	■	■	■	■								
	HVSP	①-25	M3～M5			■	■	■	■												
			M6～M16			■	■	■	■	■											
			M18～M48			■	■	■													
	HVSP ZP	①-33	M8～M16			■	■	■	■	■											
			M18～M24			■	■	■													
	MHSP	①-35	M8～M16						■	■	■	■	■								
	MHRZ	⑥-3	M6～M20						■	■	■	■	■	■	■	■	■	■			
	MHRZ L100、L150	⑥-3	M6～M16						■	■	■	■	■	■	■	■	■	■			
	MHRZ-J	⑥-7	M6～M20						■	■	■	■	■	■	■	■	■	■			
Heat treated steels 25～35HRC	HVSP	①-25	M3～M48	■	■	■															
	HVSP ZP	①-33	M8～M24	■	■	■															
	MHSP	①-35	M8～M16						■	■	■	■	■								
	MHRZ	⑥-3	M6～M20						■	■	■	■	■								
	MHRZ L100、L150	⑥-3	M6～M16						■	■	■	■	■								
	MHRZ-J	⑥-7	M6～M20						■	■	■	■	■								

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Depending on Materials	Product symbol	Page	Size	Tapping Speeds(m/min) 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36
Stainless steels	VUSP	①-5	M3	
			M4	
			M5	
			M6～M24	
	VUSP L100	①-5	M3	
			M4	
			M5	
			M6	
	VUSP L150	①-5	M8～M16	
	VUSP 1.5P	①-15	M3	
			M4	
			M5	
			M6～M16	
	VUSP CH	①-21	M6～M16	
	HVSP	①-25	M3～M48	
	HVSP ZP	①-33	M8～M24	
Tool steels	VUSP	①-5	M3	
			M4	
			M5	
			M6～M24	
	VUSP L100	①-5	M3	
			M4	
			M5	
			M6	
	VUSP L150	①-5	M8～M16	
	VUSP 1.5P	①-15	M3	
			M4	
			M5	
			M6～M16	
	VUSP CH	①-21	M6～M16	
Cast steels	HVSP	①-25	M3～M5	
			M6～M16	
			M18～M48	
	HVSP ZP	①-33	M8～M16	
			M18～M24	
Ductile cast irons	VUSP	①-5	M3	
			M4	
			M5	
			M6～M24	
	VUSP L100	①-5	M3	
			M4	
			M5	
			M6	
	VUSP L150	①-5	M8～M16	
	VUSP 1.5P	①-15	M3	
			M4	
			M5	
			M6～M16	
	VUSP CH	①-21	M6～M16	
Wrought aluminum	VUSP	①-5	M3	
			M4	
			M5	
			M6～M24	
	VUSP L100	①-5	M3	
			M4	
			M5	
			M6	
	VUSP L150	①-5	M8～M16	
	VUSP 1.5P	①-15	M3	
			M4	
			M5	
			M6～M16	
	VUSP CH	①-21	M6～M16	
Aluminum alloy castings	VUSP	①-5	M3	
			M4	
			M5	
			M6～M24	
	VUSP L100	①-5	M3	
			M4	
			M5	
			M6	
	VUSP L150	①-5	M8～M16	
	VUSP 1.5P	①-15	M3	
			M4	
			M5	
			M6～M16	
	VUSP CH	①-21	M6～M16	

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Z-PRO Table of Recommended Machining Conditions by Size

Through hole

Depending on Materials	Product symbol	Page	Size	Tapping Speeds(m/min) 2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
Low carbon steels Medium carbon steels	VUPO	③-3	M2～M2.6																		
			M3																		
			M4																		
			M5																		
			M6～M24																		
	VUPO L100	③-3	M3																		
			M4																		
			M5																		
			M6																		
	VUPO L150	③-3	M8～M16																		
	LKSL	②-11	M3																		
			M4																		
			M5																		
			M6																		
	LKSL XL	②-12	M3																		
			M4																		
			M5																		
			M6																		
Medium carbon steels High carbon steels	MHSL	②-3	M2																		
			M2.5																		
			M3																		
			M3.5																		
			M4																		
			M4.5																		
			M5																		
			M6～M16																		
	MHSL L70、L100	②-3	M1.8																		
			M2																		
			M2.5																		
			M3																		
			M3.5																		
			M4																		
			M4.5																		
			M5																		
	MHSL-J	②-5	M6～M16																		
	MHRZ	⑥-3	M6～M20																		
	MHRZ L100、L150	⑥-3	M6～M16																		
	MHRZ-J	⑥-7	M6～M20																		
High carbon steels	VUPO	③-3	M2～M2.6																		
			M3																		
			M4																		
			M5																		
			M6～M24																		
	VUPO L100	③-3	M3																		
			M4																		
			M5																		
			M6																		
	VUPO L150	③-3	M8～M16																		
Alloy steels	VUPO	③-3	M3																		
			M4																		
			M5																		
			M6～M24																		
	VUPO L100	③-3	M3																		
			M4																		
			M5																		
			M6																		
	VUPO L150	③-3	M8～M16																		
	MHSL	②-3	M2																		
			M2.5																		
			M3																		
			M3.5																		
			M4																		
			M4.5																		
			M5																		
			M6～M16																		
	MHSL L70、L100	②-3	M1.8																		
			M2																		
			M2.5																		
			M3																		
			M3.5																		
			M4																		
			M4.5																		
			M5																		
	MHSL-J	②-5	M6～M16																		
	MHRZ	⑥-3	M6～M20																		
	MHRZ L100、L150	⑥-3	M6～M16																		
	MHRZ-J	⑥-7	M6～M20																		

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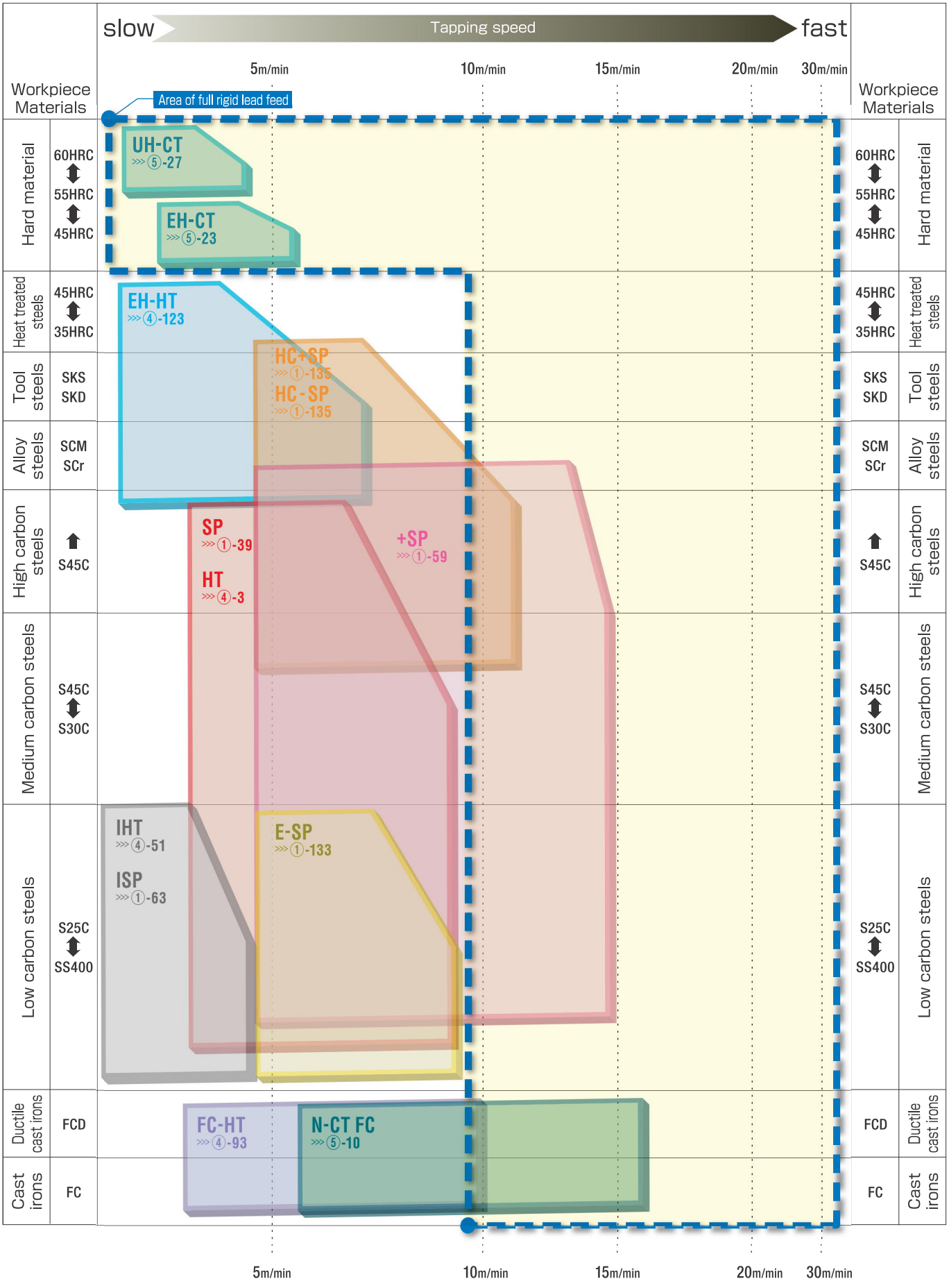
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Depending on Materials	Product symbol	Page	Size	Tapping Speeds(m/min) 2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
Heat treated steels 25～35HRC	MHSL	②-3	M2		■																
			M2.5			■	■														
			M3			■	■														
			M3.5				■	■													
			M4				■	■	■												
			M4.5					■	■	■											
			M5					■	■	■	■										
			M6～M16						■	■	■	■	■								
	MHSL L70、L100	②-3	M1.8		■																
			M2			■															
			M2.5			■	■														
			M3			■	■														
			M3.5				■	■													
			M4				■	■	■												
			M4.5					■	■	■											
			M5					■	■	■	■										
	MHSL-J	②-5	M6～M16						■	■	■	■	■								
	MHRZ	⑥-3	M6～M20						■	■	■	■	■								
	MHRZ L100、L150	⑥-3	M6～M16						■	■	■	■	■								
	MHRZ-J	⑥-7	M6～M20						■	■	■	■	■								
Heat treated steels 35～45HRC	MHSL	②-3	M2		■																
			M2.5		■	■															
			M3			■	■														
			M3.5			■	■	■													
			M4			■	■	■													
			M4.5			■	■	■	■												
			M5			■	■	■	■												
	MHSL L70、L100	②-3	M1.8、M2		■																
			M2.5		■	■															
			M3			■	■														
			M3.5			■	■	■													
			M4			■	■	■													
			M4.5			■	■	■	■												
			M5			■	■	■	■												
Stainless steels	VUPO	③-3	M2～M2.6			■	■														
			M3		■	■															
			M4			■	■	■													
			M5			■	■	■	■												
			M6～M24				■	■	■	■	■										
	VUPO L100	③-3	M3		■																
			M4			■															
			M5			■	■														
			M6				■	■													
	VUPO L150	③-3	M8～M16				■	■													
Tool steels	VUPO	③-3	M3		■	■															
			M4			■	■	■													
			M5			■	■	■	■												
			M6～M24				■	■	■	■	■										
	VUPO L100	③-3	M3		■																
			M4			■	■														
			M5			■	■														
			M6				■	■													
	VUPO L150	③-3	M8～M16				■	■													
	MHSL	②-3	M2		■																
			M2.5		■	■															
			M3			■	■														
			M3.5			■	■	■													
			M4			■	■	■													
			M4.5			■	■	■	■												
			M5			■	■	■	■												
			M6 ～M16				■	■	■	■	■										
	MHSL L70、L100	②-3	M1.8、M2		■																
			M2.5		■	■															
			M3			■	■														
			M3.5			■	■	■													
			M4			■	■	■													
			M4.5			■	■	■	■												
			M5			■	■	■	■												
	MHSL-J	②-5	M6～M16				■	■	■	■	■										
Ductile cast irons Wrought aluminum Aluminum alloy castings	VUPO	③-3	M2～M2.6			■	■	■													
			M3			■	■	■	■	■											
			M4				■	■	■	■	■	■	■	■							
			M5					■	■	■	■	■	■	■	■	■	■				
			M6～M24						■	■	■	■	■	■	■	■	■	■	■	■	■
	VUPO L100	③-3	M3			■	■	■	■												
			M4				■	■	■	■	■	■									
			M5					■	■	■	■	■	■	■	■						
			M6						■	■	■	■	■	■	■	■	■	■			
	VUPO L150	③-3	M8～M16						■	■	■	■	■	■	■	■	■	■			

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New System table of taps for steels, blind hole use(low and middle speed range)

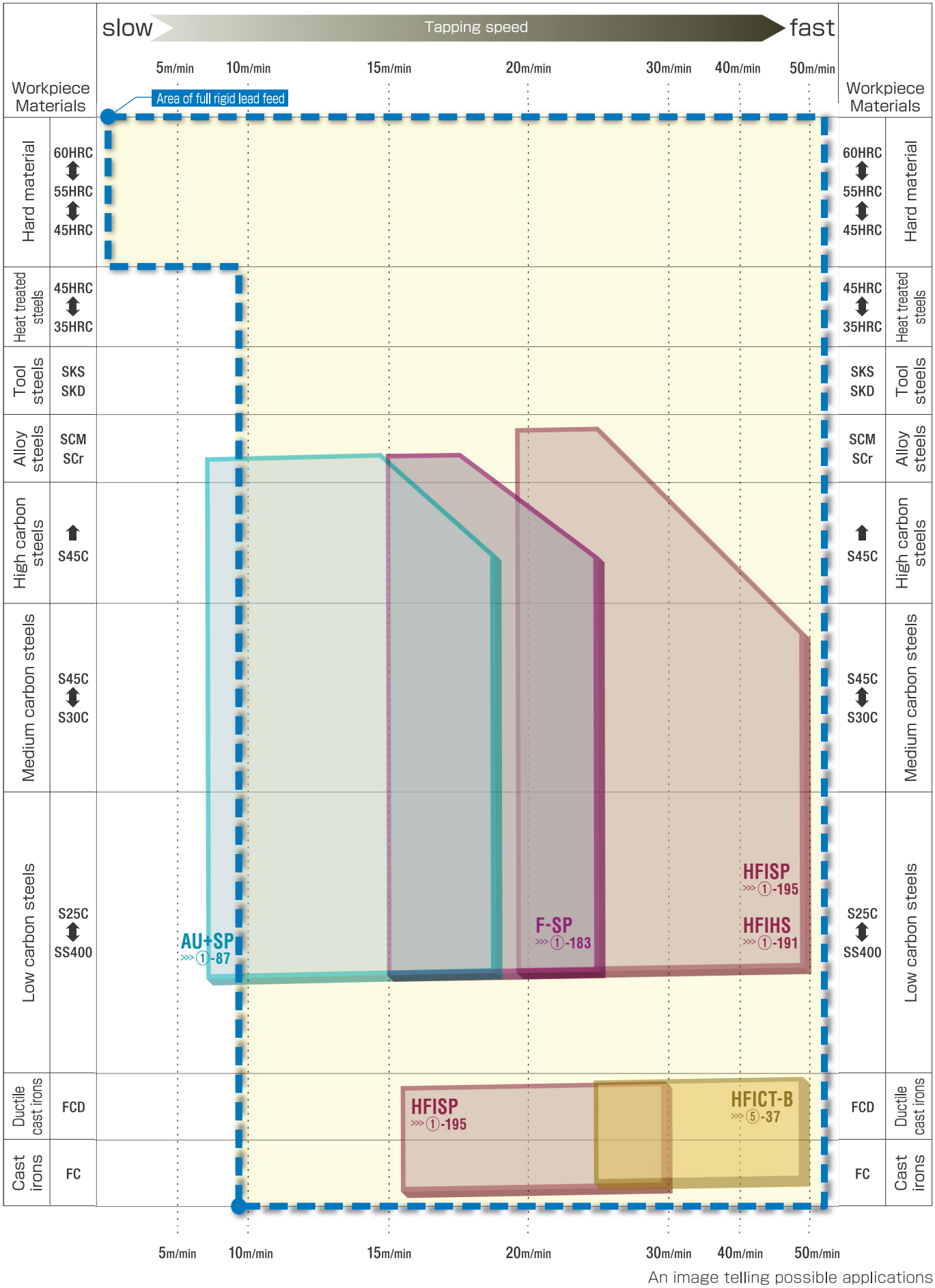


An image telling possible applications

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New System table of taps for steels, blind hole use(Middle and High speed range)

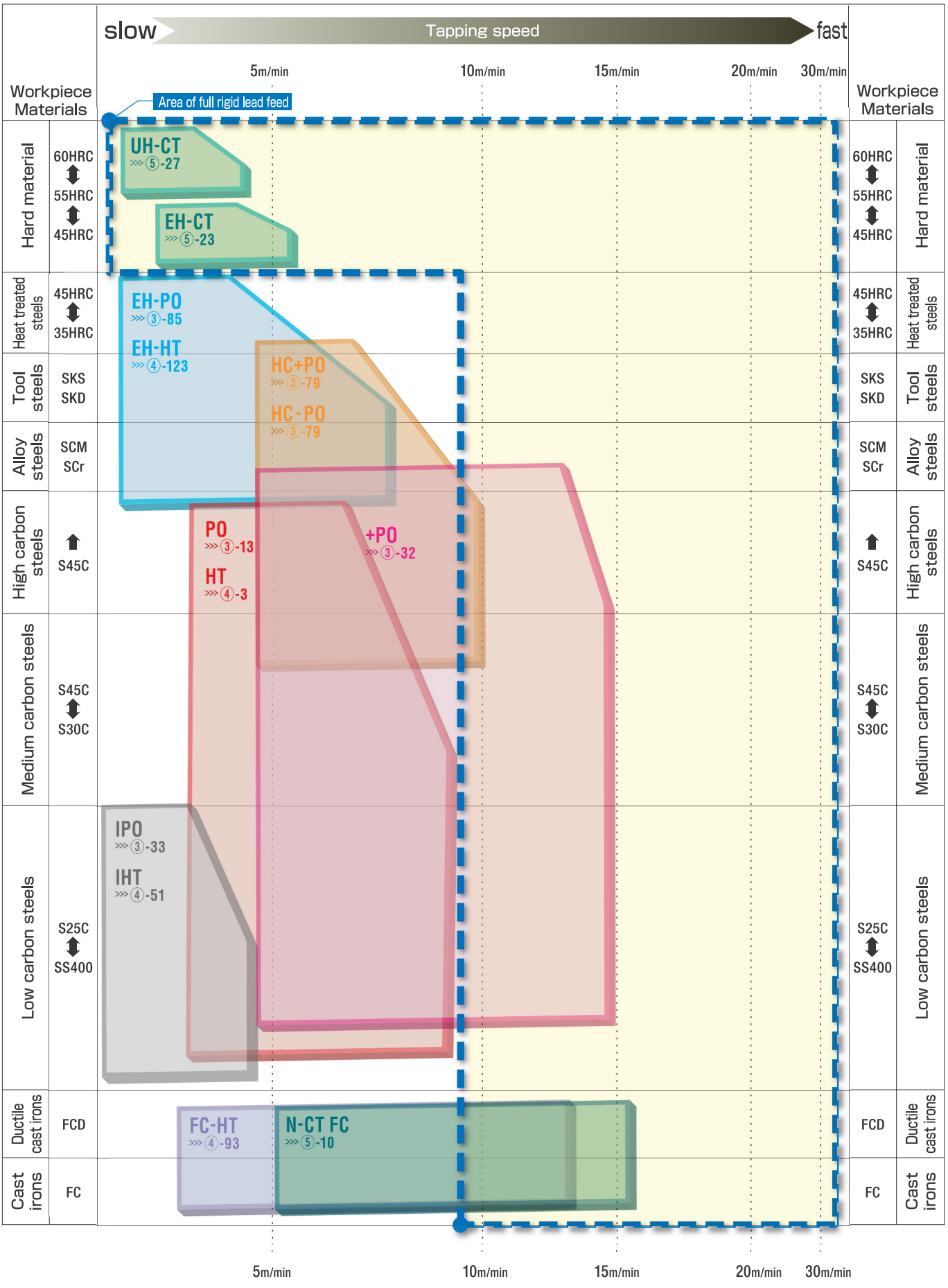


An image telling possible applications

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New System table of taps for steels, blind hole use(low and middle speed range)

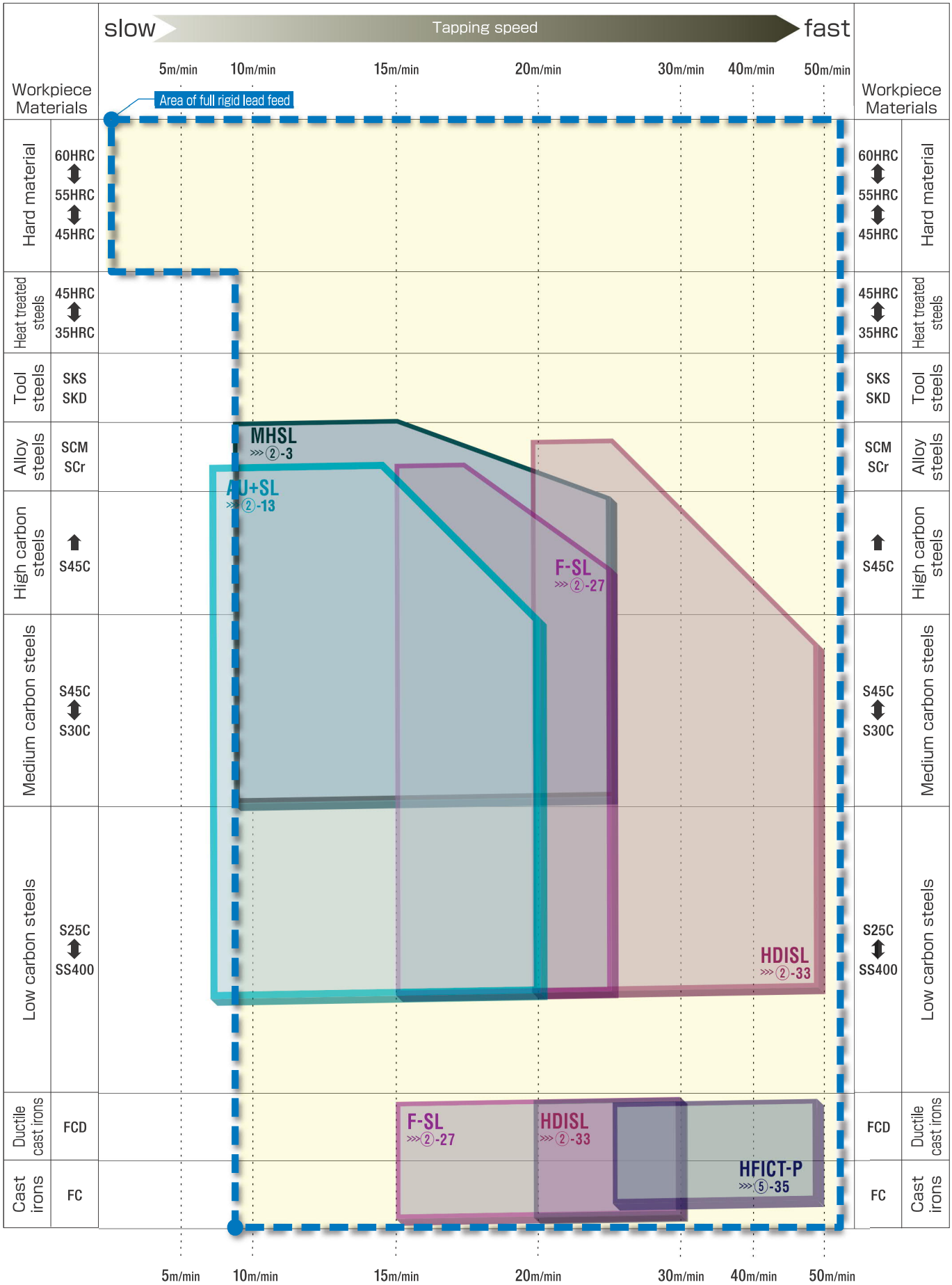


An image telling possible applications

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New System table of taps for steels, blind hole use(Middle and High speed range)

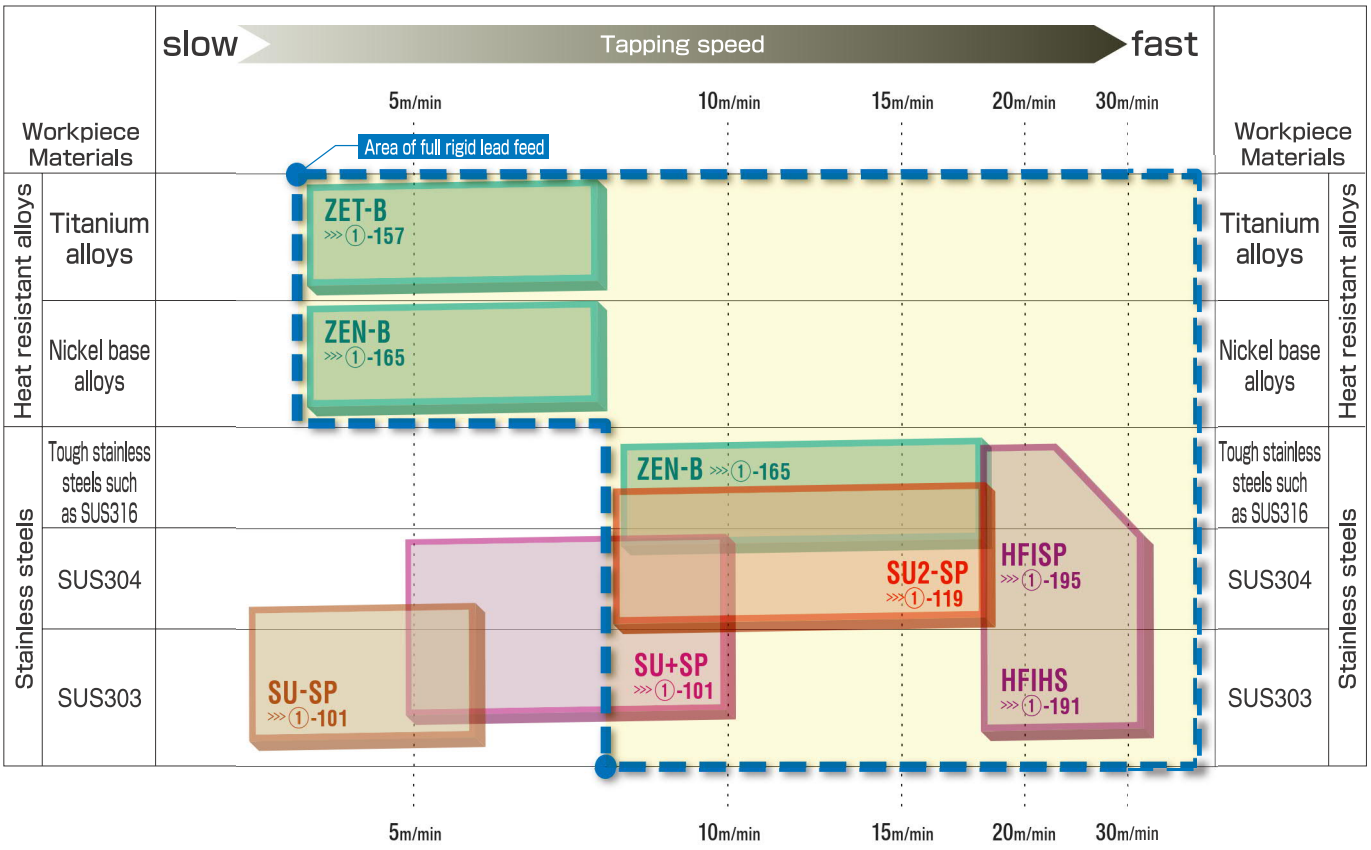


An image telling possible applications

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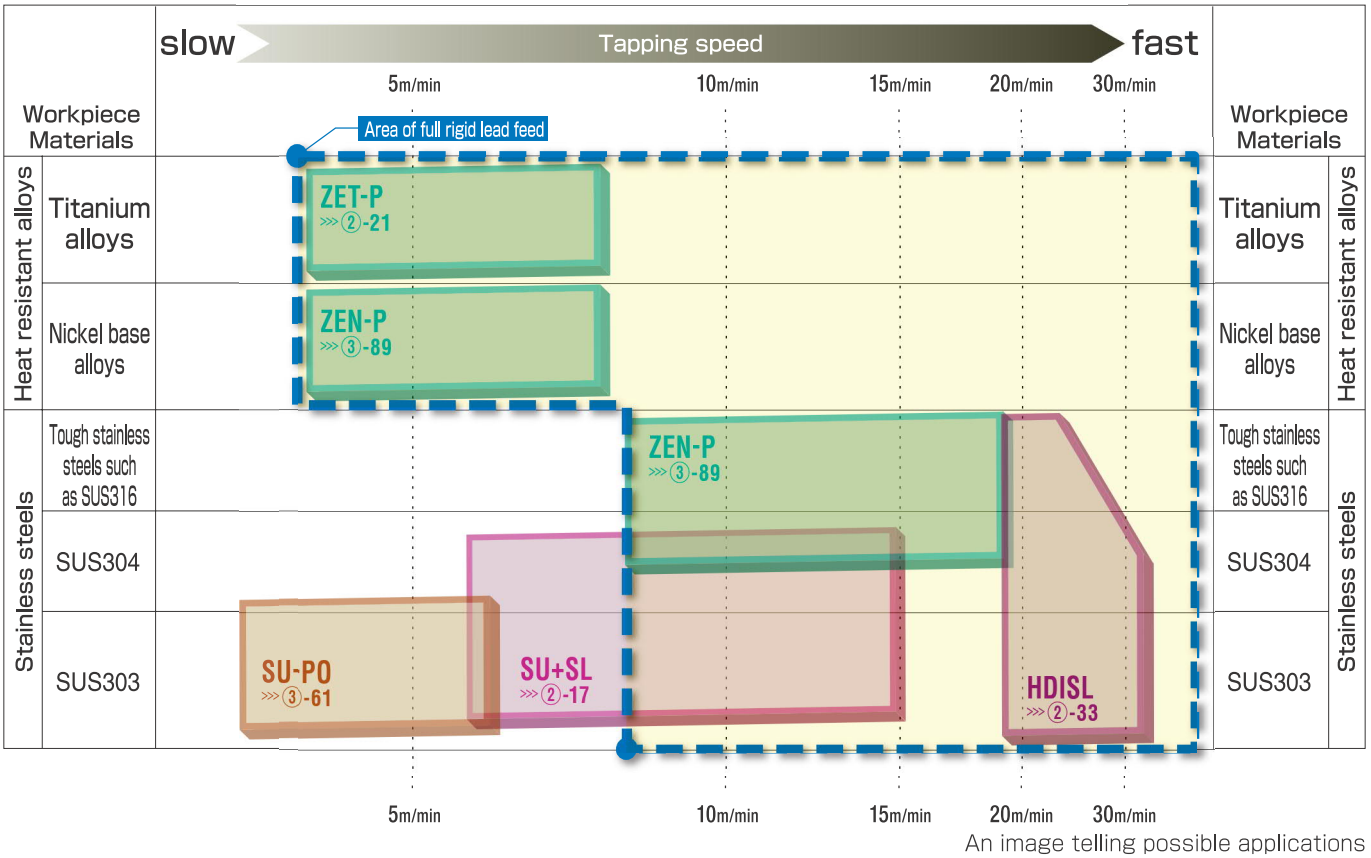
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New System table of taps for stainless steels, blind hole use



An image telling possible applications

New System table of taps for stainless steels, through hole use

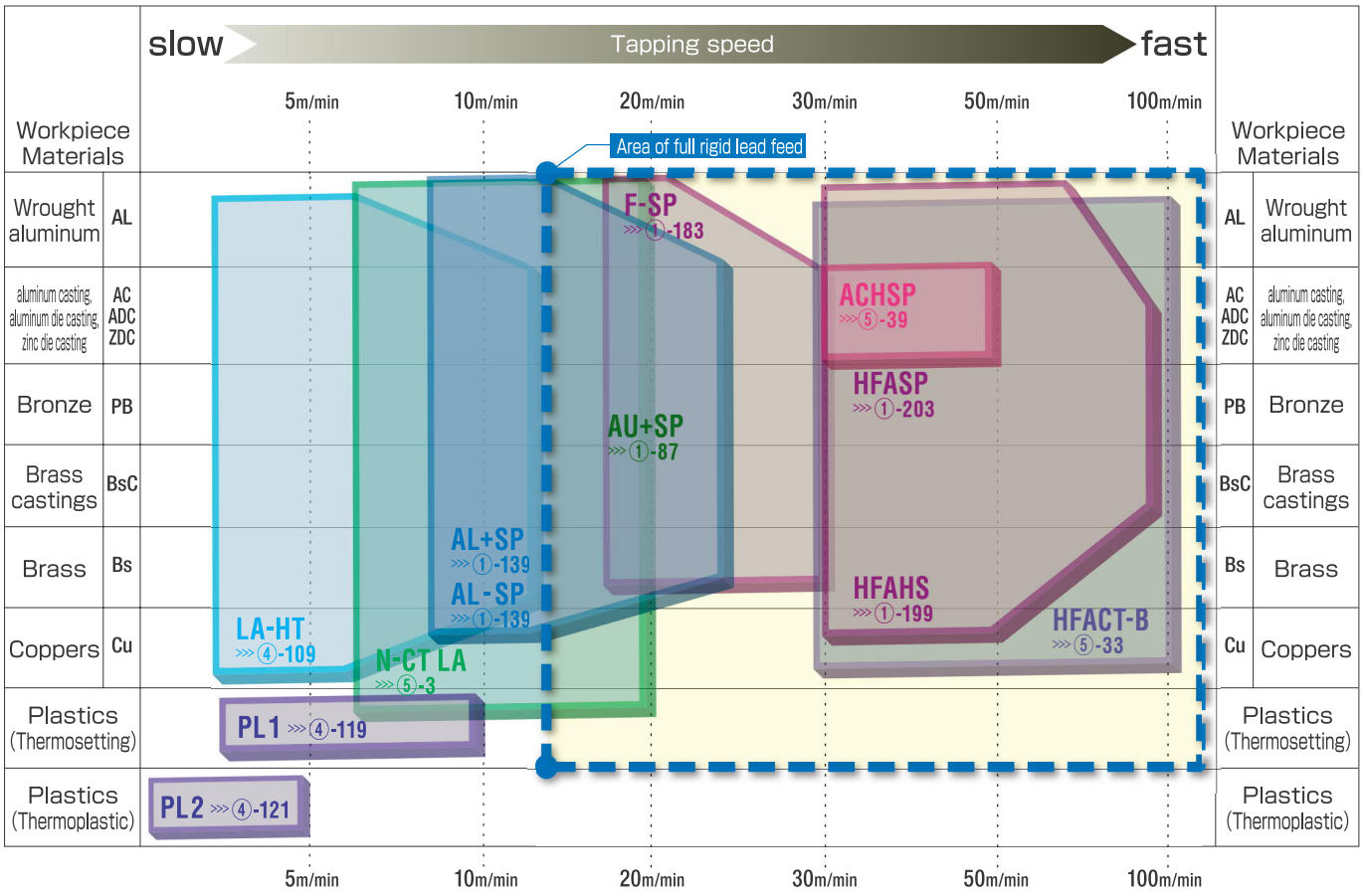


An image telling possible applications

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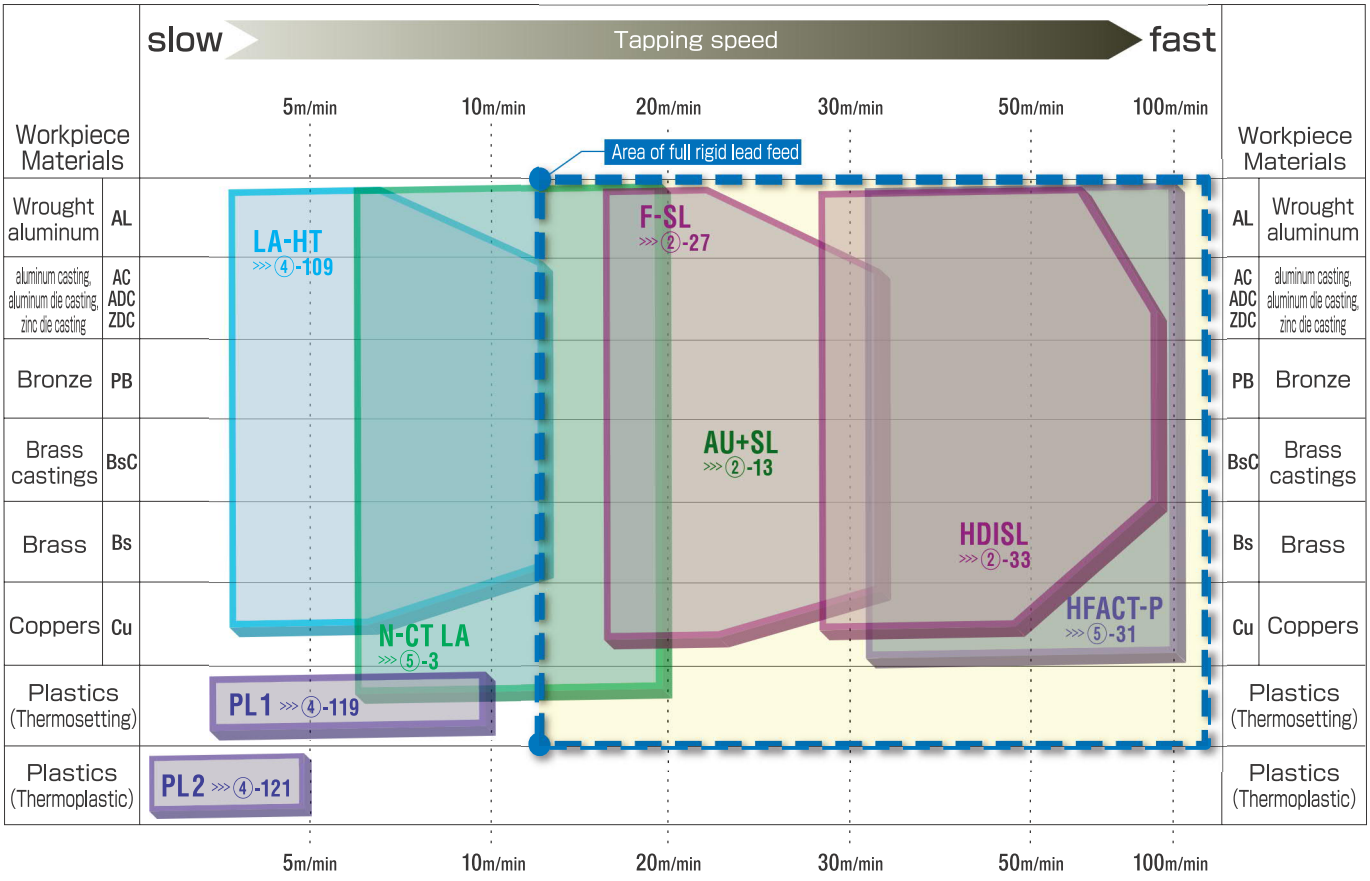
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New System table of taps for non-ferrous materials, blind hole use



An image telling possible applications

New System table of taps for non-ferrous materials, through hole use

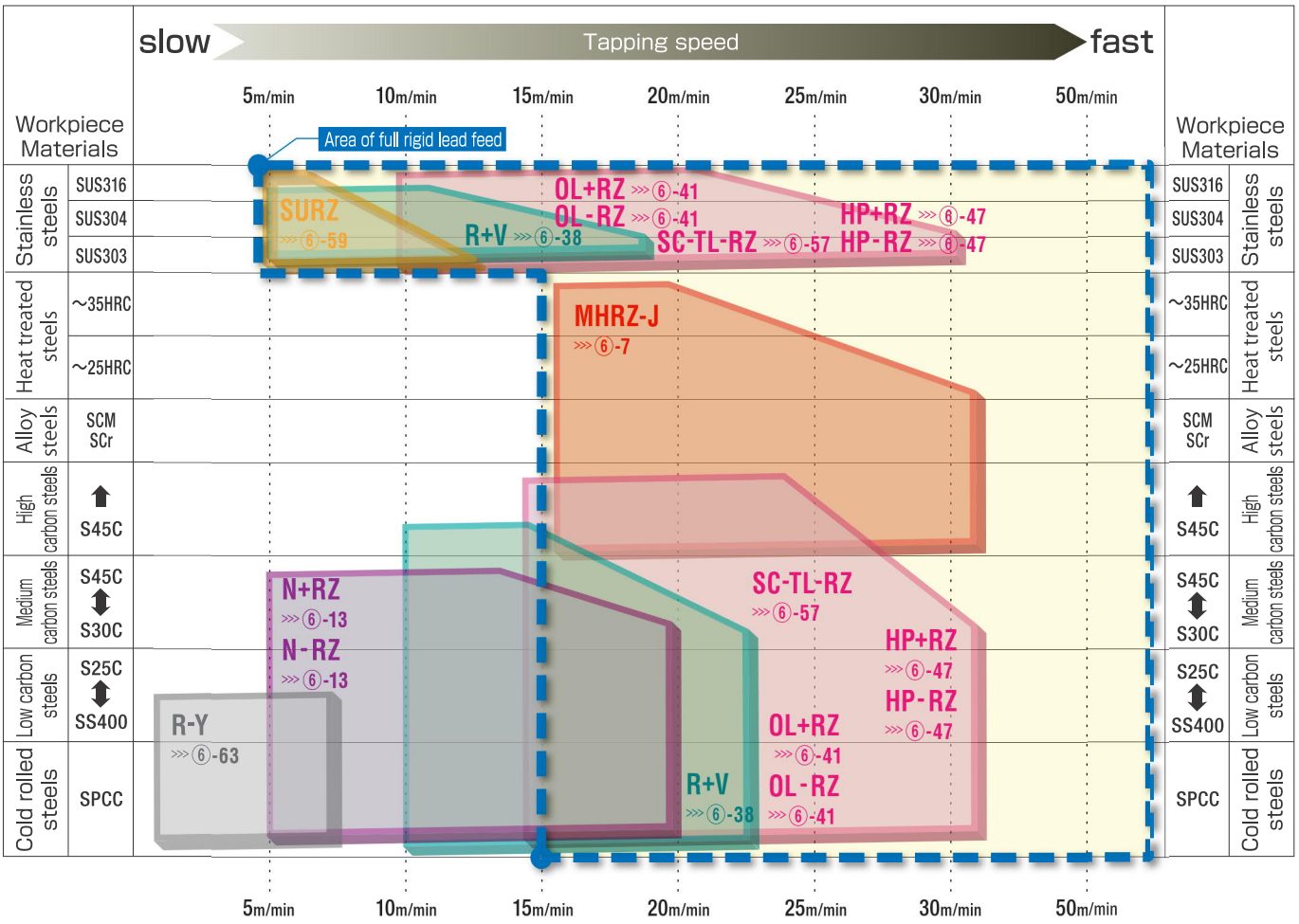


An image telling possible applications

Think threads with YAMAWA

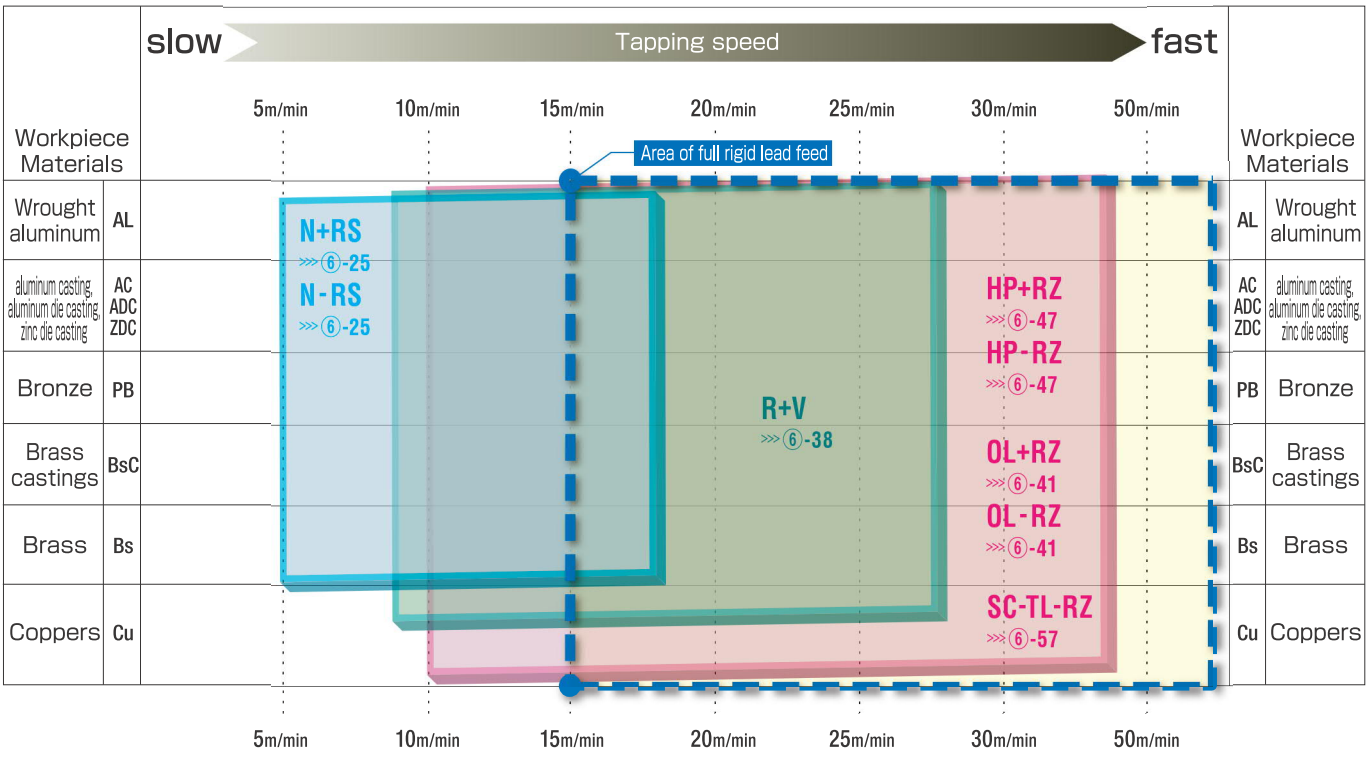
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New System table of roll taps for steels



An image telling possible applications

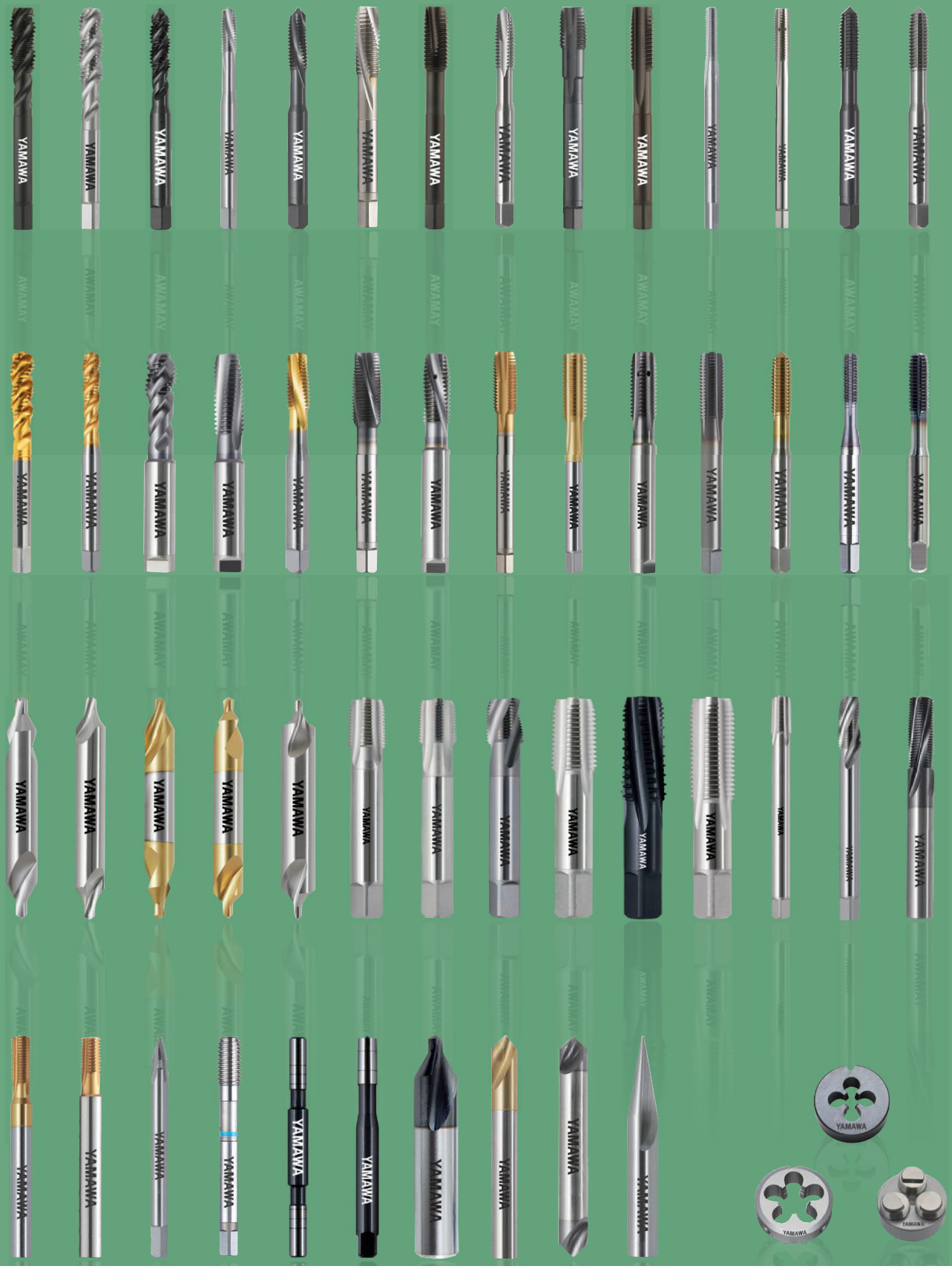
New System table of roll taps for non-ferrous materials



An image telling possible applications

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ANSI INDEX

①Spiral Fluted Tap Series for blind hole



VUSP	Z-PRO Coated Spiral Fluted Taps	ANSI ①-9
VUSP I.5P	Z-PRO Coated Spiral Fluted Taps 1.5P	ANSI ①-17
VUSP CH	Z-PRO Coated Spiral Fluted Taps with Coolant Through Hole	ANSI ①-23
HVSP	Z-PRO Hybrid-Value Spiral Fluted Taps for Steel	ANSI ①-28
SP	Spiral Fluted Taps	ANSI ①-48
ISP	Spiral Fluted Taps for General Purpose	ANSI ①-65
SP OX	Spiral Fluted Taps,Oxidized	ANSI ①-70
SP	Spiral Fluted Taps for Alloy Steels	ANSI ①-80
AU+SP	Plus Series Spiral Fluted Taps,Coated	ANSI ①-89
ZELX SS SP	Spiral Fluted Taps for Stainless Steels	ANSI ①-106
ZELX SS SP 6"	Long Shank Spiral Fluted Taps for Stainless Steels	ANSI ①-126
AL-SP	Spiral Fluted Taps for Aluminum	ANSI ①-142
ALS-SP	Spiral Fluted Taps for Aluminum	ANSI ①-145
LO-SP	Low Spiral Fluted Taps for Alloy Steels	ANSI ①-149
ZELX TI SP	Spiral Fluted Taps for Titanium Alloys	ANSI ①-160
ZELX NI SP	Spiral Fluted Taps for Nickel Base Alloys	ANSI ①-169
PM-SP	Spiral Fluted Taps for Hard-to-Machine Materials	ANSI ①-176
ZELX FR	Spiral Fluted Taps for High Speed Tapping	ANSI ①-185

②Spiral Fluted Tap Series for through hole



MHSL	Z-PRO Spiral Fluted Taps for Carbon Steels of medium hardness, Through Hole Use (with LH spiral flutes)	ANSI ②-7
ZELX TI LHSP	Spiral Fluted Taps for Titanium Alloys, Through Hole Use (with LH spiral flutes)	ANSI ②-24
ZELX FR LHSP	Spiral Fluted Taps for High Speed Tapping, Through Hole Use (with LH spiral flutes)	ANSI ②-29

③Spiral Pointed Tap Series for through hole



VUPO	Z-PRO Coated Spiral Pointed Taps	ANSI ③-7
PO	Spiral Pointed Taps	ANSI ③-22
IPO	Spiral Pointed Taps for General Purpose	ANSI ③-35
PO OX	Spiral Pointed Taps, Oxidized	ANSI ③-39
ZELX SS PO	Spiral Pointed Taps for Stainless Steels	ANSI ③-67
ZELX SS PO 6"	Long Spiral Pointed Taps for Stainless Steels	ANSI ③-76
AL-PO	Spiral Pointed Taps for Aluminum	ANSI ③-83
ZELX NI PO	Spiral Pointed Taps for Nickel Base Alloys	ANSI ③-93
PM-PO	Spiral Pointed Taps for Hard-to-Machine Materials	ANSI ③-100

④Hand Tap Series



HT	Hand Taps	ANSI ④-29
IHT	Hand Taps for General Purpose	ANSI ④-53
HT OX	Hand Taps, Oxidized	ANSI ④-55
HT-CI	Hand Taps for Cast Irons	ANSI ④-96

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AXE-HT —  — AXE Hand Taps — ANSI ④-115

EH-HT —  — Hand Taps for Hard-to-Machine Materials — ANSI ④-126

ZELX MOLD —  — Hand Taps for Hard-to-Machine Materials — ANSI ④-127

ZELX NI SP STI —  — Spiral Fluted Taps for Helical Coil Wire Screw Thread Inserts and for Nickel Base Alloys — ANSI ⑦-16

PO STI —  — Spiral Pointed Taps for Helical Coil Wire Screw Thread Inserts — ANSI ⑦-19

PO OX STI —  — Spiral Pointed Taps for Helical Coil Wire Screw Thread Inserts, Oxidized — ANSI ⑦-21

ZELX NI PO STI —  — Spiral Pointed Taps for Helical Coil Wire Screw Thread Inserts and for Nickel Base Alloys — ANSI ⑦-23

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ZELX CARB CI —  — Carbide Taps for Cast Irons — ANSI ⑤-15

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N-RZ —  — Roll Taps for Steels — ANSI ⑥-18

N-RS —  — Roll Taps for Non-Ferrous Materials — ANSI ⑥-31

OL-RZ —  — Roll Taps for Dry Tapping, Coated — ANSI ⑥-44

HP-RZ —  — High Performance Roll Taps, Coated — ANSI ⑥-51

⑦Special Thread Taps / Simple Inspection Tools

HT STI —  — Hand Taps for Helical Coil Wire Screw Thread Inserts — ANSI ⑦-6

HT OX STI —  — Hand Taps for Helical Coil Wire Screw Thread Inserts, Oxided — ANSI ⑦-8

SP STI —  — Spiral Fluted Taps for Helical Coil Wire Screw Thread Inserts — ANSI ⑦-12

SP OX STI —  — Spiral Fluted Taps for Helical Coil Wire Screw Thread Inserts, Oxided — ANSI ⑦-14

⑧Pipe Tap Series

NPT —  — Hand Taps for American Taper Pipe Threads — ANSI ⑧-82

ZELX MOLD NPT —  — Hand Taps for Hard-to-Machine Materials for American Taper Pipe Threads — ANSI ⑧-83

NPT-CI —  — Hand Taps for American Taper Pipe Threads for Cast Irons — ANSI ⑧-84

ZELX SS NPT —  — Taps for American Taper Pipe Threads for Stainless Steels — ANSI ⑧-88

INT-NPT —  — Interrupted Taps for American Taper Pipe Threads — ANSI ⑧-91

NPTF —  — Hand Taps for American Dryseal Taper Pipe Threads — ANSI ⑧-94

NPTF-CI —  — Hand Taps for American Dryseal Taper Pipe Threads, for Cast Irons — ANSI ⑧-95

ZELX SS NPTF —  — Taps for American Dryseal Taper Pipe Threads for Stainless Steels — ANSI ⑧-96

NPS —  — Hand Taps for American Parallel Pipe Threads — ANSI ⑧-99

NPSF —  — Hand Taps for American Dryseal Parallel Pipe Threads — ANSI ⑧-101

⑩Dies

RD-DA —  — Die Attachment (Designed Specially for Solid Round Dies) — ANSI ⑩-57

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① SPIRAL FLUTED TAP SERIES FOR BLIND HOLE





	JIS	ANSI	DIN
VUSP	①-5	①-9	①-11
VUSP 1.5P	①-15	①-17	
VUSP E			①-19
VUSP CH	①-21	①-23	①-24
HVSP	①-25	①-28	①-31
HVSP ZP	①-33		
MHSP	①-35		①-37
SP	①-39	①-48	①-54
+SP	①-59		
SP 1.5P	①-60		
ISP	①-63	①-65	
SP OX	①-66	①-70	①-75
SP		①-80	
SP LH	①-81		①-83
SP V			①-84
AU+SP	①-87	①-89	①-90
LS-SP	①-91		
LS-SP OX	①-96		
LS-SP LH	①-97		
LS-SP V	①-98		
LS-SP-K	①-99		
SU+SP SU-SP	①-101		
ZELX SS SP		①-106	
SP-VA			①-111
SP+VA			①-114
SP-VA E			①-115
SP-VA (coating)			①-116
SU-SP LH	①-117		
SU2-SP	①-119		①-121
SU-S-SP	①-123		
LS-SU-S-SP	①-124		
ZELX SS SP 6"		①-126	
S-SP	①-127		
SP-BLF			①-130
SP-BLF OX			①-131
SP-BLF (coating)			①-132
E-SP	①-133		
HC+SP HC-SP	①-135		
HC+SP OX HC-SP OX	①-138		
AL+SP AL-SP	①-139		①-144
AL-SP 1.5P	①-141		
AL-SP		①-142	
ALS-SP		①-145	
LO-SP	①-147	①-149	①-150
LO-SP OX			①-152

	JIS	ANSI	DIN
LS-LO-SP	①-155		
ZET-B	①-157		①-163
ZELX TI SP		①-160	
ZEN-B	①-165		①-172
ZELX NI SP		①-169	
PM-SP	①-174	①-176	①-177
PH-SP			①-179
LS-PM-SP	①-181		
F-SP	①-183		①-187
ZELX FR		①-185	
LS-F-SP	①-188		
HFIHS	①-191		①-193
HFISP	①-195		①-197
HFAHS	①-199		①-201
HFASP	①-203		①-205
HDISP	①-207		①-209
HDASP	①-211		①-213
MC-SP	①-215		

・For improvement, spec may change without advance notice.

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Selection chart of taps

Tapping conditions	Machining, in low-speed tapping area									
Product symbol	ISP	SP	LS-SP	LS-SP-K	SP LH	LS-SP LH	LO-SP	LS-LO-SP	SP 1.5P	SP OX
Tap material Surface treatment	HSS OX	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS OX
Name	I series	For general use	Long, for general use	Long neck	For general use For left-hand threads	Long, for general use For left-hand threads	Low helix for general use	Long, low helix for general use	Short chamfer for general use	Oxided
										
Bored Hole Shape	U	U	U	U	U	U	U	U	U	U
For Metric Threads	①-64	①-41	①-91	①-99	①-81	①-97	①-148	①-155	①-60	①-67
For Unified Threads		①-45	①-94		①-82					①-68
For Whitworth Threads		①-47	①-95		①-82					①-68
For Screw Threads used on Sewing Machines		①-47								
Pipe Threads										
American Pipe Threads										
For Miniature Threads										
For Trapezoidal Threads										

~S25C	Low carbon steels	◆	◎																◆	◎
S25C~S45C	Medium carbon steels			◆	◎	◆	◎	◆	◎	◆	◎	◆	◎	◆	◎	◆	◎	◆	◎	◎
S45C~	High carbon steels			◆	○	◆	○	◆	○	◆	○	◆	○	◆	○	◆	○	◆	○	○
SCM	Alloy steels																			
25~35HRC	Heat treated steel																			
35~45HRC	Heat treated steel																			
45~55HRC	Heat treated steel																			
55~63HRC	Heat treated steel																			
SUS	Stainless steels (SUS)																			
SKD	Tool steels																			
SC	Cast steels																			
FC	Cast irons																			
FCD	Ductile cast irons																			
Cu	Copper																			
Bs	Brass																			
BsC	Brass castings																			
PB	Bronze																			
AL	Wrought aluminum																			
AC, ADC	Aluminum alloy casting																			
Mg	Magnesium alloy die castings																			
ZDC	Zinc alloy die castings																			
	Titanium alloys																			
	Nickel base alloys																			
	Thermosetting plastic																			
	Thermoplastic resin																			

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Recommended tap ◎: Most suitable tap ○: Suitable tap

Recommended tapping fluid ◆: Insoluble ◆: Water-soluble

Machining, in low/middle speed tapping area

	LS-SP OX	AL+SP AL-SP	AL-SP 1.5P	+SP	E-SP	Z-PRO HVSP	Z-PRO HVSP ZP	HC+SP HC-SP	HC+SP OX HC-SP OX	SU+SP SU-SP	SU-SP LH	SU-S-SP	LS-SU-S-SP
	HSS OX	HSS NI	HSS NI	HSS	HSS OX	HSS OX	HSS OX	HSS	HSS OX	HSS OX	HSS OX	HSS OX	HSS OX
	Long, oxided	For aluminum materials	Short chamfer for aluminum materials	For general use	For soft steel	Hybrid Value Spiral Fluted Taps for Steels	For Galvanizing	For high carbon steels	For high carbon steel, oxided	For stainless steel	For stainless steel For left-hand threads	For deep hole stainless steel	Long, for deep hole stainless steel
													
	①-96	①-140	①-141	①-59	①-134	①-26	①-34	①-136	①-138	①-102	①-117	①-123	①-124
						①-27				①-104			
								①-137		①-105			

◆	◎							◆	◎	◆	◎	◆	◎									◆	○	◆	○
◆	◎					◆	◎	◆	○	◆	◎	◆	◎	◆	◎	◆	◎	◆	○	◆	○	◆	○	◆	○
						◆	○			◆	◎	◆	◎	◆	◎	◆	◎	◆	◎	◆	◎	◆	○	◆	○
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Think threads with YAMAWA

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Selection chart of taps

Tapping conditions	Machining, in low/middle speed tapping area							Machining, in middle speed tapping area									
Product symbol	S-SP		LS-SP V		PM-SP	LS-PM-SP	MC-SP	Z-PRO VUSP		Z-PRO VUSP 1.5P		Z-PRO VUSP CH		AU+SP		SU2-SP	
Tap material / Surface treatment	HSS	OX	HSS	Coating	HSS-P	HSS-P	HSS	HSS-P	Coating	HSS-P	Coating	HSS-P	Coating	HSS	Coating	HSS	OX
Name	For deep hole		Long, coated		For hard-to-machine materials	Long, for hard-to-machine materials	With oil hole	Coated		Short chamfer coated		Cool hole coated		Coated		For hard-to-machine stainless steel	
Bored Hole Shape	⌵		⌵		⌵	⌵	⌵	⌵		⌵		⌵		⌵		⌵	
For Metric Threads	①-127		①-98		①-174	①-181	①-215	①-6		①-16		①-22		①-88		①-120	
For Unified Threads					①-175												
For Whitworth Threads																	
For Screw Threads used on Sewing Machines																	
Pipe Threads																	
American Pipe Threads																	
For Miniature Threads																	
For Trapezoidal Threads																	

～S25C	Low carbon steels			◆◆	◎					◆	○	◆◆	◎	◆◆	◎	◆◆	◎	◆◆	○
S25C～S45C	Medium carbon steels	◆	◎	◆◆	◎					◆	◎	◆◆	◎	◆◆	◎	◆◆	◎	◆	○
S45C～	High carbon steels	◆	◎	◆◆	◎	◆	◎	◆	◎	◆	◎	◆◆	◎	◆◆	◎	◆◆	◎	◆	○
SCM	Alloy steels	◆	◎	◆◆	◎					◆	○	◆◆	◎	◆◆	◎	◆◆	◎	◆	◎
25～35HRC	Heat treated steel					◆	◎	◆	◎										
35～45HRC	Heat treated steel					◆	◎	◆	◎										
45～55HRC	Heat treated steel																		
55～63HRC	Heat treated steel																		
SUS	Stainless steels (SUS)											◆◆	◎	◆◆	◎	◆◆	◎	◆◆	○
SKD	Tool steels											◆◆	○	◆◆	○	◆◆	○		
SC	Cast steels																		
FC	Cast irons																		
FCD	Ductile cast irons	◆	○									◆◆	○	◆◆	○	◆◆	○		
Cu	Copper																		
Bs	Brass																		
BsC	Brass castings																		
PB	Bronze																		
AL	Wrought aluminum											◆◆	○	◆◆	○	◆◆	○		
AC, ADC	Aluminum alloy casting											◆◆	○	◆◆	○	◆◆	○	◆	○
Mg	Magnesium alloy die castings																		
ZDC	Zinc alloy die castings																	◆	○
	Titanium alloys																		
	Nickel base alloys																		
	Thermosetting plastic																		
	Thermoplastic resin																		

Think threads with YAMAWA

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Machining/Fully synchronized feed only, in high-speed tapping area

	Z-PRO MHSP	ZEN-B	ZET-B	F-SP	LS-F-SP	HDISP	HDASP	HFIHS	HFISP	HFAHS	HFASP
	HSS-Co / Coating	HSS-P / OX	HSS-P / NI	HSS / Coating	HSS / Coating	HSS-Co / Coating	HSS-Co / Coating	HSS-Co / Coating	HSS-Co / Coating	HSS-Co / Coating	HSS-Co / Coating
	For middle hardness carbon steel	For nickel base alloys	For titanium alloys	For high-speed	Long, for high-speed	Dry tapping, for ultra high-speed For steel	For dry tapping; For aluminum materials	For ultra high-speed For steel	For ultra high-speed For steel, low spiral	For ultra high-speed For aluminum materials	For ultra high-speed For aluminum materials, low spiral
											
	①-36	①-166	①-158	①-184	①-188	①-208	①-212	①-192	①-196	①-200	①-204
		①-166	①-158								
		◆ ◎		◆ ◎	◆ ◎			◆ ◎	◆ ◎		
		◆ ◎		◆ ◎	◆ ◎	◆ ○		◆ ◎	◆ ◎		
◆ ◎						◆ ◎		◆ ◎	◆ ◎		
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							◆ ◎			◆ ◎	◆ ◎
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							◆ ◎			◆ ◎	◆ ◎
							◆ ◎			◆ ◎	◆ ◎
			◆ ◎								
		◆ ◎									

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ANSI

Z-PRO

VUSP



Z-PRO
Coated Spiral Fluted Taps

Specification

HSS-P | Coating | <2D

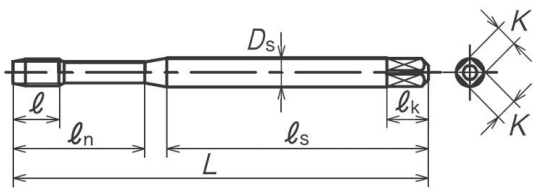
- Durability is improved by premium powder HSS and special coating.
- Chip ejection efficiency is improved and cutting resistance is reduced by the unique cutting edge shape, achieving a good internal thread and long tool life.

Tapping Speeds depending on Materials

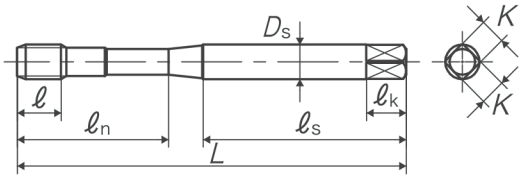
Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Stainless steels ステンレス鋼	Tool steels 工具鋼	Ductile cast irons 強靭鋳鉄
10~20 (m/min)	10~30 (m/min)	10~30 (m/min)	10~20 (m/min)	3~10 (m/min)	5~10 (m/min)	10~30 (m/min)

Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
10~30 (m/min)	10~35 (m/min)

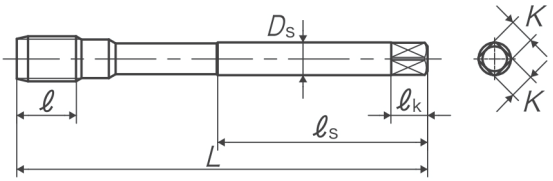
TYPE : 1



TYPE : 2



TYPE : 3



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads												
M3 × 0.5	D4	5101101035	2.5P	2.205	0.197	0.736	1.339	0.141	0.11	0.187	3	1
M3 × 0.35	D4	5101101036	2.5P	2.205	0.197	0.736	1.339	0.141	0.11	0.187	3	1
M4 × 0.7	D5	5101101042	2.5P	2.48	0.276	0.815	1.535	0.168	0.131	0.25	3	1
M4 × 0.5	D4	5101101043	2.5P	2.48	0.197	0.815	1.535	0.168	0.131	0.25	3	1
M5 × 0.8	D5	5101101049	2.5P	2.756	0.354	0.984	1.654	0.194	0.152	0.25	3	1
M5 × 0.5	D4	5101101051	2.5P	2.756	0.236	0.984	1.654	0.194	0.152	0.25	3	1
M6 × 1	D6	5101101055	2.5P	3.15	0.433	1.181	1.713	0.255	0.191	0.312	3	1
M6 × 0.75	D6	5101101056	2.5P	3.15	0.315	1.181	1.713	0.255	0.191	0.312	3	1
M6 × 0.5	D4	5101101057	2.5P	3.15	0.315	1.181	1.713	0.255	0.191	0.312	3	1
M8 × 1.25	D7	5101101064	2.5P	3.543	0.472	1.378	1.831	0.318	0.238	0.375	3	2
M8 × 1	D6	5101101065	2.5P	3.543	0.472	1.378	1.831	0.318	0.238	0.375	3	2
M10 × 1.5	D8	5101101078	2.5P	3.937	0.512	1.535	2.126	0.381	0.286	0.437	3	2
M10 × 1.25	D6	5101101079	2.5P	3.937	0.512	1.535	2.126	0.381	0.286	0.437	3	2
M10 × 1	D6	5101101080	2.5P	3.937	0.512	1.535	2.126	0.381	0.286	0.437	3	2
M12 × 1.75	D8	5101101088	2.5P	4.331	0.591	-	2.205	0.367	0.275	0.437	3	3
M12 × 1.5	D7	5101101089	2.5P	4.331	0.591	-	2.205	0.367	0.275	0.437	3	3

Think threads with YAMAWA

・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M12 × 1.25	D7	5101101090	2.5P	4.331	0.591	-	2.205	0.367	0.275	0.437	3	3
M14 × 2	D9	5101101100	2.5P	4.331	0.709	-	2.205	0.429	0.322	0.5	3	3
M14 × 1.5	D8	5101101102	2.5P	4.331	0.551	-	2.205	0.429	0.322	0.5	3	3
M16 × 2	D9	5101101114	2.5P	4.331	0.709	-	2.205	0.48	0.36	0.562	3	3
M16 × 1.5	D8	5101101116	2.5P	4.331	0.551	-	2.205	0.48	0.36	0.562	3	3
M18 × 2.5	D9	5101101128	2.5P	4.921	0.787	-	2.52	0.542	0.406	0.625	4	3
M18 × 1.5	D8	5101101130	2.5P	4.921	0.551	-	2.52	0.542	0.406	0.625	3	3
M20 × 2.5	D9	5101101141	2.5P	5.512	0.787	-	2.795	0.652	0.489	0.687	4	3
M20 × 1.5	D8	5101101144	2.5P	5.512	0.551	-	2.795	0.652	0.489	0.687	3	3
M22 × 2.5	D9	5101101156	2.5P	5.512	0.787	-	2.795	0.697	0.523	0.75	4	3
M22 × 1.5	D8	5101101158	2.5P	5.512	0.551	-	2.795	0.697	0.523	0.75	3	3
M24 × 3	D10	5101101167	2.5P	6.299	0.984	-	3.228	0.76	0.57	0.75	4	3
M24 × 1.5	D8	5101101170	2.5P	6.299	0.709	-	3.228	0.76	0.57	0.75	3	3
For Unified Threads												
No.5-40UNC	GH2	5101103021	2.5P	2.205	0.197	0.736	1.339	0.141	0.11	0.187	2	1
No.5-44UNF	GH2	5101103022	2.5P	2.205	0.197	0.736	1.339	0.141	0.11	0.187	2	1
No.6-32UNC	GH2	5101103023	2.5P	2.205	0.276	0.748	1.339	0.141	0.11	0.187	2	1
No.6-40UNF	GH2	5101103024	2.5P	2.205	0.276	0.748	1.339	0.141	0.11	0.187	2	1
No.8-32UNC	GH3	5101103029	2.5P	2.48	0.276	0.827	1.535	0.168	0.131	0.25	2	1
No.8-36UNF	GH3	5101103030	2.5P	2.48	0.276	0.827	1.535	0.168	0.131	0.25	2	1
No.10-24UNC	GH3	5101103039	2.5P	2.756	0.354	0.945	1.654	0.194	0.152	0.25	2	1
No.10-32UNF	GH3	5101103041	2.5P	2.756	0.354	0.945	1.654	0.194	0.152	0.25	2	1
No.12-24UNC	GH3	5101103047	2.5P	3.15	0.354	0.984	1.953	0.22	0.165	0.281	2	1
No.12-28UNF	GH3	5101103048	2.5P	3.15	0.354	0.984	1.953	0.22	0.165	0.281	2	1
1/4-20UNC	GH3	5101103058	2.5P	3.15	0.433	1.181	1.713	0.255	0.191	0.312	2	1
1/4-20UNC	GH5	5101303058	2.5P	3.15	0.433	1.181	1.713	0.255	0.191	0.312	2	1
1/4-28UNF	GH3	5101103062	2.5P	3.15	0.433	1.181	1.713	0.255	0.191	0.312	2	1
1/4-28UNF	GH5	5101303062	2.5P	3.15	0.433	1.181	1.713	0.255	0.191	0.312	2	1
5/16-18UNC	GH5	5101103071	2.5P	3.543	0.472	1.378	1.831	0.318	0.238	0.375	3	2
3/8-16UNC	GH5	5101103082	2.5P	3.937	0.512	1.535	2.028	0.381	0.286	0.437	3	2
7/16-14UNC	GH5	5101103098	2.5P	3.937	0.512	-	2.008	0.323	0.242	0.406	3	3
1/2-13UNC	GH5	5101103111	2.5P	4.331	0.591	-	2.205	0.367	0.275	0.437	3	3
9/16-12UNC	GH5	5101103126	2.5P	4.331	0.709	-	2.205	0.429	0.322	0.5	3	3
5/8-11UNC	GH5	5101103138	2.5P	4.331	0.709	-	2.205	0.48	0.36	0.562	3	3

・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

Z-PRO

VUSP 1.5P



Z-PRO
Coated Spiral Fluted Taps 1.5P

Specification

HSS-P | Coating | 1.5 | <2D

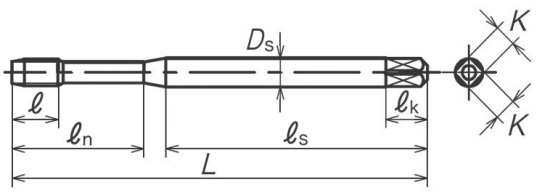
- Lead length of 1.5P makes it ideal for blind hole drilling, in which there is no tolerance for prepared hole depth and effective thread length.
- Durability is improved by premium powder HSS and special coating.
- Chip ejection efficiency is improved and cutting resistance is reduced by the unique cutting edge shape, achieving a good internal thread and long tool life.

Tapping Speeds depending on Materials

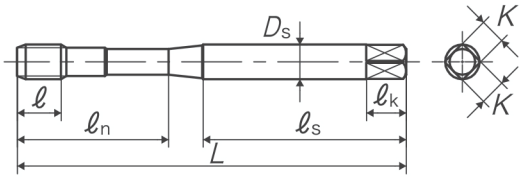
Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Stainless steels ステンレス鋼	Tool steels 工具鋼	Ductile cast irons 強靭鋳鉄
5~15 (m/min)	5~15 (m/min)	5~15 (m/min)	5~15 (m/min)	3~10 (m/min)	5~10 (m/min)	5~15 (m/min)

Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
5~20 (m/min)	5~20 (m/min)

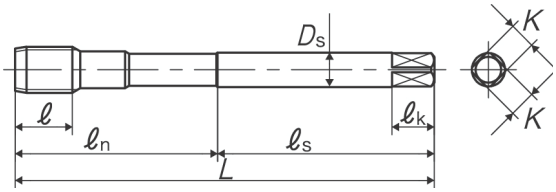
TYPE : 1



TYPE : 2



TYPE : 3



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads												
M3 × 0.5	D4	5103101035	1.5P	2.205	0.197	0.736	1.339	0.141	0.11	0.187	3	1
M3 × 0.35	D4	5103101036	1.5P	2.205	0.197	0.736	1.339	0.141	0.11	0.187	3	1
M4 × 0.7	D5	5103101042	1.5P	2.48	0.276	0.815	1.535	0.168	0.131	0.25	3	1
M4 × 0.5	D4	5103101043	1.5P	2.48	0.197	0.815	1.535	0.168	0.131	0.25	3	1
M5 × 0.8	D5	5103101049	1.5P	2.756	0.354	0.984	1.654	0.194	0.152	0.25	3	1
M5 × 0.5	D4	5103101051	1.5P	2.756	0.236	0.984	1.654	0.194	0.152	0.25	3	1
M6 × 1	D6	5103101055	1.5P	3.15	0.433	1.181	1.713	0.255	0.191	0.312	3	1
M6 × 0.75	D6	5103101056	1.5P	3.15	0.315	1.181	1.713	0.255	0.191	0.312	3	1
M6 × 0.5	D4	5103101057	1.5P	3.15	0.315	1.181	1.713	0.255	0.191	0.312	3	1
M8 × 1.25	D7	5103101064	1.5P	3.543	0.472	1.378	1.831	0.318	0.238	0.375	3	2
M8 × 1	D6	5103101065	1.5P	3.543	0.472	1.378	1.831	0.318	0.238	0.375	3	2
M10 × 1.5	D8	5103101078	1.5P	3.937	0.512	1.535	2.126	0.381	0.286	0.437	3	2
M10 × 1.25	D6	5103101079	1.5P	3.937	0.512	1.535	2.126	0.381	0.286	0.437	3	2
M10 × 1	D6	5103101080	1.5P	3.937	0.512	1.535	2.126	0.381	0.286	0.437	3	2
M12 × 1.75	D8	5103101088	1.5P	4.331	0.591	-	2.205	0.367	0.275	0.437	3	3
M12 × 1.5	D7	5103101089	1.5P	4.331	0.591	-	2.205	0.367	0.275	0.437	3	3

Think threads with YAMAWA

· This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M12 × 1.25	D7	5103101090	1.5P	4.331	0.591	-	2.205	0.367	0.275	0.437	3	3
M14 × 2	D9	5103101100	1.5P	4.331	0.709	-	2.205	0.429	0.322	0.5	3	3
M14 × 1.5	D8	5103101102	1.5P	4.331	0.551	-	2.205	0.429	0.322	0.5	3	3
M16 × 2	D9	5103101114	1.5P	4.331	0.709	-	2.205	0.48	0.36	0.562	3	3
M16 × 1.5	D8	5103101116	1.5P	4.331	0.551	-	2.205	0.48	0.36	0.562	3	3

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

Z-PRO

VUSP CH



Z-PRO
Coated Spiral Fluted Taps with Coolant Through Hole

Specification

HSS-P | Coating | <2D

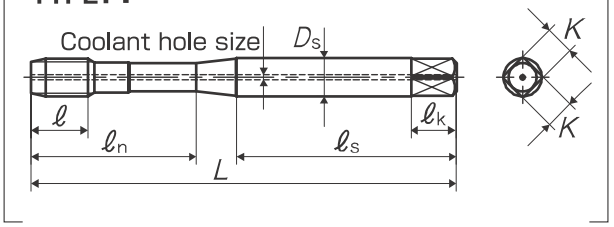
- Durability is improved by premium powder HSS and special coating.
- Chip ejection efficiency is improved and cutting resistance is reduced by the unique cutting edge shape, achieving a good internal thread and long tool life.

Tapping Speeds depending on Materials

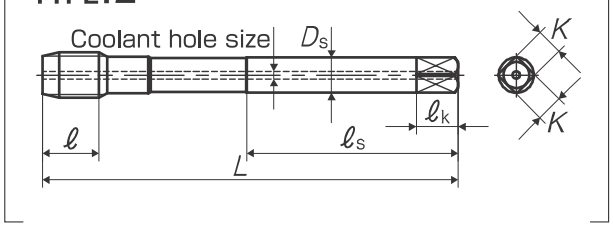
Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Stainless steels ステンレス鋼	Tool steels 工具鋼	Ductile cast irons 強靭鋳鉄
10~20 (m/min)	10~30 (m/min)	10~30 (m/min)	10~20 (m/min)	3~10 (m/min)	5~10 (m/min)	10~20 (m/min)

Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
10~20 (m/min)	10~20 (m/min)

TYPE: 1



TYPE: 2



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	Coolant hole size (inch)	TYPE
For Unified Threads													
5/16-18UNC	GH5	5201103071	2.5P	3.543	0.472	1.378	1.831	0.318	0.238	0.375	3	0.039	1
3/8-16UNC	GH5	5201103082	2.5P	3.937	0.512	1.535	2.028	0.381	0.286	0.437	3	0.059	1
1/2-13UNC	GH5	5201103111	2.5P	4.331	0.591	-	2.205	0.367	0.275	0.437	3	0.079	2

Think threads with YAMAWA

・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ANSI

Z-PRO

HVSP

Z-PRO
Hybrid Value Spiral Fluted Taps for Steels



Specification

HSS | OX Oxide

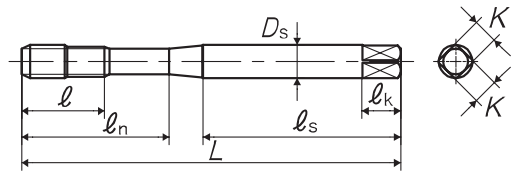


■The HVSP is a spiral flute tap for blind hole tapping where problems existed in chipping the cutting chamfer. It enables trouble free perfect threading.

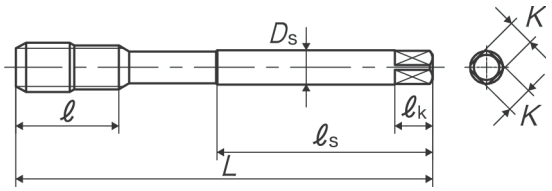
Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼	Stainless steels ステンレス鋼	Cast steels 鋳鋼
3~12 (m/min)	3~12 (m/min)	3~12 (m/min)	3~12 (m/min)	~5 (m/min) 25~35HRC	~5 (m/min)	3~12 (m/min)

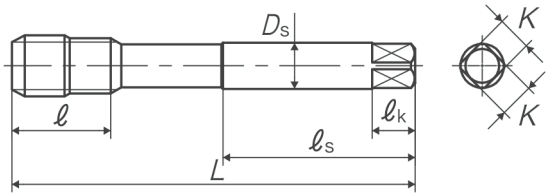
TYPE:1



TYPE:2



TYPE:3



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads												
M3 × 0.5	D4	SS3.0G4EEXJ	2.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	1
M3 × 0.35	D4	SS3.0D4EEXJ	2.5P	2.205	0.256	0.736	1.339	0.141	0.11	0.187	3	1
M4 × 0.7	D5	SS4.0I5EEXJ	2.5P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	3	1
M4 × 0.5	D4	SS4.0G4EEXJ	2.5P	2.48	0.354	0.815	1.535	0.168	0.131	0.25	3	1
M5 × 0.8	D5	SS5.0K5EEXJ	2.5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	3	1
M5 × 0.5	D4	SS5.0G4EEXJ	2.5P	2.756	0.354	0.984	1.654	0.194	0.152	0.25	3	1
M6 × 1	D6	SS6.0M6EEXJ	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
M6 × 0.75	D6	SS6.0J6EEXJ	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
M6 × 0.5	D4	SS6.0G4EEXJ	2.5P	3.15	0.354	1.181	1.713	0.255	0.191	0.312	3	1
M8 × 1.25	D7	SS8.0N7EEXJ	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	1
M8 × 1	D6	SS8.0M6EEXJ	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	1
M10 × 1.5	D8	SS010O8EEXJ	2.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	1
M10 × 1.25	D7	SS010N7EEXJ	2.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	1
M10 × 1	D6	SS010M6EEXJ	2.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	1
M12 × 1.75	D8	SS012P8EEXJ	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	2
M12 × 1.5	D7	SS012O7EEXJ	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	2
M12 × 1.25	D7	SS012N7EEXJ	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	2

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HVSP Z-PRO Hybrid Value Spiral Fluted Taps for Steels

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M14 × 2	D9	SS014Q9EEXJ	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	2
M14 × 1.5	D8	SS014O8EEXJ	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	2
M16 × 2	D9	SS016Q9EEXJ	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	2
M16 × 1.5	D8	SS016O8EEXJ	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	2
M18 × 2.5	D9	SS018R9EEXJ	2.5P	4.921	1.299	-	2.52	0.542	0.406	0.625	4	2
M18 × 1.5	D8	SS018O8EEXJ	2.5P	4.921	0.945	-	2.52	0.542	0.406	0.625	4	2
M20 × 2.5	D9	SS020R9EEXJ	2.5P	5.512	1.299	-	2.795	0.652	0.489	0.687	4	3
M20 × 1.5	D8	SS020O8EEXJ	2.5P	5.512	0.945	-	2.795	0.652	0.489	0.687	4	3
M22 × 2.5	D9	SS022R9EEXJ	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	3
M22 × 1.5	D8	SS022O8EEXJ	2.5P	5.512	0.945	-	2.795	0.697	0.523	0.75	4	3
M24 × 3	D9	SS024S9EEXJ	2.5P	6.299	1.457	-	3.228	0.76	0.57	0.75	4	3
M24 × 1.5	D8	SS024O8EEXJ	2.5P	6.299	1.063	-	3.228	0.76	0.57	0.75	4	3
M27 × 3	D10	SS027SOEEXJ	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	3
M27 × 1.5	D8	SS027O8EEXJ	2.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	3
M30 × 3.5	D10	SS030TOEEXJ	2.5P	7.087	1.732	-	3.622	1.021	0.766	1	4	3
M30 × 3	D10	SS030SOEEXJ	2.5P	7.087	1.732	-	3.622	1.021	0.766	1	4	3
M30 × 1.5	D8	SS030O8EEXJ	2.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	3
M33 × 3.5	D10	SS033TOEEXJ	2.5P	7.087	1.732	-	3.622	1.108	0.831	1.062	4	3
M33 × 3	D10	SS033SOEEXJ	2.5P	7.087	1.732	-	3.622	1.108	0.831	1.062	4	3
M36 × 4	D10	SS036UOEEXJ	2.5P	7.874	2.047	-	4.016	1.233	0.925	1.125	4	3
M36 × 3	D10	SS036SOEEXJ	2.5P	7.874	2.047	-	4.016	1.233	0.925	1.125	4	3
M39 × 4	D10	SS039UOEEXJ	2.5P	7.874	2.047	-	4.016	1.305	0.979	1.125	4	3
M39 × 3	D10	SS039SOEEXJ	2.5P	7.874	2.047	-	4.016	1.305	0.979	1.125	4	3
M42 × 4.5	D10	SS042VOEEXJ	2.5P	7.874	2.047	-	4.016	1.43	1.072	1.25	4	3
M42 × 3	D10	SS042SOEEXJ	2.5P	7.874	2.047	-	4.016	1.43	1.072	1.25	4	3
M48 × 5	D11	SS048W-EEXJ	2.5P	9.843	2.559	-	5.039	1.644	1.233	1.375	4	3
M48 × 3	D10	SS048SOEEXJ	2.5P	9.843	2.559	-	5.039	1.644	1.233	1.375	4	3
For Unified Threads												
1 -8UNC	2BX	SSU16XYEEXCJ	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	3
1 -12UNF	2BX	SSU16SYEEXCJ	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	3
1 1/8-7UNC	2BX	SSU18YYEEXCJ	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	3
1 1/8-8UN	2BX	SSU18XYEEXCJ	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	3
1 1/8-12UNF	2BX	SSU18SYEEXCJ	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	3
1 1/4-7UNC	2BX	SSU20YYEEXCJ	2.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	3
1 1/4-8UN	2BX	SSU20XYEEXCJ	2.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	3
1 1/4-12UNF	2BX	SSU20SYEEXCJ	2.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	3
1 3/8-6UNC	2BX	SSU22ZYEEXCJ	2.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	3
1 3/8-8UN	2BX	SSU22XYEEXCJ	2.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	3
1 3/8-12UNF	2BX	SSU22SYEEXCJ	2.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	3
1 1/2-6UNC	2BX	SSU24ZYEEXCJ	2.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	3
1 1/2-8UN	2BX	SSU24XYEEXCJ	2.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	3
1 1/2-12UNF	2BX	SSU24SYEEXCJ	2.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	3
1 3/4-5UNC	2BX	SSU280YEEXCJ	2.5P	8.661	2.559	-	4.409	1.43	1.072	1.25	4	3
1 3/4-8UN	2BX	SSU28XYEEXCJ	2.5P	8.661	2.559	-	4.409	1.43	1.072	1.25	4	3
1 3/4-12UN	2BX	SSU28SYEEXCJ	2.5P	8.661	2.559	-	4.409	1.43	1.072	1.25	4	3
2 -4 1/2UNC	2BX	SSU329YEEXCJ	2.5P	9.843	2.874	-	5.039	1.644	1.233	1.375	4	3
2 -8UN	2BX	SSU32XYEEXCJ	2.5P	9.843	2.874	-	5.039	1.644	1.233	1.375	4	3

Think threads with YAMAWA

· This product is different from JIS products in shape and dimensions, please be careful when using.

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MEMO

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ANSI

SP

Spiral Fluted Taps



Specification

HSS

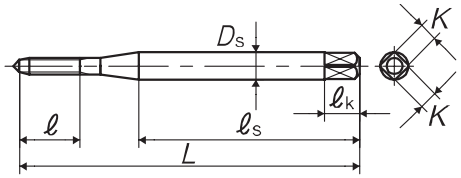


■Spiral flutes continuously curl the chips and discharge them back toward the shank of the tap. Spiral flute taps are the most suitable for blind hole processing.

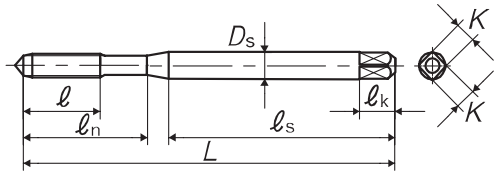
Tapping Speed depending on Materials

Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼
5~10 (m/min)	5~10 (m/min)

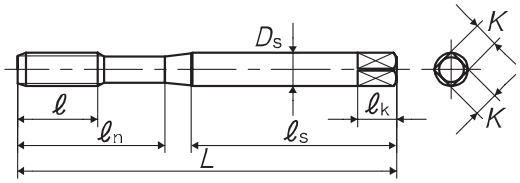
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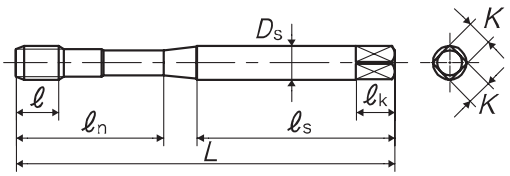
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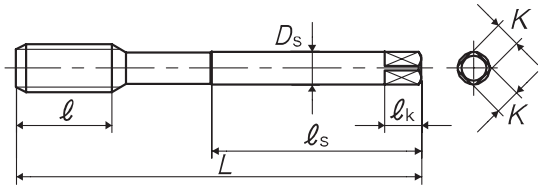
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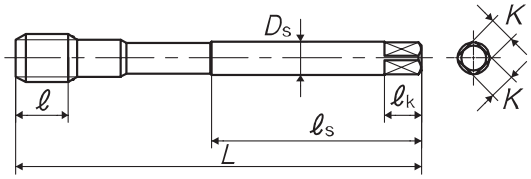
TYPE:4



TYPE:5



TYPE:6



Segment : 1C

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads												
M2 × 0.4	D3	SS2.0E3NEB	2.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
M2.2 × 0.45	D3	SS2.2F3NEB	2.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
M2.5 × 0.45	D3	SS2.5F3NEB	2.5P	2.205	0.354	0.693	1.28	0.141	0.11	0.187	2	2
M2.6 × 0.45	D3	SS2.6F3NEB	2.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
M3 × 0.5	D3	SS3.0G3NEB	2.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
M3.5 × 0.6	D4	SS3.5H4NEB	2.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2

・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SP Spiral Fluted Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M4 × 0.7	D4	SS4.0I4NEB	2.5P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	3	2
M5 × 0.8	D4	SS5.0K4NEB	2.5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	3	2
M6 × 1	D5	SS6.0M5NEB	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
M7 × 1	D5	SS7.0M5NEB	2.5P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	3	3
M7 × 0.75	D4	SS7.0J4NEB	2.5P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	3	3
M7 × 0.5	D4	SS7.0G4NEB	2.5P	3.543	0.394	1.339	1.831	0.318	0.238	0.375	3	4
M8 × 1.25	D5	SS8.0N5NEB	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M8 × 1	D5	SS8.0M5NEB	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M8 × 0.75	D4	SS8.0J4NEB	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M8 × 0.5	D4	SS8.0G4NEB	2.5P	3.543	0.394	1.378	1.831	0.318	0.238	0.375	3	4
M9 × 1.25	D5	SS9.0N5NEB	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
M9 × 1	D5	SS9.0M5NEB	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
M10 × 1.5	D6	SS010O6NEB	2.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3
M10 × 1.25	D5	SS010N5NEB	2.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3
M10 × 1	D5	SS010M5NEB	2.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3
M10 × 0.75	D4	SS010J4NEB	2.5P	3.937	0.512	1.535	2.126	0.381	0.286	0.437	3	4
M11 × 1.5	D6	SS011O6NEB	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
M12 × 1.75	D6	SS012P6NEB	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
M12 × 1.5	D6	SS012O6NEB	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
M12 × 1.25	D6	SS012N6NEB	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
M12 × 1	D5	SS012M5NEB	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
M14 × 2	D7	SS014Q7NEB	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
M14 × 1.5	D6	SS014O6NEB	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
M14 × 1.25	D6	SS014N6NEB	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
M14 × 1	D5	SS014M5NEB	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
M16 × 2	D7	SS016Q7NEB	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
M16 × 1.5	D6	SS016O6NEB	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
M16 × 1	D5	SS016M5NEB	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
M18 × 2.5	D7	SS018R7NEB	2.5P	4.921	1.299	-	2.52	0.542	0.406	0.625	4	5
M18 × 2	D7	SS018Q7NEB	2.5P	4.921	1.299	-	2.52	0.542	0.406	0.625	4	5
M18 × 1.5	D6	SS018O6NEB	2.5P	4.921	0.945	-	2.52	0.542	0.406	0.625	4	6
M18 × 1	D5	SS018M5NEB	2.5P	4.921	0.945	-	2.52	0.542	0.406	0.625	4	6
M20 × 2.5	D7	SS020R7NEB	2.5P	5.512	1.299	-	2.795	0.652	0.489	0.687	4	5
M20 × 2	D7	SS020Q7NEB	2.5P	5.512	1.299	-	2.795	0.652	0.489	0.687	4	5
M20 × 1.5	D6	SS020O6NEB	2.5P	5.512	0.945	-	2.795	0.652	0.489	0.687	4	6
M20 × 1	D5	SS020M5NEB	2.5P	5.512	0.945	-	2.795	0.652	0.489	0.687	4	6
M22 × 2.5	D7	SS022R7NEB	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
M22 × 2	D7	SS022Q7NEB	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
M22 × 1.5	D6	SS022O6NEB	2.5P	5.512	0.945	-	2.795	0.697	0.523	0.75	4	6
M22 × 1	D5	SS022M5NEB	2.5P	5.512	0.945	-	2.795	0.697	0.523	0.75	4	6
M24 × 3	D8	SS024S8NEB	2.5P	6.299	1.457	-	3.228	0.76	0.57	0.75	4	5
M24 × 2	D7	SS024Q7NEB	2.5P	6.299	1.063	-	3.228	0.76	0.57	0.75	4	6
M24 × 1.5	D6	SS024O6NEB	2.5P	6.299	1.063	-	3.228	0.76	0.57	0.75	4	6
M24 × 1	D5	SS024M5NEB	2.5P	6.299	1.063	-	3.228	0.76	0.57	0.75	4	6
M25 × 1.5	D6	SS025O6NEB	2.5P	6.299	1.063	-	3.228	0.8	0.6	0.812	4	6
M26 × 1.5	D6	SS026O6NEB	2.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 3	D8	SS027S8NEB	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
M27 × 2	D7	SS027Q7NEB	2.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 1.5	D6	SS027O6NEB	2.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SP Spiral Fluted Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M27 × 1	D5	SS027M5NEB	2.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 2	D7	SS028Q7NEB	2.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 1.5	D6	SS028O6NEB	2.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 1	D5	SS028M5NEB	2.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M30 × 3.5	D9	SS030T9NEB	2.5P	7.087	1.732	-	3.622	1.021	0.766	1	4	5
M30 × 2	D7	SS030Q7NEB	2.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M30 × 1.5	D6	SS030O6NEB	2.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M30 × 1	D5	SS030M5NEB	2.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M32 × 2	D7	SS032Q7NEB	2.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M32 × 1.5	D6	SS032O6NEB	2.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M32 × 1	D5	SS032M5NEB	2.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M33 × 3.5	D9	SS033T9NEB	2.5P	7.087	1.732	-	3.622	1.108	0.831	1.062	4	5
M33 × 2	D7	SS033Q7NEB	2.5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M33 × 1.5	D6	SS033O6NEB	2.5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M33 × 1	D5	SS033M5NEB	2.5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M36 × 4	D9	SS036U9NEB	2.5P	7.874	2.047	-	4.016	1.233	0.925	1.125	4	5
M36 × 3	D8	SS036S8NEB	2.5P	7.874	2.047	-	4.016	1.233	0.925	1.125	4	5
M36 × 2	D7	SS036Q7NEB	2.5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M36 × 1.5	D6	SS036O6NEB	2.5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M36 × 1	D5	SS036M5NEB	2.5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M39 × 4	D9	SS039U9NEB	2.5P	7.874	2.047	-	4.016	1.305	0.979	1.125	4	5
M39 × 3	D8	SS039S8NEB	2.5P	7.874	2.047	-	4.016	1.305	0.979	1.125	4	5
M39 × 2	D7	SS039Q7NEB	2.5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M39 × 1.5	D6	SS039O6NEB	2.5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M39 × 1	D5	SS039M5NEB	2.5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M42 × 4.5	D10	SS042VONEB	2.5P	7.874	2.047	-	4.016	1.43	1.072	1.25	4	5
M42 × 2	D7	SS042Q7NEB	2.5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M42 × 1.5	D6	SS042O6NEB	2.5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M42 × 1	D5	SS042M5NEB	2.5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M45 × 4.5	D10	SS045VONEB	2.5P	8.661	2.323	-	4.409	1.519	1.139	1.25	4	5
M45 × 3	D8	SS045S8NEB	2.5P	8.661	2.323	-	4.409	1.519	1.139	1.25	4	5
M45 × 2	D7	SS045Q7NEB	2.5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M45 × 1.5	D6	SS045O6NEB	2.5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M45 × 1	D5	SS045M5NEB	2.5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M48 × 5	D11	SS048W-NEB	2.5P	9.843	2.559	-	5.039	1.644	1.233	1.375	4	5
M48 × 3	D9	SS048S9NEB	2.5P	9.843	2.559	-	5.039	1.644	1.233	1.375	4	5
M48 × 2	D7	SS048Q7NEB	2.5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
M48 × 1.5	D7	SS048O7NEB	2.5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
M48 × 1	D6	SS048M6NEB	2.5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
For Unified Threads												
No.2-56UNC	GH1	SSUN2E1NEB	2.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
No.2-56UNC	GH2	SSUN2E2NEB	2.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
No.2-64UNF	GH1	SSUN2D1NEB	2.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
No.2-64UNF	GH2	SSUN2D2NEB	2.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
No.3-48UNC	GH1	SSUN3F1NEB	2.5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	2	2
No.3-48UNC	GH2	SSUN3F2NEB	2.5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	2	2
No.3-56UNF	GH1	SSUN3E1NEB	2.5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	2	2
No.3-56UNF	GH2	SSUN3E2NEB	2.5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	2	2

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SP Spiral Fluted Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
No.4-40UNC	GH1	SSUN4H1NEB	2.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
No.4-40UNC	GH2	SSUN4H2NEB	2.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
No.4-48UNF	GH1	SSUN4F1NEB	2.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
No.4-48UNF	GH2	SSUN4F2NEB	2.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
No.5-40UNC	GH1	SSUN5H1NEB	2.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.5-40UNC	GH2	SSUN5H2NEB	2.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.5-44UNF	GH1	SSUN5G1NEB	2.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.5-44UNF	GH2	SSUN5G2NEB	2.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.6-32UNC	GH1	SSUN6J1NEB	2.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-32UNC	GH2	SSUN6J2NEB	2.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-32UNC	GH3	SSUN6J3NEB	2.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-32UNC	GH4	SSUN6J4NEB	2.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-40UNF	GH1	SSUN6H1NEB	2.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-40UNF	GH2	SSUN6H2NEB	2.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.8-32UNC	GH2	SSUN8J2NEB	2.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	3	2
No.8-32UNC	GH3	SSUN8J3NEB	2.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	3	2
No.8-36UNF	GH2	SSUN8I2NEB	2.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	3	2
No.8-36UNF	GH3	SSUN8I3NEB	2.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	3	2
No.10-24UNC	GH2	SSUNAM2NEB	2.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	3	2
No.10-24UNC	GH3	SSUNAM3NEB	2.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	3	2
No.10-32UNF	GH2	SSUNAJ2NEB	2.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	3	2
No.10-32UNF	GH3	SSUNAJ3NEB	2.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	3	2
No.12-24UNC	GH2	SSUNCM2NEB	2.5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	3	2
No.12-24UNC	GH3	SSUNCM3NEB	2.5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	3	2
No.12-28UNF	GH2	SSUNCK2NEB	2.5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	3	2
No.12-28UNF	GH3	SSUNCK3NEB	2.5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	3	2
1/4-20UNC	GH2	SSU04N2NEB	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-20UNC	GH3	SSU04N3NEB	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-20UNC	GH5	SSU04N5NEB	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-20UNC	GH11	SSU04N-EEB	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-28UNF	GH2	SSU04K2NEB	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	SSU04K3NEB	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-28UNF	GH4	SSU04K4NEB	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-28UNF	GH11	SSU04K-EEB	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
5/16-18UNC	GH2	SSU05O2NEB	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-18UNC	GH3	SSU05O3NEB	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-18UNC	GH5	SSU05O5NEB	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-18UNC	GH11	SSU05O-EEB	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-24UNF	GH2	SSU05M2NEB	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	SSU05M3NEB	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-24UNF	GH4	SSU05M4NEB	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-24UNF	GH5	SSU05M5NEB	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-24UNF	GH11	SSU05M-EEB	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	SSU06P3NEB	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-16UNC	GH4	SSU06P4NEB	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-16UNC	GH5	SSU06P5NEB	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-16UNC	GH11	SSU06P-EEB	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-24UNF	GH2	SSU06M2NEB	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	SSU06M3NEB	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3

Think threads with YAMAWA

· This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SP Spiral Fluted Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
3/8-24UNF	GH4	SSU06M4NEB	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-24UNF	GH11	SSU06M-EEB	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
7/16-14UNC	GH3	SSU07Q3NEB	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
7/16-14UNC	GH4	SSU07Q4NEB	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
7/16-14UNC	GH5	SSU07Q5NEB	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
7/16-20UNF	GH2	SSU07N2NEB	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
7/16-20UNF	GH3	SSU07N3NEB	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
7/16-20UNF	GH5	SSU07N5NEB	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
1/2-13UNC	GH3	SSU08R3NEB	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-13UNC	GH4	SSU08R4NEB	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-13UNC	GH5	SSU08R5NEB	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-13UNC	GH11	SSU08R-EEB	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-20UNF	GH2	SSU08N2NEB	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-20UNF	GH3	SSU08N3NEB	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-20UNF	GH5	SSU08N5NEB	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-20UNF	GH11	SSU08N-EEB	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
9/16-12UNC	GH3	SSU09S3NEB	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
9/16-12UNC	GH4	SSU09S4NEB	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
9/16-12UNC	GH5	SSU09S5NEB	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
9/16-18UNF	GH3	SSU09O3NEB	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
9/16-18UNF	GH4	SSU09O4NEB	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
9/16-18UNF	GH5	SSU09O5NEB	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
5/8-11UNC	GH3	SSU10U3NEB	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-11UNC	GH4	SSU10U4NEB	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-11UNC	GH5	SSU10U5NEB	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-11UNC	GH11	SSU10U-EEB	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-18UNF	GH3	SSU10O3NEB	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-18UNF	GH4	SSU10O4NEB	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-18UNF	GH5	SSU10O5NEB	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-18UNF	GH11	SSU10O-EEB	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
3/4-10UNC	GH3	SSU12V3NEB	2.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-10UNC	GH5	SSU12V5NEB	2.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-10UNC	GH11	SSU12V-EEB	2.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH3	SSU12P3NEB	2.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH4	SSU12P4NEB	2.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH5	SSU12P5NEB	2.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH11	SSU12P-EEB	2.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
7/8-9UNC	GH4	SSU14W4NEB	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-9UNC	GH5	SSU14W5NEB	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-9UNC	GH6	SSU14W6NEB	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-14UNF	GH3	SSU14Q3NEB	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-14UNF	GH4	SSU14Q4NEB	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-14UNF	GH6	SSU14Q6NEB	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
1 -8UNC	GH4	SSU16X4NEB	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -8UNC	GH5	SSU16X5NEB	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -8UNC	GH6	SSU16X6NEB	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -12UNF	GH3	SSU16S3NEB	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -12UNF	GH4	SSU16S4NEB	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -12UNF	GH5	SSU16S5NEB	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SP Spiral Fluted Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
1 -12UNF	GH6	SSU16S6NEB	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 1/8-7UNC	GH4	SSU18Y4NEB	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-7UNC	GH6	SSU18Y6NEB	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-12UNF	GH4	SSU18S4NEB	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-12UNF	GH5	SSU18S5NEB	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/4-7UNC	GH4	SSU20Y4NEB	2.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-7UNC	GH6	SSU20Y6NEB	2.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-12UNF	GH4	SSU20S4NEB	2.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-12UNF	GH5	SSU20S5NEB	2.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 3/8-6UNC	GH5	SSU22Z5NEB	2.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-6UNC	GH6	SSU22Z6NEB	2.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-12UNF	GH4	SSU22S4NEB	2.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-12UNF	GH5	SSU22S5NEB	2.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 1/2-6UNC	GH5	SSU24Z5NEB	2.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-6UNC	GH6	SSU24Z6NEB	2.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-12UNF	GH4	SSU24S4NEB	2.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-12UNF	GH5	SSU24S5NEB	2.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ISP

Spiral Fluted Taps for General Purpose



Specification

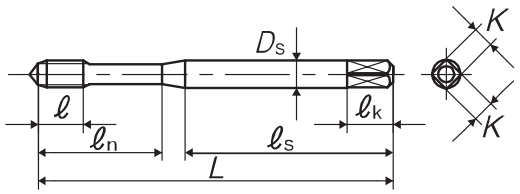
HSS | OX Oxide | <2D

■Suitable for low speed tapping of steels.
For manual use and drilling machine use.

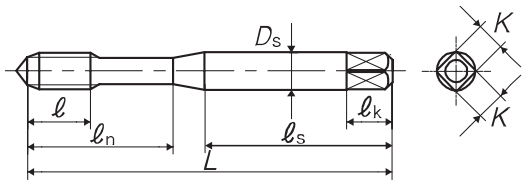
Tapping Speed depending on Materials

Low carbon steels 低炭素鋼 ~5 (m/min)

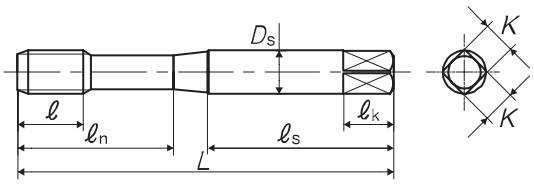
TYPE : 1



TYPE : 2



TYPE : 3



Segment : 1C

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads												
No.6-32UNC	-	UAUN6JXHEX	2.5P	2	0.374	0.669	1.201	0.141	0.11	0.187	3	1
No.8-32UNC	-	UAUN8JXHEX	2.5P	2.125	0.374	0.866	1.339	0.168	0.131	0.25	3	1
No.10-24UNC	-	UAUNAMXHEX	2.5P	2.375	0.512	0.866	1.339	0.194	0.152	0.25	3	1
1/4-20UNC	-	UAU04NXHEX	2.5P	2.5	0.591	1.024	1.22	0.255	0.191	0.312	3	2
5/16-18UNC	-	UAU05OXHEX	2.5P	2.718	0.669	1.004	1.378	0.318	0.238	0.375	3	3
3/8-16UNC	-	UAU06PXHEX	2.5P	2.937	0.748	1.059	1.496	0.381	0.286	0.437	3	3
For Unified Threads (In blister package)												
No.6-32UNC	-	UAUN6JXHEXR	2.5P	2	0.374	0.669	1.201	0.141	0.11	0.187	3	1
No.8-32UNC	-	UAUN8JXHEXR	2.5P	2.125	0.374	0.866	1.339	0.168	0.131	0.25	3	1
No.10-24UNC	-	UAUNAMXHEXR	2.5P	2.375	0.512	0.866	1.339	0.194	0.152	0.25	3	1
1/4-20UNC	-	UAU04NXHEXR	2.5P	2.5	0.591	1.024	1.22	0.255	0.191	0.312	3	2
5/16-18UNC	-	UAU05OXHEXR	2.5P	2.718	0.669	1.004	1.378	0.318	0.238	0.375	3	3
3/8-16UNC	-	UAU06PXHEXR	2.5P	2.937	0.748	1.059	1.496	0.381	0.286	0.437	3	3

Blister Package



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・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ANSI

SP OX



Spiral Fluted Taps,Oxidized

Specification

HSS | OX Oxide

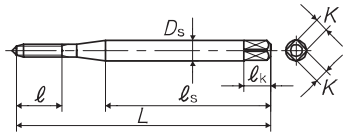


Tapping Speed depending on Materials

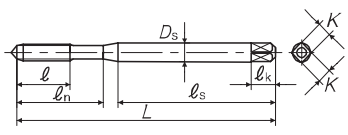
Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼
5~10 (m/min)	5~10 (m/min)	5~10 (m/min)

■The SP OX is a spiral flute tap for blind hole tapping. These taps have an applied oxidation treatment to prevent chip welding on the surface of the taps threaded portion. They are suitable for thread processing of soft steel materials where the chips easily weld to the tap like low carbon.

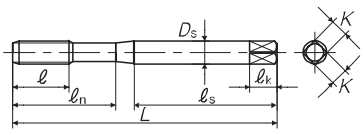
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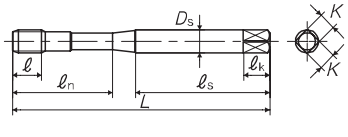
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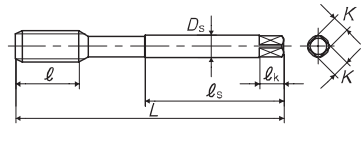
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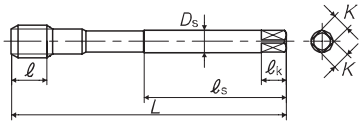
TYPE:4



TYPE:5



TYPE:6



Segment : 1C

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads												
M2 × 0.4	D3	SS2.0E3NEX	2.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
M2.2 × 0.45	D3	SS2.2F3NEX	2.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
M2.5 × 0.45	D3	SS2.5F3NEX	2.5P	2.205	0.354	0.693	1.28	0.141	0.11	0.187	2	2
M2.6 × 0.45	D3	SS2.6F3NEX	2.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
M3 × 0.5	D3	SS3.0G3NEX	2.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
M3.5 × 0.6	D4	SS3.5H4NEX	2.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
M4 × 0.7	D4	SS4.0I4NEX	2.5P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	3	2
M5 × 0.8	D4	SS5.0K4NEX	2.5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	3	2
M6 × 1	D5	SS6.0M5NEX	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
M7 × 1	D5	SS7.0M5NEX	2.5P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	3	3
M7 × 0.75	D4	SS7.0J4NEX	2.5P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	3	3
M7 × 0.5	D4	SS7.0G4NEX	2.5P	3.543	0.394	1.339	1.831	0.318	0.238	0.375	3	4
M8 × 1.25	D5	SS8.0N5NEX	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M8 × 1	D5	SS8.0M5NEX	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M8 × 0.75	D4	SS8.0J4NEX	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	4
M8 × 0.5	D4	SS8.0G4NEX	2.5P	3.543	0.394	1.378	1.831	0.318	0.238	0.375	3	4
M9 × 1.25	D5	SS9.0N5NEX	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
M9 × 1	D5	SS9.0M5NEX	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
M10 × 1.5	D6	SS010O6NEX	2.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3
M10 × 1.25	D5	SS010N5NEX	2.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SP OX Spiral Fluted Taps,Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M10 × 1	D5	SS010M5NEX	2.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3
M10 × 0.75	D4	SS010J4NEX	2.5P	3.937	0.512	1.535	2.126	0.381	0.286	0.437	3	4
M11 × 1.5	D6	SS011O6NEX	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
M12 × 1.75	D6	SS012P6NEX	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
M12 × 1.5	D6	SS012O6NEX	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
M12 × 1.25	D6	SS012N6NEX	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
M12 × 1	D5	SS012M5NEX	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
M14 × 2	D7	SS014Q7NEX	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
M14 × 1.5	D6	SS014O6NEX	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
M14 × 1.25	D6	SS014N6NEX	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
M14 × 1	D5	SS014M5NEX	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
M16 × 2	D7	SS016Q7NEX	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
M16 × 1.5	D6	SS016O6NEX	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
M16 × 1	D5	SS016M5NEX	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
M18 × 2.5	D7	SS018R7NEX	2.5P	4.921	1.299	-	2.52	0.542	0.406	0.625	4	5
M18 × 2	D7	SS018Q7NEX	2.5P	4.921	1.299	-	2.52	0.542	0.406	0.625	4	5
M18 × 1.5	D6	SS018O6NEX	2.5P	4.921	0.945	-	2.52	0.542	0.406	0.625	4	6
M18 × 1	D5	SS018M5NEX	2.5P	4.921	0.945	-	2.52	0.542	0.406	0.625	4	6
M20 × 2.5	D7	SS020R7NEX	2.5P	5.512	1.299	-	2.795	0.652	0.489	0.687	4	5
M20 × 2	D7	SS020Q7NEX	2.5P	5.512	1.299	-	2.795	0.652	0.489	0.687	4	5
M20 × 1.5	D6	SS020O6NEX	2.5P	5.512	0.945	-	2.795	0.652	0.489	0.687	4	6
M20 × 1	D5	SS020M5NEX	2.5P	5.512	0.945	-	2.795	0.652	0.489	0.687	4	6
M22 × 2.5	D7	SS022R7NEX	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
M22 × 2	D7	SS022Q7NEX	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
M22 × 1.5	D6	SS022O6NEX	2.5P	5.512	0.945	-	2.795	0.697	0.523	0.75	4	6
M22 × 1	D5	SS022M5NEX	2.5P	5.512	0.945	-	2.795	0.697	0.523	0.75	4	6
M24 × 3	D8	SS024S8NEX	2.5P	6.299	1.457	-	3.228	0.76	0.57	0.75	4	5
M24 × 2	D7	SS024Q7NEX	2.5P	6.299	1.063	-	3.228	0.76	0.57	0.75	4	6
M24 × 1.5	D6	SS024O6NEX	2.5P	6.299	1.063	-	3.228	0.76	0.57	0.75	4	6
M24 × 1	D5	SS024M5NEX	2.5P	6.299	1.063	-	3.228	0.76	0.57	0.75	4	6
M25 × 1.5	D6	SS025O6NEX	2.5P	6.299	1.063	-	3.228	0.8	0.6	0.812	4	6
M26 × 1.5	D6	SS026O6NEX	2.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 3	D8	SS027S8NEX	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
M27 × 2	D7	SS027Q7NEX	2.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 1.5	D6	SS027O6NEX	2.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 1	D5	SS027M5NEX	2.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 2	D7	SS028Q7NEX	2.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 1.5	D6	SS028O6NEX	2.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 1	D5	SS028M5NEX	2.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M30 × 3.5	D9	SS030T9NEX	2.5P	7.087	1.732	-	3.622	1.021	0.766	1	4	5
M30 × 2	D7	SS030Q7NEX	2.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M30 × 1.5	D6	SS030O6NEX	2.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M30 × 1	D5	SS030M5NEX	2.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M32 × 2	D7	SS032Q7NEX	2.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M32 × 1.5	D6	SS032O6NEX	2.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M32 × 1	D5	SS032M5NEX	2.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M33 × 3.5	D9	SS033T9NEX	2.5P	7.087	1.732	-	3.622	1.108	0.831	1.062	4	5
M33 × 2	D7	SS033Q7NEX	2.5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M33 × 1.5	D6	SS033O6NEX	2.5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M33 × 1	D5	SS033M5NEX	2.5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SP OX Spiral Fluted Taps,Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M36 × 4	D9	SS036U9NEX	2.5P	7.874	2.047	-	4.016	1.233	0.925	1.125	4	5
M36 × 3	D8	SS036S8NEX	2.5P	7.874	2.047	-	4.016	1.233	0.925	1.125	4	5
M36 × 2	D7	SS036Q7NEX	2.5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M36 × 1.5	D6	SS036O6NEX	2.5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M36 × 1	D5	SS036M5NEX	2.5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M39 × 4	D9	SS039U9NEX	2.5P	7.874	2.047	-	4.016	1.305	0.979	1.125	4	5
M39 × 3	D8	SS039S8NEX	2.5P	7.874	2.047	-	4.016	1.305	0.979	1.125	4	5
M39 × 2	D7	SS039Q7NEX	2.5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M39 × 1.5	D6	SS039O6NEX	2.5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M39 × 1	D5	SS039M5NEX	2.5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M42 × 4.5	D10	SS042VONEX	2.5P	7.874	2.047	-	4.016	1.43	1.072	1.25	4	5
M42 × 2	D7	SS042Q7NEX	2.5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M42 × 1.5	D6	SS042O6NEX	2.5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M42 × 1	D5	SS042M5NEX	2.5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M45 × 4.5	D10	SS045VONEX	2.5P	8.661	2.323	-	4.409	1.519	1.139	1.25	4	5
M45 × 3	D8	SS045S8NEX	2.5P	8.661	2.323	-	4.409	1.519	1.139	1.25	4	5
M45 × 2	D7	SS045Q7NEX	2.5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M45 × 1.5	D6	SS045O6NEX	2.5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M45 × 1	D5	SS045M5NEX	2.5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M48 × 5	D11	SS048W-NEX	2.5P	9.843	2.559	-	5.039	1.644	1.233	1.375	4	5
M48 × 3	D9	SS048S9NEX	2.5P	9.843	2.559	-	5.039	1.644	1.233	1.375	4	5
M48 × 2	D7	SS048Q7NEX	2.5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
M48 × 1.5	D7	SS048O7NEX	2.5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
M48 × 1	D6	SS048M6NEX	2.5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
For Unified Threads												
No.2-56UNC	GH1	SSUN2E1NEX	2.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
No.2-56UNC	GH2	SSUN2E2NEX	2.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
No.2-64UNF	GH1	SSUN2D1NEX	2.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
No.2-64UNF	GH2	SSUN2D2NEX	2.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
No.3-48UNC	GH1	SSUN3F1NEX	2.5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	2	2
No.3-48UNC	GH2	SSUN3F2NEX	2.5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	2	2
No.3-56UNF	GH1	SSUN3E1NEX	2.5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	2	2
No.3-56UNF	GH2	SSUN3E2NEX	2.5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	2	2
No.4-40UNC	GH1	SSUN4H1NEX	2.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
No.4-40UNC	GH2	SSUN4H2NEX	2.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
No.4-48UNF	GH1	SSUN4F1NEX	2.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
No.4-48UNF	GH2	SSUN4F2NEX	2.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
No.5-40UNC	GH1	SSUN5H1NEX	2.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.5-40UNC	GH2	SSUN5H2NEX	2.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.5-44UNF	GH1	SSUN5G1NEX	2.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.5-44UNF	GH2	SSUN5G2NEX	2.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.6-32UNC	GH1	SSUN6J1NEX	2.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-32UNC	GH2	SSUN6J2NEX	2.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-32UNC	GH3	SSUN6J3NEX	2.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-32UNC	GH4	SSUN6J4NEX	2.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-40UNF	GH1	SSUN6H1NEX	2.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-40UNF	GH2	SSUN6H2NEX	2.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.8-32UNC	GH2	SSUN8J2NEX	2.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	3	2
No.8-32UNC	GH3	SSUN8J3NEX	2.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	3	2
No.8-36UNF	GH2	SSUN8I2NEX	2.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	3	2

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SP OX Spiral Fluted Taps,Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
No.8-36UNF	GH3	SSUN8I3NEX	2.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	3	2
No.10-24UNC	GH2	SSUNAM2NEX	2.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	3	2
No.10-24UNC	GH3	SSUNAM3NEX	2.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	3	2
No.10-32UNF	GH2	SSUNAJ2NEX	2.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	3	2
No.10-32UNF	GH3	SSUNAJ3NEX	2.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	3	2
No.12-24UNC	GH2	SSUNCM2NEX	2.5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	3	2
No.12-24UNC	GH3	SSUNCM3NEX	2.5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	3	2
No.12-28UNF	GH2	SSUNCK2NEX	2.5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	3	2
No.12-28UNF	GH3	SSUNCK3NEX	2.5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	3	2
1/4-20UNC	GH2	SSU04N2NEX	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-20UNC	GH3	SSU04N3NEX	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-20UNC	GH5	SSU04N5NEX	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-20UNC	GH11	SSU04N-EEX	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-28UNF	GH2	SSU04K2NEX	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	SSU04K3NEX	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-28UNF	GH4	SSU04K4NEX	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-28UNF	GH11	SSU04K-EEX	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
5/16-18UNC	GH2	SSU05O2NEX	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-18UNC	GH3	SSU05O3NEX	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-18UNC	GH5	SSU05O5NEX	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-18UNC	GH11	SSU05O-EEX	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-24UNF	GH2	SSU05M2NEX	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	SSU05M3NEX	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-24UNF	GH4	SSU05M4NEX	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-24UNF	GH5	SSU05M5NEX	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-24UNF	GH11	SSU05M-EEX	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	SSU06P3NEX	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-16UNC	GH4	SSU06P4NEX	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-16UNC	GH5	SSU06P5NEX	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-16UNC	GH11	SSU06P-EEX	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-24UNF	GH2	SSU06M2NEX	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	SSU06M3NEX	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-24UNF	GH4	SSU06M4NEX	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-24UNF	GH11	SSU06M-EEX	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
7/16-14UNC	GH3	SSU07Q3NEX	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
7/16-14UNC	GH4	SSU07Q4NEX	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
7/16-14UNC	GH5	SSU07Q5NEX	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
7/16-20UNF	GH2	SSU07N2NEX	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
7/16-20UNF	GH3	SSU07N3NEX	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
7/16-20UNF	GH5	SSU07N5NEX	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
1/2-13UNC	GH3	SSU08R3NEX	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-13UNC	GH4	SSU08R4NEX	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-13UNC	GH5	SSU08R5NEX	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-13UNC	GH11	SSU08R-EEX	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-20UNF	GH2	SSU08N2NEX	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-20UNF	GH3	SSU08N3NEX	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-20UNF	GH5	SSU08N5NEX	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-20UNF	GH11	SSU08N-EEX	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
9/16-12UNC	GH3	SSU09S3NEX	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
9/16-12UNC	GH4	SSU09S4NEX	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5

Think threads with YAMAWA

· This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SP OX Spiral Fluted Taps,Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
9/16-12UNC	GH5	SSU09S5NEX	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
9/16-18UNF	GH3	SSU09O3NEX	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
9/16-18UNF	GH4	SSU09O4NEX	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
9/16-18UNF	GH5	SSU09O5NEX	2.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
5/8-11UNC	GH3	SSU10U3NEX	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-11UNC	GH4	SSU10U4NEX	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-11UNC	GH5	SSU10U5NEX	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-11UNC	GH11	SSU10U-EEX	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-18UNF	GH3	SSU10O3NEX	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-18UNF	GH4	SSU10O4NEX	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-18UNF	GH5	SSU10O5NEX	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-18UNF	GH11	SSU10O-EEX	2.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
3/4-10UNC	GH3	SSU12V3NEX	2.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-10UNC	GH5	SSU12V5NEX	2.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-10UNC	GH11	SSU12V-EEX	2.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH3	SSU12P3NEX	2.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH4	SSU12P4NEX	2.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH5	SSU12P5NEX	2.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH11	SSU12P-EEX	2.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
7/8-9UNC	GH4	SSU14W4NEX	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-9UNC	GH5	SSU14W5NEX	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-9UNC	GH6	SSU14W6NEX	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-14UNF	GH3	SSU14Q3NEX	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-14UNF	GH4	SSU14Q4NEX	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-14UNF	GH6	SSU14Q6NEX	2.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
1 -8UNC	GH4	SSU16X4NEX	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -8UNC	GH5	SSU16X5NEX	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -8UNC	GH6	SSU16X6NEX	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -12UNF	GH3	SSU16S3NEX	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -12UNF	GH4	SSU16S4NEX	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -12UNF	GH5	SSU16S5NEX	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -12UNF	GH6	SSU16S6NEX	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 1/8-7UNC	GH4	SSU18Y4NEX	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-7UNC	GH6	SSU18Y6NEX	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-12UNF	GH4	SSU18S4NEX	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-12UNF	GH5	SSU18S5NEX	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/4-7UNC	GH4	SSU20Y4NEX	2.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-7UNC	GH6	SSU20Y6NEX	2.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-12UNF	GH4	SSU20S4NEX	2.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-12UNF	GH5	SSU20S5NEX	2.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 3/8-6UNC	GH5	SSU22Z5NEX	2.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-6UNC	GH6	SSU22Z6NEX	2.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-12UNF	GH4	SSU22S4NEX	2.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-12UNF	GH5	SSU22S5NEX	2.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 1/2-6UNC	GH5	SSU24Z5NEX	2.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-6UNC	GH6	SSU24Z6NEX	2.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-12UNF	GH4	SSU24S4NEX	2.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-12UNF	GH5	SSU24S5NEX	2.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ANSI

SP

Spiral Fluted Taps for Alloy Steels



Specification

HSS | OX Oxide

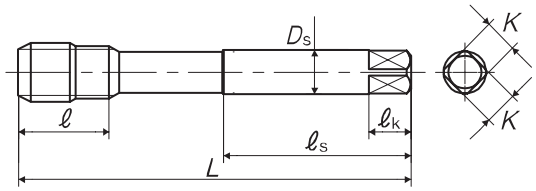


Tapping Speed depending on Materials

Alloy steels 合金鋼	High carbon steels 高炭素鋼
5~10 (m/min)	5~10 (m/min)

■SP taps are spiral flute taps for alloy steel and high carbon steel. They have an improved chip discharge performance and are ideal for reducing tapping torque. They are also ideal for large diameter blind hole tapping.

TYPE : 1



Segment : 1C

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads												
1 -8UNC	2BX	SSU16XYEEXJ	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	1
1 1/8-8UN	2BX	SSU18XYEEXJ	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	1
1 1/4-8UN	2BX	SSU20XYEEXJ	2.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	1
1 3/8-8UN	2BX	SSU22XYEEXJ	2.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	1
1 1/2-8UN	2BX	SSU24XYEEXJ	2.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	1

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

AU+SP

Plus Series Spiral Fluted Taps,Coated



Specification

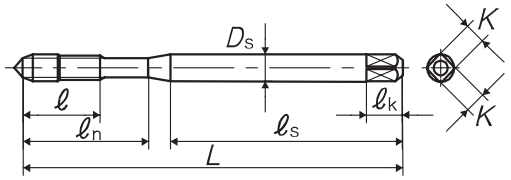
HSS | Coating | <2D

■For wide range of materials.

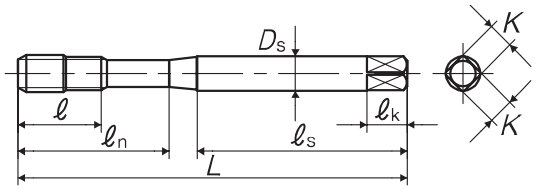
Tapping Speed depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Stainless steels ステンレス鋼	Aluminum alloy castings アルミ合金鋳物	Zinc alloy castings 亜鉛合金鋳物
10~20 (m/min)	10~20 (m/min)	10~20 (m/min)	10~20 (m/min)	5~10 (m/min)	20~30 (m/min)	20~30 (m/min)

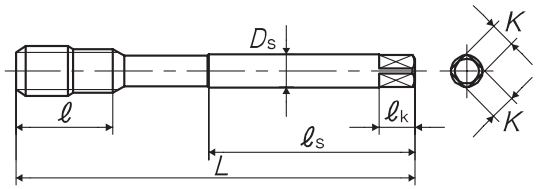
TYPE:1



TYPE:2



TYPE:3



Segment : 1C

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads												
M3 × 0.5	D3	ST3.0G3NEV	2.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	1
M4 × 0.7	D4	ST4.0I4NEV	2.5P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	3	1
M5 × 0.8	D4	ST5.0K4NEV	2.5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	3	1
M6 × 1	D5	ST6.0M5NEV	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
M8 × 1.25	D5	ST8.0N5NEV	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
M8 × 1	D5	ST8.0M5NEV	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
M10 × 1.5	D6	ST010O6NEV	2.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	2
M10 × 1.25	D5	ST010N5NEV	2.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	2
M10 × 1	D5	ST010M5NEV	2.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	2
M12 × 1.75	D6	ST012P6NEV	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	3
M12 × 1.5	D6	ST012O6NEV	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	3
M12 × 1.25	D5	ST012N5NEV	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	3

Think threads with YAMAWA

・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ANSI

ZELX SS SP



Spiral Fluted Taps for Stainless Steels

Specification

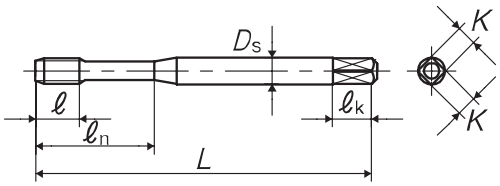
HSS | OX Oxide | <2D

■Suitable for stainless steels, sticky and tending to work-harden, as well as chrome steels and chrome molybdenum steels. Blind hole use.

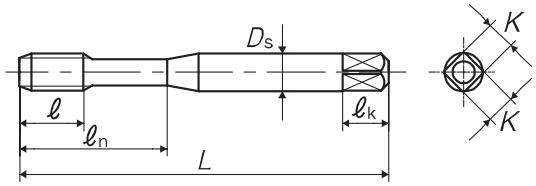
Tapping Speed depending on Materials

Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Stainless steels ステンレス鋼
~10 (m/min)	~10 (m/min)	~10 (m/min)	~10 (m/min)

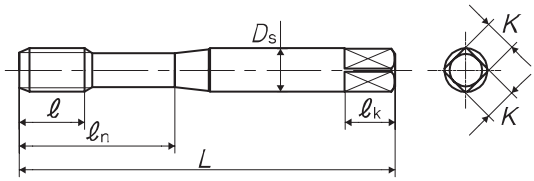
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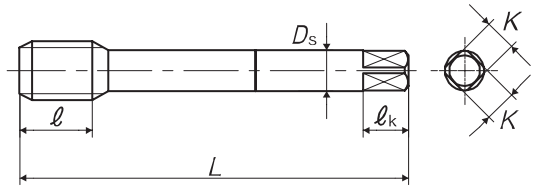
TYPE:2



TYPE:3



TYPE:4



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads											
M3 × 0.5	D3	Y74615	2.5P	1.937	0.197	0.625	0.141	0.11	0.187	3	1
M3 × 0.5	D3	Y74015	1.5P	1.937	0.197	0.625	0.141	0.11	0.187	3	1
M3.5 × 0.6	D4	Y74616	2.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
M4 × 0.7	D4	Y74617	2.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
M4 × 0.7	D4	Y74017	1.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
M5 × 0.8	D4	Y74619	2.5P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
M5 × 0.8	D4	Y74019	1.5P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
M6 × 1	D5	Y74620	2.5P	2.5	0.433	1	0.255	0.191	0.312	3	2
M6 × 1	D5	Y74020	1.5P	2.5	0.433	1	0.255	0.191	0.312	3	2
M7 × 1	D5	Y74621	2.5P	2.718	0.433	1.125	0.318	0.238	0.375	3	3
M8 × 1.25	D5	Y74623	2.5P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
M8 × 1.25	D5	Y74023	1.5P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
M8 × 1	D5	Y74622	2.5P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
M8 × 1	D5	Y74022	1.5P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
M10 × 1.5	D6	Y74625	2.5P	2.937	0.512	1.25	0.381	0.286	0.437	3	3
M10 × 1.5	D6	Y74025	1.5P	2.937	0.512	1.25	0.381	0.286	0.437	3	3
M10 × 1.25	D5	Y74624	2.5P	2.937	0.472	1.25	0.381	0.286	0.437	3	3

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX SS SP Spiral Fluted Taps for Stainless Steels

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M10 × 1.25	D5	Y74024	1.5P	2.937	0.472	1.25	0.381	0.286	0.437	3	3
M12 × 1.75	D6	Y74627	2.5P	3.375	0.591	-	0.367	0.275	0.437	3	4
M12 × 1.75	D6	Y74027	1.5P	3.375	0.591	-	0.367	0.275	0.437	3	4
M12 × 1.25	D5	Y74626	2.5P	3.375	0.551	-	0.367	0.275	0.437	3	4
M12 × 1.25	D5	Y74026	1.5P	3.375	0.551	-	0.367	0.275	0.437	3	4
M14 × 2	D7	Y74629	2.5P	3.593	0.709	-	0.429	0.322	0.5	3	4
M14 × 2	D7	Y74029	1.5P	3.593	0.709	-	0.429	0.322	0.5	3	4
M14 × 1.5	D6	Y74628	2.5P	3.593	0.551	-	0.429	0.322	0.5	3	4
M14 × 1.5	D6	Y74028	1.5P	3.593	0.551	-	0.429	0.322	0.5	3	4
M16 × 2	D7	Y74631	2.5P	3.812	0.709	-	0.48	0.36	0.562	3	4
M16 × 2	D7	Y74031	1.5P	3.812	0.709	-	0.48	0.36	0.562	3	4
M16 × 1.5	D6	Y74630	2.5P	3.812	0.551	-	0.48	0.36	0.562	3	4
M16 × 1.5	D6	Y74030	1.5P	3.812	0.551	-	0.48	0.36	0.562	3	4
M18 × 2.5	D7	Y74633	2.5P	4.031	0.787	-	0.542	0.406	0.625	4	4
M18 × 1.5	D6	Y74632	2.5P	4.031	0.551	-	0.542	0.406	0.625	4	4
M20 × 2.5	D7	Y74635	2.5P	4.468	0.787	-	0.652	0.489	0.687	4	4
M24 × 3	D8	Y74639	2.5P	4.906	0.984	-	0.76	0.57	0.75	4	4
For Unified Threads											
No.2-56UNC	GH2	Y84623	2.5P	1.75	0.157	0.437	0.141	0.11	0.187	2	1
No.3-48UNC	GH2	Y84600	2.5P	1.812	0.197	0.5	0.141	0.11	0.187	2	1
No.4-40UNC	GH2	Y84601	2.5P	1.875	0.236	0.562	0.141	0.11	0.187	2	1
No.4-40UNC	GH2	Y84001	1.5P	1.875	0.236	0.562	0.141	0.11	0.187	2	1
No.4-40UNC	GH3	Y84602	2.5P	1.875	0.236	0.562	0.141	0.11	0.187	2	1
No.4-40UNC	GH3	Y84002	1.5P	1.875	0.236	0.562	0.141	0.11	0.187	2	1
No.4-40UNC	GH4	Y84629	2.5P	1.875	0.236	0.562	0.141	0.11	0.187	2	1
No.4-40UNC	GH5	Y84634	2.5P	1.875	0.236	0.562	0.141	0.11	0.187	2	1
No.4-40UNC	GH5	Y84034	1.5P	1.875	0.236	0.562	0.141	0.11	0.187	2	1
No.4-48UNF	GH2	Y84683	2.5P	1.875	0.236	0.562	0.141	0.11	0.187	2	1
No.4-48UNF	GH2	Y84083	1.5P	1.875	0.236	0.562	0.141	0.11	0.187	2	1
No.5-40UNC	GH2	Y84603	2.5P	1.937	0.236	0.625	0.141	0.11	0.187	3	1
No.5-40UNC	GH2	Y84003	1.5P	1.937	0.236	0.625	0.141	0.11	0.187	3	1
No.6-32UNC	GH2	Y84604	2.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH2	Y84004	1.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH3	Y84605	2.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH3	Y84005	1.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH4	Y84636	2.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH5	Y84635	2.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH5	Y84035	1.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH6	Y84659	2.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH7	Y84665	2.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-40UNF	GH2	Y84684	2.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-40UNF	GH2	Y84084	1.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-40UNF	GH3	Y84685	2.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-40UNF	GH3	Y84085	1.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.8-32UNC	GH2	Y84606	2.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH2	Y84006	1.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH3	Y84607	2.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH3	Y84007	1.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH4	Y84638	2.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH5	Y84637	2.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1

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L	ℓ	ℓn	Ds	K	ℓk

ZELX SS SP Spiral Fluted Taps for Stainless Steels

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
No.8-32UNC	GH5	Y84037	1.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH6	Y84660	2.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH7	Y84667	2.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-36UNF	GH3	Y84687	2.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.10-24UNC	GH2	Y84624	2.5P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.10-24UNC	GH3	Y84609	2.5P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.10-24UNC	GH3	Y84009	1.5P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.10-24UNC	GH5	Y84639	2.5P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.10-24UNC	GH5	Y84039	1.5P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.10-24UNC	GH6	Y84690	2.5P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.10-24UNC	GH7	Y84669	2.5P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH2	Y84611	2.5P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y84610	2.5P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y84010	1.5P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH4	Y84630	2.5P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH5	Y84640	2.5P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH5	Y84040	1.5P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH6	Y84662	2.5P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH7	Y84670	2.5P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.12-24UNC	GH3	Y84688	2.5P	2.375	0.354	0.937	0.22	0.165	0.281	3	1
No.12-28UNF	GH3	Y84689	2.5P	2.375	0.276	0.937	0.22	0.165	0.281	3	1
1/4-20UNC	GH3	Y84613	2.5P	2.5	0.433	1	0.255	0.191	0.312	3	2
1/4-20UNC	GH3	Y84013	1.5P	2.5	0.433	1	0.255	0.191	0.312	3	2
1/4-20UNC	GH5	Y84643	2.5P	2.5	0.433	1	0.255	0.191	0.312	3	2
1/4-20UNC	GH5	Y84043	1.5P	2.5	0.433	1	0.255	0.191	0.312	3	2
1/4-20UNC	GH7	Y84673	2.5P	2.5	0.433	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	Y84614	2.5P	2.5	0.354	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	Y84014	1.5P	2.5	0.354	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH4	Y84631	2.5P	2.5	0.354	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH5	Y84644	2.5P	2.5	0.354	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH5	Y84044	1.5P	2.5	0.354	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH6	Y84664	2.5P	2.5	0.354	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH7	Y84674	2.5P	2.5	0.354	1	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	Y84615	2.5P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
5/16-18UNC	GH3	Y84015	1.5P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
5/16-18UNC	GH5	Y84645	2.5P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
5/16-18UNC	GH5	Y84045	1.5P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
5/16-18UNC	GH7	Y84675	2.5P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	Y84616	2.5P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	Y84016	1.5P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH4	Y84632	2.5P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH5	Y84646	2.5P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH5	Y84046	1.5P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH7	Y84676	2.5P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	Y84617	2.5P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
3/8-16UNC	GH3	Y84017	1.5P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
3/8-16UNC	GH5	Y84647	2.5P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
3/8-16UNC	GH5	Y84047	1.5P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
3/8-16UNC	GH7	Y84677	2.5P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
3/8-16UNC	GH7	Y84077	1.5P	2.937	0.551	1.25	0.381	0.286	0.437	3	3

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L	ℓ	ℓn	Ds	K	ℓk

ZELX SS SP Spiral Fluted Taps for Stainless Steels

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
3/8-24UNF	GH3	Y84618	2.5P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	Y84018	1.5P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH4	Y84633	2.5P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH4	Y84033	1.5P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH5	Y84648	2.5P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH5	Y84048	1.5P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH7	Y84678	2.5P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
7/16-14UNC	GH3	Y84619	2.5P	3.156	0.591	-	0.323	0.242	0.406	3	4
7/16-14UNC	GH3	Y84019	1.5P	3.156	0.591	-	0.323	0.242	0.406	3	4
7/16-14UNC	GH5	Y84649	2.5P	3.156	0.591	-	0.323	0.242	0.406	3	4
7/16-14UNC	GH5	Y84049	1.5P	3.156	0.591	-	0.323	0.242	0.406	3	4
7/16-14UNC	GH7	Y84679	2.5P	3.156	0.591	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH3	Y84620	2.5P	3.156	0.472	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH3	Y84020	1.5P	3.156	0.472	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH5	Y84650	2.5P	3.156	0.472	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH5	Y84050	1.5P	3.156	0.472	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH6	Y84691	2.5P	3.156	0.472	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH7	Y84680	2.5P	3.156	0.472	-	0.323	0.242	0.406	3	4
1/2-13UNC	GH3	Y84621	2.5P	3.375	0.63	-	0.367	0.275	0.437	3	4
1/2-13UNC	GH3	Y84021	1.5P	3.375	0.63	-	0.367	0.275	0.437	3	4
1/2-13UNC	GH5	Y84651	2.5P	3.375	0.63	-	0.367	0.275	0.437	3	4
1/2-13UNC	GH5	Y84051	1.5P	3.375	0.63	-	0.367	0.275	0.437	3	4
1/2-13UNC	GH7	Y84681	2.5P	3.375	0.63	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	Y84622	2.5P	3.375	0.472	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	Y84022	1.5P	3.375	0.472	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH5	Y84652	2.5P	3.375	0.472	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH5	Y84052	1.5P	3.375	0.472	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH6	Y84692	2.5P	3.375	0.472	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH7	Y84682	2.5P	3.375	0.472	-	0.367	0.275	0.437	3	4
9/16-12UNC	GH3	Y84653	2.5P	3.593	0.709	-	0.429	0.322	0.5	3	4
9/16-12UNC	GH3	Y84053	1.5P	3.593	0.709	-	0.429	0.322	0.5	3	4
9/16-18UNF	GH3	Y84654	2.5P	3.593	0.512	-	0.429	0.322	0.5	3	4
9/16-18UNF	GH3	Y84054	1.5P	3.593	0.512	-	0.429	0.322	0.5	3	4
9/16-18UNF	GH5	Y84698	2.5P	3.593	0.512	-	0.429	0.322	0.5	3	4
5/8-11UNC	GH3	Y84625	2.5P	3.812	0.748	-	0.48	0.36	0.562	3	4
5/8-11UNC	GH3	Y84025	1.5P	3.812	0.748	-	0.48	0.36	0.562	3	4
5/8-11UNC	GH5	Y84655	2.5P	3.812	0.748	-	0.48	0.36	0.562	3	4
5/8-11UNC	GH5	Y84055	1.5P	3.812	0.748	-	0.48	0.36	0.562	3	4
5/8-18UNF	GH3	Y84626	2.5P	3.812	0.512	-	0.48	0.36	0.562	3	4
5/8-18UNF	GH3	Y84026	1.5P	3.812	0.512	-	0.48	0.36	0.562	3	4
5/8-18UNF	GH5	Y84656	2.5P	3.812	0.512	-	0.48	0.36	0.562	3	4
5/8-18UNF	GH5	Y84056	1.5P	3.812	0.512	-	0.48	0.36	0.562	3	4
5/8-18UNF	GH7	Y84672	2.5P	3.812	0.512	-	0.48	0.36	0.562	3	4
3/4-10UNC	GH3	Y84627	2.5P	4.25	0.827	-	0.59	0.442	0.687	4	4
3/4-10UNC	GH3	Y84027	1.5P	4.25	0.827	-	0.59	0.442	0.687	4	4
3/4-10UNC	GH5	Y84657	2.5P	4.25	0.827	-	0.59	0.442	0.687	4	4
3/4-16UNF	GH3	Y84628	2.5P	4.25	0.591	-	0.59	0.442	0.687	4	4
3/4-16UNF	GH3	Y84028	1.5P	4.25	0.591	-	0.59	0.442	0.687	4	4
3/4-16UNF	GH5	Y84658	2.5P	4.25	0.591	-	0.59	0.442	0.687	4	4
3/4-16UNF	GH7	Y84686	2.5P	4.25	0.591	-	0.59	0.442	0.687	4	4

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ZELX SS SP Spiral Fluted Taps for Stainless Steels

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7/8-9UNC	GH4	Y84695	2.5P	4.687	0.827	-	0.697	0.523	0.75	4	4
7/8-14UNF	GH4	Y84696	2.5P	4.687	0.709	-	0.697	0.523	0.75	4	4
7/8-14UNF	GH6	Y84694	2.5P	4.687	0.709	-	0.697	0.523	0.75	4	4
1 -8UNC	GH4	Y84697	2.5P	5.125	0.984	-	0.8	0.6	0.812	4	4
1 -12UNF	GH4	Y84668	2.5P	5.125	0.709	-	0.8	0.6	0.812	4	4
1 1/8-7UNC	GH6	Y84701	2.5P	5.437	1.181	-	0.896	0.672	0.875	4	4
1 1/8-12UNF	GH5	Y84702	2.5P	5.437	0.787	-	0.896	0.672	0.875	4	4
1 1/4-7UNC	GH6	Y84703	2.5P	5.75	1.181	-	1.021	0.766	1	4	4
1 1/4-12UNF	GH5	Y84705	2.5P	5.75	0.787	-	1.021	0.766	1	4	4
1 3/8-6UNC	GH6	Y84706	2.5P	6.062	1.575	-	1.108	0.831	1.062	4	4
1 3/8-12UNF	GH5	Y84707	2.5P	6.062	0.787	-	1.108	0.831	1.062	4	4
1 1/2-6UNC	GH6	Y84709	2.5P	6.375	1.575	-	1.233	0.925	1.125	4	4
1 1/2-12UNF	GH5	Y84711	2.5P	6.375	0.787	-	1.233	0.925	1.125	4	4
1 3/4-5UNC	GH7	Y84714	2.5P	7	1.772	-	1.43	1.072	1.25	4	4
2 -4 1/2UNC	GH7	Y84715	2.5P	7.625	1.969	-	1.644	1.233	1.375	4	4

・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ANSI

ZELX SS SP 6"

Long Shank Spiral Fluted Taps for Stainless Steels



Specification

HSS | OX Oxide

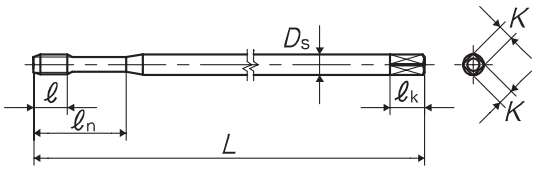


■The ZELX SS SP 6" tap series is used for processing blind holes in chrome steels, molybdenum steels and stainless steels that are free machining and that workharden easily.

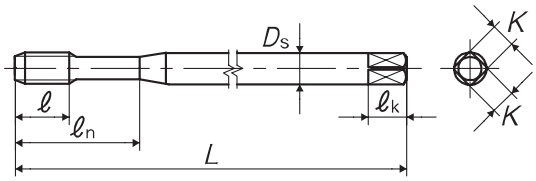
Tapping Speed depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Stainless steels ステンレス鋼
~10 (m/min)	~10 (m/min)	~10 (m/min)	~10 (m/min)

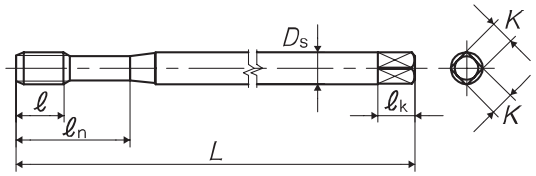
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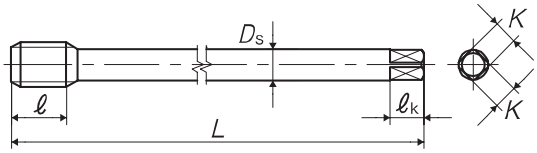
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TYPE:3



TYPE:4



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads											
No.2-56UNC	GH2	Y84523	2.5P	6	0.157	0.437	0.141	0.11	0.187	2	1
No.3-48UNC	GH2	Y84500	2.5P	6	0.197	0.5	0.141	0.11	0.187	2	1
No.4-40UNC	GH2	Y84501	2.5P	6	0.236	0.562	0.141	0.11	0.187	2	1
No.6-32UNC	GH3	Y84505	2.5P	6	0.276	0.687	0.141	0.11	0.187	3	1
No.8-32UNC	GH3	Y84507	2.5P	6	0.276	0.75	0.168	0.131	0.25	3	1
No.10-24UNC	GH3	Y84509	2.5P	6	0.354	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y84510	2.5P	6	0.276	0.875	0.194	0.152	0.25	3	1
1/4-20UNC	GH3	Y84513	2.5P	6	0.433	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	Y84514	2.5P	6	0.354	1	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	Y84515	2.5P	6	0.472	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	Y84516	2.5P	6	0.394	1.125	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	Y84517	2.5P	6	0.551	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	Y84518	2.5P	6	0.394	1.25	0.381	0.286	0.437	3	3
7/16-14UNC	GH3	Y84519	2.5P	6	0.591	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH3	Y84520	2.5P	6	0.472	-	0.323	0.242	0.406	3	4
1/2-13UNC	GH3	Y84521	2.5P	6	0.63	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	Y84522	2.5P	6	0.472	-	0.367	0.275	0.437	3	4

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ANSI

AL-SP

Spiral Fluted Taps for Aluminum



Specification

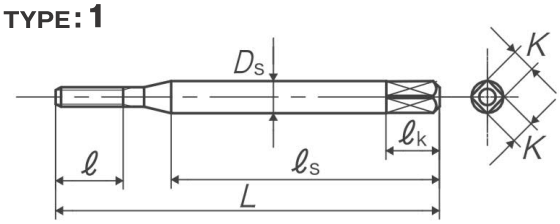
HSS | NI Nitride | <2D

■In aluminum die casting and aluminum casting tapping, AL-SP solves such problems as chip jamming, chip clogging, and torn threads.

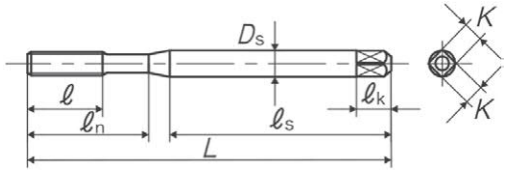
Tapping Speed depending on Materials

Brass 黄銅	Brass castings 黄銅鋳物	Bronze 青銅	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物	Magnesium alloy die castings マグネシウム合金鋳物	Zinc alloy castings 亜鉛合金鋳物
10~25 (m/min)	10~25 (m/min)	10~25 (m/min)	10~25 (m/min)	10~25 (m/min)	10~25 (m/min)	10~25 (m/min)

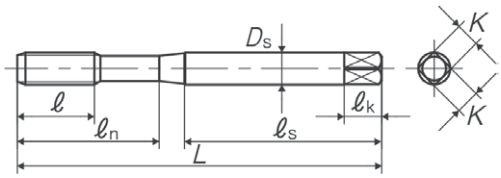
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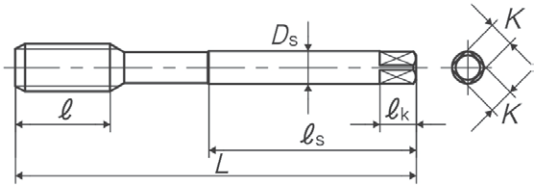
TYPE:2



TYPE:3



TYPE:4



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads												
M3 × 0.5	D3	386528M	2.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
M3.5 × 0.6	D4	386529M	2.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
M4 × 0.7	D4	386530M	2.5P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	3	2
M5 × 0.8	D4	386531M	2.5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	3	2
M6 × 1	D5	386532M	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
M7 × 1	D5	386533M	2.5P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	3	3
M8 × 1.25	D5	386535M	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M8 × 1	D5	386534M	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M10 × 1.5	D6	386537M	2.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3
M10 × 1.25	D5	386536M	2.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3
M12 × 1.75	D6	386540M	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
M12 × 1.5	D5	386539M	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
M12 × 1.25	D5	386538M	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

AL-SP Spiral Fluted Taps for Aluminum

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads												
No.2-56UNC	GH2	386500M	2.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
No.4-40UNC	GH2	386501M	2.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
No.5-40UNC	GH2	386502M	2.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.6-32UNC	GH3	386503M	2.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.8-32UNC	GH3	386504M	2.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	3	2
No.10-24UNC	GH3	386505M	2.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	3	2
No.10-32UNF	GH3	386506M	2.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	3	2
1/4-20UNC	GH3	386507M	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-20UNC	GH5	386508M	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	386509M	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-28UNF	GH4	386511M	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	386512M	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-18UNC	GH5	386513M	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	386514M	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-24UNF	GH4	386515M	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	386516M	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-16UNC	GH5	386517M	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	386518M	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-24UNF	GH4	386519M	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
7/16-14UNC	GH3	386520M	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	4
7/16-14UNC	GH5	386521M	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	4
7/16-20UNF	GH3	386522M	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	4
7/16-20UNF	GH5	386523M	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	4
1/2-13UNC	GH3	386524M	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
1/2-13UNC	GH5	386525M	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	386526M	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
1/2-20UNF	GH5	386527M	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4

Think threads with YAMAWA

· This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ANSI

ALS-SP

Spiral Fluted Taps for Aluminum



Specification

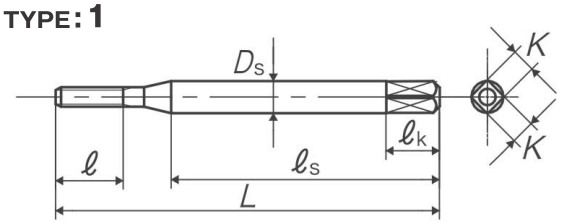
HSS | NI Nitride | <2D

■In aluminum die casting and aluminum casting tapping, ALS-SP solves such problems as chip jamming, chip clogging, and torn threads.

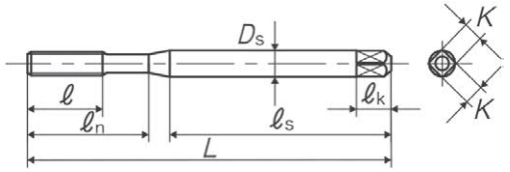
Tapping Speed depending on Materials

Brass 黄銅	Brass castings 黄銅鋳物	Bronze 青銅	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物	Magnesium alloy die castings マグネシウム合金鋳物	Zinc alloy castings 亜鉛合金鋳物
10~25 (m/min)	10~25 (m/min)	10~25 (m/min)	10~25 (m/min)	10~25 (m/min)	10~25 (m/min)	10~25 (m/min)

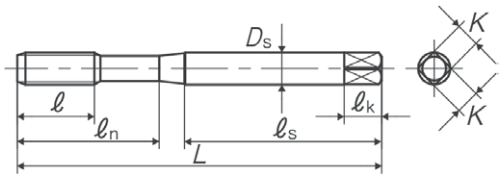
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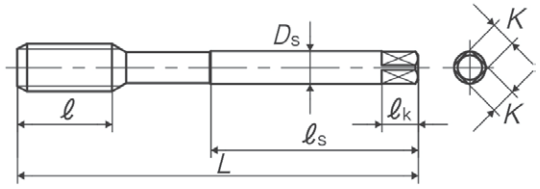
TYPE:2



TYPE:3



TYPE:4



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads												
M3 × 0.5	D3	386428M	2.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
M3.5 × 0.6	D4	386429M	2.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
M4 × 0.7	D4	386430M	2.5P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	3	2
M5 × 0.8	D4	386431M	2.5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	3	2
M6 × 1	D5	386432M	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
M7 × 1	D5	386433M	2.5P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	3	3
M8 × 1.25	D5	386435M	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M8 × 1	D5	386434M	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M10 × 1.5	D6	386437M	2.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3
M10 × 1.25	D5	386436M	2.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3
M12 × 1.75	D6	386440M	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
M12 × 1.5	D5	386439M	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
M12 × 1.25	D5	386438M	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4

Think threads with YAMAWA

・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads												
No.2-56UNC	GH2	386400M	2.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
No.4-40UNC	GH2	386401M	2.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
No.5-40UNC	GH2	386402M	2.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.6-32UNC	GH3	386403M	2.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.8-32UNC	GH3	386404M	2.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	3	2
No.10-24UNC	GH3	386405M	2.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	3	2
No.10-32UNF	GH3	386406M	2.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	3	2
1/4-20UNC	GH3	386407M	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-20UNC	GH5	386408M	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	386409M	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-28UNF	GH4	386411M	2.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	386412M	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-18UNC	GH5	386413M	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	386414M	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-24UNF	GH4	386415M	2.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	386416M	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-16UNC	GH5	386417M	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	386418M	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-24UNF	GH4	386419M	2.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
7/16-14UNC	GH3	386420M	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	4
7/16-14UNC	GH5	386421M	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	4
7/16-20UNF	GH3	386422M	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	4
7/16-20UNF	GH5	386423M	2.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	4
1/2-13UNC	GH3	386424M	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
1/2-13UNC	GH5	386425M	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	386426M	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
1/2-20UNF	GH5	386427M	2.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

LO-SP



Low Spiral Fluted Taps for Alloy Steels

Specification

HSS | OX Oxide

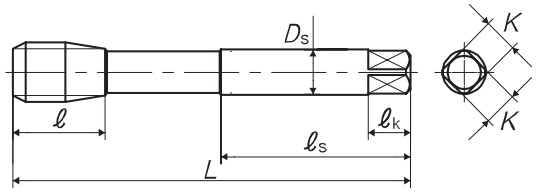


Tapping Speed depending on Materials

High carbon steels 高炭素鋼	Alloy steels 合金鋼
5~10 (m/min)	5~10 (m/min)

■Using the LO-SP, the chips are divided and discharged smoothly due to the low helix spiral flute. The LO-SP is effective for thread processing of high carbon steels, alloy steels etc. and horizontal machining.

TYPE : 1



Segment : 1C

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads												
1 -8UNC	2BX	SSU16XYEEXHT	2.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	1
1 1/8-8UN	2BX	SSU18XYEEXHT	2.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	1
1 1/4-8UN	2BX	SSU20XYEEXHT	2.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	1
1 3/8-8UN	2BX	SSU22XYEEXHT	2.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	1
1 1/2-8UN	2BX	SSU24XYEEXHT	2.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	1

Think threads with YAMAWA

・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ANSI

ZELX TI SP



Spiral Fluted Taps for Titanium Alloys

Specification

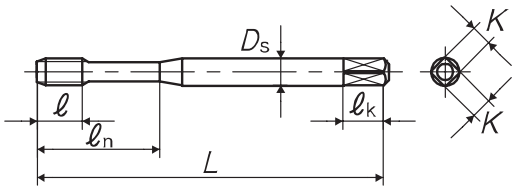
HSS-P | NI Nitride | Synchro nized

■Spiral fluted tap suitable for titanium alloys which, including titanium as the main composition, are tough, light and heat resistant.

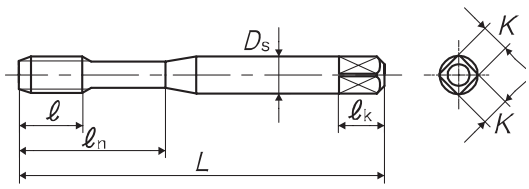
Tapping Speed depending on Materials

Titanium alloys チタン合金 5~10 (m/min)

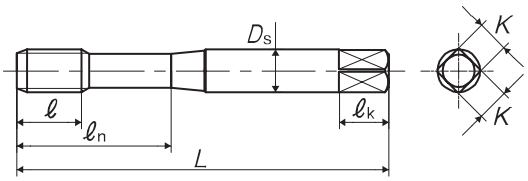
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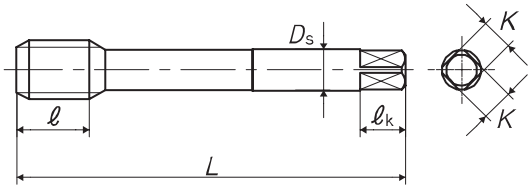
TYPE:2



TYPE:3



TYPE:4



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric threads											
M2.5 × 0.45	D3	Y87700	3P	1.812	0.157	0.5	0.141	0.11	0.187	3	1
M3 × 0.5	D3	Y87701	3P	1.937	0.197	0.625	0.141	0.11	0.187	3	1
M3.5 × 0.6	D4	Y87702	3P	2	0.276	0.687	0.141	0.11	0.187	3	1
M4 × 0.7	D4	Y87703	3P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
M5 × 0.8	D4	Y87704	3P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
M6 × 1	D5	Y87705	3P	2.5	0.433	1	0.255	0.191	0.312	3	2
M7 × 1	D5	Y87706	3P	2.718	0.433	1.125	0.318	0.238	0.375	3	3
M8 × 1.25	D5	Y87708	3P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
M8 × 1	D5	Y87707	3P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
M10 × 1.5	D6	Y87710	3P	2.937	0.512	1.25	0.381	0.286	0.437	3	3
M10 × 1.25	D5	Y87709	3P	2.937	0.472	1.25	0.381	0.286	0.437	3	3
M12 × 1.75	D6	Y87712	3P	3.375	0.591	-	0.367	0.275	0.437	3	4
M12 × 1.25	D5	Y87711	3P	3.375	0.551	-	0.367	0.275	0.437	3	4

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX TI SP Spiral Fluted Taps for Titanium Alloys

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads											
No.2-56UNC	GH2	Y87623	3P	1.75	0.157	0.437	0.141	0.11	0.187	3	1
No.4-40UNC	GH2	Y87601	3P	1.875	0.236	0.562	0.141	0.11	0.187	3	1
No.4-40UNC	GH4	Y87612	3P	1.875	0.236	0.562	0.141	0.11	0.187	3	1
No.4-40UNC	GH4	Y87001	1.5P	1.875	0.236	0.562	0.141	0.11	0.187	3	1
No.6-32UNC	GH3	Y87605	3P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH3	Y87606	1.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH4	Y87608	3P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH5	Y87635	3P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.8-32UNC	GH3	Y87607	3P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH3	Y87007	1.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH4	Y87629	3P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH5	Y87637	3P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH6	Y87660	3P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH7	Y87667	3P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.10-24UNC	GH3	Y87609	3P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.10-24UNC	GH3	Y81608	1.5P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y87610	3P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y87010	1.5P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH4	Y87630	3P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH5	Y87640	3P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH6	Y87661	3P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH7	Y87670	3P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
1/4-20UNC	GH3	Y87613	3P	2.5	0.433	1	0.255	0.191	0.312	3	2
1/4-20UNC	GH3	Y87628	1.5P	2.5	0.433	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	Y87614	3P	2.5	0.354	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	Y87014	1.5P	2.5	0.354	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH4	Y87631	3P	2.5	0.354	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH5	Y87644	3P	2.5	0.354	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH6	Y87662	3P	2.5	0.354	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH7	Y87674	3P	2.5	0.354	1	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	Y87615	3P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
5/16-18UNC	GH3	Y87695	1.5P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	Y87616	3P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	Y87016	1.5P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH4	Y87632	3P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH5	Y87646	3P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH6	Y87663	3P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH7	Y87676	3P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	Y87617	3P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
3/8-16UNC	GH3	Y87611	1.5P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	Y87618	3P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	Y87018	1.5P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH4	Y87633	3P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH5	Y87648	3P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH6	Y87664	3P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH7	Y87678	3P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
7/16-14UNC	GH3	Y87619	3P	3.156	0.591	-	0.323	0.242	0.406	3	4
7/16-14UNC	GH3	Y81629	1.5P	3.156	0.591	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH3	Y87620	3P	3.156	0.472	-	0.323	0.242	0.406	3	4

Think threads with YAMAWA

· This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX TI SP Spiral Fluted Taps for Titanium Alloys

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
7/16-20UNF	GH3	Y87020	1.5P	3.156	0.472	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH5	Y87650	3P	3.156	0.472	-	0.323	0.242	0.406	3	4
1/2-13UNC	GH3	Y87621	3P	3.375	0.63	-	0.367	0.275	0.437	3	4
1/2-13UNC	GH3	Y87021	1.5P	3.375	0.63	-	0.367	0.275	0.437	3	4
1/2-13UNC	GH5	Y87626	3P	3.375	0.63	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	Y87622	3P	3.375	0.472	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	Y87023	1.5P	3.375	0.472	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH5	Y87652	3P	3.375	0.472	-	0.367	0.275	0.437	3	4

・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX NI SP



Spiral Fluted Taps for Nickel Base Alloys

Specification

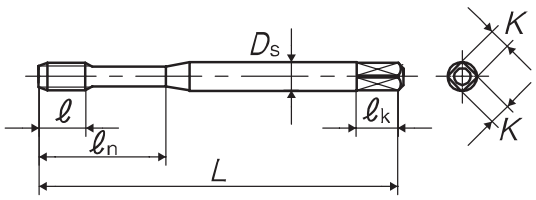
HSS-P | NX Nitride/Oxide |  | Synchro nized

■ZELX NI SP is the spiral fluted tap for nickel base alloys which, with nickel as main composition, have much higher corrosion resistance and much higher heat resistance than steels.

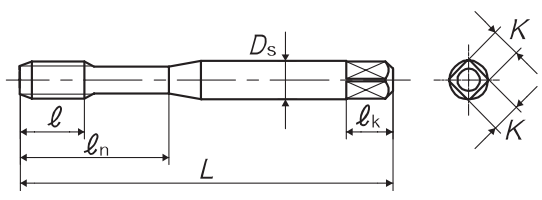
Tapping Speed depending on Materials

Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Stainless steels ステンレス鋼	Nickel base alloys ニッケル基合金
5~15 (m/min)	5~15 (m/min)	5~15 (m/min)	5~10 (m/min)

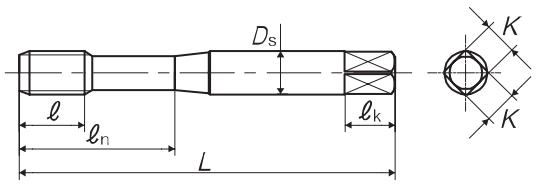
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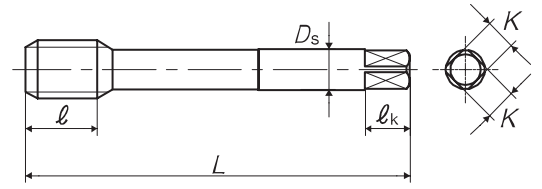
TYPE: 2



TYPE: 3



TYPE: 4



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads											
M2.5 × 0.45	D3	Y88320	3P	1.812	0.157	0.5	0.141	0.11	0.187	3	1
M3 × 0.5	D3	Y88321	3P	1.937	0.197	0.625	0.141	0.11	0.187	3	1
M3.5 × 0.6	D4	Y88322	3P	2	0.276	0.687	0.141	0.11	0.187	3	1
M4 × 0.7	D4	Y88323	3P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
M5 × 0.8	D4	Y88324	3P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
M6 × 1	D5	Y88325	3P	2.5	0.433	1	0.255	0.191	0.312	3	2
M7 × 1	D5	Y88326	3P	2.718	0.433	1.125	0.318	0.238	0.375	3	3
M8 × 1.25	D5	Y88328	3P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
M8 × 1	D5	Y88327	3P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
M10 × 1.5	D6	Y88330	3P	2.937	0.512	1.25	0.381	0.286	0.437	3	3
M10 × 1.25	D5	Y88329	3P	2.937	0.472	1.25	0.381	0.286	0.437	3	3
M12 × 1.75	D6	Y88332	3P	3.375	0.591	-	0.367	0.275	0.437	3	4
M12 × 1.25	D5	Y88331	3P	3.375	0.551	-	0.367	0.275	0.437	3	4
For Unified Threads											
No.2-56UNC	GH2	Y87523	3P	1.75	0.157	0.437	0.141	0.11	0.187	3	1
No.4-40UNC	GH2	Y87501	3P	1.875	0.236	0.562	0.141	0.11	0.187	3	1
No.4-40UNC	GH2	Y87583	1.5P	1.875	0.236	0.562	0.141	0.11	0.187	3	1

Think threads with YAMAWA

・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
No.4-40UNC	GH3	Y87502	3P	1.875	0.236	0.562	0.141	0.11	0.187	3	1
No.4-40UNC	GH3	Y87002	1.5P	1.875	0.236	0.562	0.141	0.11	0.187	3	1
No.4-40UNC	GH4	Y87512	3P	1.875	0.236	0.562	0.141	0.11	0.187	3	1
No.4-40UNC	GH5	Y87534	3P	1.875	0.236	0.562	0.141	0.11	0.187	3	1
No.4-40UNC	GH5	Y87072	1.5P	1.875	0.236	0.562	0.141	0.11	0.187	3	1
No.5-40UNC	GH2	Y87504	3P	1.937	0.236	0.625	0.141	0.11	0.187	3	1
No.6-32UNC	GH2	Y87006	1.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH3	Y87505	3P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH3	Y87005	1.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH4	Y87508	3P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH5	Y87535	3P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH5	Y87035	1.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH6	Y87559	3P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH7	Y87565	3P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.8-32UNC	GH2	Y87506	3P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH3	Y87507	3P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH3	Y87580	1.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH4	Y87529	3P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH5	Y87537	3P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH5	Y87037	1.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH6	Y87560	3P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH7	Y87567	3P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.10-24UNC	GH3	Y87509	3P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.10-24UNC	GH3	Y87009	1.5P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.10-24UNC	GH5	Y87539	3P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.10-24UNC	GH5	Y87039	1.5P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH2	Y87511	3P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y87510	3P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y81556	1.5P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH4	Y87530	3P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH5	Y87540	3P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH5	Y87040	1.5P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH6	Y87561	3P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH7	Y87570	3P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
1/4-20UNC	GH3	Y87513	3P	2.5	0.433	1	0.255	0.191	0.312	3	2
1/4-20UNC	GH3	Y87013	1.5P	2.5	0.433	1	0.255	0.191	0.312	3	2
1/4-20UNC	GH5	Y87543	3P	2.5	0.433	1	0.255	0.191	0.312	3	2
1/4-20UNC	GH5	Y87043	1.5P	2.5	0.433	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	Y87514	3P	2.5	0.354	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	Y87579	1.5P	2.5	0.354	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH4	Y87531	3P	2.5	0.354	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH4	Y87031	1.5P	2.5	0.354	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH5	Y87544	3P	2.5	0.354	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH5	Y87443	1.5P	2.5	0.354	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH6	Y87562	3P	2.5	0.354	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH7	Y87574	3P	2.5	0.354	1	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	Y87515	3P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
5/16-18UNC	GH3	Y87015	1.5P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
5/16-18UNC	GH5	Y87545	3P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
5/16-18UNC	GH5	Y87045	1.5P	2.718	0.472	1.125	0.318	0.238	0.375	3	3

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX NI SP Spiral Fluted Taps for Nickel Base Alloys

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
5/16-24UNF	GH3	Y87516	3P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	Y87577	1.5P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH4	Y87532	3P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH4	Y87032	1.5P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH5	Y87546	3P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH6	Y87563	3P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH7	Y87576	3P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	Y87517	3P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
3/8-16UNC	GH3	Y87017	1.5P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
3/8-16UNC	GH5	Y87547	3P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
3/8-16UNC	GH5	Y87047	1.5P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	Y87518	3P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	Y87575	1.5P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH4	Y87533	3P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH4	Y87033	1.5P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH5	Y87548	3P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH5	Y87048	1.5P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH6	Y87564	3P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH7	Y87578	3P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
7/16-14UNC	GH3	Y87519	3P	3.156	0.591	-	0.323	0.242	0.406	3	4
7/16-14UNC	GH3	Y87019	1.5P	3.156	0.591	-	0.323	0.242	0.406	3	4
7/16-14UNC	GH5	Y87549	3P	3.156	0.591	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH3	Y87520	3P	3.156	0.472	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH3	Y87573	1.5P	3.156	0.472	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH5	Y87550	3P	3.156	0.472	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH5	Y87050	1.5P	3.156	0.472	-	0.323	0.242	0.406	3	4
1/2-13UNC	GH3	Y87521	3P	3.375	0.63	-	0.367	0.275	0.437	3	4
1/2-13UNC	GH3	Y87500	1.5P	3.375	0.63	-	0.367	0.275	0.437	3	4
1/2-13UNC	GH5	Y87551	3P	3.375	0.63	-	0.367	0.275	0.437	3	4
1/2-13UNC	GH5	Y87051	1.5P	3.375	0.63	-	0.367	0.275	0.437	3	4
1/2-13UNC	GH7	Y87581	3P	3.375	0.63	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	Y87522	3P	3.375	0.472	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	Y87022	1.5P	3.375	0.472	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH5	Y87552	3P	3.375	0.472	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH7	Y87582	3P	3.375	0.472	-	0.367	0.275	0.437	3	4
9/16-18UNF	GH3	Y88554	3P	3.593	0.512	-	0.429	0.322	0.5	3	4
9/16-18UNF	GH5	Y88542	3P	3.593	0.512	-	0.429	0.322	0.5	3	4
5/8-11UNC	GH3	Y87525	3P	3.812	0.748	-	0.48	0.36	0.562	4	4
5/8-11UNC	GH3	Y87025	1.5P	3.812	0.748	-	0.48	0.36	0.562	4	4
5/8-11UNC	GH5	Y87555	3P	3.812	0.748	-	0.48	0.36	0.562	4	4
5/8-11UNC	GH7	Y87585	3P	3.812	0.748	-	0.48	0.36	0.562	4	4
5/8-18UNF	GH3	Y87526	3P	3.812	0.512	-	0.48	0.36	0.562	4	4
5/8-18UNF	GH3	Y81508	1.5P	3.812	0.512	-	0.48	0.36	0.562	4	4
5/8-18UNF	GH4	Y87536	3P	3.812	0.512	-	0.48	0.36	0.562	4	4
5/8-18UNF	GH5	Y87556	3P	3.812	0.512	-	0.48	0.36	0.562	4	4
5/8-18UNF	GH7	Y87586	3P	3.812	0.512	-	0.48	0.36	0.562	4	4
3/4-10UNC	GH3	Y87527	3P	4.25	0.827	-	0.59	0.442	0.687	4	4
3/4-10UNC	GH3	Y87027	1.5P	4.25	0.827	-	0.59	0.442	0.687	4	4
3/4-10UNC	GH5	Y87557	3P	4.25	0.827	-	0.59	0.442	0.687	4	4
3/4-16UNF	GH3	Y87528	3P	4.25	0.591	-	0.59	0.442	0.687	4	4
3/4-16UNF	GH5	Y87558	3P	4.25	0.591	-	0.59	0.442	0.687	4	4

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ANSI

PM-SP



Spiral Fluted Taps for Hard-to-Machine Materials

Specification

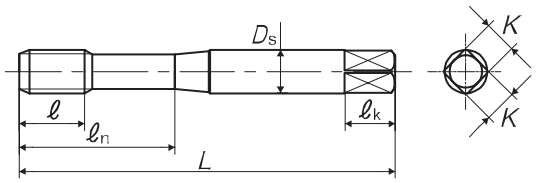
HSS-P

■Spiral fluted tap suitable for tapping hard steels with hardness between 25-45HRC such as forgings and thermal refined steels of high carbon steels and alloy steels, and mold steels.

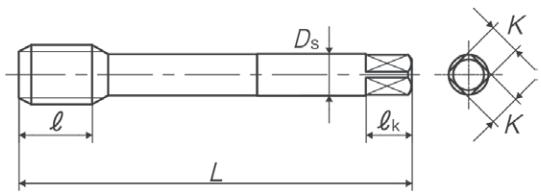
Tapping Speeds depending on Materials

High carbon steels 高炭素鋼	Thermal refined steels 調質鋼	Thermal refined steels 調質鋼
5~10 (m/min)	~5 (m/min)	~5 (m/min)
	25~35HRC	35~45HRC

TYPE: 1



TYPE: 2



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads											
5/16-18UNC	GH4	SAU05O4DPB	2.75P	2.718	0.669	1.125	0.318	0.238	0.375	3	1
5/16-24UNF	GH4	SAU05M4DPB	2.75P	2.718	0.669	1.125	0.318	0.238	0.375	3	1
3/8-16UNC	GH4	SAU06P4DPB	2.75P	2.937	0.748	1.25	0.381	0.286	0.437	3	1
3/8-24UNF	GH4	SAU06M4DPB	2.75P	2.937	0.748	1.25	0.381	0.286	0.437	3	1
7/16-14UNC	GH6	SAU07Q6DPB	2.75P	3.156	0.866	-	0.323	0.242	0.406	3	2
7/16-20UNF	GH4	SAU07N4DPB	2.75P	3.156	0.866	-	0.323	0.242	0.406	3	2
1/2-13UNC	GH6	SAU08R6DPB	2.75P	3.375	0.984	-	0.367	0.275	0.437	3	2
1/2-20UNF	GH4	SAU08N4DPB	2.75P	3.375	0.984	-	0.367	0.275	0.437	3	2
5/8-11UNC	GH6	SAU10U6DPB	2.75P	3.812	1.083	-	0.48	0.36	0.562	3	2
5/8-18UNF	GH4	SAU10O4DPB	2.75P	3.812	1.083	-	0.48	0.36	0.562	3	2
3/4-10UNC	GH6	SAU12V6DPB	2.75P	4.25	1.201	-	0.59	0.442	0.687	3	2
3/4-16UNF	GH6	SAU12P6DPB	2.75P	4.25	1.201	-	0.59	0.442	0.687	3	2
1 -8UNC	GH7	SAU16X7DPB	2.75P	5.125	1.496	-	0.8	0.6	0.812	3	2
1 -12UNF	GH6	SAU16S6DPB	2.75P	5.125	1.496	-	0.8	0.6	0.812	3	2

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX FR



Spiral Fluted Taps for High Speed Tapping

Specification

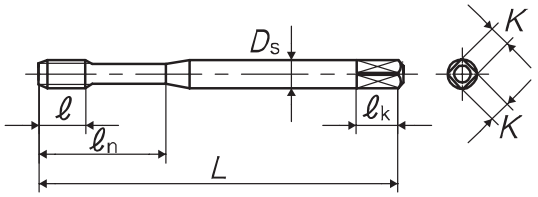
HSS | Coating | Synchronized

■Spiral fluted tap applicable for such high speed tapping as 15m/min to 25m/min. Under low tapping speed, poor chip shape and poor chip ejection may occur and cause tapping troubles.

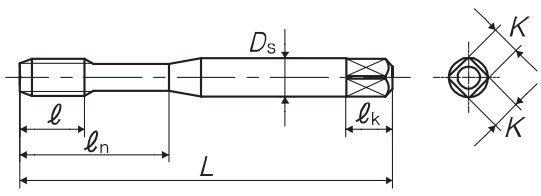
Tapping Speed depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼
15~25 (m/min)	15~25 (m/min)

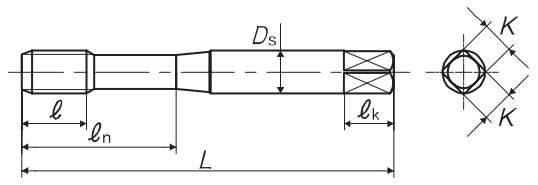
TYPE: 1



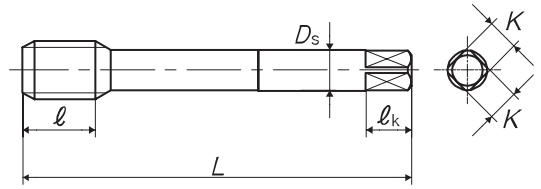
TYPE: 2



TYPE: 3



TYPE: 4



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads											
No.4-40UNC	GH2	Y84401	2.5P	1.875	0.236	0.562	0.141	0.11	0.187	3	1
No.5-40UNC	GH2	Y84403	2.5P	1.937	0.236	0.625	0.141	0.11	0.187	3	1
No.6-32UNC	GH3	Y84405	2.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.8-32UNC	GH3	Y84407	2.5P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.10-24UNC	GH3	Y84409	2.5P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y84410	2.5P	2.375	0.276	0.875	0.194	0.152	0.25	3	1
1/4-20UNC	GH3	Y84413	2.5P	2.5	0.433	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	Y84414	2.5P	2.5	0.354	1	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	Y84415	2.5P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	Y84416	2.5P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	Y84417	2.5P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	Y84418	2.5P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
7/16-14UNC	GH3	Y84419	2.5P	3.156	0.591	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH3	Y84420	2.5P	3.156	0.472	-	0.323	0.242	0.406	3	4
1/2-13UNC	GH3	Y84421	2.5P	3.375	0.63	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	Y84422	2.5P	3.375	0.472	-	0.367	0.275	0.437	3	4
5/8-11UNC	GH3	Y84425	2.5P	3.812	0.748	-	0.48	0.36	0.562	3	4

Think threads with YAMAWA

・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
5/8-18UNF	GH3	Y84426	2.5P	3.812	0.512	-	0.48	0.36	0.562	3	4
3/4-10UNC	GH3	Y84427	2.5P	4.25	0.827	-	0.59	0.442	0.687	4	4
3/4-16UNF	GH3	Y84428	2.5P	4.25	0.591	-	0.59	0.442	0.687	4	4

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

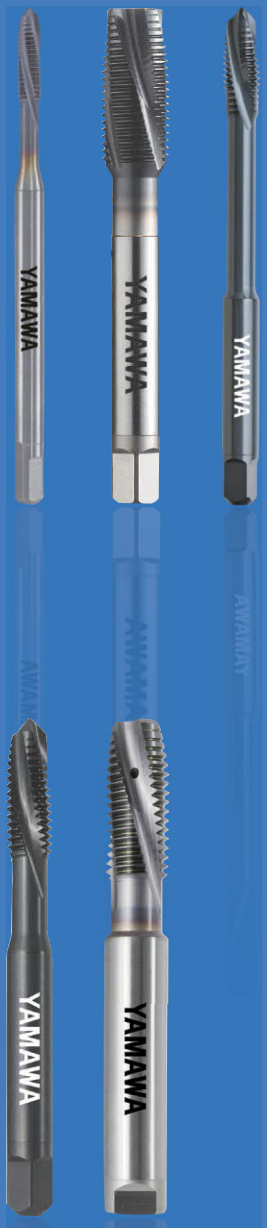
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LINE UP

② SPIRAL FLUTED TAP SERIES FOR THROUGH HOLE

	JIS	ANSI	DIN
Z-PRO MHSL	②-3	②-7	②-8
MHSL-J	②-5		
Z-PRO LKSL	②-11		
Z-PRO LKSL XL	②-12		
AU+SL	②-13		②-15
SU+SL	②-17		
SL+VA			②-19
ZET-P	②-21		②-26
ZELX TI LHSP		②-24	
F-SL	②-27		②-31
ZELX FR LHSP		②-29	
LS-F-SL	②-32		
HDISL	②-33		②-35



・For improvement, spec may change without advance notice.

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Selection chart of taps

Tapping conditions	Machining, in low-speed tapping area				Machining, in middle speed tapping area				Machining/Fully synchronized feed only, in high-speed tapping area									
Product symbol	Z-PRO LKSL		Z-PRO LKSL XL		SU+SL		AU+SL		Z-PRO MHSL		MHSL-J		ZET-P		F-SL		LS-F-SL	
Tap material / Surface treatment	HSS	OX	HSS	OX	HSS	OX	HSS	Coating	HSS-Co	Coating	HSS-Co	Coating	HSS-P	NI	HSS	Coating	HSS	Coating
Name	Long neck				For stainless steel		coated		For middle hardness carbon steel		For middle hardness carbon steel JIS		For titanium alloys		For high-speed		Long, for high-speed	
																		
Bored Hole Shape																		
For Metric Threads	②-11		②-12		②-18		②-14		②-4		②-6		②-22		②-28		②-32	
For Unified Threads													②-22					
For Whitworth Threads																		
For Screw Threads used on Sewing Machines																		
Pipe Threads																		
American Pipe Threads																		
For Miniature Threads																		
For Trapezoidal Threads																		

～S25C	Low carbon steels	◆	◎	◆	◎	◆	◎	◆◆	◎							◆◆	◎	◆◆	◎
S25C～S45C	Medium carbon steels	◆	◎	◆	◎	◆	◎	◆◆	◎	◆◆	◎	◆◆	◎			◆◆	◎	◆◆	◎
S45C～	High carbon steels		○		○	◆	○	◆◆	◎	◆◆	◎	◆◆	◎						
SCM	Alloy steels		○		○	◆	○	◆◆	◎	◆◆	◎	◆◆	◎						
25～35HRC	Heat treated steel		○		○					◆◆	◎	◆◆	◎						
35～45HRC	Heat treated steel									◆◆	◎								
45～55HRC	Heat treated steel																		
55～63HRC	Heat treated steel																		
SUS	Stainless steels (SUS)		○		○	◆	◎	◆◆	○										
SKD	Tool steels									◆◆	○	◆◆	○						
SC	Cast steels																		
FC	Cast irons																		
FCD	Ductile cast irons																		
Cu	Copper																		
Bs	Brass																		
BsC	Brass castings																		
PB	Bronze																		
AL	Wrought aluminum		○		○														
AC, ADC	Aluminum alloy casting		○		○			◆	○										
Mg	Magnesium alloy die castings																		
ZDC	Zinc alloy die castings							◆	○										
	Titanium alloys													◆	◎				
	Nickel base alloys																		
	Thermosetting plastic																		
	Thermoplastic resin																		

Think threads with YAMAWA

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	HDISL
	HSS-Co / Coating
	Dry tapping, for ultra high-speed For steel
	
	②-34

	◆◆	◎
	◆◆	◎
	◆◆	○

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ANSI

Z-PRO

MHSL



Z-PRO Spiral Fluted Taps for Carbon Steels of Medium Hardness, Through Hole Use (with LH Spiral Flutes)

Specification

HSS-Co | Coating | Synchronized | <2D

■Suitable for through hole tapping of medium hardness steels such as forgings of high carbon steels and thermal refined steels (25HRC～35HRC)

Tapping Speeds depending on Materials

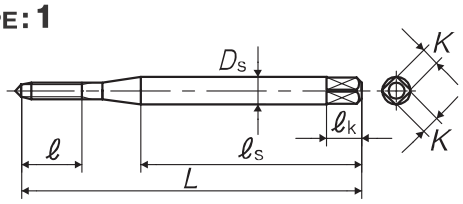
M1.8～M5×0.5

Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼	Thermal refined steels 調質鋼	Tool steels 工具鋼
2~16 (m/min)	2~16 (m/min)	2~16 (m/min)	2~16 (m/min) 25~35HRC	1~12 (m/min) 35~45HRC	1~12 (m/min)

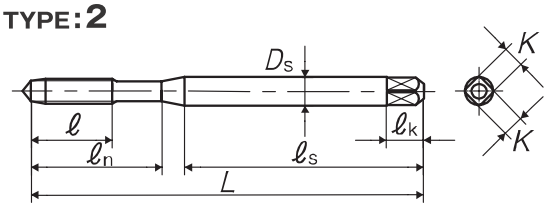
M6～M16

Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼	Tool steels 工具鋼
10~20 (m/min)	10~20 (m/min)	10~20 (m/min)	10~20 (m/min) 25~35HRC	5~15 (m/min)

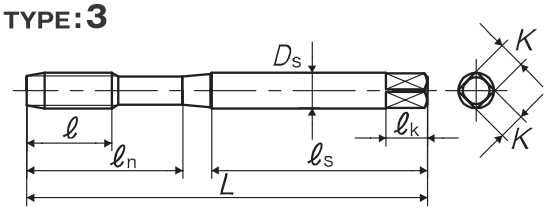
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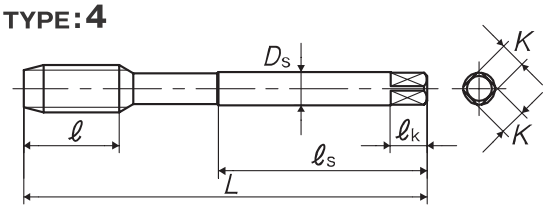
TYPE:2



TYPE:3



TYPE:4



Segment : 1T

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric threads												
M2 × 0.4	D3	5109101021	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
M2.5 × 0.45	D4	5109101029	5P	2.205	0.354	0.693	1.28	0.141	0.11	0.187	3	2
M3 × 0.5	D4	5109101035	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
M3.5 × 0.6	D4	5109101038	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
M4 × 0.7	D5	5109101042	5P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	3	2
M5 × 0.8	D5	5109101049	5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	3	2
M5 × 0.5	D4	5109101051	5P	2.756	0.354	0.984	1.654	0.194	0.152	0.25	3	2
M6 × 1	D5	LS6.0M5FCL5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
M8 × 1.25	D5	LS8.0N5FCL5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M10 × 1.5	D6	LS010O6FCL5	5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3
M10 × 1.25	D6	LS010N6FCL5	5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3
M12 × 1.75	D7	LS012P7FCL5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	4
M12 × 1.5	D6	LS012O6FCL5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	4
M12 × 1.25	D6	LS012N6FCL7	7P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	4
M14 × 1.5	D7	LS014O7FCL7	7P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	4
M16 × 1.5	D7	LS016O7FCL7	7P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	4

Think threads with YAMAWA

・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ANSI

ZELX TI LHSP

Spiral Fluted Taps for Titanium Alloys, Through Hole Use (with LH Spiral Flutes)



Specification

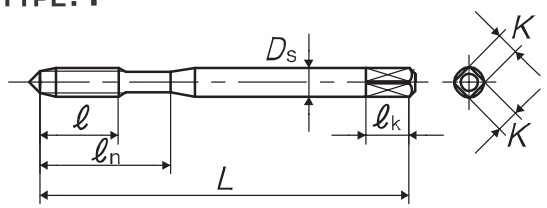
HSS-P | NI Nitride | Synchro nized

■Suitable for titanium alloys which, including titanium as the main composition, are tough, light and heat resistant.

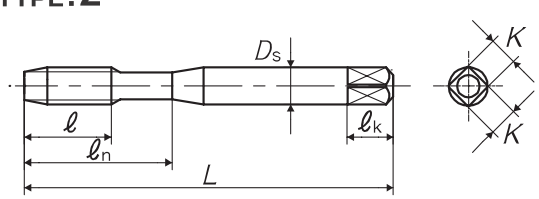
Tapping Speed depending on Materials

Titanium alloys チタン合金 5~10 (m/min)

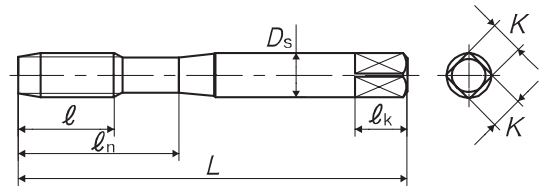
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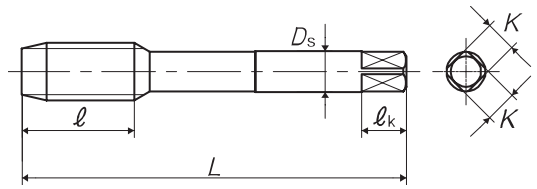
TYPE:2



TYPE:3



TYPE:4



Segment : 1T

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads											
M2.5 × 0.45	D3	Y85700	5P	1.812	0.295	0.5	0.141	0.11	0.187	3	1
M3 × 0.5	D3	Y85701	5P	1.937	0.374	0.625	0.141	0.11	0.187	3	1
M3.5 × 0.6	D4	Y85702	5P	2	0.413	0.687	0.141	0.11	0.187	3	1
M4 × 0.7	D4	Y85703	5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
M5 × 0.8	D4	Y85704	5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
M6 × 1	D5	Y85705	5P	2.5	0.591	1	0.255	0.191	0.312	3	2
M7 × 1	D5	Y85706	5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
M8 × 1.25	D5	Y85708	5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
M8 × 1	D5	Y85707	5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
M10 × 1.5	D6	Y85710	5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
M10 × 1.25	D5	Y85709	5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
M12 × 1.75	D6	Y85712	5P	3.375	0.984	-	0.367	0.275	0.437	3	4
M12 × 1.25	D5	Y85711	5P	3.375	0.984	-	0.367	0.275	0.437	3	4
For Unified Threads											
No.2-56UNC	GH2	Y85623	5P	1.75	0.256	0.437	0.141	0.11	0.187	3	1
No.4-40UNC	GH2	Y85601	5P	1.875	0.335	0.562	0.141	0.11	0.187	3	1
No.5-40UNC	GH2	Y85603	5P	1.937	0.374	0.625	0.141	0.11	0.187	3	1

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX TI LHSP Spiral Fluted Taps for Titanium Alloys, Through Hole Use (with LH spiral flutes)

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
No.6-32UNC	GH3	Y85605	5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH5	Y85635	5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.8-32UNC	GH3	Y85607	5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH4	Y85629	5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH5	Y85637	5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH6	Y85660	5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH7	Y85667	5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.10-24UNC	GH3	Y85609	5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-24UNC	GH5	Y85639	5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y85610	5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH4	Y85630	5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH5	Y85640	5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH6	Y85661	5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH7	Y85670	5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
1/4-20UNC	GH3	Y85613	5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-20UNC	GH5	Y85643	5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	Y85614	5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH4	Y85631	5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH5	Y85644	5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH6	Y85662	5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH7	Y85674	5P	2.5	0.591	1	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	Y85615	5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-18UNC	GH5	Y85645	5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	Y85616	5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH4	Y85632	5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH5	Y85646	5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH6	Y85663	5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH7	Y85676	5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	Y85617	5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-16UNC	GH5	Y85647	5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	Y85618	5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH4	Y85633	5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH5	Y85648	5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH6	Y85664	5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH7	Y85678	5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
7/16-14UNC	GH3	Y85619	5P	3.156	0.866	-	0.323	0.242	0.406	3	4
7/16-14UNC	GH5	Y85649	5P	3.156	0.866	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH3	Y85620	5P	3.156	0.866	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH5	Y85650	5P	3.156	0.866	-	0.323	0.242	0.406	3	4
1/2-13UNC	GH3	Y85621	5P	3.375	0.984	-	0.367	0.275	0.437	3	4
1/2-13UNC	GH5	Y85651	5P	3.375	0.984	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	Y85622	5P	3.375	0.984	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH5	Y85652	5P	3.375	0.984	-	0.367	0.275	0.437	3	4
5/8-11UNC	GH3	Y85625	5P	3.812	1.083	-	0.48	0.36	0.562	3	4
5/8-18UNF	GH3	Y85626	5P	3.812	1.083	-	0.48	0.36	0.562	3	4
3/4-10UNC	GH3	Y85627	5P	4.25	1.201	-	0.59	0.442	0.687	3	4
3/4-16UNF	GH3	Y85628	5P	4.25	1.201	-	0.59	0.442	0.687	3	4

· This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX FR LHSP

Spiral Fluted Taps for High Speed Tapping, Through Hole Use (with LH Spiral Flutes)



Specification

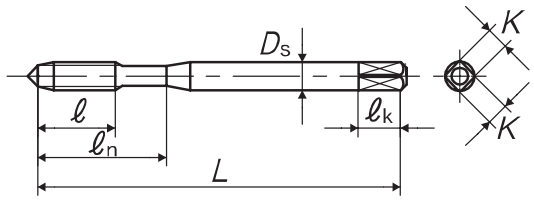
HSS | Coating | Synchronized

Tapping Speed depending on Materials

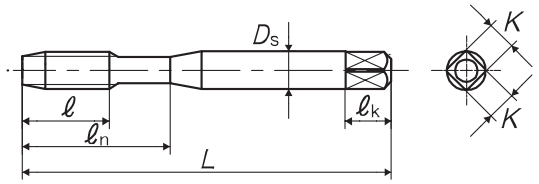
Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼
15~25 (m/min)	15~25 (m/min)

■ZELX FR LHSP, spiral fluted tap, through hole use (with LH spiral flutes) is applicable for such high speed tapping as 15m/min to 25m/min. Under low tapping speed, chip shape and chip ejection may become poor and cause tapping troubles.

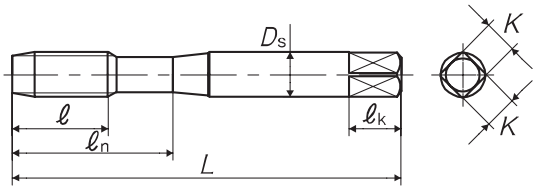
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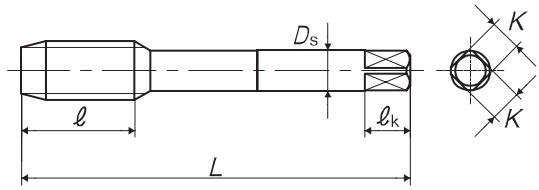
TYPE:2



TYPE:3



TYPE:4



Segment : 1S

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads											
No.4-40UNC	GH2	Y84201	5P	1.875	0.335	0.562	0.141	0.11	0.187	3	1
No.5-40UNC	GH2	Y84203	5P	1.937	0.374	0.625	0.141	0.11	0.187	3	1
No.6-32UNC	GH3	Y84205	5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.8-32UNC	GH3	Y84207	5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.10-24UNC	GH3	Y84209	5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y84210	5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
1/4-20UNC	GH3	Y84213	5.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	Y84214	5.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	Y84215	5.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	Y84216	5.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	Y84217	5.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	Y84218	5.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
7/16-14UNC	GH3	Y84219	5.5P	3.156	0.984	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH3	Y84220	5.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
1/2-13UNC	GH3	Y84221	5.5P	3.375	1.142	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	Y84222	5.5P	3.375	0.945	-	0.367	0.275	0.437	3	4

Think threads with YAMAWA

· This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
5/8-11UNC	GH3	Y84225	5.5P	3.812	1.26	-	0.48	0.36	0.562	3	4
5/8-18UNF	GH3	Y84226	5.5P	3.812	0.984	-	0.48	0.36	0.562	3	4
3/4-10UNC	GH3	Y84227	5.5P	4.25	1.467	-	0.59	0.422	0.687	4	4
3/4-16UNF	GH3	Y84228	5.5P	4.25	1.142	-	0.59	0.422	0.687	4	4

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JIS • ANSI • DIN

LINE UP

③ SPIRAL POINTED TAP SERIES FOR THROUGH HOLE





	JIS	ANSI	DIN
VUPO	③-3	③-7	③-9
PO	③-13	③-22	③-27
+PO	③-32		
IPO	③-33	③-35	
PO OX	③-36	③-39	③-44
PO LH	③-48		
PO V	③-50		③-51
LS-PO	③-53		
LS-PO V	③-59		
LS-PO-K	③-60		
SU+PO SU-PO	③-61		
ZELX SS PO		③-67	
PO-VA			③-71
PO-VA (Coating)			③-73
LS-SU-S-PO	③-74		
ZELX SS PO 6"		③-76	
S-PO	③-77		
HC+PO HC-PO	③-79		
HC-PO OX	③-82		
AL-PO		③-83	
EH-PO	③-85		③-87
ZEN-P	③-89		③-96
ZELX NI PO		③-93	
PM-PO	③-98	③-100	③-102
LS-PM-PO	③-104		
MC-PO	③-106		

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Selection chart of taps

Tapping conditions	Machining, in low-speed tapping area									
Product symbol	IPO	PO	LS-PO	LS-PO-K	PO LH	PO OX	+PO	HC+PO HC-PO	HC-PO OX	
Tap material Surface treatment	HSS OX	HSS	HSS	HSS	HSS	HSS OX	HSS	HSS	HSS OX	
Name	I series	For general use	Long, for general use	Long neck	For general use For left-hand threads	Oxided	For general use	For high carbon steels	For high carbon steel, oxided	
										
Bored Hole Shape										
For Metric Threads	③-34	③-15	③-53	③-60	③-48	③-36	③-32	③-80	③-82	
For Unified Threads		③-19	③-56		③-49	③-37				
For Whitworth Threads		③-20	③-56		③-49	③-38				
For Screw Threads used on Sewing Machines		③-21								
Pipe Threads										
American Pipe Threads										
For Miniature Threads										
For Trapezoidal Threads										

～S25C	Low carbon steels	◆	◎									◆	◎					
S25C～S45C	Medium carbon steels			◆	◎	◆	◎	◆	◎	◆	◎	◆	◎	◆	◎	◆	○	◆	◎
S45C～	High carbon steels			◆	○	◆	○	◆	○	◆	○	◆	○	◆	○	◆	◎	◆	◎
SCM	Alloy steels																	
25～35HRC	Heat treated steel															◆	○	◆	○
35～45HRC	Heat treated steel																		
45～55HRC	Heat treated steel																		
55～63HRC	Heat treated steel																		
SUS	Stainless steels (SUS)																	
SKD	Tool steels																	
SC	Cast steels																	
FC	Cast irons																	
FCD	Ductile cast irons																	
Cu	Copper																	
Bs	Brass																	
BsC	Brass castings																	
PB	Bronze																	
AL	Wrought aluminum																	
AC, ADC	Aluminum alloy casting																	
Mg	Magnesium alloy die castings																	
ZDC	Zinc alloy die castings																	
	Titanium alloys																	
	Nickel base alloys																	
	Thermosetting plastic																	
	Thermoplastic resin																	

Think threads with YAMAWA

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Recommended tap ◎: Most suitable tap ○: Suitable tap

Recommended tapping fluid ◆: Insoluble ◆: Water-soluble

Machining, in low/middle speed tapping area															Machining, in middle speed tapping area		Machining Fully synchronized feed only, in high-speed tapping area	
SU+PO SU-PO		LS-SU-S-PO		S-PO		PO V		LS-PO V		EH-PO		PM-PO		LS-PM-PO	MC-PO		Z-PRO VUPO		ZEN-P	
HSS	OX	HSS	OX	HSS	OX	HSS	Coating	HSS	Coating	HSS-Co		HSS-P		HSS-P	HSS		HSS-P	Coating	HSS-P	NX
For stainless steel		Long, for deep hole stainless steel		For deep hole		Coated		Long, coated		For hard-to-machine materials				Long, for hard-to-machine materials	With oil hole		coated		For nickel base alloys	
																				
③-62		③-74		③-77		③-50		③-59		③-86		③-98		③-104	③-106		③-4		③-90	
③-64												③-99							③-90	
③-64																				
◆	◎	◆	◎	◆	○	◆◆	◎	◆◆	◎						◆	○	◆◆	◎	◆	◎
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◆	○			◆	○	◆◆	◎	◆◆	◎						◆	○	◆◆	◎		
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Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

Z-PRO

VUPO

Z-PRO Coated Spiral Pointed Taps



Specification

HSS-P | Coating | <2D

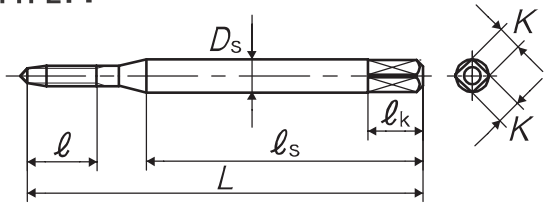
- Durability is improved by premium powder HSS and special coating.
- Chip ejection efficiency is improved and cutting resistance is reduced by the unique cutting edge shape, achieving a good internal thread and long tool life.

Tapping Speeds depending on Materials

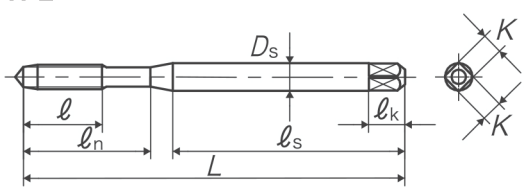
Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Stainless steels ステンレス鋼	Tool steels 工具鋼	Ductile cast irons 強靭鋳鉄
10~30 (m/min)	10~30 (m/min)	10~30 (m/min)	10~30 (m/min)	5~15 (m/min)	5~15 (m/min)	10~35 (m/min)

Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
10~35 (m/min)	10~35 (m/min)

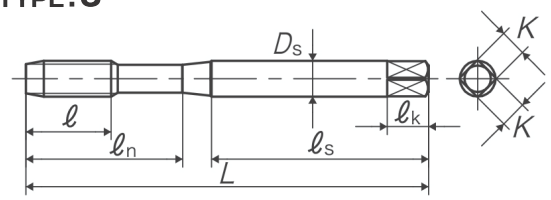
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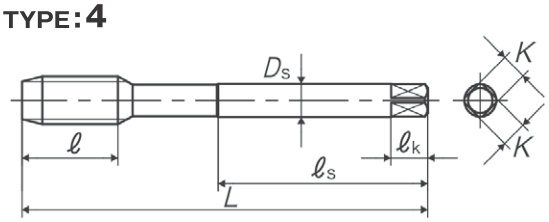
TYPE: 2



TYPE: 3



TYPE: 4



Segment : 1F

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads												
M2 × 0.4	D4	5102101021	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
M2.2 × 0.45	D4	5102101024	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
M2.3 × 0.4	D4	5102101026	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
M2.5 × 0.45	D4	5102101029	5P	2.205	0.354	0.693	1.28	0.141	0.11	0.187	2	2
M2.6 × 0.45	D4	5102101032	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
M3 × 0.5	D4	5102101035	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
M3 × 0.35	D4	5102101036	5P	2.205	0.256	0.736	1.339	0.141	0.11	0.187	3	2
M4 × 0.7	D5	5102101042	5P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	3	2
M4 × 0.5	D4	5102101043	5P	2.48	0.354	0.815	1.535	0.168	0.131	0.25	3	2
M5 × 0.8	D5	5102101049	5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	3	2
M5 × 0.5	D4	5102101051	5P	2.756	0.354	0.984	1.654	0.194	0.152	0.25	3	2
M6 × 1	D6	5102101055	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
M6 × 0.75	D6	5102101056	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M6 × 0.5	D4	5102101057	5P	3.15	0.354	1.181	1.713	0.255	0.191	0.312	3	2
M8 × 1.25	D7	5102101064	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M8 × 1	D6	5102101065	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M10 × 1.5	D8	5102101078	5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3
M10 × 1.25	D7	5102101079	5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3
M10 × 1	D6	5102101080	5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3
M12 × 1.75	D8	5102101088	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
M12 × 1.5	D8	5102101089	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
M12 × 1.25	D7	5102101090	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
M14 × 2	D9	5102101100	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	4
M14 × 1.5	D8	5102101102	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	4
M16 × 2	D9	5102101114	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	4
M16 × 1.5	D8	5102101116	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	4
M18 × 2.5	D9	5102101128	5P	4.921	1.299	-	2.52	0.542	0.406	0.625	3	4
M18 × 1.5	D8	5102101130	5P	4.921	0.945	-	2.52	0.542	0.406	0.625	3	4
M20 × 2.5	D9	5102101141	5P	5.512	1.299	-	2.795	0.652	0.489	0.687	3	4
M20 × 1.5	D8	5102101144	5P	5.512	0.945	-	2.795	0.652	0.489	0.687	3	4
M22 × 2.5	D9	5102101156	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	4
M22 × 1.5	D8	5102101158	5P	5.512	0.945	-	2.795	0.697	0.523	0.75	3	4
M24 × 3	D10	5102101167	5P	6.299	1.457	-	3.228	0.76	0.57	0.75	3	4
M24 × 1.5	D8	5102101170	5P	6.299	1.063	-	3.228	0.76	0.57	0.75	3	4
For Unified Threads												
No.5-40UNC	GH2	5102103021	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.5-44UNF	GH2	5102103022	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.6-32UNC	GH3	5102103023	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	2	2
No.6-40UNF	GH2	5102103024	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	2	2
No.8-32UNC	GH3	5102103029	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	2	2
No.8-36UNF	GH2	5102103030	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	2	2
No.10-24UNC	GH3	5102103039	5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	2	2
No.10-32UNF	GH3	5102103041	5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	2	2
No.12-24UNC	GH3	5102103047	5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	2	2
No.12-28UNF	GH3	5102103048	5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	2	2
1/4-20UNC	GH5	5102103058	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-28UNF	GH4	5102103062	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
5/16-18UNC	GH5	5102103071	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-24UNF	GH4	5102103074	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
3/8-16UNC	GH5	5102103082	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-24UNF	GH4	5102103085	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
7/16-14UNC	GH5	5102103098	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	4
7/16-20UNF	GH5	5102103101	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	4
1/2-13UNC	GH5	5102103111	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
1/2-20UNF	GH5	5102103115	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	4
9/16-12UNC	GH5	5102103126	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	4
9/16-18UNF	GH5	5102103129	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	4
5/8-11UNC	GH5	5102103138	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	4
5/8-18UNF	GH5	5102103142	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	4
3/4-10UNC	GH5	5102103161	5P	4.921	1.299	-	2.52	0.59	0.442	0.687	3	4
3/4-16UNF	GH5	5102103164	5P	4.921	1.299	-	2.52	0.59	0.442	0.687	3	4
7/8-9UNC	GH6	5102103181	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	4
7/8-14UNF	GH6	5102103184	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	4

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ANSI

PO

Spiral Pointed Taps



Specification

HSS

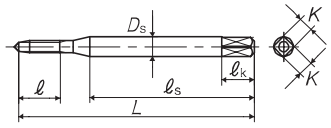


Tapping Speed depending on Materials

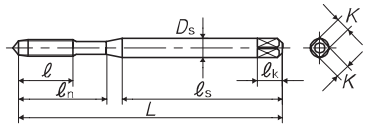
Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼
5~10 (m/min)	5~10 (m/min)

■The PO taps push the chips forward and discharge them in the direction of tapping. These taps cut a stable thread with few problems due to chips, making them ideal for through hole machining.

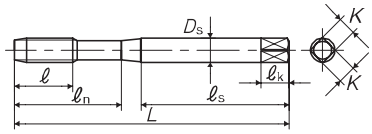
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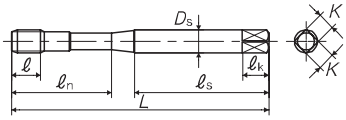
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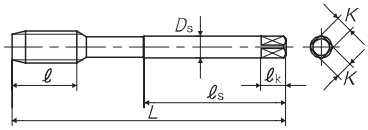
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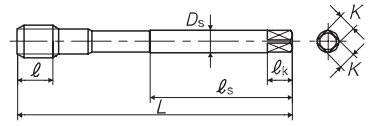
TYPE:4



TYPE:5



TYPE:6



Segment : 1E

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads												
M2 × 0.4	D3	PS2.0E3NEB	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
M2.2 × 0.45	D3	PS2.2F3NEB	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
M2.5 × 0.45	D3	PS2.5F3NEB	5P	2.205	0.354	0.693	1.28	0.141	0.11	0.187	3	2
M2.6 × 0.45	D3	PS2.6F3NEB	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
M3 × 0.5	D3	PS3.0G3NEB	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
M3.5 × 0.6	D4	PS3.5H4NEB	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
M4 × 0.7	D4	PS4.0I4NEB	5P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	3	2
M5 × 0.8	D4	PS5.0K4NEB	5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	3	2
M6 × 1	D5	PS6.0M5NEB	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
M7 × 1	D5	PS7.0M5NEB	5P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	3	3
M7 × 0.75	D4	PS7.0J4NEB	5P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	3	3
M7 × 0.5	D4	PS7.0G4NEB	5P	3.543	0.394	1.339	1.831	0.318	0.238	0.375	3	4
M8 × 1.25	D5	PS8.0N5NEB	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M8 × 1	D5	PS8.0M5NEB	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M8 × 0.75	D4	PS8.0J4NEB	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M8 × 0.5	D4	PS8.0G4NEB	5P	3.543	0.394	1.378	1.831	0.318	0.238	0.375	3	4
M9 × 1.25	D5	PS9.0N5NEB	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
M9 × 1	D5	PS9.0M5NEB	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
M10 × 1.5	D6	PS010O6NEB	5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3
M10 × 1.25	D5	PS010N5NEB	5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO Spiral Pointed Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M10 × 1	D5	PS010M5NEB	5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3
M10 × 0.75	D4	PS010J4NEB	5P	3.937	0.512	1.535	2.126	0.381	0.286	0.437	3	4
M11 × 1.5	D6	PS011O6NEB	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
M12 × 1.75	D6	PS012P6NEB	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
M12 × 1.5	D6	PS012O6NEB	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
M12 × 1.25	D6	PS012N6NEB	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
M12 × 1	D5	PS012M5NEB	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
M14 × 2	D7	PS014Q7NEB	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
M14 × 1.5	D6	PS014O6NEB	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
M14 × 1.25	D6	PS014N6NEB	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
M14 × 1	D5	PS014M5NEB	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
M16 × 2	D7	PS016Q7NEB	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
M16 × 1.5	D6	PS016O6NEB	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
M16 × 1	D5	PS016M5NEB	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
M18 × 2.5	D7	PS018R7NEB	5P	4.921	1.299	-	2.52	0.542	0.406	0.625	3	5
M18 × 2	D7	PS018Q7NEB	5P	4.921	1.299	-	2.52	0.542	0.406	0.625	3	5
M18 × 1.5	D6	PS018O6NEB	5P	4.921	0.945	-	2.52	0.542	0.406	0.625	3	6
M18 × 1	D5	PS018M5NEB	5P	4.921	0.945	-	2.52	0.542	0.406	0.625	3	6
M20 × 2.5	D7	PS020R7NEB	5P	5.512	1.299	-	2.795	0.652	0.489	0.687	3	5
M20 × 2	D7	PS020Q7NEB	5P	5.512	1.299	-	2.795	0.652	0.489	0.687	3	5
M20 × 1.5	D6	PS020O6NEB	5P	5.512	0.945	-	2.795	0.652	0.489	0.687	3	6
M20 × 1	D5	PS020M5NEB	5P	5.512	0.945	-	2.795	0.652	0.489	0.687	3	6
M22 × 2.5	D7	PS022R7NEB	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	5
M22 × 2	D7	PS022Q7NEB	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	5
M22 × 1.5	D6	PS022O6NEB	5P	5.512	0.945	-	2.795	0.697	0.523	0.75	3	6
M22 × 1	D5	PS022M5NEB	5P	5.512	0.945	-	2.795	0.697	0.523	0.75	3	6
M24 × 3	D8	PS024S8NEB	5P	6.299	1.457	-	3.228	0.76	0.57	0.75	3	5
M24 × 2	D7	PS024Q7NEB	5P	6.299	1.063	-	3.228	0.76	0.57	0.75	3	6
M24 × 1.5	D6	PS024O6NEB	5P	6.299	1.063	-	3.228	0.76	0.57	0.75	3	6
M24 × 1	D5	PS024M5NEB	5P	6.299	1.063	-	3.228	0.76	0.57	0.75	3	6
M25 × 1.5	D6	PS025O6NEB	5P	6.299	1.063	-	3.228	0.8	0.6	0.812	3	6
M26 × 1.5	D6	PS026O6NEB	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 3	D8	PS027S8NEB	5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
M27 × 2	D7	PS027Q7NEB	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 1.5	D6	PS027O6NEB	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 1	D5	PS027M5NEB	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 2	D7	PS028Q7NEB	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 1.5	D6	PS028O6NEB	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 1	D5	PS028M5NEB	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M30 × 3.5	D9	PS030T9NEB	5P	7.087	1.732	-	3.622	1.021	0.766	1	4	5
M30 × 2	D7	PS030Q7NEB	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M30 × 1.5	D6	PS030O6NEB	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M30 × 1	D5	PS030M5NEB	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M32 × 2	D7	PS032Q7NEB	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M32 × 1.5	D6	PS032O6NEB	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M32 × 1	D5	PS032M5NEB	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M33 × 3.5	D9	PS033T9NEB	5P	7.087	1.732	-	3.622	1.108	0.831	1.062	4	5
M33 × 2	D7	PS033Q7NEB	5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M33 × 1.5	D6	PS033O6NEB	5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M33 × 1	D5	PS033M5NEB	5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO Spiral Pointed Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M36 × 4	D9	PS036U9NEB	5P	7.874	2.047	-	4.016	1.233	0.925	1.125	4	5
M36 × 3	D8	PS036S8NEB	5P	7.874	2.047	-	4.016	1.233	0.925	1.125	4	5
M36 × 2	D7	PS036Q7NEB	5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M36 × 1.5	D6	PS036O6NEB	5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M36 × 1	D5	PS036M5NEB	5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M39 × 4	D9	PS039U9NEB	5P	7.874	2.047	-	4.016	1.305	0.979	1.125	4	5
M39 × 3	D8	PS039S8NEB	5P	7.874	2.047	-	4.016	1.305	0.979	1.125	4	5
M39 × 2	D7	PS039Q7NEB	5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M39 × 1.5	D6	PS039O6NEB	5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M39 × 1	D5	PS039M5NEB	5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M42 × 4.5	D10	PS042VONEB	5P	7.874	2.047	-	4.016	1.43	1.072	1.25	4	5
M42 × 2	D7	PS042Q7NEB	5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M42 × 1.5	D6	PS042O6NEB	5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M42 × 1	D5	PS042M5NEB	5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M45 × 4.5	D10	PS045VONEB	5P	8.661	2.323	-	4.409	1.519	1.139	1.25	4	5
M45 × 3	D8	PS045S8NEB	5P	8.661	2.323	-	4.409	1.519	1.139	1.25	4	5
M45 × 2	D7	PS045Q7NEB	5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M45 × 1.5	D6	PS045O6NEB	5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M45 × 1	D5	PS045M5NEB	5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M48 × 5	D11	PS048W-NEB	5P	9.843	2.559	-	5.039	1.644	1.233	1.375	4	5
M48 × 3	D9	PS048S9NEB	5P	9.843	2.559	-	5.039	1.644	1.233	1.375	4	5
M48 × 2	D7	PS048Q7NEB	5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
M48 × 1.5	D7	PS048O7NEB	5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
M48 × 1	D6	PS048M6NEB	5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
For Unified Threads												
No.0-80UNF	GH1	PSUN0B1NEB	5P	1.772	0.236	-	1.161	0.141	0.11	0.187	2	1
No.0-80UNF	GH2	PSUN0B2NEB	5P	1.772	0.236	-	1.161	0.141	0.11	0.187	2	1
No.1-64UNC	GH1	PSUN1D1NEB	5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-64UNC	GH2	PSUN1D2NEB	5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-72UNF	GH1	PSUN1C1NEB	5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-72UNF	GH2	PSUN1C2NEB	5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.2-56UNC	GH1	PSUN2E1NEB	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
No.2-56UNC	GH2	PSUN2E2NEB	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
No.2-64UNF	GH1	PSUN2D1NEB	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
No.2-64UNF	GH2	PSUN2D2NEB	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
No.3-48UNC	GH1	PSUN3F1NEB	5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	2	2
No.3-48UNC	GH2	PSUN3F2NEB	5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	2	2
No.3-56UNF	GH1	PSUN3E1NEB	5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	2	2
No.3-56UNF	GH2	PSUN3E2NEB	5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	2	2
No.4-40UNC	GH2	PSUN4H2NEB	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
No.4-40UNC	GH3	PSUN4H3NEB	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
No.4-48UNF	GH1	PSUN4F1NEB	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
No.4-48UNF	GH2	PSUN4F2NEB	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
No.5-40UNC	GH2	PSUN5H2NEB	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.5-40UNC	GH3	PSUN5H3NEB	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.5-44UNF	GH1	PSUN5G1NEB	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.5-44UNF	GH2	PSUN5G2NEB	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.5-44UNF	GH3	PSUN5G3NEB	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.6-32UNC	GH2	PSUN6J2NEB	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	2	2
No.6-32UNC	GH3	PSUN6J3NEB	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	2	2

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO Spiral Pointed Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
No.6-40UNF	GH2	PSUN6H2NEB	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	2	2
No.6-40UNF	GH3	PSUN6H3NEB	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	2	2
No.8-32UNC	GH2	PSUN8J2NEB	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	2	2
No.8-32UNC	GH3	PSUN8J3NEB	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	2	2
No.8-36UNF	GH2	PSUN8I2NEB	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	2	2
No.8-36UNF	GH3	PSUN8I3NEB	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	2	2
No.10-24UNC	GH2	PSUNAM2NEB	5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	2	2
No.10-24UNC	GH3	PSUNAM3NEB	5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	2	2
No.10-32UNF	GH2	PSUNAJ2NEB	5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	2	2
No.10-32UNF	GH3	PSUNAJ3NEB	5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	2	2
No.12-24UNC	GH2	PSUNCM2NEB	5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	2	2
No.12-24UNC	GH3	PSUNCM3NEB	5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	2	2
No.12-28UNF	GH2	PSUNCK2NEB	5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	2	2
No.12-28UNF	GH3	PSUNCK3NEB	5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	2	2
1/4-20UNC	GH3	PSU04N3NEB	4.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-20UNC	GH4	PSU04N4NEB	4.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-20UNC	GH5	PSU04N5NEB	4.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-28UNF	GH2	PSU04K2NEB	4.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	PSU04K3NEB	4.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-28UNF	GH4	PSU04K4NEB	4.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	PSU05O3NEB	4.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-18UNC	GH4	PSU05O4NEB	4.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-18UNC	GH5	PSU05O5NEB	4.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	PSU05M3NEB	4.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-24UNF	GH4	PSU05M4NEB	4.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	PSU06P3NEB	4.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-16UNC	GH5	PSU06P5NEB	4.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	PSU06M3NEB	4.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-24UNF	GH4	PSU06M4NEB	4.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
7/16-14UNC	GH4	PSU07Q4NEB	4.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
7/16-14UNC	GH5	PSU07Q5NEB	4.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
7/16-20UNF	GH3	PSU07N3NEB	4.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
7/16-20UNF	GH4	PSU07N4NEB	4.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
7/16-20UNF	GH5	PSU07N5NEB	4.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
1/2-13UNC	GH3	PSU08R3NEB	4.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-13UNC	GH4	PSU08R4NEB	4.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-13UNC	GH5	PSU08R5NEB	4.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-20UNF	GH3	PSU08N3NEB	4.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-20UNF	GH4	PSU08N4NEB	4.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-20UNF	GH5	PSU08N5NEB	4.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
9/16-12UNC	GH3	PSU09S3NEB	4.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
9/16-12UNC	GH4	PSU09S4NEB	4.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
9/16-12UNC	GH5	PSU09S5NEB	4.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
9/16-18UNF	GH3	PSU09O3NEB	4.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
9/16-18UNF	GH4	PSU09O4NEB	4.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
9/16-18UNF	GH5	PSU09O5NEB	4.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
5/8-11UNC	GH3	PSU10U3NEB	4.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-11UNC	GH4	PSU10U4NEB	4.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-11UNC	GH5	PSU10U5NEB	4.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-11UNC	GH6	PSU10U6NEB	4.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5

Think threads with YAMAWA

· This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO Spiral Pointed Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
5/8-18UNF	GH3	PSU10O3NEB	4.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-18UNF	GH4	PSU10O4NEB	4.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-18UNF	GH5	PSU10O5NEB	4.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
3/4-10UNC	GH5	PSU12V5NEB	4.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	3	5
3/4-10UNC	GH6	PSU12V6NEB	4.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	3	5
3/4-16UNF	GH3	PSU12P3NEB	4.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	3	5
3/4-16UNF	GH4	PSU12P4NEB	4.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	3	5
3/4-16UNF	GH5	PSU12P5NEB	4.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	3	5
7/8-9UNC	GH4	PSU14W4NEB	4.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	5
7/8-9UNC	GH5	PSU14W5NEB	4.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	5
7/8-9UNC	GH6	PSU14W6NEB	4.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	5
7/8-14UNF	GH4	PSU14Q4NEB	4.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	5
7/8-14UNF	GH6	PSU14Q6NEB	4.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	5
1 -8UNC	GH4	PSU16X4NEB	4.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	3	5
1 -8UNC	GH5	PSU16X5NEB	4.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	3	5
1 -8UNC	GH6	PSU16X6NEB	4.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	3	5
1 -8UNC	GH7	PSU16X7NEB	4.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	3	5
1 -12UNF	GH4	PSU16S4NEB	4.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	3	5
1 -12UNF	GH5	PSU16S5NEB	4.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	3	5
1 -12UNF	GH6	PSU16S6NEB	4.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	3	5
1 1/8-7UNC	GH6	PSU18Y6NEB	4.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-7UNC	GH7	PSU18Y7NEB	4.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-12UNF	GH5	PSU18S5NEB	4.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-12UNF	GH6	PSU18S6NEB	4.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/4-7UNC	GH6	PSU20Y6NEB	4.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-7UNC	GH8	PSU20Y8NEB	4.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-12UNF	GH5	PSU20S5NEB	4.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-12UNF	GH6	PSU20S6NEB	4.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 3/8-6UNC	GH6	PSU22Z6NEB	4.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-6UNC	GH8	PSU22Z8NEB	4.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-12UNF	GH5	PSU22S5NEB	4.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-12UNF	GH6	PSU22S6NEB	4.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 1/2-6UNC	GH6	PSU24Z6NEB	4.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-6UNC	GH8	PSU24Z8NEB	4.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-12UNF	GH5	PSU24S5NEB	4.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-12UNF	GH7	PSU24S7NEB	4.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

IPO



Spiral Pointed Taps for General Purpose

Specification

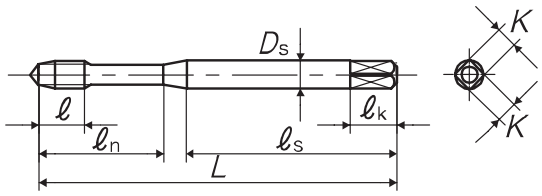
HSS | OX Oxide | <2D

■Suitable for low speed tapping of steels. For manual use and drilling machine use.

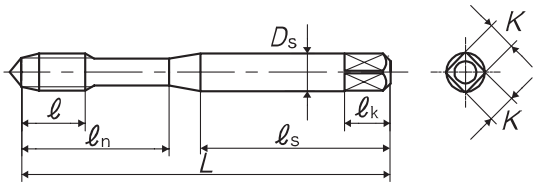
Tapping Speed depending on Materials

Low carbon steels 低炭素鋼 ~5 (m/min)

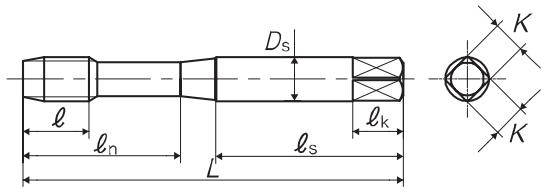
TYPE : 1



TYPE : 2



TYPE : 3



Segment : 1E

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads												
No.6-32UNC	-	VAUN6JXHEX	4.5P	2	0.374	0.669	1.201	0.141	0.11	0.187	2	1
No.8-32UNC	-	VAUN8JXHEX	4.5P	2.125	0.374	0.866	1.339	0.168	0.131	0.25	2	1
No.10-24UNC	-	VAUNAMXHEX	4.5P	2.375	0.512	0.866	1.339	0.194	0.152	0.25	2	1
1/4-20UNC	-	VAU04NXHEX	4.5P	2.5	0.591	1.024	1.22	0.255	0.191	0.312	2	2
5/16-18UNC	-	VAU05OXHEX	4.5P	2.718	0.669	1.004	1.378	0.318	0.238	0.375	3	3
3/8-16UNC	-	VAU06PXHEX	4.5P	2.937	0.748	1.059	1.496	0.381	0.286	0.437	3	3
For Unified Threads (In blister package)												
No.6-32UNC	-	VAUN6JXHEXR	4.5P	2	0.374	0.669	1.201	0.141	0.11	0.187	2	1
No.8-32UNC	-	VAUN8JXHEXR	4.5P	2.125	0.374	0.866	1.339	0.168	0.131	0.25	2	1
No.10-24UNC	-	VAUNAMXHEXR	4.5P	2.375	0.512	0.866	1.339	0.194	0.152	0.25	2	1
1/4-20UNC	-	VAU04NXHEXR	4.5P	2.5	0.591	1.024	1.22	0.255	0.191	0.312	2	2
5/16-18UNC	-	VAU05OXHEXR	4.5P	2.718	0.669	1.004	1.378	0.318	0.238	0.375	3	3
3/8-16UNC	-	VAU06PXHEXR	4.5P	2.937	0.748	1.059	1.496	0.381	0.286	0.437	3	3

Blister Package





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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO OX



Spiral Pointed Taps, Oxidized

Specification

HSS | OX Oxide

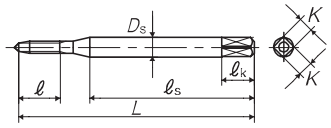


Tapping Speed depending on Materials

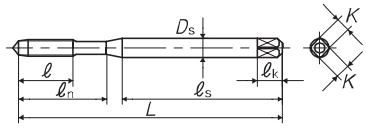
Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼
5~10 (m/min)	5~10 (m/min)	5~10 (m/min)

■The +PO is a spiral pointed tap for through hole tapping and is suitable for synchronous feed processing in middle to high thread processing of soft steel materials whose chips easily weld to the taps thread such as low carbon steels.

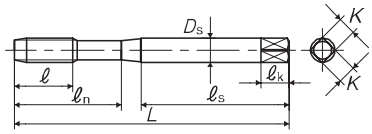
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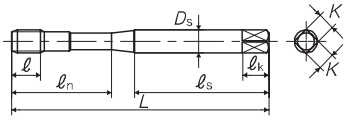
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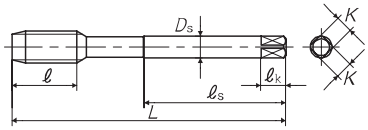
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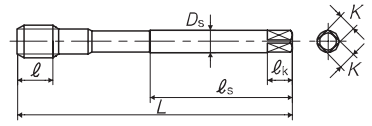
TYPE:4



TYPE:5



TYPE:6



Segment : 1E

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads												
M2 × 0.4	D3	PS2.0E3NEX	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
M2.2 × 0.45	D3	PS2.2F3NEX	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
M2.5 × 0.45	D3	PS2.5F3NEX	5P	2.205	0.354	0.693	1.28	0.141	0.11	0.187	3	2
M2.6 × 0.45	D3	PS2.6F3NEX	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
M3 × 0.5	D3	PS3.0G3NEX	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
M3.5 × 0.6	D4	PS3.5H4NEX	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
M4 × 0.7	D4	PS4.0I4NEX	5P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	3	2
M5 × 0.8	D4	PS5.0K4NEX	5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	3	2
M6 × 1	D5	PS6.0M5NEX	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
M7 × 1	D5	PS7.0M5NEX	5P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	3	3
M7 × 0.75	D4	PS7.0J4NEX	5P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	3	3
M7 × 0.5	D4	PS7.0G4NEX	5P	3.543	0.394	1.339	1.831	0.318	0.238	0.375	3	4
M8 × 1.25	D5	PS8.0N5NEX	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M8 × 1	D5	PS8.0M5NEX	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M8 × 0.75	D4	PS8.0J4NEX	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M8 × 0.5	D4	PS8.0G4NEX	5P	3.543	0.394	1.378	1.831	0.318	0.238	0.375	3	4
M9 × 1.25	D5	PS9.0N5NEX	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
M9 × 1	D5	PS9.0M5NEX	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
M10 × 1.5	D6	PS010O6NEX	5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3
M10 × 1.25	D5	PS010N5NEX	5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M10 × 1	D5	PS010M5NEX	5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	3	3
M10 × 0.75	D4	PS010J4NEX	5P	3.937	0.512	1.535	2.126	0.381	0.286	0.437	3	4
M11 × 1.5	D6	PS011O6NEX	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
M12 × 1.75	D6	PS012P6NEX	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
M12 × 1.5	D6	PS012O6NEX	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
M12 × 1.25	D6	PS012N6NEX	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
M12 × 1	D5	PS012M5NEX	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
M14 × 2	D7	PS014Q7NEX	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
M14 × 1.5	D6	PS014O6NEX	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
M14 × 1.25	D6	PS014N6NEX	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
M14 × 1	D5	PS014M5NEX	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
M16 × 2	D7	PS016Q7NEX	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
M16 × 1.5	D6	PS016O6NEX	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
M16 × 1	D5	PS016M5NEX	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
M18 × 2.5	D7	PS018R7NEX	5P	4.921	1.299	-	2.52	0.542	0.406	0.625	3	5
M18 × 2	D7	PS018Q7NEX	5P	4.921	1.299	-	2.52	0.542	0.406	0.625	3	5
M18 × 1.5	D6	PS018O6NEX	5P	4.921	0.945	-	2.52	0.542	0.406	0.625	3	6
M18 × 1	D5	PS018M5NEX	5P	4.921	0.945	-	2.52	0.542	0.406	0.625	3	6
M20 × 2.5	D7	PS020R7NEX	5P	5.512	1.299	-	2.795	0.652	0.489	0.687	3	5
M20 × 2	D7	PS020Q7NEX	5P	5.512	1.299	-	2.795	0.652	0.489	0.687	3	5
M20 × 1.5	D6	PS020O6NEX	5P	5.512	0.945	-	2.795	0.652	0.489	0.687	3	6
M20 × 1	D5	PS020M5NEX	5P	5.512	0.945	-	2.795	0.652	0.489	0.687	3	6
M22 × 2.5	D7	PS022R7NEX	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	5
M22 × 2	D7	PS022Q7NEX	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	5
M22 × 1.5	D6	PS022O6NEX	5P	5.512	0.945	-	2.795	0.697	0.523	0.75	3	6
M22 × 1	D5	PS022M5NEX	5P	5.512	0.945	-	2.795	0.697	0.523	0.75	3	6
M24 × 3	D8	PS024S8NEX	5P	6.299	1.457	-	3.228	0.76	0.57	0.75	3	5
M24 × 2	D7	PS024Q7NEX	5P	6.299	1.063	-	3.228	0.76	0.57	0.75	3	6
M24 × 1.5	D6	PS024O6NEX	5P	6.299	1.063	-	3.228	0.76	0.57	0.75	3	6
M24 × 1	D5	PS024M5NEX	5P	6.299	1.063	-	3.228	0.76	0.57	0.75	3	6
M25 × 1.5	D6	PS025O6NEX	5P	6.299	1.063	-	3.228	0.8	0.6	0.812	3	6
M26 × 1.5	D6	PS026O6NEX	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 3	D8	PS027S8NEX	5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
M27 × 2	D7	PS027Q7NEX	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 1.5	D6	PS027O6NEX	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 1	D5	PS027M5NEX	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 2	D7	PS028Q7NEX	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 1.5	D6	PS028O6NEX	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 1	D5	PS028M5NEX	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M30 × 3.5	D9	PS030T9NEX	5P	7.087	1.732	-	3.622	1.021	0.766	1	4	5
M30 × 2	D7	PS030Q7NEX	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M30 × 1.5	D6	PS030O6NEX	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M30 × 1	D5	PS030M5NEX	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M32 × 2	D7	PS032Q7NEX	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M32 × 1.5	D6	PS032O6NEX	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M32 × 1	D5	PS032M5NEX	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M33 × 3.5	D9	PS033T9NEX	5P	7.087	1.732	-	3.622	1.108	0.831	1.062	4	5
M33 × 2	D7	PS033Q7NEX	5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M33 × 1.5	D6	PS033O6NEX	5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M33 × 1	D5	PS033M5NEX	5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO OX Spiral Pointed Taps, Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M36 × 4	D9	PS036U9NEX	5P	7.874	2.047	-	4.016	1.233	0.925	1.125	4	5
M36 × 3	D8	PS036S8NEX	5P	7.874	2.047	-	4.016	1.233	0.925	1.125	4	5
M36 × 2	D7	PS036Q7NEX	5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M36 × 1.5	D6	PS036O6NEX	5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M36 × 1	D5	PS036M5NEX	5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M39 × 4	D9	PS039U9NEX	5P	7.874	2.047	-	4.016	1.305	0.979	1.125	4	5
M39 × 3	D8	PS039S8NEX	5P	7.874	2.047	-	4.016	1.305	0.979	1.125	4	5
M39 × 2	D7	PS039Q7NEX	5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M39 × 1.5	D6	PS039O6NEX	5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M39 × 1	D5	PS039M5NEX	5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M42 × 4.5	D10	PS042VONEX	5P	7.874	2.047	-	4.016	1.43	1.072	1.25	4	5
M42 × 2	D7	PS042Q7NEX	5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M42 × 1.5	D6	PS042O6NEX	5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M42 × 1	D5	PS042M5NEX	5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M45 × 4.5	D10	PS045VONEX	5P	8.661	2.323	-	4.409	1.519	1.139	1.25	4	5
M45 × 3	D8	PS045S8NEX	5P	8.661	2.323	-	4.409	1.519	1.139	1.25	4	5
M45 × 2	D7	PS045Q7NEX	5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M45 × 1.5	D6	PS045O6NEX	5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M45 × 1	D5	PS045M5NEX	5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M48 × 5	D11	PS048W-NEX	5P	9.843	2.559	-	5.039	1.644	1.233	1.375	4	5
M48 × 3	D9	PS048S9NEX	5P	9.843	2.559	-	5.039	1.644	1.233	1.375	4	5
M48 × 2	D7	PS048Q7NEX	5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
M48 × 1.5	D7	PS048O7NEX	5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
M48 × 1	D6	PS048M6NEX	5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
For Unified Threads												
No.0-80UNF	GH1	PSUN0B1NEX	5P	1.772	0.236	-	1.161	0.141	0.11	0.187	2	1
No.0-80UNF	GH2	PSUN0B2NEX	5P	1.772	0.236	-	1.161	0.141	0.11	0.187	2	1
No.1-64UNC	GH1	PSUN1D1NEX	5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-64UNC	GH2	PSUN1D2NEX	5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-72UNF	GH1	PSUN1C1NEX	5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-72UNF	GH2	PSUN1C2NEX	5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.2-56UNC	GH1	PSUN2E1NEX	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
No.2-56UNC	GH2	PSUN2E2NEX	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
No.2-64UNF	GH1	PSUN2D1NEX	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
No.2-64UNF	GH2	PSUN2D2NEX	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	2	1
No.3-48UNC	GH1	PSUN3F1NEX	5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	2	2
No.3-48UNC	GH2	PSUN3F2NEX	5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	2	2
No.3-56UNF	GH1	PSUN3E1NEX	5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	2	2
No.3-56UNF	GH2	PSUN3E2NEX	5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	2	2
No.4-40UNC	GH2	PSUN4H2NEX	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
No.4-40UNC	GH3	PSUN4H3NEX	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
No.4-48UNF	GH1	PSUN4F1NEX	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
No.4-48UNF	GH2	PSUN4F2NEX	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	2
No.5-40UNC	GH2	PSUN5H2NEX	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.5-40UNC	GH3	PSUN5H3NEX	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.5-44UNF	GH1	PSUN5G1NEX	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.5-44UNF	GH2	PSUN5G2NEX	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.5-44UNF	GH3	PSUN5G3NEX	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	2	2
No.6-32UNC	GH2	PSUN6J2NEX	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	2	2
No.6-32UNC	GH3	PSUN6J3NEX	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	2	2

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO OX Spiral Pointed Taps, Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
No.6-40UNF	GH2	PSUN6H2NEX	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	2	2
No.6-40UNF	GH3	PSUN6H3NEX	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	2	2
No.8-32UNC	GH2	PSUN8J2NEX	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	2	2
No.8-32UNC	GH3	PSUN8J3NEX	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	2	2
No.8-36UNF	GH2	PSUN8I2NEX	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	2	2
No.8-36UNF	GH3	PSUN8I3NEX	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	2	2
No.10-24UNC	GH2	PSUNAM2NEX	5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	2	2
No.10-24UNC	GH3	PSUNAM3NEX	5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	2	2
No.10-32UNF	GH2	PSUNAJ2NEX	5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	2	2
No.10-32UNF	GH3	PSUNAJ3NEX	5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	2	2
No.12-24UNC	GH2	PSUNCM2NEX	5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	2	2
No.12-24UNC	GH3	PSUNCM3NEX	5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	2	2
No.12-28UNF	GH2	PSUNCK2NEX	5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	2	2
No.12-28UNF	GH3	PSUNCK3NEX	5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	2	2
1/4-20UNC	GH3	PSU04N3NEX	4.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-20UNC	GH4	PSU04N4NEX	4.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-20UNC	GH5	PSU04N5NEX	4.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-28UNF	GH2	PSU04K2NEX	4.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	PSU04K3NEX	4.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
1/4-28UNF	GH4	PSU04K4NEX	4.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	PSU05O3NEX	4.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-18UNC	GH4	PSU05O4NEX	4.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-18UNC	GH5	PSU05O5NEX	4.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	PSU05M3NEX	4.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
5/16-24UNF	GH4	PSU05M4NEX	4.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	PSU06P3NEX	4.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-16UNC	GH5	PSU06P5NEX	4.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	PSU06M3NEX	4.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
3/8-24UNF	GH4	PSU06M4NEX	4.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	3
7/16-14UNC	GH4	PSU07Q4NEX	4.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
7/16-14UNC	GH5	PSU07Q5NEX	4.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
7/16-20UNF	GH3	PSU07N3NEX	4.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
7/16-20UNF	GH4	PSU07N4NEX	4.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
7/16-20UNF	GH5	PSU07N5NEX	4.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	5
1/2-13UNC	GH3	PSU08R3NEX	4.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-13UNC	GH4	PSU08R4NEX	4.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-13UNC	GH5	PSU08R5NEX	4.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-20UNF	GH3	PSU08N3NEX	4.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-20UNF	GH4	PSU08N4NEX	4.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
1/2-20UNF	GH5	PSU08N5NEX	4.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	5
9/16-12UNC	GH3	PSU09S3NEX	4.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
9/16-12UNC	GH4	PSU09S4NEX	4.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
9/16-12UNC	GH5	PSU09S5NEX	4.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
9/16-18UNF	GH3	PSU09O3NEX	4.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
9/16-18UNF	GH4	PSU09O4NEX	4.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
9/16-18UNF	GH5	PSU09O5NEX	4.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	5
5/8-11UNC	GH3	PSU10U3NEX	4.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-11UNC	GH4	PSU10U4NEX	4.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-11UNC	GH5	PSU10U5NEX	4.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-11UNC	GH6	PSU10U6NEX	4.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5

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L	ℓ	ℓn	ℓs	Ds	K	ℓk

PO OX Spiral Pointed Taps, Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
5/8-18UNF	GH3	PSU10O3NEX	4.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-18UNF	GH4	PSU10O4NEX	4.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
5/8-18UNF	GH5	PSU10O5NEX	4.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	5
3/4-10UNC	GH5	PSU12V5NEX	4.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	3	5
3/4-10UNC	GH6	PSU12V6NEX	4.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	3	5
3/4-16UNF	GH3	PSU12P3NEX	4.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	3	5
3/4-16UNF	GH4	PSU12P4NEX	4.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	3	5
3/4-16UNF	GH5	PSU12P5NEX	4.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	3	5
7/8-9UNC	GH4	PSU14W4NEX	4.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	5
7/8-9UNC	GH5	PSU14W5NEX	4.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	5
7/8-9UNC	GH6	PSU14W6NEX	4.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	5
7/8-14UNF	GH4	PSU14Q4NEX	4.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	5
7/8-14UNF	GH6	PSU14Q6NEX	4.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	3	5
1 -8UNC	GH4	PSU16X4NEX	4.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	3	5
1 -8UNC	GH5	PSU16X5NEX	4.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	3	5
1 -8UNC	GH6	PSU16X6NEX	4.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	3	5
1 -8UNC	GH7	PSU16X7NEX	4.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	3	5
1 -12UNF	GH4	PSU16S4NEX	4.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	3	5
1 -12UNF	GH5	PSU16S5NEX	4.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	3	5
1 -12UNF	GH6	PSU16S6NEX	4.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	3	5
1 1/8-7UNC	GH6	PSU18Y6NEX	4.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-7UNC	GH7	PSU18Y7NEX	4.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-12UNF	GH5	PSU18S5NEX	4.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-12UNF	GH6	PSU18S6NEX	4.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/4-7UNC	GH6	PSU20Y6NEX	4.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-7UNC	GH8	PSU20Y8NEX	4.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-12UNF	GH5	PSU20S5NEX	4.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-12UNF	GH6	PSU20S6NEX	4.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 3/8-6UNC	GH6	PSU22Z6NEX	4.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-6UNC	GH8	PSU22Z8NEX	4.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-12UNF	GH5	PSU22S5NEX	4.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-12UNF	GH6	PSU22S6NEX	4.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 1/2-6UNC	GH6	PSU24Z6NEX	4.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-6UNC	GH8	PSU24Z8NEX	4.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-12UNF	GH5	PSU24S5NEX	4.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-12UNF	GH7	PSU24S7NEX	4.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX SS PO



Spiral Pointed Taps for Stainless Steels

Specification

HSS | OX Oxide

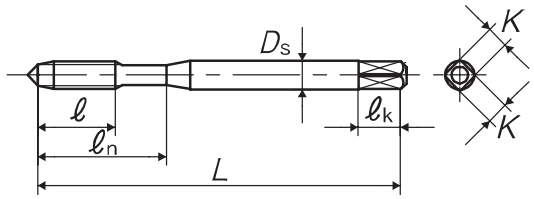


■Suitable for stainless steels tending to cause work harden and sticky, as well as chrome steels and molybdenum steels. Through hole use.

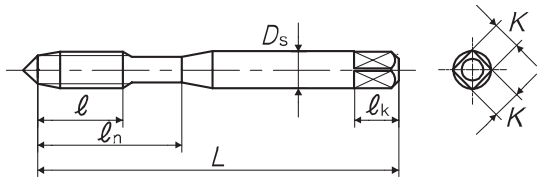
Tapping Speed depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Stainless steels ステンレス鋼
~10 (m/min)	~10 (m/min)	~10 (m/min)	~10 (m/min)	~10 (m/min)

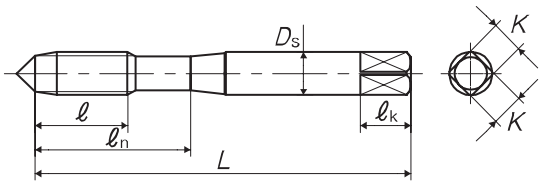
TYPE: 1



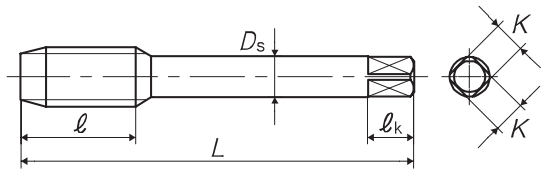
TYPE: 2



TYPE: 3



TYPE: 4



Segment : 1F

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads											
M3 × 0.5	D3	Y72615	4.5P	1.937	0.374	0.625	0.141	0.11	0.187	3	1
M3.5 × 0.6	D4	Y72616	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
M4 × 0.7	D4	Y72617	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
M5 × 0.8	D4	Y72619	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
M6 × 1	D5	Y72620	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
M7 × 1	D5	Y72621	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
M8 × 1.25	D5	Y72623	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
M8 × 1	D5	Y72622	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
M10 × 1.5	D6	Y72625	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
M10 × 1.25	D5	Y72624	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
M12 × 1.75	D6	Y72627	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
M12 × 1.25	D5	Y72626	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
M14 × 2	D7	Y72629	4.5P	3.593	0.984	-	0.429	0.322	0.5	3	4
M14 × 1.5	D6	Y72628	4.5P	3.593	0.984	-	0.429	0.322	0.5	3	4
M16 × 2	D7	Y72631	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
M16 × 1.5	D6	Y72630	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
M18 × 2.5	D7	Y72633	4.5P	4.031	1.083	-	0.542	0.406	0.625	3	4

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M18 × 1.5	D6	Y72632	4.5P	4.031	1.083	-	0.542	0.406	0.625	3	4
For Unified Threads											
No.2-56UNC	GH2	Y82623	4.5P	1.75	0.256	0.437	0.141	0.11	0.187	2	1
No.2-56UNC	GH3	Y82624	4.5P	1.75	0.256	0.437	0.141	0.11	0.187	2	1
No.3-48UNC	GH2	Y82600	4.5P	1.812	0.295	0.5	0.141	0.11	0.187	2	1
No.4-40UNC	GH2	Y82601	4.5P	1.875	0.335	0.562	0.141	0.11	0.187	2	1
No.4-40UNC	GH3	Y82602	4.5P	1.875	0.335	0.562	0.141	0.11	0.187	2	1
No.4-40UNC	GH4	Y82612	4.5P	1.875	0.335	0.562	0.141	0.11	0.187	2	1
No.4-40UNC	GH5	Y82634	4.5P	1.875	0.335	0.562	0.141	0.11	0.187	2	1
No.4-48UNF	GH2	Y82683	4.5P	1.875	0.335	0.562	0.141	0.11	0.187	2	1
No.5-40UNC	GH2	Y82603	4.5P	1.937	0.374	0.625	0.141	0.11	0.187	3	1
No.6-32UNC	GH2	Y82604	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH3	Y82605	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH4	Y82608	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH5	Y82635	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH6	Y82659	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH7	Y82665	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.6-40UNF	GH2	Y82684	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.6-40UNF	GH3	Y82642	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.8-32UNC	GH2	Y82606	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH3	Y82607	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH4	Y82629	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH5	Y82637	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH6	Y82660	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH7	Y82667	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.8-36UNF	GH2	Y82686	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.10-24UNC	GH3	Y82609	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-24UNC	GH5	Y82639	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-24UNC	GH6	Y82690	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-24UNC	GH7	Y82669	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH2	Y82611	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y82610	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH4	Y82630	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH5	Y82640	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH6	Y82661	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH7	Y82670	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.12-24UNC	GH3	Y82688	4.5P	2.375	0.571	0.937	0.22	0.165	0.281	3	1
No.12-28UNF	GH3	Y82689	4.5P	2.375	0.571	0.937	0.22	0.165	0.281	3	1
1/4-20UNC	GH3	Y82613	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-20UNC	GH5	Y82643	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-20UNC	GH6	Y82590	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-20UNC	GH7	Y82673	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	Y82614	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH4	Y82631	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH5	Y82644	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH6	Y82662	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH7	Y82674	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	Y82615	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-18UNC	GH5	Y82645	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-18UNC	GH7	Y82675	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX SS PO Spiral Pointed Taps for Stainless Steels

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
5/16-24UNF	GH3	Y82616	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH4	Y82632	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH5	Y82646	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH6	Y82663	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH7	Y82676	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	Y82617	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-16UNC	GH5	Y82647	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-16UNC	GH7	Y82668	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	Y82618	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH4	Y82633	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH5	Y82648	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH6	Y82664	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH7	Y82678	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
7/16-14UNC	GH3	Y82619	4.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
7/16-14UNC	GH5	Y82649	4.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH3	Y82620	4.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH5	Y82650	4.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH6	Y82691	4.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH7	Y82680	4.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
1/2-13UNC	GH3	Y82621	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
1/2-13UNC	GH5	Y82651	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
1/2-13UNC	GH7	Y82681	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	Y82622	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH5	Y82652	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH6	Y82692	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH7	Y82682	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH9	Y82685	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
9/16-12UNC	GH3	Y82653	4.5P	3.593	0.984	-	0.429	0.322	0.5	3	4
9/16-18UNF	GH3	Y82654	4.5P	3.593	0.984	-	0.429	0.322	0.5	3	4
9/16-18UNF	GH5	Y82666	4.5P	3.593	0.984	-	0.429	0.322	0.5	3	4
5/8-11UNC	GH3	Y82625	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
5/8-11UNC	GH5	Y82655	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
5/8-18UNF	GH3	Y82626	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
5/8-18UNF	GH4	Y82636	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
5/8-18UNF	GH5	Y82656	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
5/8-18UNF	GH6	Y82694	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
5/8-18UNF	GH7	Y82591	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
3/4-10UNC	GH3	Y82627	4.5P	4.25	1.201	-	0.59	0.422	0.687	3	4
3/4-10UNC	GH5	Y82657	4.5P	4.25	1.201	-	0.59	0.422	0.687	3	4
3/4-16UNF	GH3	Y82628	4.5P	4.25	1.201	-	0.59	0.422	0.687	3	4
3/4-16UNF	GH5	Y82658	4.5P	4.25	1.201	-	0.59	0.422	0.687	3	4
3/4-16UNF	GH7	Y82592	4.5P	4.25	1.201	-	0.59	0.422	0.687	3	4
7/8-9UNC	GH4	Y82695	4.5P	4.687	1.339	-	0.697	0.523	0.75	3	4
7/8-14UNF	GH4	Y82696	4.5P	4.687	1.339	-	0.697	0.523	0.75	3	4
7/8-14UNF	GH6	Y82699	4.5P	4.687	1.339	-	0.697	0.523	0.75	3	4
1 -8UNC	GH4	Y82697	4.5P	5.125	1.496	-	0.8	0.6	0.812	3	4
1 -12UNF	GH4	Y82679	4.5P	5.125	1.496	-	0.8	0.6	0.812	3	4
1 1/8-7UNC	GH6	Y82700	4.5P	5.437	1.535	-	0.896	0.672	0.875	4	4
1 1/8-12UNF	GH5	Y82701	4.5P	5.437	1.535	-	0.896	0.672	0.875	4	4
1 1/4-7UNC	GH6	Y82702	4.5P	5.75	1.535	-	1.021	0.766	1	4	4

Think threads with YAMAWA

· This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX SS PO Spiral Pointed Taps for Stainless Steels

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
1 1/4-12UNF	GH5	Y82703	4.5P	5.75	1.535	-	1.021	0.766	1	4	4
1 3/8-6UNC	GH6	Y82705	4.5P	6.062	1.811	-	1.108	0.831	1.062	4	4
1 3/8-12UNF	GH5	Y82706	4.5P	6.062	1.811	-	1.108	0.831	1.062	4	4
1 1/2-6UNC	GH6	Y82707	4.5P	6.375	1.811	-	1.233	0.925	1.125	4	4
1 1/2-12UNF	GH5	Y82708	4.5P	6.375	1.811	-	1.233	0.925	1.125	4	4
1 3/4-5UNC	GH7	Y82709	4.5P	7	1.929	-	1.43	1.072	1.25	4	4
2 -4 1/2UNC	GH7	Y82710	4.5P	7.625	1.929	-	1.644	1.233	1.375	4	4

・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ANSI

ZELX SS PO 6"

Long Shank Spiral Pointed Taps for Stainless Steels



Specification

HSS | OX Oxide

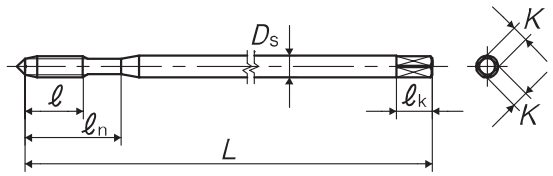


■Suitable for stainless steels tending to cause work harden and sticky, as well as chrome steels and molybdenum steels. Through hole use.

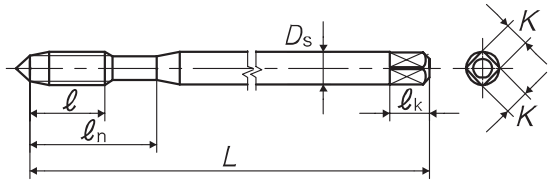
Tapping Speed depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Stainless steels ステンレス鋼
5~10 (m/min)	5~10 (m/min)	5~10 (m/min)	~5 (m/min)

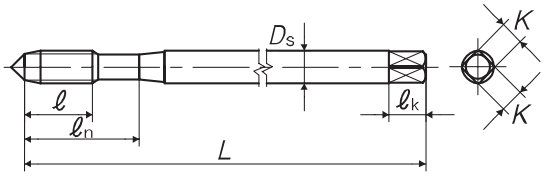
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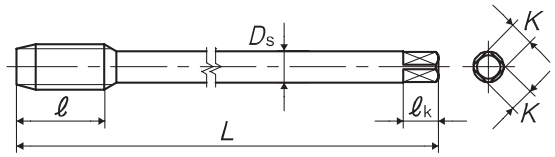
TYPE:2



TYPE:3



TYPE:4



Segment : 1F

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads											
No.2-56UNC	GH2	Y82523	4.5P	6	0.256	0.437	0.141	0.11	0.187	2	1
No.3-48UNC	GH2	Y82500	4.5P	6	0.295	0.5	0.141	0.11	0.187	2	1
No.4-40UNC	GH2	Y82501	4.5P	6	0.335	0.562	0.141	0.11	0.187	2	1
No.6-32UNC	GH3	Y82505	4.5P	6	0.413	0.687	0.141	0.11	0.187	3	1
No.8-32UNC	GH3	Y82507	4.5P	6	0.453	0.75	0.168	0.131	0.25	3	1
No.10-24UNC	GH3	Y82509	4.5P	6	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y82510	4.5P	6	0.531	0.875	0.194	0.152	0.25	3	1
1/4-20UNC	GH3	Y82513	4.5P	6	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	Y82514	4.5P	6	0.591	1	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	Y82515	4.5P	6	0.669	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	Y82516	4.5P	6	0.669	1.125	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	Y82517	4.5P	6	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	Y82518	4.5P	6	0.748	1.25	0.381	0.286	0.437	3	3
7/16-14UNC	GH3	Y82519	4.5P	6	0.866	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH3	Y82520	4.5P	6	0.866	-	0.323	0.242	0.406	3	4
1/2-13UNC	GH3	Y82521	4.5P	6	0.984	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	Y82522	4.5P	6	0.984	-	0.367	0.275	0.437	3	4

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

AL-PO

Spiral Pointed Taps for Aluminum



Specification

HSS | NI Nitride

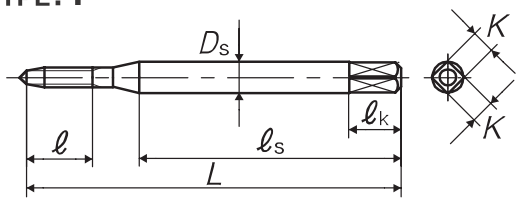


■In tapping of aluminum die casting and aluminum casting, AL-PO solves chip jamming and chip clogging trouble, and eliminates torn threads.

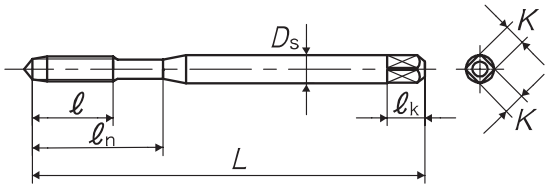
Tapping Speed depending on Materials

Brass 黄銅	Brass castings 黄銅鋳物	Bronze 青銅	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物	Magnesium alloy die castings マグネシウム合金鋳物	Zinc alloy castings 亜鉛合金鋳物
5~15 (m/min)	5~15 (m/min)	5~15 (m/min)	5~15 (m/min)	5~15 (m/min)	5~15 (m/min)	5~15 (m/min)

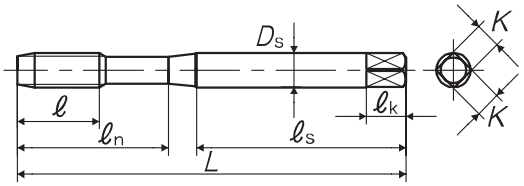
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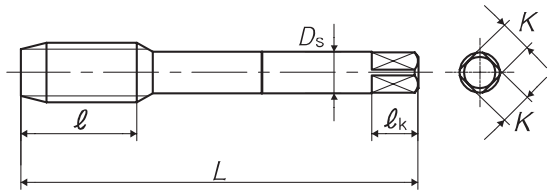
TYPE:2



TYPE:3



TYPE:4



Segment : 1F

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads											
M3 × 0.5	D3	386228M	5P	2.205	0.433	0.736	0.141	0.11	0.187	3	2
M3.5 × 0.6	D4	386229M	5P	2.205	0.433	0.748	0.141	0.11	0.187	3	2
M4 × 0.7	D4	386230M	5P	2.48	0.512	0.815	0.168	0.131	0.25	3	2
M5 × 0.8	D4	386231M	5P	2.756	0.551	0.984	0.194	0.152	0.25	3	2
M6 × 1	D5	386232M	5P	3.15	0.591	1.181	0.255	0.191	0.312	3	2
M7 × 1	D5	386233M	5P	3.543	0.748	1.339	0.318	0.238	0.375	3	3
M8 × 1.25	D5	386235M	5P	3.543	0.748	1.378	0.318	0.238	0.375	3	3
M8 × 1	D5	386234M	5P	3.543	0.748	1.378	0.318	0.238	0.375	3	3
M10 × 1.5	D6	386237M	5P	3.937	0.906	1.535	0.381	0.286	0.437	3	3
M10 × 1.25	D5	386236M	5P	3.937	0.906	1.535	0.381	0.286	0.437	3	3
M12 × 1.75	D6	386240M	5P	4.331	1.024	-	0.367	0.275	0.437	3	4
M12 × 1.5	D5	386239M	5P	4.331	1.024	-	0.367	0.275	0.437	3	4
M12 × 1.25	D5	386238M	5P	4.331	1.024	-	0.367	0.275	0.437	3	4
For Unified Threads											
No.2-56UNC	GH2	386200M	5P	1.772	0.314	-	0.141	0.11	0.187	2	1
No.4-40UNC	GH2	386201M	5P	2.205	0.354	0.709	0.141	0.11	0.187	2	2
No.5-40UNC	GH2	386202M	5P	2.205	0.433	0.736	0.141	0.11	0.187	3	2

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
No.6-32UNC	GH3	386203M	5P	2.205	0.433	0.748	0.141	0.11	0.187	3	2
No.8-32UNC	GH3	386204M	5P	2.48	0.512	0.827	0.168	0.131	0.25	3	2
No.10-24UNC	GH3	386205M	5P	2.756	0.551	0.945	0.194	0.152	0.25	3	2
No.10-32UNF	GH3	386206M	5P	2.756	0.551	0.945	0.194	0.152	0.25	3	2
1/4-20UNC	GH3	386207M	5P	3.15	0.591	1.181	0.255	0.191	0.312	3	2
1/4-20UNC	GH5	386208M	5P	3.15	0.591	1.181	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	386209M	5P	3.15	0.591	1.181	0.255	0.191	0.312	3	2
1/4-28UNF	GH4	386211M	5P	3.15	0.591	1.181	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	386212M	5P	3.543	0.748	1.378	0.318	0.238	0.375	3	3
5/16-18UNC	GH5	386213M	5P	3.543	0.748	1.378	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	386214M	5P	3.543	0.748	1.378	0.318	0.238	0.375	3	3
5/16-24UNF	GH4	386215M	5P	3.543	0.748	1.378	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	386216M	5P	3.937	0.906	1.535	0.381	0.286	0.437	3	3
3/8-16UNC	GH5	386217M	5P	3.937	0.906	1.535	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	386218M	5P	3.937	0.906	1.535	0.381	0.286	0.437	3	3
3/8-24UNF	GH4	386219M	5P	3.937	0.906	1.535	0.381	0.286	0.437	3	3
7/16-14UNC	GH3	386220M	5P	3.937	0.906	-	0.323	0.242	0.406	3	4
7/16-14UNC	GH5	386221M	5P	3.937	0.906	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH3	386222M	5P	3.937	0.906	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH5	386223M	5P	3.937	0.906	-	0.323	0.242	0.406	3	4
1/2-13UNC	GH3	386224M	5P	4.331	1.024	-	0.367	0.275	0.437	3	4
1/2-13UNC	GH5	386225M	5P	4.331	1.024	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	386226M	5P	4.331	1.024	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH5	386227M	5P	4.331	1.024	-	0.367	0.275	0.437	3	4

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX NI PO



Spiral Pointed Taps for Nickel Base Alloys

Specification

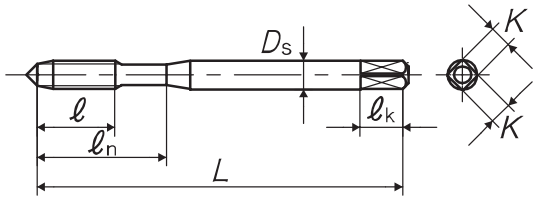
HSS-P | NX Nitride+Oxide |  | Synchro nized

■ZELX NI PO is the spiral pointed tap for nickel base alloys which, with nickel as main composition, have much higher corrosion resistance and much higher heat resistance than steels.

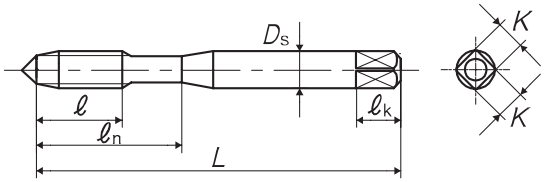
Tapping Speed depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Nickel base alloys ニッケル基合金
5~10 (m/min)	5~10 (m/min)	5~10 (m/min)	5~10 (m/min)

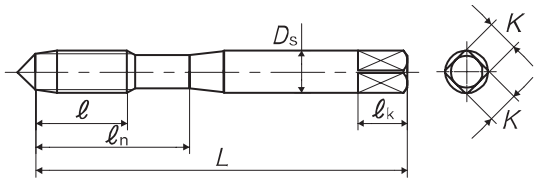
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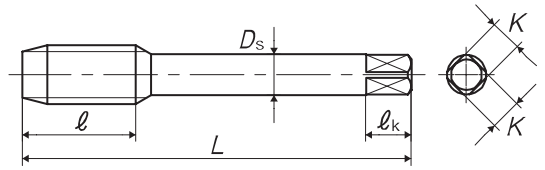
TYPE:2



TYPE:3



TYPE:4



Segment : 1F

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads											
M2.5 × 0.45	D3	Y87320	4.5P	1.812	0.295	0.5	0.141	0.11	0.187	2	1
M3 × 0.5	D3	Y87321	4.5P	1.937	0.374	0.625	0.141	0.11	0.187	3	1
M3.5 × 0.6	D4	Y87322	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
M4 × 0.7	D4	Y87323	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
M5 × 0.8	D4	Y87324	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
M6 × 1	D5	Y87325	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
M7 × 1	D5	Y87326	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
M8 × 1.25	D5	Y87328	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
M8 × 1	D5	Y87327	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
M10 × 1.5	D6	Y87330	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
M10 × 1.25	D5	Y87329	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
M12 × 1.75	D6	Y87332	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
M12 × 1.25	D5	Y87331	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
For Unified Threads											
No.2-56UNC	GH2	Y85523	4.5P	1.75	0.256	0.437	0.141	0.11	0.187	2	1
No.4-40UNC	GH2	Y85501	4.5P	1.875	0.335	0.562	0.141	0.11	0.187	2	1
No.4-40UNC	GH3	Y85502	4.5P	1.875	0.335	0.562	0.141	0.11	0.187	2	1

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
No.4-40UNC	GH4	Y85504	4.5P	1.875	0.335	0.562	0.141	0.11	0.187	2	1
No.5-40UNC	GH2	Y85503	4.5P	1.937	0.374	0.625	0.141	0.11	0.187	3	1
No.6-32UNC	GH3	Y85505	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH4	Y85524	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH5	Y85535	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH7	Y85511	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.6-40UNF	GH2	Y85512	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.8-32UNC	GH3	Y85507	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH4	Y85529	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH5	Y85537	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH6	Y85560	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH7	Y85567	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.10-24UNC	GH3	Y85509	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-24UNC	GH5	Y85539	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH2	Y85541	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y85510	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH4	Y85530	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH5	Y85540	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH6	Y85561	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH7	Y85570	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
1/4-20UNC	GH3	Y85513	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-20UNC	GH5	Y85543	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	Y85514	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH4	Y85531	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH5	Y85544	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH6	Y85562	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH7	Y85574	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	Y85515	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-18UNC	GH5	Y85545	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-18UNC	GH7	Y85553	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH3	Y85516	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH4	Y85532	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH5	Y85546	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH6	Y85563	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH7	Y85576	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
3/8-16UNC	GH3	Y85517	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-16UNC	GH5	Y85547	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH3	Y85518	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH4	Y85533	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH5	Y85548	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH6	Y85564	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH7	Y85578	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
7/16-14UNC	GH3	Y85519	4.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
7/16-14UNC	GH5	Y85549	4.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH3	Y85520	4.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH5	Y85550	4.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
1/2-13UNC	GH3	Y85521	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
1/2-13UNC	GH5	Y85551	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
1/2-13UNC	GH7	Y85581	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH3	Y85522	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX NI PO Spiral Pointed Taps for Nickel Base Alloys

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
1/2-20UNF	GH5	Y85552	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH7	Y85582	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
5/8-11UNC	GH3	Y85525	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
5/8-11UNC	GH5	Y85555	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
5/8-11UNC	GH7	Y85585	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
5/8-18UNF	GH3	Y85526	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
5/8-18UNF	GH5	Y85556	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
5/8-18UNF	GH7	Y85586	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
3/4-10UNC	GH3	Y85527	4.5P	4.25	1.201	-	0.59	0.442	0.687	3	4
3/4-10UNC	GH5	Y85557	4.5P	4.25	1.201	-	0.59	0.442	0.687	3	4
3/4-16UNF	GH3	Y85528	4.5P	4.25	1.201	-	0.59	0.442	0.687	3	4
3/4-16UNF	GH5	Y85558	4.5P	4.25	1.201	-	0.59	0.442	0.687	3	4

Think threads with YAMAWA

· This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ANSI

PM-PO



Spiral Pointed Taps for Hard-to-Machine Materials

Specification

HSS-P

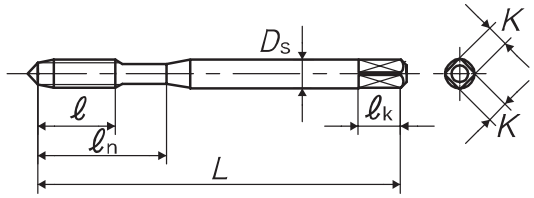


■Spiral pointed tap suitable for high hardness steels of 35～45HRC such as forgings and thermal refined steels of high carbon steels and alloy steels, and die steel. Through hole use.

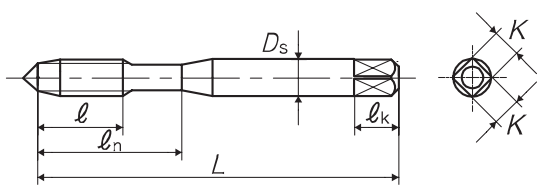
Tapping Speeds depending on Materials

High carbon steels 高炭素鋼	Thermal refined steels 調質鋼	Thermal refined steels 調質鋼
5~10 (m/min)	5~10 (m/min)	~5 (m/min)
	25～35HRC	35～45HRC

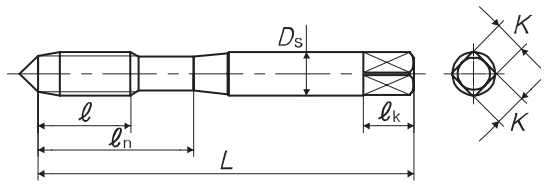
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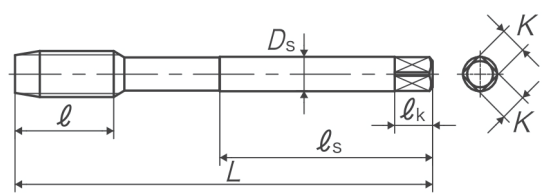
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TYPE:3



TYPE:4



Segment : 1F

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads											
No.6-32UNC	GH3	PAUN6J3DPB	5.5P	2	0.413	0.687	0.141	0.11	0.187	2	1
No.6-40UNF	GH3	PAUN6H3DPB	5.5P	2	0.413	0.687	0.141	0.11	0.187	2	1
No.8-32UNC	GH3	PAUN8J3DPB	5.5P	2.125	0.453	0.75	0.168	0.131	0.25	2	1
No.8-36UNF	GH3	PAUN8I3DPB	5.5P	2.125	0.453	0.75	0.168	0.131	0.25	2	1
No.10-24UNC	GH3	PAUNAM3DPB	5.5P	2.375	0.531	0.875	0.194	0.152	0.25	2	1
No.10-32UNF	GH3	PAUNAJ3DPB	5.5P	2.375	0.531	0.875	0.194	0.152	0.25	2	1
No.12-24UNC	GH3	PAUNCM3DPB	5.5P	2.375	0.571	0.937	0.22	0.165	0.281	2	1
No.12-28UNF	GH3	PAUNCK3DPB	5.5P	2.375	0.571	0.937	0.22	0.165	0.281	2	1
1/4-20UNC	GH4	PAU04N4DPB	5.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH4	PAU04K4DPB	5.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
5/16-18UNC	GH5	PAU05O5DPB	5.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-24UNF	GH5	PAU05M5DPB	5.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
3/8-16UNC	GH6	PAU06P6DPB	5.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-24UNF	GH5	PAU06M5DPB	5.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
7/16-14UNC	GH6	PAU07Q6DPB	5.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
7/16-20UNF	GH5	PAU07N5DPB	5.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
1/2-13UNC	GH6	PAU08R6DPB	5.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
1/2-20UNF	GH6	PAU08N6DPB	5.5P	3.375	0.984	-	0.367	0.275	0.437	3	4

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

PM-PO Spiral Pointed Taps for Hard-to-Machine Materials

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
9/16-12UNC	GH6	PAU09S6DPB	5.5P	3.593	0.984	-	0.429	0.322	0.5	3	4
9/16-18UNF	GH6	PAU09O6DPB	5.5P	3.593	0.984	-	0.429	0.322	0.5	3	4
5/8-11UNC	GH7	PAU10U7DPB	5.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
5/8-18UNF	GH6	PAU10O6DPB	5.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
3/4-10UNC	GH7	PAU12V7DPB	5.5P	4.25	1.201	-	0.59	0.442	0.687	3	4
3/4-16UNF	GH6	PAU12P6DPB	5.5P	4.25	1.201	-	0.59	0.442	0.687	3	4
7/8-9UNC	GH7	PAU14W7DPB	5.5P	4.687	1.339	-	0.697	0.523	0.75	3	4
7/8-14UNF	GH6	PAU14Q6DPB	5.5P	4.687	1.339	-	0.697	0.523	0.75	3	4
1 -8UNC	GH8	PAU16X8DPB	5.5P	5.125	1.496	-	0.8	0.6	0.812	3	4
1 -12UNF	GH7	PAU16S7DPB	5.5P	5.125	1.496	-	0.8	0.6	0.812	3	4

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· This product is different from JIS products in shape and dimensions, please be careful when using.

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JIS • ANSI • DIN

LINE UP

④ HAND TAP SERIES

	JIS	ANSI	DIN
HT	④-3	④-29	④-38
IHT	④-51	④-53	
HT OX		④-55	
HT LH	④-65		
LS-HT	④-73		
LS-HT LH	④-84		
LS-HT V	④-86		
SU-HT	④-89		
FC-HT	④-93		
HT-CI		④-96	
GG-HT			④-98
GG-HT (Coating)			④-100
GGST			④-102
GGST CH			④-104
GG-HT-OH			④-106
GG-HT-OH (Coating)			④-107
LA-HT	④-109		④-112
AXE-HT	④-113	④-115	④-116
MG-HT	④-117		
PL1	④-119		
PL2	④-121		
EH-HT	④-123	④-126	④-128
ZELX MOLD		④-127	
RE-HT	④-131		
MS+TR	④-136		
MC-HT	④-137		



・For improvement, spec may change without advance notice.

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Selection chart of taps

Tapping conditions	Hand tapping/Machining, in low-speed tapping area						Machining, in low-speed tapping area		
Product symbol	IHT	HT	LS-HT	HT LH	LS-HT LH	MS+TR	LS-HT V	MC-HT	FC-HT
Tap material Surface treatment	HSS OX	HSS	HSS	HSS	HSS	HSS	HSS Coating	HSS	HSS NI
Name	I series	For general use	Long, for general use	For general use For left-hand threads	Long, for general use For left-hand threads	For miniature threads	Long, coated	With oil hole	For cast iron
									
Bored Hole Shape									
For Metric Threads	④-52	④-5	④-73	④-66	④-84		④-86	④-137	④-94
For Unified Threads		④-21	④-81	④-71					
For Whitworth Threads		④-26	④-82	④-72					
For Screw Threads used on Sewing Machines		④-27							
Pipe Threads									
American Pipe Threads									
For Miniature Threads						④-136			
For Trapezoidal Threads									

～S25C	Low carbon steels	◆	◎	◆	○	◆	○	◆	○	◆	○	◆	○			◆	○		
S25C～S45C	Medium carbon steels	◆	○	◆	◎	◆	◎	◆	◎	◆	◎			◆◆	○	◆	◎		
S45C～	High carbon steels			◆	○	◆	○	◆	○	◆	○			◆◆	◎	◆	○		
SCM	Alloy steels													◆◆	○				
25～35HRC	Heat treated steel																		
35～45HRC	Heat treated steel																		
45～55HRC	Heat treated steel																		
55～63HRC	Heat treated steel																		
SUS	Stainless steels (SUS)																		
SKD	Tool steels																		
SC	Cast steels																		
FC	Cast irons																	◆	◎
FCD	Ductile cast irons																	◆	○
Cu	Copper																		
Bs	Brass											◆	◎						
BsC	Brass castings																		
PB	Bronze																		
AL	Wrought aluminum																		
AC, ADC	Aluminum alloy casting																		
Mg	Magnesium alloy die castings																		
ZDC	Zinc alloy die castings																		
	Titanium alloys																		
	Nickel base alloys																		
	Thermosetting plastic																		
	Thermoplastic resin																		

Think threads with YAMAWA

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Recommended tap ◎: Most suitable tap ○: Suitable tap

Recommended tapping fluid ◆: Insoluble ◆: Water-soluble

Machining, in low/middle speed tapping area																
	LA-HT		AXE-HT		MG-HT	PL1		PL2		RE-HT		SU-HT		EH-HT	
	HSS	NI	HSS-P	Coating	HSS	HSS	NI	HSS	NI	HSS	OX	HSS	OX	HSS-Co	
	For die casting		AXE tap		For magnesium alloys	For plastics		For thermoplastic resins		For cleaning threads		For stainless steel		For hard-to-machine materials	
															
	④-110		④-114		④-118	④-120		④-122		④-132		④-90		④-124	
												④-91			
												④-92			

										◆	○	◆	◎		
										◆	○	◆	○		
										◆	○				
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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

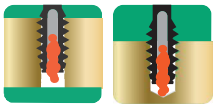
HT

Hand Taps



Specification

HSS

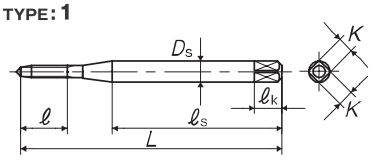


Tapping Speed depending on Materials

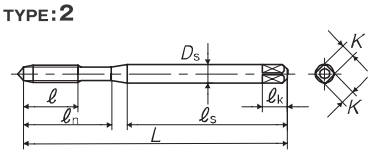
Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼
5~10 (m/min)	5~10 (m/min)	5~10 (m/min)

■The HT taps produce a chip that is relatively small and is stored in the taps flutes. The HT taps have a high cutting edge strength and can be used on a wide varity of machines from manual drilling machines and machining centers.

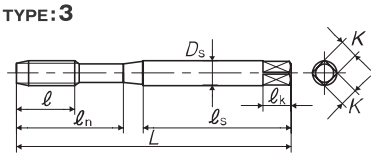
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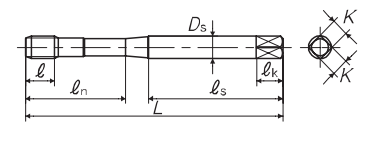
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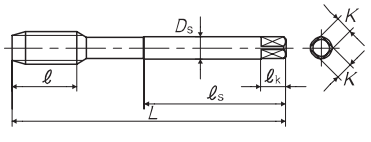
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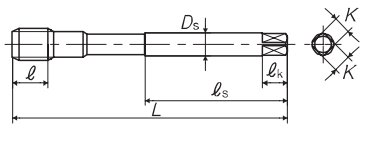
TYPE:4



TYPE:5



TYPE:6



Segment : 1A

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads												
M2 × 0.4	D3	TS2.0E3NEB5	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
M2 × 0.4	D3	TS2.0E3NEBA	1.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
M2.2 × 0.45	D3	TS2.2F3NEB5	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
M2.2 × 0.45	D3	TS2.2F3NEBA	1.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
M2.5 × 0.45	D3	TS2.5F3NEB5	5P	2.205	0.354	0.693	1.28	0.141	0.11	0.187	3	2
M2.5 × 0.45	D3	TS2.5F3NEBA	1.5P	2.205	0.354	0.693	1.28	0.141	0.11	0.187	3	2
M2.6 × 0.45	D3	TS2.6F3NEB5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
M2.6 × 0.45	D3	TS2.6F3NEBA	1.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
M3 × 0.5	D3	TS3.0G3NEB5	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
M3 × 0.5	D3	TS3.0G3NEBA	1.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
M3.5 × 0.6	D4	TS3.5H4NEB5	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
M3.5 × 0.6	D4	TS3.5H4NEBA	1.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M4 × 0.7	D4	TS4.0I4NEB5	5P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	3	2
M4 × 0.7	D4	TS4.0I4NEBA	1.5P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	3	2
M5 × 0.8	D4	TS5.0K4NEB5	5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	3	2
M5 × 0.8	D4	TS5.0K4NEBA	1.5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	3	2
M6 × 1	D5	TS6.0M5NEB5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
M6 × 1	D5	TS6.0M5NEBA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
M7 × 1	D5	TS7.0M5NEB5	5P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	3	3
M7 × 1	D5	TS7.0M5NEBA	1.5P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	3	3
M7 × 0.75	D4	TS7.0J4NEB5	5P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	4	3
M7 × 0.75	D4	TS7.0J4NEBA	1.5P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	4	3
M7 × 0.5	D4	TS7.0G4NEB5	5P	3.543	0.394	1.339	1.831	0.318	0.238	0.375	4	4
M7 × 0.5	D4	TS7.0G4NEBA	1.5P	3.543	0.394	1.339	1.831	0.318	0.238	0.375	4	4
M8 × 1.25	D5	TS8.0N5NEB5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M8 × 1.25	D5	TS8.0N5NEBA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M8 × 1	D5	TS8.0M5NEB5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
M8 × 1	D5	TS8.0M5NEBA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
M8 × 0.75	D4	TS8.0J4NEB5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
M8 × 0.75	D4	TS8.0J4NEBA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
M8 × 0.5	D4	TS8.0G4NEB5	5P	3.543	0.394	1.378	1.831	0.318	0.238	0.375	4	4
M8 × 0.5	D4	TS8.0G4NEBA	1.5P	3.543	0.394	1.378	1.831	0.318	0.238	0.375	4	4
M9 × 1.25	D5	TS9.0N5NEB5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
M9 × 1.25	D5	TS9.0N5NEBA	1.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
M9 × 1	D5	TS9.0M5NEB5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
M9 × 1	D5	TS9.0M5NEBA	1.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
M10 × 1.5	D6	TS010O6NEB5	5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	4	3
M10 × 1.5	D6	TS010O6NEBA	1.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	4	3
M10 × 1.25	D5	TS010N5NEB5	5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	4	3
M10 × 1.25	D5	TS010N5NEBA	1.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	4	3
M10 × 1	D5	TS010M5NEB5	5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	4	3
M10 × 1	D5	TS010M5NEBA	1.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	4	3
M10 × 0.75	D4	TS010J4NEB5	5P	3.937	0.512	1.535	2.126	0.381	0.286	0.437	4	4
M10 × 0.75	D4	TS010J4NEBA	1.5P	3.937	0.512	1.535	2.126	0.381	0.286	0.437	4	4
M11 × 1.5	D6	TS011O6NEB5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
M11 × 1.5	D6	TS011O6NEBA	1.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
M12 × 1.75	D6	TS012P6NEB5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
M12 × 1.75	D6	TS012P6NEBA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
M12 × 1.5	D6	TS012O6NEB5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
M12 × 1.5	D6	TS012O6NEBA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
M12 × 1.25	D6	TS012N6NEB5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
M12 × 1.25	D6	TS012N6NEBA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
M12 × 1	D5	TS012M5NEB5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
M12 × 1	D5	TS012M5NEBA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
M14 × 2	D7	TS014Q7NEB5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
M14 × 2	D7	TS014Q7NEBA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
M14 × 1.5	D6	TS014O6NEB5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
M14 × 1.5	D6	TS014O6NEBA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
M14 × 1.25	D6	TS014N6NEB5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
M14 × 1.25	D6	TS014N6NEBA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
M14 × 1	D5	TS014M5NEB5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
M14 × 1	D5	TS014M5NEBA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Hand Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M16 × 2	D7	TS016Q7NEB5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
M16 × 2	D7	TS016Q7NEBA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
M16 × 1.5	D6	TS016O6NEB5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
M16 × 1.5	D6	TS016O6NEBA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
M16 × 1	D5	TS016M5NEB5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
M16 × 1	D5	TS016M5NEBA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
M18 × 2.5	D7	TS018R7NEB5	5P	4.921	1.299	-	2.52	0.542	0.406	0.625	4	5
M18 × 2.5	D7	TS018R7NEBA	1.5P	4.921	1.299	-	2.52	0.542	0.406	0.625	4	5
M18 × 2	D7	TS018Q7NEB5	5P	4.921	1.299	-	2.52	0.542	0.406	0.625	4	5
M18 × 2	D7	TS018Q7NEBA	1.5P	4.921	1.299	-	2.52	0.542	0.406	0.625	4	5
M18 × 1.5	D6	TS018O6NEB5	5P	4.921	0.945	-	2.52	0.542	0.406	0.625	4	6
M18 × 1.5	D6	TS018O6NEBA	1.5P	4.921	0.945	-	2.52	0.542	0.406	0.625	4	6
M18 × 1	D5	TS018M5NEB5	5P	4.921	0.945	-	2.52	0.542	0.406	0.625	4	6
M18 × 1	D5	TS018M5NEBA	1.5P	4.921	0.945	-	2.52	0.542	0.406	0.625	4	6
M20 × 2.5	D7	TS020R7NEB5	5P	5.512	1.299	-	2.795	0.652	0.489	0.687	4	5
M20 × 2.5	D7	TS020R7NEBA	1.5P	5.512	1.299	-	2.795	0.652	0.489	0.687	4	5
M20 × 2	D7	TS020Q7NEB5	5P	5.512	1.299	-	2.795	0.652	0.489	0.687	4	5
M20 × 2	D7	TS020Q7NEBA	1.5P	5.512	1.299	-	2.795	0.652	0.489	0.687	4	5
M20 × 1.5	D6	TS020O6NEB5	5P	5.512	0.945	-	2.795	0.652	0.489	0.687	4	6
M20 × 1.5	D6	TS020O6NEBA	1.5P	5.512	0.945	-	2.795	0.652	0.489	0.687	4	6
M20 × 1	D5	TS020M5NEB5	5P	5.512	0.945	-	2.795	0.652	0.489	0.687	4	6
M20 × 1	D5	TS020M5NEBA	1.5P	5.512	0.945	-	2.795	0.652	0.489	0.687	4	6
M22 × 2.5	D7	TS022R7NEB5	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
M22 × 2.5	D7	TS022R7NEBA	1.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
M22 × 2	D7	TS022Q7NEB5	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
M22 × 2	D7	TS022Q7NEBA	1.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
M22 × 1.5	D6	TS022O6NEB5	5P	5.512	0.945	-	2.795	0.697	0.523	0.75	4	6
M22 × 1.5	D6	TS022O6NEBA	1.5P	5.512	0.945	-	2.795	0.697	0.523	0.75	4	6
M22 × 1	D5	TS022M5NEB5	5P	5.512	0.945	-	2.795	0.697	0.523	0.75	4	6
M22 × 1	D5	TS022M5NEBA	1.5P	5.512	0.945	-	2.795	0.697	0.523	0.75	4	6
M24 × 3	D8	TS024S8NEB5	5P	6.299	1.457	-	3.228	0.76	0.57	0.75	4	5
M24 × 3	D8	TS024S8NEBA	1.5P	6.299	1.457	-	3.228	0.76	0.57	0.75	4	5
M24 × 2	D7	TS024Q7NEB5	5P	6.299	1.063	-	3.228	0.76	0.57	0.75	4	6
M24 × 2	D7	TS024Q7NEBA	1.5P	6.299	1.063	-	3.228	0.76	0.57	0.75	4	6
M24 × 1.5	D6	TS024O6NEB5	5P	6.299	1.063	-	3.228	0.76	0.57	0.75	4	6
M24 × 1.5	D6	TS024O6NEBA	1.5P	6.299	1.063	-	3.228	0.76	0.57	0.75	4	6
M24 × 1	D5	TS024M5NEB5	5P	6.299	1.063	-	3.228	0.76	0.57	0.75	4	6
M24 × 1	D5	TS024M5NEBA	1.5P	6.299	1.063	-	3.228	0.76	0.57	0.75	4	6
M25 × 1.5	D6	TS025O6NEB5	5P	6.299	1.063	-	3.228	0.8	0.6	0.812	4	6
M25 × 1.5	D6	TS025O6NEBA	1.5P	6.299	1.063	-	3.228	0.8	0.6	0.812	4	6
M26 × 1.5	D6	TS026O6NEB5	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M26 × 1.5	D6	TS026O6NEBA	1.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 3	D8	TS027S8NEB5	5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
M27 × 3	D8	TS027S8NEBA	1.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
M27 × 2	D7	TS027Q7NEB5	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 2	D7	TS027Q7NEBA	1.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 1.5	D6	TS027O6NEB5	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 1.5	D6	TS027O6NEBA	1.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 1	D5	TS027M5NEB5	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 1	D5	TS027M5NEBA	1.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Hand Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M28 × 2	D7	TS028Q7NEB5	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 2	D7	TS028Q7NEBA	1.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 1.5	D6	TS028O6NEB5	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 1.5	D6	TS028O6NEBA	1.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 1	D5	TS028M5NEB5	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 1	D5	TS028M5NEBA	1.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M30 × 3.5	D9	TS030T9NEB5	5P	7.087	1.732	-	3.622	1.021	0.766	1	4	5
M30 × 3.5	D9	TS030T9NEBA	1.5P	7.087	1.732	-	3.622	1.021	0.766	1	4	5
M30 × 2	D7	TS030Q7NEB5	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M30 × 2	D7	TS030Q7NEBA	1.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M30 × 1.5	D6	TS030O6NEB5	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M30 × 1.5	D6	TS030O6NEBA	1.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M30 × 1	D5	TS030M5NEB5	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M30 × 1	D5	TS030M5NEBA	1.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M32 × 2	D7	TS032Q7NEB5	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M32 × 2	D7	TS032Q7NEBA	1.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M32 × 1.5	D6	TS032O6NEB5	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M32 × 1.5	D6	TS032O6NEBA	1.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M32 × 1	D5	TS032M5NEB5	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M32 × 1	D5	TS032M5NEBA	1.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M33 × 3.5	D9	TS033T9NEB5	5P	7.087	1.732	-	3.622	1.108	0.831	1.062	4	5
M33 × 3.5	D9	TS033T9NEBA	1.5P	7.087	1.732	-	3.622	1.108	0.831	1.062	4	5
M33 × 2	D7	TS033Q7NEB5	5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M33 × 2	D7	TS033Q7NEBA	1.5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M33 × 1.5	D6	TS033O6NEB5	5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M33 × 1.5	D6	TS033O6NEBA	1.5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M33 × 1	D5	TS033M5NEB5	5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M33 × 1	D5	TS033M5NEBA	1.5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M36 × 4	D9	TS036U9NEB5	5P	7.874	2.047	-	4.016	1.233	0.925	1.125	4	5
M36 × 4	D9	TS036U9NEBA	1.5P	7.874	2.047	-	4.016	1.233	0.925	1.125	4	5
M36 × 3	D8	TS036S8NEB5	5P	7.874	2.047	-	4.016	1.233	0.925	1.125	4	5
M36 × 3	D8	TS036S8NEBA	1.5P	7.874	2.047	-	4.016	1.233	0.925	1.125	4	5
M36 × 2	D7	TS036Q7NEB5	5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M36 × 2	D7	TS036Q7NEBA	1.5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M36 × 1.5	D6	TS036O6NEB5	5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M36 × 1.5	D6	TS036O6NEBA	1.5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M36 × 1	D5	TS036M5NEB5	5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M36 × 1	D5	TS036M5NEBA	1.5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M39 × 4	D9	TS039U9NEB5	5P	7.874	2.047	-	4.016	1.305	0.979	1.125	4	5
M39 × 4	D9	TS039U9NEBA	1.5P	7.874	2.047	-	4.016	1.305	0.979	1.125	4	5
M39 × 3	D8	TS039S8NEB5	5P	7.874	2.047	-	4.016	1.305	0.979	1.125	4	5
M39 × 3	D8	TS039S8NEBA	1.5P	7.874	2.047	-	4.016	1.305	0.979	1.125	4	5
M39 × 2	D7	TS039Q7NEB5	5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M39 × 2	D7	TS039Q7NEBA	1.5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M39 × 1.5	D6	TS039O6NEB5	5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M39 × 1.5	D6	TS039O6NEBA	1.5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M39 × 1	D5	TS039M5NEB5	5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M39 × 1	D5	TS039M5NEBA	1.5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M42 × 4.5	D10	TS042VONEB5	5P	7.874	2.047	-	4.016	1.43	1.072	1.25	4	5
M42 × 4.5	D10	TS042VONEBA	1.5P	7.874	2.047	-	4.016	1.43	1.072	1.25	4	5

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Hand Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M42 × 2	D7	TS042Q7NEB5	5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M42 × 2	D7	TS042Q7NEBA	1.5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M42 × 1.5	D6	TS042O6NEB5	5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M42 × 1.5	D6	TS042O6NEBA	1.5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M42 × 1	D5	TS042M5NEB5	5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M42 × 1	D5	TS042M5NEBA	1.5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M45 × 4.5	D10	TS045VONEB5	5P	8.661	2.323	-	4.409	1.519	1.139	1.25	4	5
M45 × 4.5	D10	TS045VONEBA	1.5P	8.661	2.323	-	4.409	1.519	1.139	1.25	4	5
M45 × 3	D8	TS045S8NEB5	5P	8.661	2.323	-	4.409	1.519	1.139	1.25	4	5
M45 × 3	D8	TS045S8NEBA	1.5P	8.661	2.323	-	4.409	1.519	1.139	1.25	4	5
M45 × 2	D7	TS045Q7NEB5	5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M45 × 2	D7	TS045Q7NEBA	1.5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M45 × 1.5	D6	TS045O6NEB5	5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M45 × 1.5	D6	TS045O6NEBA	1.5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M45 × 1	D5	TS045M5NEB5	5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M45 × 1	D5	TS045M5NEBA	1.5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M48 × 5	D11	TS048W-NEB5	5P	9.843	2.559	-	5.039	1.644	1.233	1.375	4	5
M48 × 5	D11	TS048W-NEBA	1.5P	9.843	2.559	-	5.039	1.644	1.233	1.375	4	5
M48 × 3	D9	TS048S9NEB5	5P	9.843	2.559	-	5.039	1.644	1.233	1.375	4	5
M48 × 3	D9	TS048S9NEBA	1.5P	9.843	2.559	-	5.039	1.644	1.233	1.375	4	5
M48 × 2	D7	TS048Q7NEB5	5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
M48 × 2	D7	TS048Q7NEBA	1.5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
M48 × 1.5	D7	TS048O7NEB5	5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
M48 × 1.5	D7	TS048O7NEBA	1.5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
M48 × 1	D6	TS048M6NEB5	5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
M48 × 1	D6	TS048M6NEBA	1.5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
For Unified Threads												
No.0-80UNF	GH1	TSUN0B1NEB5	5P	1.772	0.236	-	1.161	0.141	0.11	0.187	2	1
No.0-80UNF	GH1	TSUN0B1NEBA	1.5P	1.772	0.236	-	1.161	0.141	0.11	0.187	2	1
No.0-80UNF	GH2	TSUN0B2NEB5	5P	1.772	0.236	-	1.161	0.141	0.11	0.187	2	1
No.0-80UNF	GH2	TSUN0B2NEBA	1.5P	1.772	0.236	-	1.161	0.141	0.11	0.187	2	1
No.1-64UNC	GH1	TSUN1D1NEB5	5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-64UNC	GH1	TSUN1D1NEBA	1.5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-64UNC	GH2	TSUN1D2NEB5	5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-64UNC	GH2	TSUN1D2NEBA	1.5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-72UNF	GH1	TSUN1C1NEB5	5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-72UNF	GH1	TSUN1C1NEBA	1.5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-72UNF	GH2	TSUN1C2NEB5	5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-72UNF	GH2	TSUN1C2NEBA	1.5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.2-56UNC	GH1	TSUN2E1NEB5	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
No.2-56UNC	GH1	TSUN2E1NEBA	1.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
No.2-56UNC	GH2	TSUN2E2NEB5	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
No.2-56UNC	GH2	TSUN2E2NEBA	1.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
No.2-64UNF	GH1	TSUN2D1NEB5	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
No.2-64UNF	GH1	TSUN2D1NEBA	1.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
No.2-64UNF	GH2	TSUN2D2NEB5	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
No.2-64UNF	GH2	TSUN2D2NEBA	1.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
No.3-48UNC	GH1	TSUN3F1NEB5	5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	3	2
No.3-48UNC	GH1	TSUN3F1NEBA	1.5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	3	2

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Hand Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
No.3-48UNC	GH2	TSUN3F2NEB5	5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	3	2
No.3-48UNC	GH2	TSUN3F2NEBA	1.5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	3	2
No.3-56UNF	GH1	TSUN3E1NEB5	5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	3	2
No.3-56UNF	GH1	TSUN3E1NEBA	1.5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	3	2
No.3-56UNF	GH2	TSUN3E2NEB5	5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	3	2
No.3-56UNF	GH2	TSUN3E2NEBA	1.5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	3	2
No.4-40UNC	GH2	TSUN4H2NEB5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
No.4-40UNC	GH2	TSUN4H2NEBA	1.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
No.4-40UNC	GH3	TSUN4H3NEB5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
No.4-40UNC	GH3	TSUN4H3NEBA	1.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
No.4-48UNF	GH1	TSUN4F1NEB5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
No.4-48UNF	GH1	TSUN4F1NEBA	1.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
No.4-48UNF	GH2	TSUN4F2NEB5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
No.4-48UNF	GH2	TSUN4F2NEBA	1.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
No.5-40UNC	GH2	TSUN5H2NEB5	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.5-40UNC	GH2	TSUN5H2NEBA	1.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.5-40UNC	GH3	TSUN5H3NEB5	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.5-40UNC	GH3	TSUN5H3NEBA	1.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.5-44UNF	GH1	TSUN5G1NEB5	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.5-44UNF	GH1	TSUN5G1NEBA	1.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.5-44UNF	GH2	TSUN5G2NEB5	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.5-44UNF	GH2	TSUN5G2NEBA	1.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.5-44UNF	GH3	TSUN5G3NEB5	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.5-44UNF	GH3	TSUN5G3NEBA	1.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.6-32UNC	GH2	TSUN6J2NEB5	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-32UNC	GH2	TSUN6J2NEBA	1.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-32UNC	GH3	TSUN6J3NEB5	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-32UNC	GH3	TSUN6J3NEBA	1.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-40UNF	GH2	TSUN6H2NEB5	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-40UNF	GH2	TSUN6H2NEBA	1.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-40UNF	GH3	TSUN6H3NEB5	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-40UNF	GH3	TSUN6H3NEBA	1.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.8-32UNC	GH2	TSUN8J2NEB5	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-32UNC	GH2	TSUN8J2NEBA	1.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-32UNC	GH3	TSUN8J3NEB5	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-32UNC	GH3	TSUN8J3NEBA	1.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-36UNF	GH2	TSUN8I2NEB5	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-36UNF	GH2	TSUN8I2NEBA	1.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-36UNF	GH3	TSUN8I3NEB5	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-36UNF	GH3	TSUN8I3NEBA	1.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.10-24UNC	GH2	TSUNAM2NEB5	5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-24UNC	GH2	TSUNAM2NEBA	1.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-24UNC	GH3	TSUNAM3NEB5	5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-24UNC	GH3	TSUNAM3NEBA	1.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	GH2	TSUNAJ2NEB5	5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	GH2	TSUNAJ2NEBA	1.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	GH3	TSUNAJ3NEB5	5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	GH3	TSUNAJ3NEBA	1.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.12-24UNC	GH2	TSUNCM2NEB5	5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-24UNC	GH2	TSUNCM2NEBA	1.5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2

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L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Hand Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
No.12-24UNC	GH3	TSUNCM3NEB5	5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-24UNC	GH3	TSUNCM3NEBA	1.5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-28UNF	GH2	TSUNCK2NEB5	5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-28UNF	GH2	TSUNCK2NEBA	1.5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-28UNF	GH3	TSUNCK3NEB5	5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-28UNF	GH3	TSUNCK3NEBA	1.5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
1/4-20UNC	GH3	TSU04N3NEB5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-20UNC	GH3	TSU04N3NEBA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-20UNC	GH4	TSU04N4NEB5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-20UNC	GH4	TSU04N4NEBA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-20UNC	GH5	TSU04N5NEB5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-20UNC	GH5	TSU04N5NEBA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	GH2	TSU04K2NEB5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	GH2	TSU04K2NEBA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	GH3	TSU04K3NEB5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	GH3	TSU04K3NEBA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	GH4	TSU04K4NEB5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	GH4	TSU04K4NEBA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
5/16-18UNC	GH3	TSU05O3NEB5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
5/16-18UNC	GH3	TSU05O3NEBA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
5/16-18UNC	GH4	TSU05O4NEB5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
5/16-18UNC	GH4	TSU05O4NEBA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
5/16-18UNC	GH5	TSU05O5NEB5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
5/16-18UNC	GH5	TSU05O5NEBA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
5/16-24UNF	GH3	TSU05M3NEB5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
5/16-24UNF	GH3	TSU05M3NEBA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
5/16-24UNF	GH4	TSU05M4NEB5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
5/16-24UNF	GH4	TSU05M4NEBA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
3/8-16UNC	GH3	TSU06P3NEB5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
3/8-16UNC	GH3	TSU06P3NEBA	1.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
3/8-16UNC	GH5	TSU06P5NEB5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
3/8-16UNC	GH5	TSU06P5NEBA	1.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
3/8-24UNF	GH3	TSU06M3NEB5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
3/8-24UNF	GH3	TSU06M3NEBA	1.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
3/8-24UNF	GH4	TSU06M4NEB5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
3/8-24UNF	GH4	TSU06M4NEBA	1.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
7/16-14UNC	GH4	TSU07Q4NEB5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
7/16-14UNC	GH4	TSU07Q4NEBA	1.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
7/16-14UNC	GH5	TSU07Q5NEB5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
7/16-14UNC	GH5	TSU07Q5NEBA	1.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
7/16-20UNF	GH3	TSU07N3NEB5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
7/16-20UNF	GH3	TSU07N3NEBA	1.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
7/16-20UNF	GH4	TSU07N4NEB5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
7/16-20UNF	GH4	TSU07N4NEBA	1.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
1/2-13UNC	GH3	TSU08R3NEB5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-13UNC	GH3	TSU08R3NEBA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-13UNC	GH4	TSU08R4NEB5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-13UNC	GH4	TSU08R4NEBA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-13UNC	GH5	TSU08R5NEB5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-13UNC	GH5	TSU08R5NEBA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Hand Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
1/2-20UNF	GH3	TSU08N3NEB5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-20UNF	GH3	TSU08N3NEBA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-20UNF	GH4	TSU08N4NEB5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-20UNF	GH4	TSU08N4NEBA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-20UNF	GH5	TSU08N5NEB5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-20UNF	GH5	TSU08N5NEBA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
9/16-12UNC	GH3	TSU09S3NEB5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-12UNC	GH3	TSU09S3NEBA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-12UNC	GH4	TSU09S4NEB5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-12UNC	GH4	TSU09S4NEBA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-12UNC	GH5	TSU09S5NEB5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-12UNC	GH5	TSU09S5NEBA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-18UNF	GH3	TSU09O3NEB5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-18UNF	GH3	TSU09O3NEBA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-18UNF	GH4	TSU09O4NEB5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-18UNF	GH4	TSU09O4NEBA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-18UNF	GH5	TSU09O5NEB5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-18UNF	GH5	TSU09O5NEBA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
5/8-11UNC	GH3	TSU10U3NEB5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-11UNC	GH3	TSU10U3NEBA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-11UNC	GH4	TSU10U4NEB5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-11UNC	GH4	TSU10U4NEBA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-11UNC	GH5	TSU10U5NEB5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-11UNC	GH5	TSU10U5NEBA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-11UNC	GH6	TSU10U6NEB5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-11UNC	GH6	TSU10U6NEBA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-18UNF	GH3	TSU10O3NEB5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-18UNF	GH3	TSU10O3NEBA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-18UNF	GH4	TSU10O4NEB5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-18UNF	GH4	TSU10O4NEBA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-18UNF	GH5	TSU10O5NEB5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-18UNF	GH5	TSU10O5NEBA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
3/4-10UNC	GH3	TSU12V3NEB5	5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-10UNC	GH3	TSU12V3NEBA	1.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-10UNC	GH5	TSU12V5NEB5	5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-10UNC	GH5	TSU12V5NEBA	1.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-10UNC	GH6	TSU12V6NEB5	5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-10UNC	GH6	TSU12V6NEBA	1.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH3	TSU12P3NEB5	5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH3	TSU12P3NEBA	1.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH4	TSU12P4NEB5	5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH4	TSU12P4NEBA	1.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH5	TSU12P5NEB5	5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH5	TSU12P5NEBA	1.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
7/8-9UNC	GH5	TSU14W5NEB5	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-9UNC	GH5	TSU14W5NEBA	1.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-9UNC	GH6	TSU14W6NEB5	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-9UNC	GH6	TSU14W6NEBA	1.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-14UNF	GH4	TSU14Q4NEB5	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-14UNF	GH4	TSU14Q4NEBA	1.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT Hand Taps

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
7/8-14UNF	GH6	TSU14Q6NEB5	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-14UNF	GH6	TSU14Q6NEBA	1.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
1 -8UNC	GH4	TSU16X4NEB5	5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -8UNC	GH4	TSU16X4NEBA	1.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -8UNC	GH5	TSU16X5NEB5	5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -8UNC	GH5	TSU16X5NEBA	1.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -8UNC	GH6	TSU16X6NEB5	5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -8UNC	GH6	TSU16X6NEBA	1.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -8UNC	GH7	TSU16X7NEB5	5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -8UNC	GH7	TSU16X7NEBA	1.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -12UNF	GH4	TSU16S4NEB5	5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -12UNF	GH4	TSU16S4NEBA	1.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -12UNF	GH5	TSU16S5NEB5	5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -12UNF	GH5	TSU16S5NEBA	1.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -12UNF	GH6	TSU16S6NEB5	5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -12UNF	GH6	TSU16S6NEBA	1.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 1/8-7UNC	GH6	TSU18Y6NEB5	5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-7UNC	GH6	TSU18Y6NEBA	1.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-7UNC	GH7	TSU18Y7NEB5	5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-7UNC	GH7	TSU18Y7NEBA	1.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-12UNF	GH5	TSU18S5NEB5	5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-12UNF	GH5	TSU18S5NEBA	1.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-12UNF	GH6	TSU18S6NEB5	5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-12UNF	GH6	TSU18S6NEBA	1.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/4-7UNC	GH6	TSU20Y6NEB5	5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-7UNC	GH6	TSU20Y6NEBA	1.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-7UNC	GH8	TSU20Y8NEB5	5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-7UNC	GH8	TSU20Y8NEBA	1.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-12UNF	GH5	TSU20S5NEB5	5P	7.087	1.929	-	3.622	1.021	0.766	1	6	5
1 1/4-12UNF	GH5	TSU20S5NEBA	1.5P	7.087	1.929	-	3.622	1.021	0.766	1	6	5
1 1/4-12UNF	GH6	TSU20S6NEB5	5P	7.087	1.929	-	3.622	1.021	0.766	1	6	5
1 1/4-12UNF	GH6	TSU20S6NEBA	1.5P	7.087	1.929	-	3.622	1.021	0.766	1	6	5
1 3/8-6UNC	GH6	TSU22Z6NEB5	5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-6UNC	GH6	TSU22Z6NEBA	1.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-6UNC	GH8	TSU22Z8NEB5	5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-6UNC	GH8	TSU22Z8NEBA	1.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-12UNF	GH5	TSU22S5NEB5	5P	7.874	2.165	-	4.016	1.108	0.831	1.062	6	5
1 3/8-12UNF	GH5	TSU22S5NEBA	1.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	6	5
1 3/8-12UNF	GH6	TSU22S6NEB5	5P	7.874	2.165	-	4.016	1.108	0.831	1.062	6	5
1 3/8-12UNF	GH6	TSU22S6NEBA	1.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	6	5
1 1/2-6UNC	GH6	TSU24Z6NEB5	5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-6UNC	GH6	TSU24Z6NEBA	1.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-6UNC	GH8	TSU24Z8NEB5	5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-6UNC	GH8	TSU24Z8NEBA	1.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-12UNF	GH5	TSU24S5NEB5	5P	7.874	2.323	-	4.016	1.233	0.925	1.125	6	5
1 1/2-12UNF	GH5	TSU24S5NEBA	1.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	6	5
1 1/2-12UNF	GH7	TSU24S7NEB5	5P	7.874	2.323	-	4.016	1.233	0.925	1.125	6	5
1 1/2-12UNF	GH7	TSU24S7NEBA	1.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	6	5

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

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IHT

Hand Taps for General Purpose



Specification

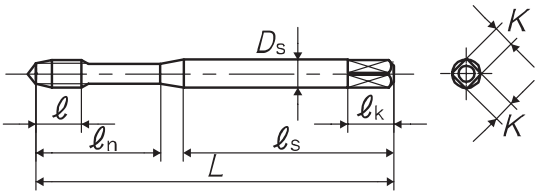
HSS | OX Oxide | <2D

■Suitable for low speed tapping of steels.
For manual use and drilling machine use.

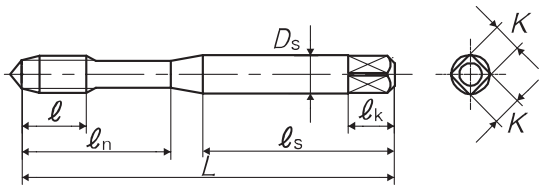
Tapping Speed depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼
~5 (m/min)	~5 (m/min)

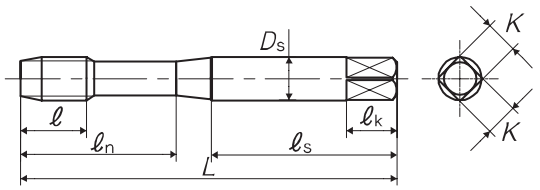
TYPE:1



TYPE:2



TYPE:3



Segment : 1A

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads												
No.6-32UNC	-	IAUN6JXHEX5	5P	2	0.374	0.669	1.201	0.141	0.11	0.187	3	1
No.6-32UNC	-	IAUN6JXHEX2	2P	2	0.374	0.669	1.201	0.141	0.11	0.187	3	1
No.8-32UNC	-	IAUN8JXHEX5	5P	2.125	0.374	0.866	1.339	0.168	0.131	0.25	3	1
No.8-32UNC	-	IAUN8JXHEX2	2P	2.125	0.374	0.866	1.339	0.168	0.131	0.25	3	1
No.10-24UNC	-	IAUNAMXHEX5	5P	2.375	0.512	0.866	1.339	0.194	0.152	0.25	3	1
No.10-24UNC	-	IAUNAMXHEX2	2P	2.375	0.512	0.866	1.339	0.194	0.152	0.25	3	1
1/4-20UNC	-	IAU04NXHEX5	5P	2.5	0.591	1.024	1.22	0.255	0.191	0.312	3	2
1/4-20UNC	-	IAU04NXHEX2	2P	2.5	0.591	1.024	1.22	0.255	0.191	0.312	3	2
5/16-18UNC	-	IAU05OXHEX5	5P	2.718	0.669	1.004	1.378	0.318	0.238	0.375	3	3
5/16-18UNC	-	IAU05OXHEX2	2P	2.718	0.669	1.004	1.378	0.318	0.238	0.375	3	3
3/8-16UNC	-	IAU06PXHEX5	5P	2.937	0.748	1.059	1.496	0.381	0.286	0.437	3	3
3/8-16UNC	-	IAU06PXHEX2	2P	2.937	0.748	1.059	1.496	0.381	0.286	0.437	3	3

Think threads with YAMAWA

・This product is different from JIS products in shape and dimensions, please be careful when using.

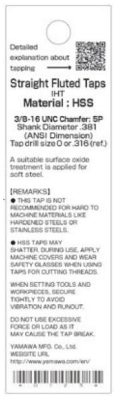
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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads (In blister package)												
No.6-32UNC	-	IAUN6JXHEX5R	5P	2	0.374	0.669	1.201	0.141	0.11	0.187	3	1
No.6-32UNC	-	IAUN6JXHEX2R	2P	2	0.374	0.669	1.201	0.141	0.11	0.187	3	1
No.8-32UNC	-	IAUN8JXHEX5R	5P	2.125	0.374	0.866	1.339	0.168	0.131	0.25	3	1
No.8-32UNC	-	IAUN8JXHEX2R	2P	2.125	0.374	0.866	1.339	0.168	0.131	0.25	3	1
No.10-24UNC	-	IAUNAMXHEX5R	5P	2.375	0.512	0.866	1.339	0.194	0.152	0.25	3	1
No.10-24UNC	-	IAUNAMXHEX2R	2P	2.375	0.512	0.866	1.339	0.194	0.152	0.25	3	1
1/4-20UNC	-	IAU04NXHEX5R	5P	2.5	0.591	1.024	1.22	0.255	0.191	0.312	3	2
1/4-20UNC	-	IAU04NXHEX2R	2P	2.5	0.591	1.024	1.22	0.255	0.191	0.312	3	2
5/16-18UNC	-	IAU05OXHEX5R	5P	2.718	0.669	1.004	1.378	0.318	0.238	0.375	3	3
5/16-18UNC	-	IAU05OXHEX2R	2P	2.718	0.669	1.004	1.378	0.318	0.238	0.375	3	3
3/8-16UNC	-	IAU06PXHEX5R	5P	2.937	0.748	1.059	1.496	0.381	0.286	0.437	3	3
3/8-16UNC	-	IAU06PXHEX2R	2P	2.937	0.748	1.059	1.496	0.381	0.286	0.437	3	3

Blister Package





・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

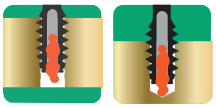
HT OX

Hand Taps, Oxidized



Specification

HSS | OX Oxide

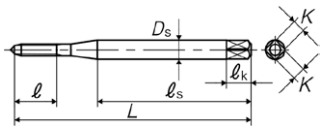


Tapping Speed depending on Materials

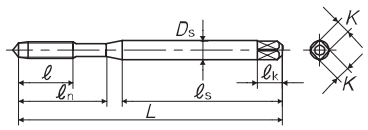
Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼
5~10 (m/min)	5~10 (m/min)	5~10 (m/min)

■The HT OX taps are a hand tap with an oxidation treatment for preventing chip welding on the surface of the taps thread portion. It is suitable for thread processing of soft steel materials that easily welds to the taps thread such as low carbon steels.

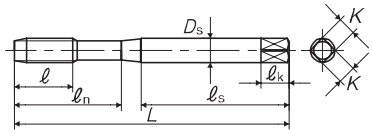
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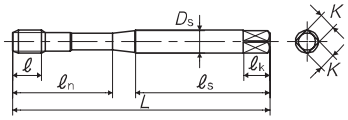
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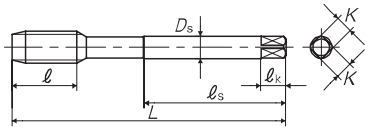
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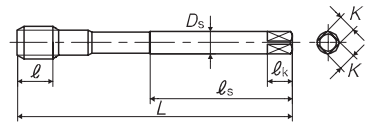
TYPE:4



TYPE:5



TYPE:6



Segment : 1A

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads												
M2 × 0.4	D3	TS2.0E3NEX5	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
M2 × 0.4	D3	TS2.0E3NEXA	1.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
M2.2 × 0.45	D3	TS2.2F3NEX5	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
M2.2 × 0.45	D3	TS2.2F3NEXA	1.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
M2.5 × 0.45	D3	TS2.5F3NEX5	5P	2.205	0.354	0.693	1.28	0.141	0.11	0.187	3	2
M2.5 × 0.45	D3	TS2.5F3NEXA	1.5P	2.205	0.354	0.693	1.28	0.141	0.11	0.187	3	2
M2.6 × 0.45	D3	TS2.6F3NEX5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
M2.6 × 0.45	D3	TS2.6F3NEXA	1.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
M3 × 0.5	D3	TS3.0G3NEX5	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
M3 × 0.5	D3	TS3.0G3NEXA	1.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
M3.5 × 0.6	D4	TS3.5H4NEX5	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
M3.5 × 0.6	D4	TS3.5H4NEXA	1.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
M4 × 0.7	D4	TS4.0I4NEX5	5P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	3	2
M4 × 0.7	D4	TS4.0I4NEXA	1.5P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	3	2
M5 × 0.8	D4	TS5.0K4NEX5	5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	3	2
M5 × 0.8	D4	TS5.0K4NEXA	1.5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	3	2
M6 × 1	D5	TS6.0M5NEX5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2
M6 × 1	D5	TS6.0M5NEXA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	2

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M7 × 1	D5	TS7.0M5NEX5	5P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	3	3
M7 × 1	D5	TS7.0M5NEXA	1.5P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	3	3
M7 × 0.75	D4	TS7.0J4NEX5	5P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	4	3
M7 × 0.75	D4	TS7.0J4NEXA	1.5P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	4	3
M7 × 0.5	D4	TS7.0G4NEX5	5P	3.543	0.394	1.339	1.831	0.318	0.238	0.375	4	4
M7 × 0.5	D4	TS7.0G4NEXA	1.5P	3.543	0.394	1.339	1.831	0.318	0.238	0.375	4	4
M8 × 1.25	D5	TS8.0N5NEX5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M8 × 1.25	D5	TS8.0N5NEXA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	3
M8 × 1	D5	TS8.0M5NEX5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
M8 × 1	D5	TS8.0M5NEXA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
M8 × 0.75	D4	TS8.0J4NEX5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
M8 × 0.75	D4	TS8.0J4NEXA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
M8 × 0.5	D4	TS8.0G4NEX5	5P	3.543	0.394	1.378	1.831	0.318	0.238	0.375	4	4
M8 × 0.5	D4	TS8.0G4NEXA	1.5P	3.543	0.394	1.378	1.831	0.318	0.238	0.375	4	4
M9 × 1.25	D5	TS9.0N5NEX5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
M9 × 1.25	D5	TS9.0N5NEXA	1.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
M9 × 1	D5	TS9.0M5NEX5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
M9 × 1	D5	TS9.0M5NEXA	1.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
M10 × 1.5	D6	TS010O6NEX5	5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	4	3
M10 × 1.5	D6	TS010O6NEXA	1.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	4	3
M10 × 1.25	D5	TS010N5NEX5	5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	4	3
M10 × 1.25	D5	TS010N5NEXA	1.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	4	3
M10 × 1	D5	TS010M5NEX5	5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	4	3
M10 × 1	D5	TS010M5NEXA	1.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	4	3
M10 × 0.75	D4	TS010J4NEX5	5P	3.937	0.512	1.535	2.126	0.381	0.286	0.437	4	4
M10 × 0.75	D4	TS010J4NEXA	1.5P	3.937	0.512	1.535	2.126	0.381	0.286	0.437	4	4
M11 × 1.5	D6	TS011O6NEX5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
M11 × 1.5	D6	TS011O6NEXA	1.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
M12 × 1.75	D6	TS012P6NEX5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
M12 × 1.75	D6	TS012P6NEXA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
M12 × 1.5	D6	TS012O6NEX5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
M12 × 1.5	D6	TS012O6NEXA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
M12 × 1.25	D6	TS012N6NEX5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
M12 × 1.25	D6	TS012N6NEXA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
M12 × 1	D5	TS012M5NEX5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
M12 × 1	D5	TS012M5NEXA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
M14 × 2	D7	TS014Q7NEX5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
M14 × 2	D7	TS014Q7NEXA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
M14 × 1.5	D6	TS014O6NEX5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
M14 × 1.5	D6	TS014O6NEXA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
M14 × 1.25	D6	TS014N6NEX5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
M14 × 1.25	D6	TS014N6NEXA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
M14 × 1	D5	TS014M5NEX5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
M14 × 1	D5	TS014M5NEXA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
M16 × 2	D7	TS016Q7NEX5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
M16 × 2	D7	TS016Q7NEXA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
M16 × 1.5	D6	TS016O6NEX5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
M16 × 1.5	D6	TS016O6NEXA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
M16 × 1	D5	TS016M5NEX5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
M16 × 1	D5	TS016M5NEXA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5

・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT OX Hand Taps, Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M18 × 2.5	D7	TS018R7NEX5	5P	4.921	1.299	-	2.52	0.542	0.406	0.625	4	5
M18 × 2.5	D7	TS018R7NEXA	1.5P	4.921	1.299	-	2.52	0.542	0.406	0.625	4	5
M18 × 2	D7	TS018Q7NEX5	5P	4.921	1.299	-	2.52	0.542	0.406	0.625	4	5
M18 × 2	D7	TS018Q7NEXA	1.5P	4.921	1.299	-	2.52	0.542	0.406	0.625	4	5
M18 × 1.5	D6	TS018O6NEX5	5P	4.921	0.945	-	2.52	0.542	0.406	0.625	4	6
M18 × 1.5	D6	TS018O6NEXA	1.5P	4.921	0.945	-	2.52	0.542	0.406	0.625	4	6
M18 × 1	D5	TS018M5NEX5	5P	4.921	0.945	-	2.52	0.542	0.406	0.625	4	6
M18 × 1	D5	TS018M5NEXA	1.5P	4.921	0.945	-	2.52	0.542	0.406	0.625	4	6
M20 × 2.5	D7	TS020R7NEX5	5P	5.512	1.299	-	2.795	0.652	0.489	0.687	4	5
M20 × 2.5	D7	TS020R7NEXA	1.5P	5.512	1.299	-	2.795	0.652	0.489	0.687	4	5
M20 × 2	D7	TS020Q7NEX5	5P	5.512	1.299	-	2.795	0.652	0.489	0.687	4	5
M20 × 2	D7	TS020Q7NEXA	1.5P	5.512	1.299	-	2.795	0.652	0.489	0.687	4	5
M20 × 1.5	D6	TS020O6NEX5	5P	5.512	0.945	-	2.795	0.652	0.489	0.687	4	6
M20 × 1.5	D6	TS020O6NEXA	1.5P	5.512	0.945	-	2.795	0.652	0.489	0.687	4	6
M20 × 1	D5	TS020M5NEX5	5P	5.512	0.945	-	2.795	0.652	0.489	0.687	4	6
M20 × 1	D5	TS020M5NEXA	1.5P	5.512	0.945	-	2.795	0.652	0.489	0.687	4	6
M22 × 2.5	D7	TS022R7NEX5	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
M22 × 2.5	D7	TS022R7NEXA	1.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
M22 × 2	D7	TS022Q7NEX5	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
M22 × 2	D7	TS022Q7NEXA	1.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
M22 × 1.5	D6	TS022O6NEX5	5P	5.512	0.945	-	2.795	0.697	0.523	0.75	4	6
M22 × 1.5	D6	TS022O6NEXA	1.5P	5.512	0.945	-	2.795	0.697	0.523	0.75	4	6
M22 × 1	D5	TS022M5NEX5	5P	5.512	0.945	-	2.795	0.697	0.523	0.75	4	6
M22 × 1	D5	TS022M5NEXA	1.5P	5.512	0.945	-	2.795	0.697	0.523	0.75	4	6
M24 × 3	D8	TS024S8NEX5	5P	6.299	1.457	-	3.228	0.76	0.57	0.75	4	5
M24 × 3	D8	TS024S8NEXA	1.5P	6.299	1.457	-	3.228	0.76	0.57	0.75	4	5
M24 × 2	D7	TS024Q7NEX5	5P	6.299	1.063	-	3.228	0.76	0.57	0.75	4	6
M24 × 2	D7	TS024Q7NEXA	1.5P	6.299	1.063	-	3.228	0.76	0.57	0.75	4	6
M24 × 1.5	D6	TS024O6NEX5	5P	6.299	1.063	-	3.228	0.76	0.57	0.75	4	6
M24 × 1.5	D6	TS024O6NEXA	1.5P	6.299	1.063	-	3.228	0.76	0.57	0.75	4	6
M24 × 1	D5	TS024M5NEX5	5P	6.299	1.063	-	3.228	0.76	0.57	0.75	4	6
M24 × 1	D5	TS024M5NEXA	1.5P	6.299	1.063	-	3.228	0.76	0.57	0.75	4	6
M25 × 1.5	D6	TS025O6NEX5	5P	6.299	1.063	-	3.228	0.8	0.6	0.812	4	6
M25 × 1.5	D6	TS025O6NEXA	1.5P	6.299	1.063	-	3.228	0.8	0.6	0.812	4	6
M26 × 1.5	D6	TS026O6NEX5	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M26 × 1.5	D6	TS026O6NEXA	1.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 3	D8	TS027S8NEX5	5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
M27 × 3	D8	TS027S8NEXA	1.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
M27 × 2	D7	TS027Q7NEX5	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 2	D7	TS027Q7NEXA	1.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 1.5	D6	TS027O6NEX5	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 1.5	D6	TS027O6NEXA	1.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 1	D5	TS027M5NEX5	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M27 × 1	D5	TS027M5NEXA	1.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 2	D7	TS028Q7NEX5	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 2	D7	TS028Q7NEXA	1.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 1.5	D6	TS028O6NEX5	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 1.5	D6	TS028O6NEXA	1.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 1	D5	TS028M5NEX5	5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6
M28 × 1	D5	TS028M5NEXA	1.5P	7.087	1.063	-	3.622	0.896	0.672	0.875	4	6

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT OX Hand Taps, Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M30 × 3.5	D9	TS030T9NEX5	5P	7.087	1.732	-	3.622	1.021	0.766	1	4	5
M30 × 3.5	D9	TS030T9NEXA	1.5P	7.087	1.732	-	3.622	1.021	0.766	1	4	5
M30 × 2	D7	TS030Q7NEX5	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M30 × 2	D7	TS030Q7NEXA	1.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M30 × 1.5	D6	TS030O6NEX5	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M30 × 1.5	D6	TS030O6NEXA	1.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M30 × 1	D5	TS030M5NEX5	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M30 × 1	D5	TS030M5NEXA	1.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	6
M32 × 2	D7	TS032Q7NEX5	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M32 × 2	D7	TS032Q7NEXA	1.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M32 × 1.5	D6	TS032O6NEX5	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M32 × 1.5	D6	TS032O6NEXA	1.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M32 × 1	D5	TS032M5NEX5	5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M32 × 1	D5	TS032M5NEXA	1.5P	7.087	1.063	-	3.622	1.021	0.766	1	4	5
M33 × 3.5	D9	TS033T9NEX5	5P	7.087	1.732	-	3.622	1.108	0.831	1.062	4	5
M33 × 3.5	D9	TS033T9NEXA	1.5P	7.087	1.732	-	3.622	1.108	0.831	1.062	4	5
M33 × 2	D7	TS033Q7NEX5	5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M33 × 2	D7	TS033Q7NEXA	1.5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M33 × 1.5	D6	TS033O6NEX5	5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M33 × 1.5	D6	TS033O6NEXA	1.5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M33 × 1	D5	TS033M5NEX5	5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M33 × 1	D5	TS033M5NEXA	1.5P	7.087	1.142	-	3.622	1.108	0.831	1.062	4	6
M36 × 4	D9	TS036U9NEX5	5P	7.874	2.047	-	4.016	1.233	0.925	1.125	4	5
M36 × 4	D9	TS036U9NEXA	1.5P	7.874	2.047	-	4.016	1.233	0.925	1.125	4	5
M36 × 3	D8	TS036S8NEX5	5P	7.874	2.047	-	4.016	1.233	0.925	1.125	4	5
M36 × 3	D8	TS036S8NEXA	1.5P	7.874	2.047	-	4.016	1.233	0.925	1.125	4	5
M36 × 2	D7	TS036Q7NEX5	5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M36 × 2	D7	TS036Q7NEXA	1.5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M36 × 1.5	D6	TS036O6NEX5	5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M36 × 1.5	D6	TS036O6NEXA	1.5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M36 × 1	D5	TS036M5NEX5	5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M36 × 1	D5	TS036M5NEXA	1.5P	7.874	1.142	-	4.016	1.233	0.925	1.125	4	6
M39 × 4	D9	TS039U9NEX5	5P	7.874	2.047	-	4.016	1.305	0.979	1.125	4	5
M39 × 4	D9	TS039U9NEXA	1.5P	7.874	2.047	-	4.016	1.305	0.979	1.125	4	5
M39 × 3	D8	TS039S8NEX5	5P	7.874	2.047	-	4.016	1.305	0.979	1.125	4	5
M39 × 3	D8	TS039S8NEXA	1.5P	7.874	2.047	-	4.016	1.305	0.979	1.125	4	5
M39 × 2	D7	TS039Q7NEX5	5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M39 × 2	D7	TS039Q7NEXA	1.5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M39 × 1.5	D6	TS039O6NEX5	5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M39 × 1.5	D6	TS039O6NEXA	1.5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M39 × 1	D5	TS039M5NEX5	5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M39 × 1	D5	TS039M5NEXA	1.5P	7.874	1.142	-	4.016	1.305	0.979	1.125	4	6
M42 × 4.5	D10	TS042VONEX5	5P	7.874	2.047	-	4.016	1.43	1.072	1.25	4	5
M42 × 4.5	D10	TS042VONEXA	1.5P	7.874	2.047	-	4.016	1.43	1.072	1.25	4	5
M42 × 2	D7	TS042Q7NEX5	5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M42 × 2	D7	TS042Q7NEXA	1.5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M42 × 1.5	D6	TS042O6NEX5	5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M42 × 1.5	D6	TS042O6NEXA	1.5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M42 × 1	D5	TS042M5NEX5	5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6
M42 × 1	D5	TS042M5NEXA	1.5P	7.874	1.142	-	4.016	1.43	1.072	1.25	4	6

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT OX Hand Taps, Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M45 × 4.5	D10	TS045VONEX5	5P	8.661	2.323	-	4.409	1.519	1.139	1.25	4	5
M45 × 4.5	D10	TS045VONEXA	1.5P	8.661	2.323	-	4.409	1.519	1.139	1.25	4	5
M45 × 3	D8	TS045S8NEX5	5P	8.661	2.323	-	4.409	1.519	1.139	1.25	4	5
M45 × 3	D8	TS045S8NEXA	1.5P	8.661	2.323	-	4.409	1.519	1.139	1.25	4	5
M45 × 2	D7	TS045Q7NEX5	5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M45 × 2	D7	TS045Q7NEXA	1.5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M45 × 1.5	D6	TS045O6NEX5	5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M45 × 1.5	D6	TS045O6NEXA	1.5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M45 × 1	D5	TS045M5NEX5	5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M45 × 1	D5	TS045M5NEXA	1.5P	8.661	1.22	-	4.409	1.519	1.139	1.25	4	6
M48 × 5	D11	TS048W-NEX5	5P	9.843	2.559	-	5.039	1.644	1.233	1.375	4	5
M48 × 5	D11	TS048W-NEXA	1.5P	9.843	2.559	-	5.039	1.644	1.233	1.375	4	5
M48 × 3	D9	TS048S9NEX5	5P	9.843	2.559	-	5.039	1.644	1.233	1.375	4	5
M48 × 3	D9	TS048S9NEXA	1.5P	9.843	2.559	-	5.039	1.644	1.233	1.375	4	5
M48 × 2	D7	TS048Q7NEX5	5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
M48 × 2	D7	TS048Q7NEXA	1.5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
M48 × 1.5	D7	TS048O7NEX5	5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
M48 × 1.5	D7	TS048O7NEXA	1.5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
M48 × 1	D6	TS048M6NEX5	5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
M48 × 1	D6	TS048M6NEXA	1.5P	9.843	1.22	-	5.039	1.644	1.233	1.375	4	6
For Unified Threads												
No.0-80UNF	GH1	TSUN0B1NEX5	5P	1.772	0.236	-	1.161	0.141	0.11	0.187	2	1
No.0-80UNF	GH1	TSUN0B1NEXA	1.5P	1.772	0.236	-	1.161	0.141	0.11	0.187	2	1
No.0-80UNF	GH2	TSUN0B2NEX5	5P	1.772	0.236	-	1.161	0.141	0.11	0.187	2	1
No.0-80UNF	GH2	TSUN0B2NEXA	1.5P	1.772	0.236	-	1.161	0.141	0.11	0.187	2	1
No.1-64UNC	GH1	TSUN1D1NEX5	5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-64UNC	GH1	TSUN1D1NEXA	1.5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-64UNC	GH2	TSUN1D2NEX5	5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-64UNC	GH2	TSUN1D2NEXA	1.5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-72UNF	GH1	TSUN1C1NEX5	5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-72UNF	GH1	TSUN1C1NEXA	1.5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-72UNF	GH2	TSUN1C2NEX5	5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.1-72UNF	GH2	TSUN1C2NEXA	1.5P	1.772	0.276	-	1.161	0.141	0.11	0.187	2	1
No.2-56UNC	GH1	TSUN2E1NEX5	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
No.2-56UNC	GH1	TSUN2E1NEXA	1.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
No.2-56UNC	GH2	TSUN2E2NEX5	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
No.2-56UNC	GH2	TSUN2E2NEXA	1.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
No.2-64UNF	GH1	TSUN2D1NEX5	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
No.2-64UNF	GH1	TSUN2D1NEXA	1.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
No.2-64UNF	GH2	TSUN2D2NEX5	5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
No.2-64UNF	GH2	TSUN2D2NEXA	1.5P	1.772	0.314	-	1.161	0.141	0.11	0.187	3	1
No.3-48UNC	GH1	TSUN3F1NEX5	5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	3	2
No.3-48UNC	GH1	TSUN3F1NEXA	1.5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	3	2
No.3-48UNC	GH2	TSUN3F2NEX5	5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	3	2
No.3-48UNC	GH2	TSUN3F2NEXA	1.5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	3	2
No.3-56UNF	GH1	TSUN3E1NEX5	5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	3	2
No.3-56UNF	GH1	TSUN3E1NEXA	1.5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	3	2
No.3-56UNF	GH2	TSUN3E2NEX5	5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	3	2
No.3-56UNF	GH2	TSUN3E2NEXA	1.5P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	3	2

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT OX Hand Taps, Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
No.4-40UNC	GH2	TSUN4H2NEX5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
No.4-40UNC	GH2	TSUN4H2NEXA	1.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
No.4-40UNC	GH3	TSUN4H3NEX5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
No.4-40UNC	GH3	TSUN4H3NEXA	1.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
No.4-48UNF	GH1	TSUN4F1NEX5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
No.4-48UNF	GH1	TSUN4F1NEXA	1.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
No.4-48UNF	GH2	TSUN4F2NEX5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
No.4-48UNF	GH2	TSUN4F2NEXA	1.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	2
No.5-40UNC	GH2	TSUN5H2NEX5	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.5-40UNC	GH2	TSUN5H2NEXA	1.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.5-40UNC	GH3	TSUN5H3NEX5	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.5-40UNC	GH3	TSUN5H3NEXA	1.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.5-44UNF	GH1	TSUN5G1NEX5	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.5-44UNF	GH1	TSUN5G1NEXA	1.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.5-44UNF	GH2	TSUN5G2NEX5	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.5-44UNF	GH2	TSUN5G2NEXA	1.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.5-44UNF	GH3	TSUN5G3NEX5	5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.5-44UNF	GH3	TSUN5G3NEXA	1.5P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	3	2
No.6-32UNC	GH2	TSUN6J2NEX5	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-32UNC	GH2	TSUN6J2NEXA	1.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-32UNC	GH3	TSUN6J3NEX5	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-32UNC	GH3	TSUN6J3NEXA	1.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-40UNF	GH2	TSUN6H2NEX5	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-40UNF	GH2	TSUN6H2NEXA	1.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-40UNF	GH3	TSUN6H3NEX5	5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.6-40UNF	GH3	TSUN6H3NEXA	1.5P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	3	2
No.8-32UNC	GH2	TSUN8J2NEX5	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-32UNC	GH2	TSUN8J2NEXA	1.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-32UNC	GH3	TSUN8J3NEX5	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-32UNC	GH3	TSUN8J3NEXA	1.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-36UNF	GH2	TSUN8I2NEX5	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-36UNF	GH2	TSUN8I2NEXA	1.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-36UNF	GH3	TSUN8I3NEX5	5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-36UNF	GH3	TSUN8I3NEXA	1.5P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.10-24UNC	GH2	TSUNAM2NEX5	5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-24UNC	GH2	TSUNAM2NEXA	1.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-24UNC	GH3	TSUNAM3NEX5	5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-24UNC	GH3	TSUNAM3NEXA	1.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	GH2	TSUNAJ2NEX5	5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	GH2	TSUNAJ2NEXA	1.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	GH3	TSUNAJ3NEX5	5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	GH3	TSUNAJ3NEXA	1.5P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.12-24UNC	GH2	TSUNCM2NEX5	5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-24UNC	GH2	TSUNCM2NEXA	1.5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-24UNC	GH3	TSUNCM3NEX5	5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-24UNC	GH3	TSUNCM3NEXA	1.5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-28UNF	GH2	TSUNCK2NEX5	5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-28UNF	GH2	TSUNCK2NEXA	1.5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-28UNF	GH3	TSUNCK3NEX5	5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-28UNF	GH3	TSUNCK3NEXA	1.5P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2

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L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT OX Hand Taps, Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
1/4-20UNC	GH3	TSU04N3NEX5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-20UNC	GH3	TSU04N3NEXA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-20UNC	GH4	TSU04N4NEX5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-20UNC	GH4	TSU04N4NEXA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-20UNC	GH5	TSU04N5NEX5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-20UNC	GH5	TSU04N5NEXA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	GH2	TSU04K2NEX5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	GH2	TSU04K2NEXA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	GH3	TSU04K3NEX5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	GH3	TSU04K3NEXA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	GH4	TSU04K4NEX5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	GH4	TSU04K4NEXA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
5/16-18UNC	GH3	TSU05O3NEX5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
5/16-18UNC	GH3	TSU05O3NEXA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
5/16-18UNC	GH4	TSU05O4NEX5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
5/16-18UNC	GH4	TSU05O4NEXA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
5/16-18UNC	GH5	TSU05O5NEX5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
5/16-18UNC	GH5	TSU05O5NEXA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
5/16-24UNF	GH3	TSU05M3NEX5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
5/16-24UNF	GH3	TSU05M3NEXA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
5/16-24UNF	GH4	TSU05M4NEX5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
5/16-24UNF	GH4	TSU05M4NEXA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	3
3/8-16UNC	GH3	TSU06P3NEX5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
3/8-16UNC	GH3	TSU06P3NEXA	1.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
3/8-16UNC	GH5	TSU06P5NEX5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
3/8-16UNC	GH5	TSU06P5NEXA	1.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
3/8-24UNF	GH3	TSU06M3NEX5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
3/8-24UNF	GH3	TSU06M3NEXA	1.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
3/8-24UNF	GH4	TSU06M4NEX5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
3/8-24UNF	GH4	TSU06M4NEXA	1.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	3
7/16-14UNC	GH4	TSU07Q4NEX5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
7/16-14UNC	GH4	TSU07Q4NEXA	1.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
7/16-14UNC	GH5	TSU07Q5NEX5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
7/16-14UNC	GH5	TSU07Q5NEXA	1.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
7/16-20UNF	GH3	TSU07N3NEX5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
7/16-20UNF	GH3	TSU07N3NEXA	1.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
7/16-20UNF	GH4	TSU07N4NEX5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
7/16-20UNF	GH4	TSU07N4NEXA	1.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	5
1/2-13UNC	GH3	TSU08R3NEX5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-13UNC	GH3	TSU08R3NEXA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-13UNC	GH4	TSU08R4NEX5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-13UNC	GH4	TSU08R4NEXA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-13UNC	GH5	TSU08R5NEX5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-13UNC	GH5	TSU08R5NEXA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-20UNF	GH3	TSU08N3NEX5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-20UNF	GH3	TSU08N3NEXA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-20UNF	GH4	TSU08N4NEX5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-20UNF	GH4	TSU08N4NEXA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-20UNF	GH5	TSU08N5NEX5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5
1/2-20UNF	GH5	TSU08N5NEXA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	5

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L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT OX Hand Taps, Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
9/16-12UNC	GH3	TSU09S3NEX5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-12UNC	GH3	TSU09S3NEXA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-12UNC	GH4	TSU09S4NEX5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-12UNC	GH4	TSU09S4NEXA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-12UNC	GH5	TSU09S5NEX5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-12UNC	GH5	TSU09S5NEXA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-18UNF	GH3	TSU09O3NEX5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-18UNF	GH3	TSU09O3NEXA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-18UNF	GH4	TSU09O4NEX5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-18UNF	GH4	TSU09O4NEXA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-18UNF	GH5	TSU09O5NEX5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
9/16-18UNF	GH5	TSU09O5NEXA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	5
5/8-11UNC	GH3	TSU10U3NEX5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-11UNC	GH3	TSU10U3NEXA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-11UNC	GH4	TSU10U4NEX5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-11UNC	GH4	TSU10U4NEXA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-11UNC	GH5	TSU10U5NEX5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-11UNC	GH5	TSU10U5NEXA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-11UNC	GH6	TSU10U6NEX5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-11UNC	GH6	TSU10U6NEXA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-18UNF	GH3	TSU10O3NEX5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-18UNF	GH3	TSU10O3NEXA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-18UNF	GH4	TSU10O4NEX5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-18UNF	GH4	TSU10O4NEXA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-18UNF	GH5	TSU10O5NEX5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
5/8-18UNF	GH5	TSU10O5NEXA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	5
3/4-10UNC	GH3	TSU12V3NEX5	5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-10UNC	GH3	TSU12V3NEXA	1.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-10UNC	GH5	TSU12V5NEX5	5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-10UNC	GH5	TSU12V5NEXA	1.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-10UNC	GH6	TSU12V6NEX5	5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-10UNC	GH6	TSU12V6NEXA	1.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH3	TSU12P3NEX5	5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH3	TSU12P3NEXA	1.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH4	TSU12P4NEX5	5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH4	TSU12P4NEXA	1.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH5	TSU12P5NEX5	5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
3/4-16UNF	GH5	TSU12P5NEXA	1.5P	4.921	1.299	-	2.52	0.59	0.442	0.687	4	5
7/8-9UNC	GH5	TSU14W5NEX5	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-9UNC	GH5	TSU14W5NEXA	1.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-9UNC	GH6	TSU14W6NEX5	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-9UNC	GH6	TSU14W6NEXA	1.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-14UNF	GH4	TSU14Q4NEX5	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-14UNF	GH4	TSU14Q4NEXA	1.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-14UNF	GH6	TSU14Q6NEX5	5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5
7/8-14UNF	GH6	TSU14Q6NEXA	1.5P	5.512	1.299	-	2.795	0.697	0.523	0.75	4	5

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HT OX Hand Taps, Oxidized

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
1 -8UNC	GH4	TSU16X4NEX5	5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -8UNC	GH4	TSU16X4NEXA	1.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -8UNC	GH5	TSU16X5NEX5	5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -8UNC	GH5	TSU16X5NEXA	1.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -8UNC	GH6	TSU16X6NEX5	5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -8UNC	GH6	TSU16X6NEXA	1.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -8UNC	GH7	TSU16X7NEX5	5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -8UNC	GH7	TSU16X7NEXA	1.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -12UNF	GH4	TSU16S4NEX5	5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -12UNF	GH4	TSU16S4NEXA	1.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -12UNF	GH5	TSU16S5NEX5	5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -12UNF	GH5	TSU16S5NEXA	1.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -12UNF	GH6	TSU16S6NEX5	5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 -12UNF	GH6	TSU16S6NEXA	1.5P	6.299	1.457	-	3.228	0.8	0.6	0.812	4	5
1 1/8-7UNC	GH6	TSU18Y6NEX5	5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-7UNC	GH6	TSU18Y6NEXA	1.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-7UNC	GH7	TSU18Y7NEX5	5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-7UNC	GH7	TSU18Y7NEXA	1.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-12UNF	GH5	TSU18S5NEX5	5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-12UNF	GH5	TSU18S5NEXA	1.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-12UNF	GH6	TSU18S6NEX5	5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/8-12UNF	GH6	TSU18S6NEXA	1.5P	7.087	1.732	-	3.622	0.896	0.672	0.875	4	5
1 1/4-7UNC	GH6	TSU20Y6NEX5	5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-7UNC	GH6	TSU20Y6NEXA	1.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-7UNC	GH8	TSU20Y8NEX5	5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-7UNC	GH8	TSU20Y8NEXA	1.5P	7.087	1.929	-	3.622	1.021	0.766	1	4	5
1 1/4-12UNF	GH5	TSU20S5NEX5	5P	7.087	1.929	-	3.622	1.021	0.766	1	6	5
1 1/4-12UNF	GH5	TSU20S5NEXA	1.5P	7.087	1.929	-	3.622	1.021	0.766	1	6	5
1 1/4-12UNF	GH6	TSU20S6NEX5	5P	7.087	1.929	-	3.622	1.021	0.766	1	6	5
1 1/4-12UNF	GH6	TSU20S6NEXA	1.5P	7.087	1.929	-	3.622	1.021	0.766	1	6	5
1 3/8-6UNC	GH6	TSU22Z6NEX5	5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-6UNC	GH6	TSU22Z6NEXA	1.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-6UNC	GH8	TSU22Z8NEX5	5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-6UNC	GH8	TSU22Z8NEXA	1.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	4	5
1 3/8-12UNF	GH5	TSU22S5NEX5	5P	7.874	2.165	-	4.016	1.108	0.831	1.062	6	5
1 3/8-12UNF	GH5	TSU22S5NEXA	1.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	6	5
1 3/8-12UNF	GH6	TSU22S6NEX5	5P	7.874	2.165	-	4.016	1.108	0.831	1.062	6	5
1 3/8-12UNF	GH6	TSU22S6NEXA	1.5P	7.874	2.165	-	4.016	1.108	0.831	1.062	6	5
1 1/2-6UNC	GH6	TSU24Z6NEX5	5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-6UNC	GH6	TSU24Z6NEXA	1.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-6UNC	GH8	TSU24Z8NEX5	5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-6UNC	GH8	TSU24Z8NEXA	1.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	4	5
1 1/2-12UNF	GH5	TSU24S5NEX5	5P	7.874	2.323	-	4.016	1.233	0.925	1.125	6	5
1 1/2-12UNF	GH5	TSU24S5NEXA	1.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	6	5
1 1/2-12UNF	GH7	TSU24S7NEX5	5P	7.874	2.323	-	4.016	1.233	0.925	1.125	6	5
1 1/2-12UNF	GH7	TSU24S7NEXA	1.5P	7.874	2.323	-	4.016	1.233	0.925	1.125	6	5

Think threads with YAMAWA

· This product is different from JIS products in shape and dimensions, please be careful when using.

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MEMO

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Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

ANSI

HT-CI

Hand Taps for Cast Irons



Specification

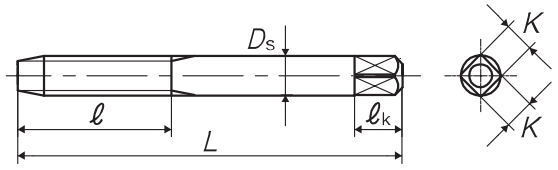
HSS | NI Nitride | <2D

■Suitable for hard and abrasive materials such as cast irons.

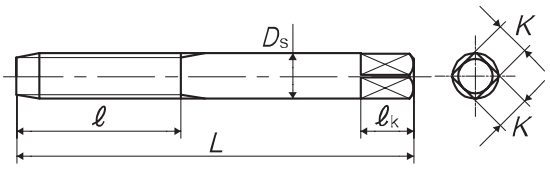
Tapping Speed depending on Materials

Cast irons 鋳鉄	Ductile cast irons 強靭鋳鉄
5~10 (m/min)	5~10 (m/min)

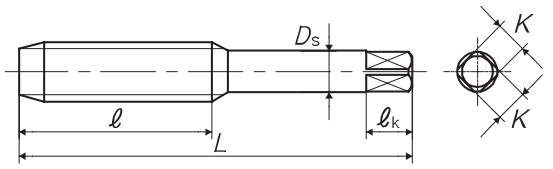
TYPE:1



TYPE:2



TYPE:3



Segment : 1A

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads										
1/4-20UNC	GH3	Y86001	4P	2.5	1	0.255	0.191	0.312	4	1
1/4-20UNC	GH3	Y86002	1.5P	2.5	1	0.255	0.191	0.312	4	1
1/4-20UNC	GH5	Y86003	4P	2.5	1	0.255	0.191	0.312	4	1
1/4-20UNC	GH5	Y86004	1.5P	2.5	1	0.255	0.191	0.312	4	1
1/4-28UNF	GH3	Y86005	4P	2.5	1	0.255	0.191	0.312	4	1
1/4-28UNF	GH3	Y86006	1.5P	2.5	1	0.255	0.191	0.312	4	1
5/16-18UNC	GH3	Y86007	4P	2.718	1.125	0.318	0.238	0.375	4	2
5/16-18UNC	GH3	Y86008	1.5P	2.718	1.125	0.318	0.238	0.375	4	2
5/16-18UNC	GH5	Y86009	4P	2.718	1.125	0.318	0.238	0.375	4	2
5/16-18UNC	GH5	Y86010	1.5P	2.718	1.125	0.318	0.238	0.375	4	2
5/16-24UNF	GH3	Y86011	4P	2.718	1.125	0.318	0.238	0.375	4	2
5/16-24UNF	GH3	Y86012	1.5P	2.718	1.125	0.318	0.238	0.375	4	2
3/8-16UNC	GH3	Y86013	4P	2.937	1.25	0.381	0.286	0.437	4	2
3/8-16UNC	GH3	Y86014	1.5P	2.937	1.25	0.381	0.286	0.437	4	2
3/8-16UNC	GH5	Y86015	4P	2.937	1.25	0.381	0.286	0.437	4	2
3/8-16UNC	GH5	Y86016	1.5P	2.937	1.25	0.381	0.286	0.437	4	2
3/8-24UNF	GH3	Y86017	4P	2.937	1.25	0.381	0.286	0.437	4	2

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

HT-CI Hand Taps for Cast Irons

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
3/8-24UNF	GH3	Y86018	1.5P	2.937	1.25	0.381	0.286	0.437	4	2
7/16-14UNC	GH3	Y86019	4P	3.156	1.437	0.323	0.242	0.406	4	3
7/16-14UNC	GH3	Y86020	1.5P	3.156	1.437	0.323	0.242	0.406	4	3
7/16-14UNC	GH5	Y86021	4P	3.156	1.437	0.323	0.242	0.406	4	3
7/16-14UNC	GH5	Y86022	1.5P	3.156	1.437	0.323	0.242	0.406	4	3
7/16-20UNF	GH3	Y86023	4P	3.156	1.437	0.323	0.242	0.406	4	3
7/16-20UNF	GH3	Y86024	1.5P	3.156	1.437	0.323	0.242	0.406	4	3
7/16-20UNF	GH5	Y86025	4P	3.156	1.437	0.323	0.242	0.406	4	3
7/16-20UNF	GH5	Y86026	1.5P	3.156	1.437	0.323	0.242	0.406	4	3
1/2-13UNC	GH3	Y86027	4P	3.375	1.656	0.367	0.275	0.437	4	3
1/2-13UNC	GH3	Y86028	1.5P	3.375	1.656	0.367	0.275	0.437	4	3
1/2-13UNC	GH5	Y86029	4P	3.375	1.656	0.367	0.275	0.437	4	3
1/2-13UNC	GH5	Y86030	1.5P	3.375	1.656	0.367	0.275	0.437	4	3
1/2-20UNF	GH3	Y86031	4P	3.375	1.656	0.367	0.275	0.437	4	3
1/2-20UNF	GH3	Y86032	1.5P	3.375	1.656	0.367	0.275	0.437	4	3
1/2-20UNF	GH5	Y86033	4P	3.375	1.656	0.367	0.275	0.437	4	3
1/2-20UNF	GH5	Y86034	1.5P	3.375	1.656	0.367	0.275	0.437	4	3
9/16-12UNC	GH3	Y86035	4P	3.593	1.656	0.429	0.322	0.5	4	3
9/16-12UNC	GH3	Y86036	1.5P	3.593	1.656	0.429	0.322	0.5	4	3
9/16-18UNF	GH3	Y86037	4P	3.593	1.656	0.429	0.322	0.5	4	3
9/16-18UNF	GH3	Y86038	1.5P	3.593	1.656	0.429	0.322	0.5	4	3
5/8-11UNC	GH3	Y86039	4P	3.812	1.812	0.48	0.36	0.562	4	3
5/8-11UNC	GH3	Y86040	1.5P	3.812	1.812	0.48	0.36	0.562	4	3
5/8-18UNF	GH3	Y86041	4P	3.812	1.812	0.48	0.36	0.562	4	3
5/8-18UNF	GH3	Y86042	1.5P	3.812	1.812	0.48	0.36	0.562	4	3
3/4-10UNC	GH3	Y86043	4P	4.25	2	0.59	0.422	0.687	4	3
3/4-10UNC	GH3	Y86044	1.5P	4.25	2	0.59	0.422	0.687	4	3
3/4-16UNF	GH3	Y86045	4P	4.25	2	0.59	0.422	0.687	4	3
3/4-16UNF	GH3	Y86046	1.5P	4.25	2	0.59	0.422	0.687	4	3

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

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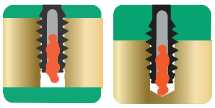
AXE-HT

AXE Hand Taps



Specification

HSS-P | Coating

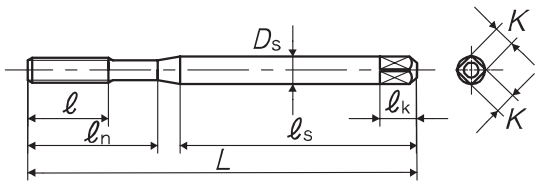


■AXE-HT has special cutting edges which minimize chipping trouble in aluminum alloy diecasting tapping, and ensures a long tool life.

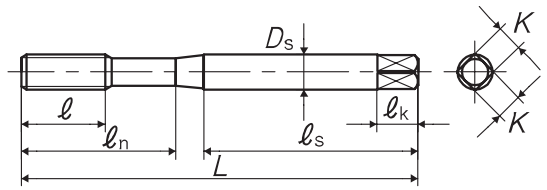
Tapping Speed depending on Materials

Cast irons 鋳鉄	Aluminum alloy castings アルミ合金鋳物	Zinc alloy castings 亜鉛合金鋳物
5~10 (m/min)	10~20 (m/min)	10~20 (m/min)

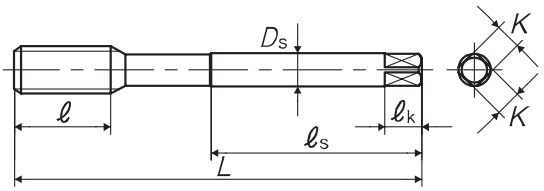
TYPE : 1



TYPE : 2



TYPE : 3



Segment : 1B

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric threads												
M6 × 1	D5	TS6.0M5LPVA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
M8 × 1.25	D5	TS8.0N5LPVA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	2
M10 × 1.5	D6	TS010O6LPVA	1.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	4	2
M10 × 1.25	D6	TS010N6LPVA	1.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	4	2
M10 × 1	D6	TS010M6LPVA	1.5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	4	2
M12 × 1.75	D6	TS012P6LPVA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	3
M12 × 1.5	D6	TS012O6LPVA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	3
M12 × 1.25	D6	TS012N6LPVA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	3

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ANSI

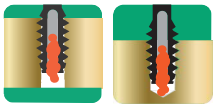
EH-HT

Hand Taps for Hard-to-Machine Materials



Specification

HSS-Co



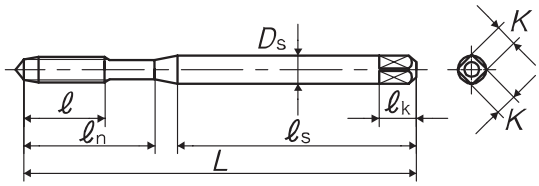
■Suitable for hard steels of 35 ～ 45HRC, such as forgings and thermal refined steels of high carbon steels and alloy steels, and die steels.

Tapping Speed depending on Materials

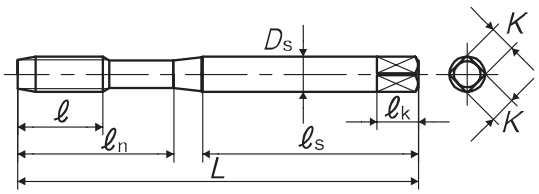
Thermal refined steels 調質鋼	Tool steels 工具鋼
~5 (m/min)	~5 (m/min)

35～45HRC

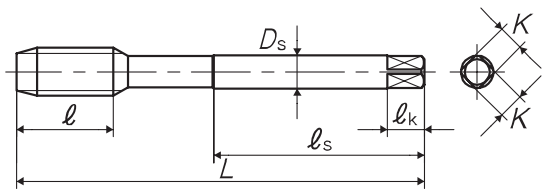
TYPE: 1



TYPE: 2



TYPE: 3



Segment : 1B

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads												
M5 × 0.8	D5	TS5.0K5DCB5	5P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	3	1
M6 × 1	D6	TS6.0M6DCB5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
M8 × 1.25	D6	TS8.0N6DCB5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	2
M8 × 1	D6	TS8.0M6DCB5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	4	2
M10 × 1.5	D7	TS010O7DCB5	5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	4	2
M10 × 1.25	D6	TS010N6DCB5	5P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	4	2
M12 × 1.75	D7	TS012P7DCB5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	3

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ANSI

ZELX MOLD



Hand Taps for Hard-to-Machine Materials

Specification

HSS-Co

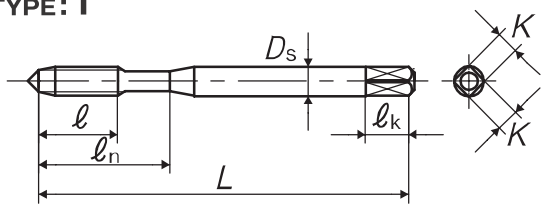


■Suitable for hard steels of 35 ～ 45HRC, such as forgings and thermal refined steels of high carbon steels and alloy steels, and die steels.

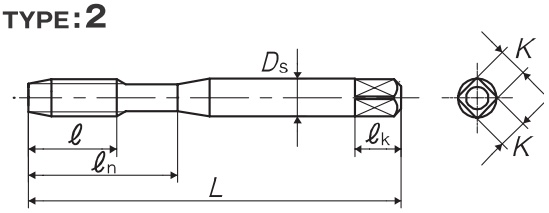
Tapping Speed depending on Materials

Thermal refined steels 調質鋼	Tool steels 工具鋼
~5 (m/min)	~5 (m/min)
35~45HRC	

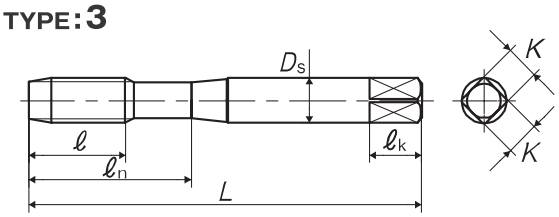
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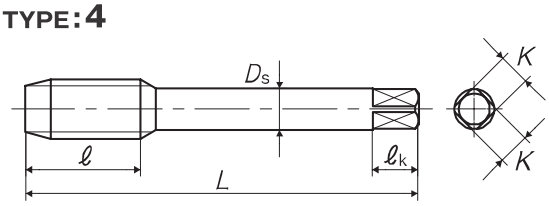
TYPE:2



TYPE:3



TYPE:4



Segment : 1B

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads											
No.4-40UNC	GH2	Y89599	5P	1.875	0.335	0.562	0.141	0.11	0.187	3	1
No.5-40UNC	GH2	Y89601	5P	1.937	0.374	0.625	0.141	0.11	0.187	3	1
No.6-32UNC	GH3	Y89602	5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.8-32UNC	GH3	Y89604	5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.10-24UNC	GH3	Y89606	5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.10-32UNF	GH3	Y89607	5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
1/4-20UNC	GH3	Y89613	5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-28UNF	GH3	Y89614	5P	2.5	0.591	1	0.255	0.191	0.312	3	2
5/16-18UNC	GH3	Y89615	5P	2.718	0.669	1.125	0.318	0.238	0.375	4	3
5/16-24UNF	GH3	Y89616	5P	2.718	0.669	1.125	0.318	0.238	0.375	4	3
3/8-16UNC	GH3	Y89617	5P	2.937	0.748	1.25	0.381	0.286	0.437	4	3
3/8-24UNF	GH3	Y89618	5P	2.937	0.748	1.25	0.381	0.286	0.437	4	3
7/16-14UNC	GH3	Y89619	5P	3.156	0.866	-	0.323	0.242	0.406	4	4
7/16-20UNF	GH3	Y89620	5P	3.156	0.866	-	0.323	0.242	0.406	4	4
1/2-13UNC	GH3	Y89621	5P	3.375	0.984	-	0.367	0.275	0.437	4	4
1/2-20UNF	GH3	Y89622	5P	3.375	0.984	-	0.367	0.275	0.437	4	4
5/8-11UNC	GH3	Y89625	5P	3.812	1.083	-	0.48	0.36	0.562	4	4
5/8-18UNF	GH3	Y89626	5P	3.812	1.083	-	0.48	0.36	0.562	4	4
3/4-10UNC	GH3	Y89627	5P	4.25	1.201	-	0.59	0.422	0.687	4	4
3/4-16UNF	GH3	Y89628	5P	4.25	1.201	-	0.59	0.422	0.687	4	4

Think threads with YAMAWA

・This product is different from JIS products in shape and dimensions, please be careful when using.

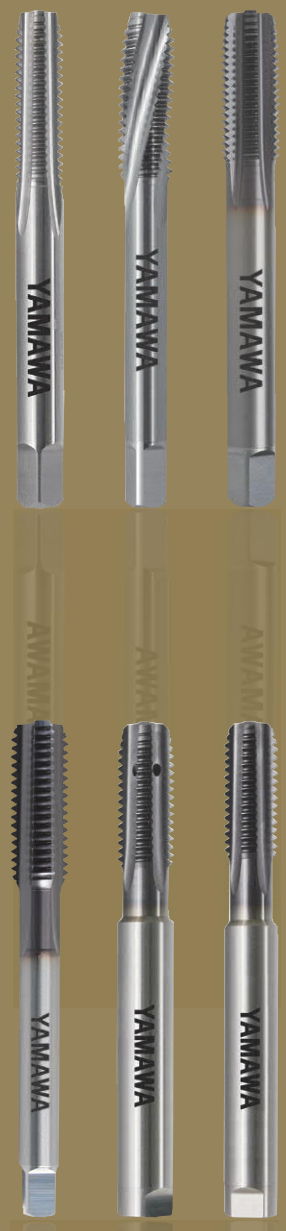
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LINE UP

⑤ CEMENTED CARBIDE TAP SERIES

	JIS	ANSI	DIN
N-CT LA	⑤-3		
ZELX CARB AL		⑤-6	
CT LA			⑤-9
N-CT FC	⑤-10		
ZELX CARB CI		⑤-15	
LS-N-CT	⑤-18		
N-CT-SP	⑤-20		
N-CT-PO	⑤-21		
EH-CT	⑤-23		⑤-25
UH-CT	⑤-27		⑤-29
HFACT-P	⑤-31		
HFACT-B	⑤-33		
HFICT-P	⑤-35		
HFICT-B	⑤-37		
ACHSP	⑤-39		
MC-AD-CT	⑤-41		



・For improvement, spec may change without advance notice.

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Selection chart of taps

Tapping conditions	Machining, in low-speed tapping area	Machining, in low/middle speed tapping area								
Product symbol	LS-N-CT	N-CT FC	N-CT LA	N-CT-SP	N-CT-PO	EH-CT	UH-CT	ACHSP	MC-AD-CT	
Tap material Surface treatment	HF	HF	HF	HF	HF	HF / Coating	HF / Coating	HF / Coating	HF / Coating	
Name	Long, for cast iron	For cast iron	For light alloys	For general use, carbide		For high-hardness steel	For ultra high-hardness steel	For tapping aluminum cast holes	With oil hole	
										
Bored Hole Shape										
For Metric Threads	⑤-18	⑤-10	⑤-3	⑤-20	⑤-21	⑤-24	⑤-28	⑤-40	⑤-42	
For Unified Threads		⑤-13								
For Whitworth Threads										
For Screw Threads used on Sewing Machines										
Pipe Threads										
American Pipe Threads										
For Miniature Threads										
For Trapezoidal Threads										

～S25C	Low carbon steels																		
S25C～S45C	Medium carbon steels																		
S45C～	High carbon steels																		
SCM	Alloy steels																		
25～35HRC	Heat treated steel																		
35～45HRC	Heat treated steel																		
45～55HRC	Heat treated steel											◆ ◆	◎						
55～63HRC	Heat treated steel													◆ ◆	◎				
SUS	Stainless steels (SUS)																		
SKD	Tool steels																		
SC	Cast steels																		
FC	Cast irons	◆	◎	◆	◎														
FCD	Ductile cast irons	◆	○	◆	○														
Cu	Copper																		
Bs	Brass									◆	◎								
BsC	Brass castings	◆	◎	◆	◎					◆	◎								
PB	Bronze									◆	◎								
AL	Wrought aluminum							◆	◎	◆	◎							◆	◎
AC, ADC	Aluminum alloy casting					◆	◎	◆	◎	◆	◎					◆	◎	◆	◎
Mg	Magnesium alloy die castings									◆	◎								
ZDC	Zinc alloy die castings					◆	◎	◆	◎	◆	◎							◆	◎
	Titanium alloys																		
	Nickel base alloys																		
	Thermosetting plastic																		
	Thermoplastic resin																		

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Recommended tap ◎: Most suitable tap ○: Suitable tap

Recommended tapping fluid ◆: Insoluble ◆: Water-soluble

	Machining/Fully synchronized feed only, in high-speed tapping area							
	HFACT-P		HFACT-B		HFICT-P		HFICT-B	
	HF	Coating	HF	Coating	HF	Coating	HF	Coating
	For ultra high-speed; For aluminum materials				For ultra high-speed; For aluminum materials			
								
								
	⑤-32		⑤-34		⑤-36		⑤-38	

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

ANSI

ZELX CARB AL

Carbide Taps for Light Alloys



Specification

HF



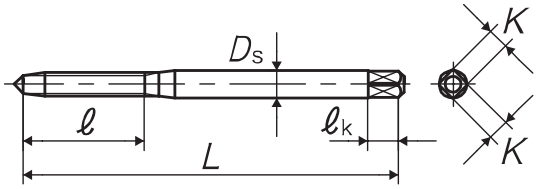
Tapping Speed depending on Materials

Aluminum alloy castings アルミ合金鋳物 10~20 (m/min)

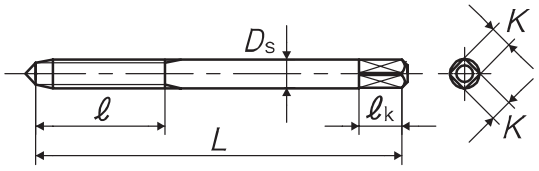
Zinc alloy castings 亜鉛合金鋳物 10~20 (m/min)

■ZELX CARB AL is the carbide tap suitable for tapping aluminum castings (AC), aluminum die castings (ADC), and zinc die castings(ZDC). For volume production.

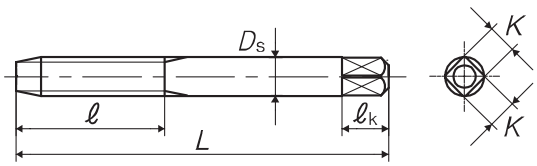
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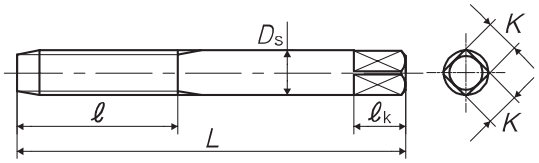
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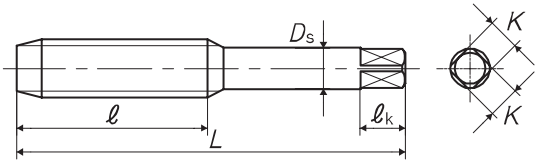
TYPE:3



TYPE:4



TYPE:5



Segment : 1L

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads										
M3 × 0.5	D3	Y71000	4P	1.937	0.625	0.141	0.11	0.187	3	1
M3 × 0.5	D3	Y71001	1.5P	1.937	0.625	0.141	0.11	0.187	3	1
M4 × 0.7	D4	Y71002	4P	2.125	0.75	0.168	0.131	0.25	3	2
M4 × 0.7	D4	Y71003	1.5P	2.125	0.75	0.168	0.131	0.25	3	2
M5 × 0.8	D4	Y71004	4P	2.375	0.875	0.194	0.152	0.25	3	2
M5 × 0.8	D4	Y71005	1.5P	2.375	0.875	0.194	0.152	0.25	3	2
M6 × 1	D5	Y71006	4P	2.5	1	0.255	0.191	0.312	3	3
M6 × 1	D5	Y71007	1.5P	2.5	1	0.255	0.191	0.312	3	3
M8 × 1.25	D5	Y71010	4P	2.718	1.125	0.318	0.238	0.375	3	4

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

ZELX CARB AL Carbide Taps for Light Alloys

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M8 × 1.25	D5	Y71011	1.5P	2.718	1.125	0.318	0.238	0.375	3	4
M8 × 1	D5	Y71008	4P	2.718	1.125	0.318	0.238	0.375	3	4
M8 × 1	D5	Y71009	1.5P	2.718	1.125	0.318	0.238	0.375	3	4
M10 × 1.5	D6	Y71014	4P	2.937	1.25	0.381	0.286	0.437	3	4
M10 × 1.5	D6	Y71015	1.5P	2.937	1.25	0.381	0.286	0.437	3	4
M10 × 1.25	D5	Y71012	4P	2.937	1.25	0.381	0.286	0.437	3	4
M10 × 1.25	D5	Y71013	1.5P	2.937	1.25	0.381	0.286	0.437	3	4
M12 × 1.75	D6	Y71020	4P	3.375	1.656	0.367	0.275	0.437	3	5
M12 × 1.75	D6	Y71021	1.5P	3.375	1.656	0.367	0.275	0.437	3	5
M12 × 1.5	D6	Y71018	4P	3.375	1.656	0.367	0.275	0.437	3	5
M12 × 1.5	D6	Y71019	1.5P	3.375	1.656	0.367	0.275	0.437	3	5
M12 × 1.25	D5	Y71016	4P	3.375	1.656	0.367	0.275	0.437	3	5
M12 × 1.25	D5	Y71017	1.5P	3.375	1.656	0.367	0.275	0.437	3	5
For Unified Threads										
No.5-40UNC	GH3	Y84800	4P	1.937	0.625	0.141	0.11	0.187	3	1
No.5-40UNC	GH3	Y84801	1.5P	1.937	0.625	0.141	0.11	0.187	3	1
No.6-32UNC	GH3	Y84802	4P	2	0.687	0.141	0.11	0.187	3	2
No.6-32UNC	GH3	Y84803	1.5P	2	0.687	0.141	0.11	0.187	3	2
No.8-32UNC	GH3	Y84804	4P	2.125	0.75	0.168	0.131	0.25	3	2
No.8-32UNC	GH3	Y84805	1.5P	2.125	0.75	0.168	0.131	0.25	3	2
No.10-24UNC	GH3	Y84806	4P	2.375	0.875	0.194	0.152	0.25	3	2
No.10-24UNC	GH3	Y84807	1.5P	2.375	0.875	0.194	0.152	0.25	3	2
No.10-32UNF	GH3	Y84808	4P	2.375	0.875	0.194	0.152	0.25	3	2
No.10-32UNF	GH3	Y84809	1.5P	2.375	0.875	0.194	0.152	0.25	3	2
1/4-20UNC	GH3	Y84810	4P	2.5	1	0.255	0.191	0.312	3	3
1/4-20UNC	GH3	Y84811	1.5P	2.5	1	0.255	0.191	0.312	3	3
1/4-20UNC	GH5	Y84860	4P	2.5	1	0.255	0.191	0.312	3	3
1/4-20UNC	GH5	Y84861	1.5P	2.5	1	0.255	0.191	0.312	3	3
1/4-28UNF	GH3	Y84812	4P	2.5	1	0.255	0.191	0.312	3	3
1/4-28UNF	GH3	Y84813	1.5P	2.5	1	0.255	0.191	0.312	3	3
1/4-28UNF	GH5	Y84862	4P	2.5	1	0.255	0.191	0.312	3	3
1/4-28UNF	GH5	Y84863	1.5P	2.5	1	0.255	0.191	0.312	3	3
5/16-18UNC	GH3	Y84814	4P	2.718	1.125	0.318	0.238	0.375	3	4
5/16-18UNC	GH3	Y84815	1.5P	2.718	1.125	0.318	0.238	0.375	3	4
5/16-18UNC	GH5	Y84864	4P	2.718	1.125	0.318	0.238	0.375	3	4
5/16-18UNC	GH5	Y84865	1.5P	2.718	1.125	0.318	0.238	0.375	3	4
5/16-24UNF	GH3	Y84816	4P	2.718	1.125	0.318	0.238	0.375	3	4
5/16-24UNF	GH3	Y84817	1.5P	2.718	1.125	0.318	0.238	0.375	3	4
5/16-24UNF	GH5	Y84866	4P	2.718	1.125	0.318	0.238	0.375	3	4
5/16-24UNF	GH5	Y84867	1.5P	2.718	1.125	0.318	0.238	0.375	3	4
3/8-16UNC	GH3	Y84818	4P	2.937	1.25	0.381	0.286	0.437	3	4
3/8-16UNC	GH3	Y84819	1.5P	2.937	1.25	0.381	0.286	0.437	3	4
3/8-16UNC	GH5	Y84868	4P	2.937	1.25	0.381	0.286	0.437	3	4
3/8-16UNC	GH5	Y84869	1.5P	2.937	1.25	0.381	0.286	0.437	3	4
3/8-24UNF	GH3	Y84820	4P	2.937	1.25	0.381	0.286	0.437	3	4
3/8-24UNF	GH3	Y84821	1.5P	2.937	1.25	0.381	0.286	0.437	3	4
3/8-24UNF	GH5	Y84870	4P	2.937	1.25	0.381	0.286	0.437	3	4
3/8-24UNF	GH5	Y84871	1.5P	2.937	1.25	0.381	0.286	0.437	3	4
7/16-14UNC	GH3	Y84822	4P	3.156	1.437	0.323	0.242	0.406	3	5
7/16-14UNC	GH3	Y84823	1.5P	3.156	1.437	0.323	0.242	0.406	3	5

Think threads with YAMAWA

· This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

ZELX CARB AL Carbide Taps for Light Alloys

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
7/16-14UNC	GH5	Y84872	4P	3.156	1.437	0.323	0.242	0.406	3	5
7/16-14UNC	GH5	Y84873	1.5P	3.156	1.437	0.323	0.242	0.406	3	5
7/16-20UNF	GH3	Y84824	4P	3.156	1.437	0.323	0.242	0.406	3	5
7/16-20UNF	GH3	Y84825	1.5P	3.156	1.437	0.323	0.242	0.406	3	5
7/16-20UNF	GH5	Y84874	4P	3.156	1.437	0.323	0.242	0.406	3	5
7/16-20UNF	GH5	Y84875	1.5P	3.156	1.437	0.323	0.242	0.406	3	5
1/2-13UNC	GH3	Y84826	4P	3.375	1.656	0.367	0.275	0.437	3	5
1/2-13UNC	GH3	Y84827	1.5P	3.375	1.656	0.367	0.275	0.437	3	5
1/2-13UNC	GH5	Y84876	4P	3.375	1.656	0.367	0.275	0.437	3	5
1/2-13UNC	GH5	Y84877	1.5P	3.375	1.656	0.367	0.275	0.437	3	5
1/2-20UNF	GH3	Y84828	4P	3.375	1.656	0.367	0.275	0.437	3	5
1/2-20UNF	GH3	Y84829	1.5P	3.375	1.656	0.367	0.275	0.437	3	5
1/2-20UNF	GH5	Y84878	4P	3.375	1.656	0.367	0.275	0.437	3	5
1/2-20UNF	GH5	Y84879	1.5P	3.375	1.656	0.367	0.275	0.437	3	5

・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

ANSI

ZELX CARB CI



Carbide Taps for Cast Irons

Specification

HF

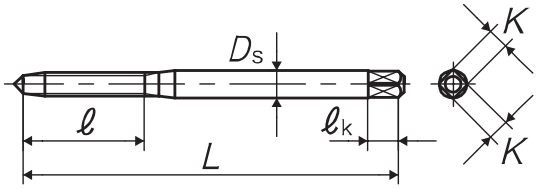


■ZELX CARB CI is the carbide tap suitable for hard and abrasive materials such as cast irons. For volume production.

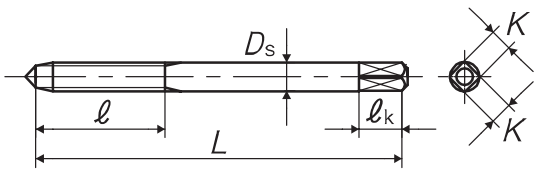
Tapping Speed depending on Materials

Cast irons 鋳鉄	Ductile cast irons 強靭鋳鉄	Brass castings 黄銅鋳物
5~15 (m/min)	5~15 (m/min)	5~15 (m/min)

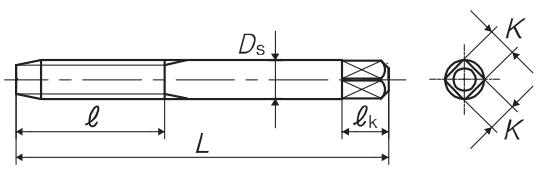
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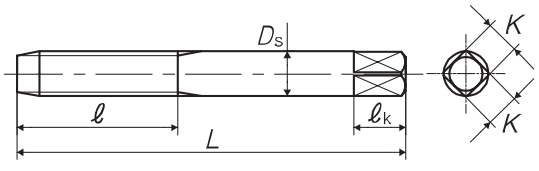
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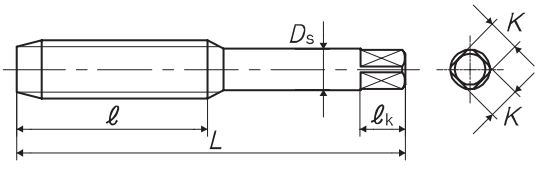
TYPE:3



TYPE:4



TYPE:5



Segment : 1L

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Metric Threads										
M3 × 0.5	D3	Y70000	4P	1.937	0.625	0.141	0.11	0.187	3	1
M3 × 0.5	D3	Y70001	1.5P	1.937	0.625	0.141	0.11	0.187	3	1
M4 × 0.7	D4	Y70002	4P	2.125	0.75	0.168	0.131	0.25	4	2
M4 × 0.7	D4	Y70003	1.5P	2.125	0.75	0.168	0.131	0.25	4	2
M5 × 0.8	D4	Y70004	4P	2.375	0.875	0.194	0.152	0.25	4	2
M5 × 0.8	D4	Y70005	1.5P	2.375	0.875	0.194	0.152	0.25	4	2
M6 × 1	D5	Y70006	4P	2.5	1	0.255	0.191	0.312	4	3
M6 × 1	D5	Y70007	1.5P	2.5	1	0.255	0.191	0.312	4	3
M8 × 1.25	D5	Y70010	4P	2.718	1.125	0.318	0.238	0.375	4	4

Think threads with YAMAWA

・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
M8 × 1.25	D5	Y70011	1.5P	2.718	1.125	0.318	0.238	0.375	4	4
M8 × 1	D5	Y70008	4P	2.718	1.125	0.318	0.238	0.375	4	4
M8 × 1	D5	Y70009	1.5P	2.718	1.125	0.318	0.238	0.375	4	4
M10 × 1.5	D6	Y70014	4P	2.937	1.25	0.381	0.286	0.437	4	4
M10 × 1.5	D6	Y70015	1.5P	2.937	1.25	0.381	0.286	0.437	4	4
M10 × 1.25	D5	Y70012	4P	2.937	1.25	0.381	0.286	0.437	4	4
M10 × 1.25	D5	Y70013	1.5P	2.937	1.25	0.381	0.286	0.437	4	4
M12 × 1.75	D6	Y70020	4P	3.375	1.656	0.367	0.275	0.437	4	5
M12 × 1.75	D6	Y70021	1.5P	3.375	1.656	0.367	0.275	0.437	4	5
M12 × 1.5	D6	Y70018	4P	3.375	1.656	0.367	0.275	0.437	4	5
M12 × 1.25	D5	Y70016	4P	3.375	1.656	0.367	0.275	0.437	4	5
M12 × 1.25	D5	Y70017	1.5P	3.375	1.656	0.367	0.275	0.437	4	5
M14 × 2	D7	Y70024	4P	3.593	1.656	0.429	0.322	0.5	4	5
M14 × 2	D7	Y70025	1.5P	3.593	1.656	0.429	0.322	0.5	4	5
M14 × 1.5	D6	Y70022	4P	3.593	1.656	0.429	0.322	0.5	4	5
M16 × 2	D7	Y70028	4P	3.812	1.812	0.48	0.36	0.562	4	5
M16 × 2	D7	Y70029	1.5P	3.812	1.812	0.48	0.36	0.562	4	5
M16 × 1.5	D6	Y70026	4P	3.812	1.812	0.48	0.36	0.562	4	5
M16 × 1.5	D6	Y70027	1.5P	3.812	1.812	0.48	0.36	0.562	4	5
For Unified Threads										
No.10-24UNC	GH3	Y83806	4P	2.375	0.875	0.194	0.152	0.25	4	2
No.10-24UNC	GH3	Y83807	1.5P	2.375	0.875	0.194	0.152	0.25	4	2
No.10-32UNF	GH3	Y83808	4P	2.375	0.875	0.194	0.152	0.25	4	2
No.10-32UNF	GH3	Y83809	1.5P	2.375	0.875	0.194	0.152	0.25	4	2
1/4-20UNC	GH3	Y83810	4P	2.5	1	0.255	0.191	0.312	4	3
1/4-20UNC	GH3	Y83811	1.5P	2.5	1	0.255	0.191	0.312	4	3
1/4-20UNC	GH5	Y83860	4P	2.5	1	0.255	0.191	0.312	4	3
1/4-20UNC	GH5	Y83861	1.5P	2.5	1	0.255	0.191	0.312	4	3
1/4-28UNF	GH3	Y83812	4P	2.5	1	0.255	0.191	0.312	4	3
1/4-28UNF	GH3	Y83813	1.5P	2.5	1	0.255	0.191	0.312	4	3
1/4-28UNF	GH5	Y83862	4P	2.5	1	0.255	0.191	0.312	4	3
1/4-28UNF	GH5	Y83863	1.5P	2.5	1	0.255	0.191	0.312	4	3
5/16-18UNC	GH3	Y83814	4P	2.718	1.125	0.318	0.238	0.375	4	4
5/16-18UNC	GH3	Y83815	1.5P	2.718	1.125	0.318	0.238	0.375	4	4
5/16-18UNC	GH5	Y83864	4P	2.718	1.125	0.318	0.238	0.375	4	4
5/16-18UNC	GH5	Y83865	1.5P	2.718	1.125	0.318	0.238	0.375	4	4
5/16-24UNF	GH3	Y83816	4P	2.718	1.125	0.318	0.238	0.375	4	4
5/16-24UNF	GH3	Y83817	1.5P	2.718	1.125	0.318	0.238	0.375	4	4
5/16-24UNF	GH5	Y83866	4P	2.718	1.125	0.318	0.238	0.375	4	4
5/16-24UNF	GH5	Y83867	1.5P	2.718	1.125	0.318	0.238	0.375	4	4
3/8-16UNC	GH3	Y83818	4P	2.937	1.25	0.381	0.286	0.437	4	4
3/8-16UNC	GH3	Y83819	1.5P	2.937	1.25	0.381	0.286	0.437	4	4
3/8-16UNC	GH5	Y83868	4P	2.937	1.25	0.381	0.286	0.437	4	4
3/8-16UNC	GH5	Y83869	1.5P	2.937	1.25	0.381	0.286	0.437	4	4
3/8-24UNF	GH3	Y83820	4P	2.937	1.25	0.381	0.286	0.437	4	4
3/8-24UNF	GH3	Y83821	1.5P	2.937	1.25	0.381	0.286	0.437	4	4
3/8-24UNF	GH5	Y83870	4P	2.937	1.25	0.381	0.286	0.437	4	4
3/8-24UNF	GH5	Y83871	1.5P	2.937	1.25	0.381	0.286	0.437	4	4
7/16-14UNC	GH3	Y83822	4P	3.156	1.437	0.323	0.242	0.406	4	5
7/16-14UNC	GH3	Y83823	1.5P	3.156	1.437	0.323	0.242	0.406	4	5

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

ZELX CARB CI Carbide Taps for Cast Irons

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
7/16-14UNC	GH5	Y83872	4P	3.156	1.437	0.323	0.242	0.406	4	5
7/16-14UNC	GH5	Y83873	1.5P	3.156	1.437	0.323	0.242	0.406	4	5
7/16-20UNF	GH3	Y83824	4P	3.156	1.437	0.323	0.242	0.406	4	5
7/16-20UNF	GH3	Y83825	1.5P	3.156	1.437	0.323	0.242	0.406	4	5
7/16-20UNF	GH5	Y83874	4P	3.156	1.437	0.323	0.242	0.406	4	5
7/16-20UNF	GH5	Y83875	1.5P	3.156	1.437	0.323	0.242	0.406	4	5
1/2-13UNC	GH3	Y83826	4P	3.375	1.656	0.367	0.275	0.437	4	5
1/2-13UNC	GH3	Y83827	1.5P	3.375	1.656	0.367	0.275	0.437	4	5
1/2-13UNC	GH5	Y83876	4P	3.375	1.656	0.367	0.275	0.437	4	5
1/2-13UNC	GH5	Y83877	1.5P	3.375	1.656	0.367	0.275	0.437	4	5
1/2-20UNF	GH3	Y83828	4P	3.375	1.656	0.367	0.275	0.437	4	5
1/2-20UNF	GH3	Y83829	1.5P	3.375	1.656	0.367	0.275	0.437	4	5
1/2-20UNF	GH5	Y83878	4P	3.375	1.656	0.367	0.275	0.437	4	5
1/2-20UNF	GH5	Y83879	1.5P	3.375	1.656	0.367	0.275	0.437	4	5
5/8-11UNC	GH3	Y83834	4P	3.812	1.812	0.48	0.36	0.562	4	5
5/8-11UNC	GH3	Y83835	1.5P	3.812	1.812	0.48	0.36	0.562	4	5
5/8-11UNC	GH5	Y83884	4P	3.812	1.812	0.48	0.36	0.562	4	5
5/8-11UNC	GH5	Y83885	1.5P	3.812	1.812	0.48	0.36	0.562	4	5
5/8-18UNF	GH3	Y83836	4P	3.812	1.812	0.48	0.36	0.562	4	5
5/8-18UNF	GH3	Y83837	1.5P	3.812	1.812	0.48	0.36	0.562	4	5
5/8-18UNF	GH5	Y83886	4P	3.812	1.812	0.48	0.36	0.562	4	5
5/8-18UNF	GH5	Y83887	1.5P	3.812	1.812	0.48	0.36	0.562	4	5

Think threads with YAMAWA

· This product is different from JIS products in shape and dimensions, please be careful when using.

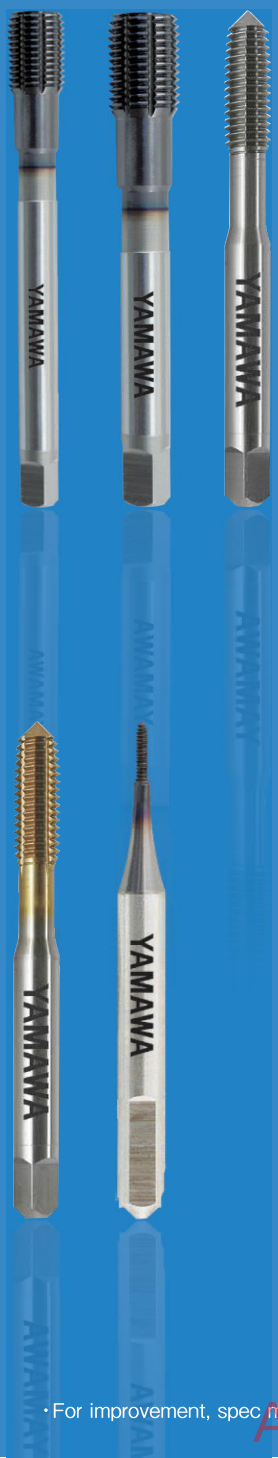
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LINE UP

⑥ ROLL TAP SERIES

	JIS	ANSI	DIN
Z-PRO MHRZ	⑥-3	⑥-9	⑥-11
MHRZ-J	⑥-7		
N+RZ N-RZ	⑥-13		⑥-22
N-RZ		⑥-18	
LS-N-RZ	⑥-23		
N+RS N-RS	⑥-25		⑥-35
N-RS		⑥-31	
LS-N-RS	⑥-36		
R+V	⑥-38		
OL+RZ OL-RZ	⑥-41		
OL-RZ		⑥-44	
OL+RZ			⑥-45
HP+RZ HP-RZ	⑥-47		⑥-54
HP-RZ		⑥-51	
SC-TL-RZ	⑥-57		
SURZ	⑥-59		
MS+RS	⑥-61		
HPsRZ	⑥-61		
R-Y	⑥-63		
R-D			⑥-64
R-D (Coating)			⑥-65
R-D (Coating)			⑥-66



・For improvement, spec may change without advance notice.

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Selection chart of taps

Tapping conditions	Machining, in low-speed tapping area									
Product symbol	R-Y	N+RZ N-RZ	N+RS N-RS	LS-N-RZ	LS-N-RS	MS+RS	HPsRZ	SURZ	R+V	
Tap material Surface treatment	HSS	HSS / OX	HSS / NI	HSS / OX	HSS / NI	HSS	HSS-P / Coating	HSS-P / Coating	HSS / Coating	
Name	For general purpose	For steel	For nonferrous materials	Long, for steel	Long, for nonferrous materials	For miniature threads	For miniature threads High performance	For stainless steel	Coated	
										
Bored Hole Shape										
For Metric Threads	⑥-63	⑥-14	⑥-26	⑥-23	⑥-36			⑥-60	⑥-38	
For Unified Threads		⑥-17	⑥-29					⑥-60		
For Whitworth Threads										
For Screw Threads used on Sewing Machines										
Pipe Threads										
American Pipe Threads										
For Miniature Threads						⑥-62	⑥-62			
For Trapezoidal Threads										

～S25C	Low carbon steels	◆	◎	◆	◎			◆	◎			◆	◎	◆◆	◎	◆◆	◎	◆◆	◎
S25C～S45C	Medium carbon steels			◆	◎			◆	◎					◆◆	◎	◆◆	○	◆◆	◎
S45C～	High carbon steels													◆◆	○				
SCM	Alloy steels																		
25～35HRC	Heat treated steel																		
35～45HRC	Heat treated steel																		
45～55HRC	Heat treated steel																		
55～63HRC	Heat treated steel																		
SUS	Stainless steels (SUS)											◆	○	◆◆	◎	◆◆	◎	◆◆	○
SKD	Tool steels																		
SC	Cast steels																		
FC	Cast irons																		
FCD	Ductile cast irons																		
Cu	Copper																	◆◆	○
Bs	Brass											◆	◎						
BsC	Brass castings																		
PB	Bronze																		
AL	Wrought aluminum					◆	◎			◆	◎	◆	○	◆	◎			◆	◎
AC, ADC	Aluminum alloy casting					◆	◎			◆	◎	◆	○					◆	◎
Mg	Magnesium alloy die castings																		
ZDC	Zinc alloy die castings					◆	◎			◆	◎	◆	○					◆	◎
	Titanium alloys													◆	○				
	Nickel base alloys																		
	Thermosetting plastic																		
	Thermoplastic resin																		

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Machining, in middle speed tapping area										
	OL+RZ OL-RZ		HP+RZ HP-RZ		Z-PRO MHRZ		MHRZ-J		SC-TL-RZ	
	HSS-P	Coating	HSS-P	Coating	HSS-Co	Coating	HSS-Co	Coating	HSS-P	Coating
	For dry tapping		High performance		For middle hardness carbon steel		For middle hardness carbon steel JIS		Short chamfer torqueless	
										
	⑥-42		⑥-48		⑥-4		⑥-8		⑥-58	
	⑥-43		⑥-50						⑥-58	
	◆◆	◎	◆◆	◎					◆◆	◎
	◆◆	◎	◆◆	◎	◆◆	◎	◆◆	◎	◆◆	◎
	◆◆	◎	◆◆	◎	◆◆	◎	◆◆	◎	◆◆	○
	◆◆	◎	◆◆	◎	◆◆	◎	◆◆	◎		
	◆◆	○	◆◆	○	◆◆	◎	◆◆	◎		
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	◆	◎	◆	◎					◆	◎
									◆	◎

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ANSI

Z-PRO

MHRZ



Z-PRO
Roll Taps for Medium Hardness Carbon Steels

Specification

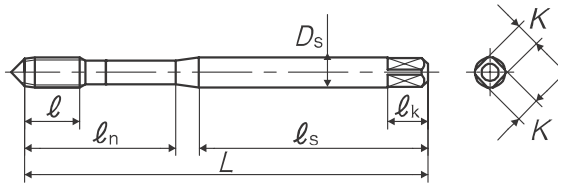
HSS-Co | Coating | 2

■Suitable tapping in thermal refined steels (～35HRC).

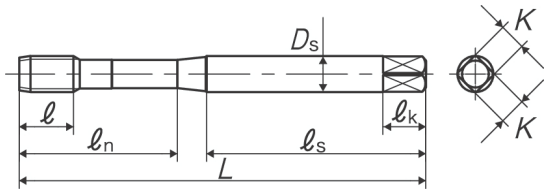
Tapping Speed depending on Materials

Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼
10~30 (m/min)	10~30 (m/min)	10~30 (m/min)	10~20 (m/min)
			25～35HRC

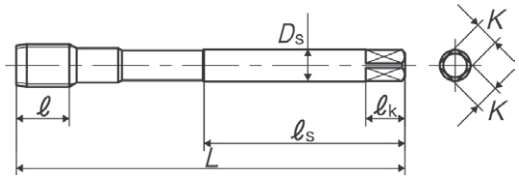
TYPE:1



TYPE:2



TYPE:3



Segment : 1J

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	TYPE
For Unified Threads												
No.10-24UNC	H6	5110103039	4P	2.756	0.354	0.945	1.654	0.194	0.152	0.25	5	1
No.10-24UNC	H6	5111103039	2P	2.756	0.354	0.945	1.654	0.194	0.152	0.25	5	1
No.10-32UNF	H6	5110103041	4P	2.756	0.354	0.945	1.654	0.194	0.152	0.25	5	1
No.10-32UNF	H6	5111103041	2P	2.756	0.354	0.945	1.654	0.194	0.152	0.25	5	1
1/4-20UNC	H7	5110103058	4P	3.15	0.433	1.181	1.713	0.255	0.191	0.312	5	1
1/4-20UNC	H7	5111103058	2P	3.15	0.433	1.181	1.713	0.255	0.191	0.312	5	1
1/4-28UNF	H6	5110103062	4P	3.15	0.433	1.181	1.713	0.255	0.191	0.312	5	1
1/4-28UNF	H6	5111103062	2P	3.15	0.433	1.181	1.713	0.255	0.191	0.312	5	1
5/16-18UNC	H8	5110103071	4P	3.543	0.472	1.378	1.831	0.318	0.238	0.375	6	2
5/16-18UNC	H8	5111103071	2P	3.543	0.472	1.378	1.831	0.318	0.238	0.375	6	2
5/16-24UNF	H7	5110103074	4P	3.543	0.472	1.378	1.831	0.318	0.238	0.375	6	2
5/16-24UNF	H7	5111103074	2P	3.543	0.472	1.378	1.831	0.318	0.238	0.375	6	2
3/8-16UNC	H8	5110103082	4P	3.937	0.512	1.535	2.028	0.381	0.286	0.437	8	2
3/8-16UNC	H8	5111103082	2P	3.937	0.512	1.535	2.028	0.381	0.286	0.437	8	2
3/8-24UNF	H7	5110103085	4P	3.937	0.512	1.535	2.028	0.381	0.286	0.437	8	2
3/8-24UNF	H7	5111103085	2P	3.937	0.512	1.535	2.028	0.381	0.286	0.437	8	2
7/16-14UNC	H9	5110103098	4P	3.937	0.512	-	2.008	0.323	0.242	0.406	8	3

Think threads with YAMAWA

・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	TYPE
7/16-14UNC	H9	5111103098	2P	3.937	0.512	-	2.008	0.323	0.242	0.406	8	3
7/16-20UNF	H8	5110103101	4P	3.937	0.512	-	2.008	0.323	0.242	0.406	8	3
7/16-20UNF	H8	5111103101	2P	3.937	0.512	-	2.008	0.323	0.242	0.406	8	3
1/2-13UNC	H9	5110103111	4P	4.331	0.591	-	2.205	0.367	0.275	0.437	8	3
1/2-13UNC	H9	5111103111	2P	4.331	0.591	-	2.205	0.367	0.275	0.437	8	3
1/2-20UNF	H8	5110103115	4P	4.331	0.591	-	2.205	0.367	0.275	0.437	8	3
1/2-20UNF	H8	5111103115	2P	4.331	0.591	-	2.205	0.367	0.275	0.437	8	3
9/16-12UNC	H10	5110103126	4P	4.331	0.709	-	2.205	0.429	0.322	0.5	8	3
9/16-12UNC	H10	5111103126	2P	4.331	0.709	-	2.205	0.429	0.322	0.5	8	3
9/16-18UNF	H9	5110103129	4P	4.331	0.709	-	2.205	0.429	0.322	0.5	8	3
9/16-18UNF	H9	5111103129	2P	4.331	0.709	-	2.205	0.429	0.322	0.5	8	3

Number of oil grooves : 1/4 and smaller = 5, 5/16 = 6, 3/8 and larger = 8
For 1/4 and smaller, external centers of 2P chamfer taps are removed.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ANSI

N-RZ

Roll Taps for Steels



Specification

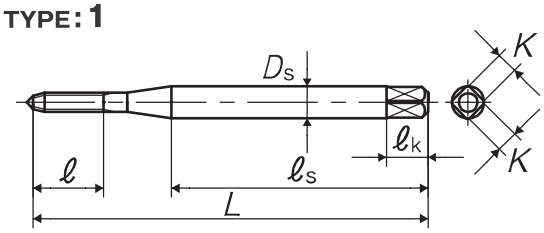
HSS | OX Oxide | 2~4

■N-RZ is the forming tap suitable for ferrous materials such as carbon steels, alloy steels, and normal steels.

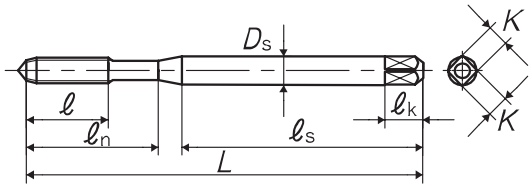
Tapping Speed depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼
5~15 (m/min)	5~15 (m/min)

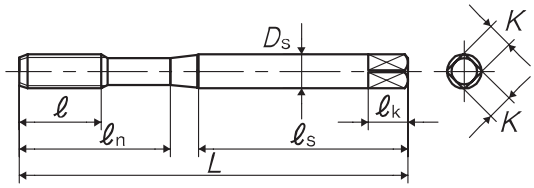
TYPE:1



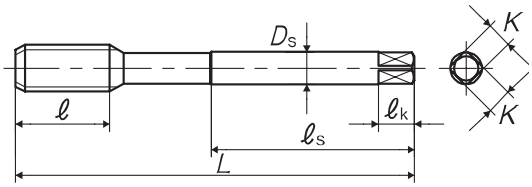
TYPE:2



TYPE:3



TYPE:4



Segment : 1J

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	TYPE
For Metric Threads												
M3 × 0.5	D5	389513M	4P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
M3 × 0.5	D5	389512M	2P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
M3.5 × 0.6	D6	389515M	4P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
M3.5 × 0.6	D6	389514M	2P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
M4 × 0.7	D6	389517M	4P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	4	2
M4 × 0.7	D6	389516M	2P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	4	2
M5 × 0.8	D7	389519M	4P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
M5 × 0.8	D7	389518M	2P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
M6 × 1	D8	389521M	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
M6 × 1	D8	389520M	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
M7 × 1	D9	389523M	4P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	4	3
M7 × 1	D9	389522M	2P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	4	3
M8 × 1.25	D9	389527M	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
M8 × 1.25	D9	389526M	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
M8 × 1	D9	389525M	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
M8 × 1	D9	389524M	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3

・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

N-RZ Roll Taps for Steels

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	TYPE
M10 × 1.5	D10	389531M	4P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	8	3
M10 × 1.5	D10	389530M	2P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	8	3
M10 × 1.25	D9	389529M	4P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	8	3
M10 × 1.25	D9	389528M	2P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	8	3
M12 × 1.75	D11	389535M	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
M12 × 1.75	D11	389534M	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
M12 × 1.25	D9	389533M	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
M12 × 1.25	D9	389532M	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
For Unified Threads												
No.0-80UNF	H2	389410M	2P	1.772	0.236	-	1.161	0.141	0.11	0.187	3	1
No.1-64UNC	H2	389411M	2P	1.772	0.276	-	1.161	0.141	0.11	0.187	3	1
No.1-72UNF	H2	389412M	2P	1.772	0.276	-	1.161	0.141	0.11	0.187	3	1
No.2-56UNC	H2	389413M	2P	1.772	0.314	-	1.161	0.141	0.11	0.187	4	1
No.2-56UNC	H3	389414M	2P	1.772	0.314	-	1.161	0.141	0.11	0.187	4	1
No.2-64UNF	H2	389415M	2P	1.772	0.314	-	1.161	0.141	0.11	0.187	4	1
No.2-64UNF	H3	389416M	2P	1.772	0.314	-	1.161	0.141	0.11	0.187	4	1
No.3-48UNC	H2	389417M	2P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	4	2
No.3-48UNC	H3	389418M	2P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	4	2
No.3-56UNF	H2	389419M	2P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	4	2
No.3-56UNF	H3	389420M	2P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	4	2
No.4-40UNC	H3	389423M	4P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.4-40UNC	H3	389421M	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.4-40UNC	H5	389424M	4P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.4-40UNC	H5	389422M	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.4-48UNF	H3	389427M	4P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.4-48UNF	H3	389425M	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.4-48UNF	H5	389428M	4P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.4-48UNF	H5	389426M	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.5-40UNC	H3	389431M	4P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
No.5-40UNC	H3	389429M	2P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
No.5-40UNC	H5	389432M	4P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
No.5-40UNC	H5	389430M	2P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
No.5-44UNF	H3	389435M	4P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
No.5-44UNF	H3	389433M	2P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
No.5-44UNF	H5	389436M	4P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
No.5-44UNF	H5	389434M	2P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
No.6-32UNC	H3	389440M	4P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.6-32UNC	H3	389437M	2P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.6-32UNC	H5	389441M	4P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.6-32UNC	H5	389438M	2P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.6-40UNF	H3	389444M	4P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.6-40UNF	H3	389442M	2P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.6-40UNF	H5	389445M	4P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.6-40UNF	H5	389443M	2P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.8-32UNC	H3	389448M	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-32UNC	H3	389446M	2P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-32UNC	H5	389449M	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-32UNC	H5	389447M	2P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-36UNF	H3	389452M	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-36UNF	H3	389450M	2P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

N-RZ Roll Taps for Steels

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	TYPE
No.8-36UNF	H5	389453M	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-36UNF	H5	389451M	2P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.10-24UNC	H4	389456M	4P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-24UNC	H4	389454M	2P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-24UNC	H6	389457M	4P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-24UNC	H6	389455M	2P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	H4	389460M	4P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	H4	389458M	2P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	H6	389461M	4P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	H6	389459M	2P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.12-24UNC	H4	389464M	4P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-24UNC	H4	389462M	2P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-24UNC	H6	389465M	4P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-24UNC	H6	389463M	2P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-28UNF	H4	389468M	4P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-28UNF	H4	389466M	2P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-28UNF	H6	389469M	4P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-28UNF	H6	389467M	2P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
1/4-20UNC	H4	389472M	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-20UNC	H4	389470M	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-20UNC	H6	389473M	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-20UNC	H6	389471M	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	H4	389476M	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	H4	389474M	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	H6	389477M	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	H6	389475M	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
5/16-18UNC	H5	389480M	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-18UNC	H5	389478M	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-18UNC	H7	389481M	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-18UNC	H7	389479M	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-24UNF	H5	389484M	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-24UNF	H5	389482M	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-24UNF	H7	389485M	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-24UNF	H7	389483M	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
3/8-16UNC	H5	389488M	4P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-16UNC	H5	389486M	2P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-16UNC	H7	389489M	4P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-16UNC	H7	389487M	2P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-24UNF	H5	389492M	4P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-24UNF	H5	389490M	2P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-24UNF	H7	389493M	4P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-24UNF	H7	389491M	2P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
7/16-14UNC	H5	389496M	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
7/16-14UNC	H5	389494M	2P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
7/16-14UNC	H7	389497M	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
7/16-14UNC	H7	389495M	2P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
7/16-20UNF	H5	389502M	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
7/16-20UNF	H5	389498M	2P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
7/16-20UNF	H7	389503M	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
7/16-20UNF	H7	389499M	2P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

N-RZ Roll Taps for Steels

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	TYPE
1/2-13UNC	H5	389506M	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
1/2-13UNC	H5	389504M	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
1/2-13UNC	H7	389507M	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
1/2-13UNC	H7	389505M	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
1/2-20UNF	H5	389510M	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
1/2-20UNF	H5	389508M	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
1/2-20UNF	H7	389511M	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
1/2-20UNF	H7	389509M	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4

Number of oil grooves : Metric thread : M3～M7 = 4, M8 = 3, M10 and larger = 4
Unified thread : No.4 and smaller = non, No.5～1/4 = 4, 5/16～3/8 = 3, 7/16 and larger = 4
For M6, 1/4 and smaller with 2P chamfer, the external center is cut off.

Think threads with YAMAWA

· This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

N-RS



Roll Taps for Non-Ferrous Materials

Specification

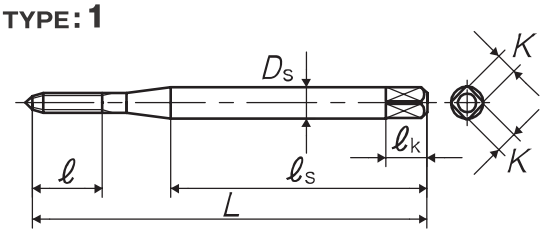
HSS | NI Nitride | 2~4

■N-RS is the forming tap suitable for non-ferrous materials such as aluminum castings, aluminum die castings and brass.

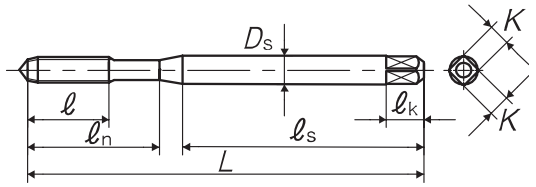
Tapping Speed depending on Materials

Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物	Zinc alloy castings 亜鉛合金鋳物
5~15 (m/min)	5~15 (m/min)	5~15 (m/min)

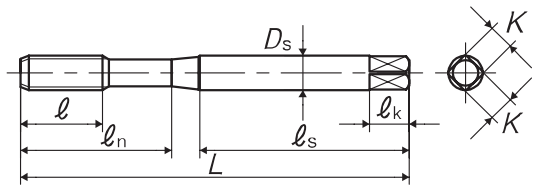
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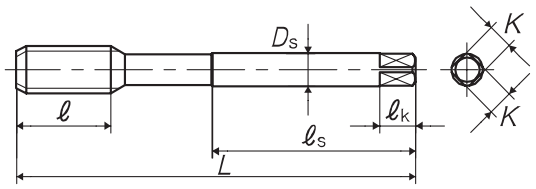
TYPE:2



TYPE:3



TYPE:4



Segment : 1J

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	TYPE
For Metric Threads												
M3 × 0.5	D5	388513M	4P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
M3 × 0.5	D5	388512M	2P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
M3.5 × 0.6	D6	388515M	4P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
M3.5 × 0.6	D6	388514M	2P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
M4 × 0.7	D6	388517M	4P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	4	2
M4 × 0.7	D6	388516M	2P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	4	2
M5 × 0.8	D7	388519M	4P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
M5 × 0.8	D7	388518M	2P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
M6 × 1	D8	388521M	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
M6 × 1	D8	388520M	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
M7 × 1	D9	388523M	4P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	4	3
M7 × 1	D9	388522M	2P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	4	3
M8 × 1.25	D9	388527M	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
M8 × 1.25	D9	388526M	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
M8 × 1	D9	388525M	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
M8 × 1	D9	388524M	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
M10 × 1.5	D10	388531M	4P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	6	3

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	TYPE
M10 × 1.5	D10	388530M	2P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	6	3
M10 × 1.25	D9	388529M	4P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	6	3
M10 × 1.25	D9	388528M	2P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	6	3
M12 × 1.75	D11	388535M	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	6	4
M12 × 1.75	D11	388534M	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	6	4
M12 × 1.25	D9	388533M	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	6	4
M12 × 1.25	D9	388532M	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	6	4
For Unified Threads												
No.0-80UNF	H2	388410M	2P	1.772	0.236	-	1.161	0.141	0.11	0.187	3	1
No.1-64UNC	H2	388411M	2P	1.772	0.276	-	1.161	0.141	0.11	0.187	3	1
No.1-72UNF	H2	388412M	2P	1.772	0.276	-	1.161	0.141	0.11	0.187	3	1
No.2-56UNC	H2	388413M	2P	1.772	0.314	-	1.161	0.141	0.11	0.187	4	1
No.2-56UNC	H3	388414M	2P	1.772	0.314	-	1.161	0.141	0.11	0.187	4	1
No.2-64UNF	H2	388415M	2P	1.772	0.314	-	1.161	0.141	0.11	0.187	4	1
No.2-64UNF	H3	388416M	2P	1.772	0.314	-	1.161	0.141	0.11	0.187	4	1
No.3-48UNC	H2	388417M	2P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	4	2
No.3-48UNC	H3	388418M	2P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	4	2
No.3-56UNF	H2	388419M	2P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	4	2
No.3-56UNF	H3	388420M	2P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	4	2
No.4-40UNC	H3	388423M	4P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.4-40UNC	H3	388421M	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.4-40UNC	H5	388424M	4P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.4-40UNC	H5	388422M	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.4-48UNF	H3	388427M	4P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.4-48UNF	H3	388425M	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.4-48UNF	H5	388428M	4P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.4-48UNF	H5	388426M	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.5-40UNC	H3	388431M	4P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
No.5-40UNC	H3	388429M	2P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
No.5-40UNC	H5	388432M	4P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
No.5-40UNC	H5	388430M	2P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
No.5-44UNF	H3	388435M	4P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
No.5-44UNF	H3	388433M	2P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
No.5-44UNF	H5	388436M	4P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
No.5-44UNF	H5	388434M	2P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
No.6-32UNC	H3	388440M	4P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.6-32UNC	H3	388437M	2P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.6-32UNC	H5	388441M	4P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.6-32UNC	H5	388438M	2P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.6-40UNF	H3	388444M	4P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.6-40UNF	H3	388442M	2P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.6-40UNF	H5	388445M	4P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.6-40UNF	H5	388443M	2P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.8-32UNC	H3	388448M	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-32UNC	H3	388446M	2P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-32UNC	H5	388449M	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-32UNC	H5	388447M	2P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-36UNF	H3	388452M	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-36UNF	H3	388450M	2P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-36UNF	H5	388453M	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2

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Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

N-RS Roll Taps for Non-Ferrous Materials

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	TYPE
No.8-36UNF	H5	388451M	2P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.10-24UNC	H4	388456M	4P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-24UNC	H4	388454M	2P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-24UNC	H6	388457M	4P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-24UNC	H6	388455M	2P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	H4	388460M	4P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	H4	388458M	2P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	H6	388461M	4P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	H6	388459M	2P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.12-24UNC	H4	388464M	4P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-24UNC	H4	388462M	2P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-24UNC	H6	388465M	4P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-24UNC	H6	388463M	2P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-28UNF	H4	388468M	4P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-28UNF	H4	388466M	2P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-28UNF	H6	388469M	4P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
No.12-28UNF	H6	388467M	2P	3.15	0.591	0.984	1.953	0.22	0.165	0.281	4	2
1/4-20UNC	H4	388472M	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-20UNC	H4	388470M	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-20UNC	H6	388473M	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-20UNC	H6	388471M	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	H4	388476M	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	H4	388474M	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	H6	388477M	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	H6	388475M	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
5/16-18UNC	H5	388480M	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-18UNC	H5	388478M	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-18UNC	H7	388481M	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-18UNC	H7	388479M	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-24UNF	H5	388484M	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-24UNF	H5	388482M	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-24UNF	H7	388485M	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-24UNF	H7	388483M	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
3/8-16UNC	H5	388488M	4P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-16UNC	H5	388486M	2P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-16UNC	H7	388489M	4P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-16UNC	H7	388487M	2P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-24UNF	H5	388492M	4P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-24UNF	H5	388490M	2P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-24UNF	H7	388493M	4P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-24UNF	H7	388491M	2P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
7/16-14UNC	H5	388496M	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	6	4
7/16-14UNC	H5	388494M	2P	3.937	0.906	-	2.008	0.323	0.242	0.406	6	4
7/16-14UNC	H7	388497M	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	6	4
7/16-14UNC	H7	388495M	2P	3.937	0.906	-	2.008	0.323	0.242	0.406	6	4
7/16-20UNF	H5	388502M	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	6	4
7/16-20UNF	H5	388498M	2P	3.937	0.906	-	2.008	0.323	0.242	0.406	6	4
7/16-20UNF	H7	388503M	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	6	4
7/16-20UNF	H7	388499M	2P	3.937	0.906	-	2.008	0.323	0.242	0.406	6	4
1/2-13UNC	H5	388506M	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	6	4

Think threads with YAMAWA

· This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

N-RS Roll Taps for Non-Ferrous Materials

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	TYPE
1/2-13UNC	H5	388504M	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	6	4
1/2-13UNC	H7	388507M	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	6	4
1/2-13UNC	H7	388505M	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	6	4
1/2-20UNF	H5	388510M	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	6	4
1/2-20UNF	H5	388508M	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	6	4
1/2-20UNF	H7	388511M	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	6	4
1/2-20UNF	H7	388509M	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	6	4

Number of oil grooves : Metric thread : =1
Unified thread : No.4 and smaller=non, No.5 and larger=1
For M6, 1/4 and smaller, external centers of 2P chamfer taps are removed.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ANSI

OL-RZ



Roll Taps for Dry Tapping, Coated

Specification

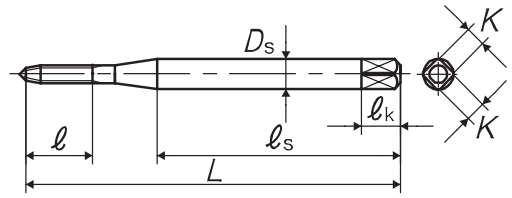
HSS-P | Coating | <1D | 4

■OL-RZ is the forming tap enabling dry tapping under following condition : tapping sizes of smaller than M6, thin steel sheets having burring operation, and steel parts with rather short length. Optimum coating suitable to the tapping condition.

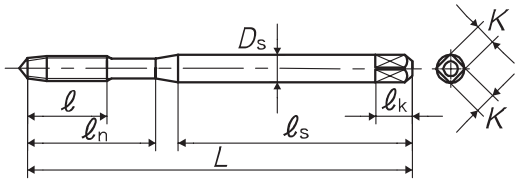
Tapping Speed depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼	Stainless steels ステンレス鋼	Aluminum alloy castings アルミ合金鋳物
15~30 (m/min)	15~30 (m/min)	15~25 (m/min)	15~25 (m/min)	15~25 (m/min)	10~25 (m/min)	15~30 (m/min)
				25~35HRC		

TYPE : 1



TYPE : 2



Segment : 1J

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	TYPE
For Metric Threads												
M3 × 0.5	D5	386610M	4P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
M3.5 × 0.6	D6	386611M	4P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
M4 × 0.7	D6	386612M	4P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	4	2
M5 × 0.8	D7	386614M	4P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
M6 × 1	D8	386615M	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
For Unified Threads												
No.2-56UNC	H3	386600M	4P	1.772	0.314	-	1.161	0.141	0.11	0.187	4	1
No.4-40UNC	H5	386601M	4P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.4-48UNF	H5	386602M	4P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.5-40UNC	H5	386603M	4P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
No.6-32UNC	H5	386604M	4P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.8-32UNC	H5	386605M	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.10-24UNC	H6	386606M	4P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	H6	386607M	4P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
1/4-20UNC	H6	386608M	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	H6	386609M	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2

Number of oil grooves : non

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HP-RZ



High Performance Roll Taps, Coated

Specification

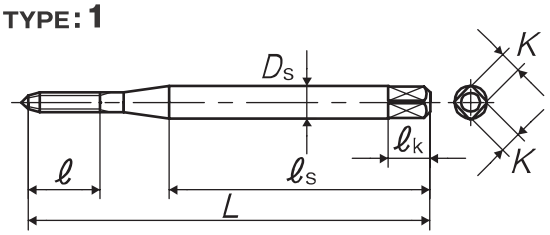
HSS-P | Coating | <1.5D | 2~4

■HP-RZ is the forming tap suitable for steels (up to 35HRC) and light alloys, and applicable to the high speed tapping. Optimum coating suitable to the tapping condition.

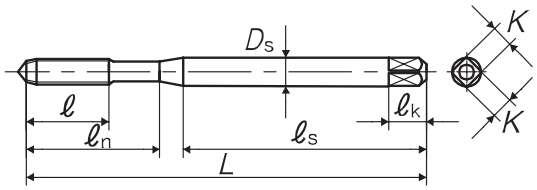
Tapping Speed depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼	Stainless steels ステンレス鋼	Aluminum alloy castings アルミ合金鋳物
15~30 (m/min)	15~30 (m/min)	15~25 (m/min)	15~25 (m/min)	15~25 (m/min)	10~25 (m/min)	15~30 (m/min)
				25~35HRC		

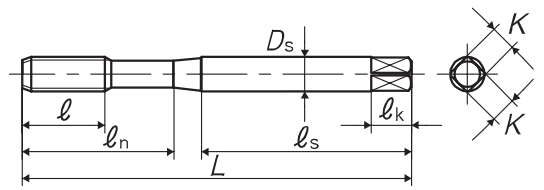
TYPE:1



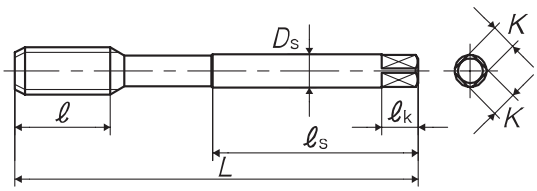
TYPE:2



TYPE:3



TYPE:4



Segment : 1J

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	TYPE
For Metric Threads												
M3 × 0.5	D5	386885M	4P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
M3 × 0.5	D5	386864M	2P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
M3.5 × 0.6	D6	386886M	4P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
M3.5 × 0.6	D6	386865M	2P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
M4 × 0.7	D6	386887M	4P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	4	2
M4 × 0.7	D6	386866M	2P	2.48	0.512	0.815	1.535	0.168	0.131	0.25	4	2
M5 × 0.8	D7	386888M	4P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
M5 × 0.8	D7	386867M	2P	2.756	0.551	0.984	1.654	0.194	0.152	0.25	4	2
M6 × 1	D8	386889M	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
M6 × 1	D8	386868M	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
M7 × 1	D9	386870M	4P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	4	3
M7 × 1	D9	386869M	2P	3.543	0.748	1.339	1.831	0.318	0.238	0.375	4	3
M8 × 1.25	D9	386874M	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
M8 × 1.25	D9	386873M	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
M8 × 1	D9	386872M	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
M8 × 1	D9	386871M	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
M10 × 1.5	D10	386878M	4P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	8	3

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	TYPE
M10 × 1.5	D10	386877M	2P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	8	3
M10 × 1.25	D9	386876M	4P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	8	3
M10 × 1.25	D9	386875M	2P	3.937	0.906	1.535	2.126	0.381	0.286	0.437	8	3
M12 × 1.75	D11	386884M	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
M12 × 1.75	D11	386883M	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
M12 × 1.5	D9	386882M	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
M12 × 1.5	D9	386881M	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
M12 × 1.25	D9	386880M	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
M12 × 1.25	D9	386879M	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
For Unified Threads												
No.0-80UNF	H2	386800M	2P	1.772	0.236	-	1.161	0.141	0.11	0.187	3	1
No.2-56UNC	H3	386801M	2P	1.772	0.314	-	1.161	0.141	0.11	0.187	4	1
No.3-48UNC	H3	386802M	2P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	4	2
No.3-56UNF	H3	386803M	2P	2.205	0.354	0.681	1.28	0.141	0.11	0.187	4	2
No.4-40UNC	H3	386804M	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.4-40UNC	H5	386805M	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.4-48UNF	H3	386806M	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.4-48UNF	H5	386807M	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	4	2
No.5-40UNC	H5	386799M	2P	2.205	0.433	0.736	1.339	0.141	0.11	0.187	4	2
No.6-32UNC	H3	386810M	4P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.6-32UNC	H3	386808M	2P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.6-32UNC	H5	386811M	4P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.6-32UNC	H5	386809M	2P	2.205	0.433	0.748	1.339	0.141	0.11	0.187	4	2
No.8-32UNC	H3	386814M	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-32UNC	H3	386812M	2P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-32UNC	H5	386815M	4P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.8-32UNC	H5	386813M	2P	2.48	0.512	0.827	1.535	0.168	0.131	0.25	4	2
No.10-24UNC	H4	386818M	4P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-24UNC	H4	386816M	2P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-24UNC	H6	386819M	4P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-24UNC	H6	386817M	2P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	H4	386822M	4P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	H4	386820M	2P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	H6	386823M	4P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
No.10-32UNF	H6	386821M	2P	2.756	0.551	0.945	1.654	0.194	0.152	0.25	4	2
1/4-20UNC	H4	386826M	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-20UNC	H4	386824M	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-20UNC	H6	386827M	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-20UNC	H6	386825M	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	H4	386830M	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	H4	386828M	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	H6	386831M	4P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
1/4-28UNF	H6	386829M	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	4	2
5/16-18UNC	H5	386834M	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-18UNC	H5	386832M	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-18UNC	H7	386835M	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-18UNC	H7	386833M	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-24UNF	H5	386838M	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-24UNF	H5	386836M	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
5/16-24UNF	H7	386839M	4P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HP-RZ High Performance Roll Taps, Coated

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	Lobe	TYPE
5/16-24UNF	H7	386837M	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	6	3
3/8-16UNC	H5	386842M	4P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-16UNC	H5	386840M	2P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-16UNC	H7	386843M	4P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-16UNC	H7	386841M	2P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-24UNF	H5	386846M	4P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-24UNF	H5	386844M	2P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-24UNF	H7	386847M	4P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
3/8-24UNF	H7	386845M	2P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	6	3
7/16-14UNC	H5	386850M	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
7/16-14UNC	H5	386848M	2P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
7/16-14UNC	H7	386851M	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
7/16-14UNC	H7	386849M	2P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
7/16-20UNF	H5	386854M	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
7/16-20UNF	H5	386852M	2P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
7/16-20UNF	H7	386855M	4P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
7/16-20UNF	H7	386853M	2P	3.937	0.906	-	2.008	0.323	0.242	0.406	8	4
1/2-13UNC	H5	386858M	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
1/2-13UNC	H5	386856M	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
1/2-13UNC	H7	386859M	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
1/2-13UNC	H7	386857M	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
1/2-20UNF	H5	386862M	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
1/2-20UNF	H5	386860M	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
1/2-20UNF	H7	386863M	4P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4
1/2-20UNF	H7	386861M	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	8	4

Number of oil grooves : Metric thread : M3～M7 = 2, M8 = 3, M10 and larger = 4
Unified thread : No.4 and smaller = non, No.5～1/4 = 2, 5/16～3/8 = 3, 7/16 and larger = 4
For M6, 1/4 and smaller, external centers of 2P chamfer taps are removed.

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⑦SPECIAL THREAD TAPS / SIMPLE INSPECTION TOOLS





	JIS	ANSI	DIN
AL-HT STI	⑦-3		
HT STI		⑦-6	
HT OX STI		⑦-8	
AL-SP STI	⑦-10		
SP STI		⑦-12	
SP OX STI		⑦-14	
ZELX NI SP STI		⑦-16	
AL-PO STI	⑦-18		
PO STI		⑦-19	
PO OX STI		⑦-21	
ZELX NI PO STI		⑦-23	
N-RS STI	⑦-25		
N-CT LA STI	⑦-26		
NT	⑦-27		
HT TRI	⑦-30		
SP TRI	⑦-31		
RLS-HT	⑦-32		
HT TV	⑦-33		
HT CTV	⑦-35		
HT CTC	⑦-36		
HT CTG	⑦-37		
HT Pg			⑦-38
HT BC	⑦-39		
SL BC	⑦-41		
SL LH BC	⑦-42		
HT MST	⑦-43		
SL Tr	⑦-44		
SL LH Tr	⑦-45		
SIT	⑦-47		
SITD	⑦-53		
CHECK PINS	⑦-57		
CPC-S	⑦-59		
CPC-T	⑦-71		
CPR-S	⑦-73		
CPR-T	⑦-75		
CPR-Y	⑦-77		
SA	⑦-79		
ITRD	⑦-81		

・For improvement, spec may change without advance notice.

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Selection chart of taps

Recommended tap: ◎: Most suitable tap, ○: Suitable tap
Recommended tapping fluid: ◆: Insoluble, ◆: Water-soluble

Tapping conditions	Machining, in low-speed tapping area		Machining, in low/middle speed tapping area					
Product symbol	NT	N-RS STI	AL-HT STI	AL-SP STI	AL-PO STI	N-CT LA STI	SL Tr	SL LH Tr
Tap material / Surface treatment	HSS	HSS / NI	HSS	HSS / NI	HSS	HF	HSS	HSS
Name	For general use	For helical coil wire screw thread inserts	For helical coil wire screw thread inserts				For trapezoidal threads	For trapezoidal threads For left-hand threads
								
Bored Hole Shape								
For Metric Threads	⑦-27	⑦-25	⑦-3	⑦-10	⑦-18	⑦-26		
For Unified Threads			⑦-5					
For Whitworth Threads	⑦-28							
For Screw Threads used on Sewing Machines								
Pipe Threads								
American Pipe Threads								
For Miniature Threads								
For Trapezoidal Threads							⑦-44	⑦-45

～S25C	Low carbon steels	◆	◎											◆	◎	◆	◎
S25C～S45C	Medium carbon steels	◆	○											◆	◎	◆	◎
S45C～	High carbon steels																
SCM	Alloy steels																
25～35HRC	Heat treated steel																
35～45HRC	Heat treated steel																
45～55HRC	Heat treated steel																
55～63HRC	Heat treated steel																
SUS	Stainless steels (SUS)																
SKD	Tool steels																
SC	Cast steels																
FC	Cast irons																
FCD	Ductile cast irons																
Cu	Copper																
Bs	Brass							◆	○	◆	◎						
BsC	Brass castings							◆	○	◆	◎						
PB	Bronze							◆	○	◆	◎						
AL	Wrought aluminum			◆	◎	◆	◎	◆	◎	◆	◎						
AC, ADC	Aluminum alloy casting			◆	◎	◆	◎	◆	◎	◆	◎	◆	◎				
Mg	Magnesium alloy die castings							◆	◎	◆	◎						
ZDC	Zinc alloy die castings			◆	◎	◆	◎	◆	◎	◆	◎	◆	◎				
	Titanium alloys																
	Nickel base alloys																
	Thermosetting plastic																
	Thermoplastic resin																

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ANSI

HT STI



Hand Taps for Helical Coil Wire Screw Thread Inserts

Specification

HSS

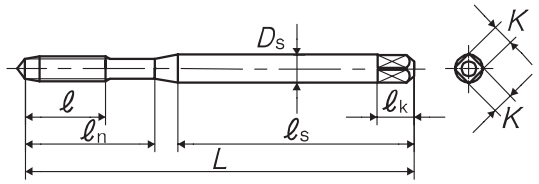


■Hand tap to cut internal threads for helical coil to enter.

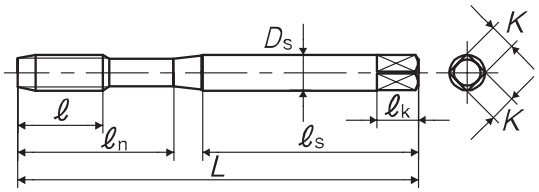
Tapping Speed depending on Materials

Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物	Zinc alloy castings 亜鉛合金鋳物
5~15 (m/min)	5~15 (m/min)	5~15 (m/min)

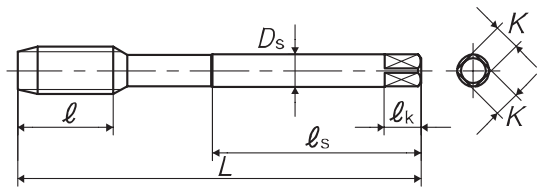
TYPE:1



TYPE:2



TYPE:3



Segment : 1A

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads												
No.2-56UNC	GH1	TUUN2E1NEB5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	1
No.2-56UNC	GH1	TUUN2E1NEBA	1.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	1
No.2-56UNC	GH2	TUUN2E2NEB5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	1
No.2-56UNC	GH2	TUUN2E2NEBA	1.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	1
No.4-40UNC	GH1	TUUN4H1NEB5	5P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	3	1
No.4-40UNC	GH1	TUUN4H1NEBA	1.5P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	3	1
No.4-40UNC	GH2	TUUN4H2NEB5	5P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	3	1
No.4-40UNC	GH2	TUUN4H2NEBA	1.5P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	3	1
No.6-32UNC	GH1	TUUN6J1NEB5	5P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	3	1
No.6-32UNC	GH1	TUUN6J1NEBA	1.5P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	3	1
No.6-32UNC	GH2	TUUN6J2NEB5	5P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	3	1
No.6-32UNC	GH2	TUUN6J2NEBA	1.5P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	3	1
No.8-32UNC	GH1	TUUN8J1NEB5	5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	3	1
No.8-32UNC	GH1	TUUN8J1NEBA	1.5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	3	1
No.8-32UNC	GH2	TUUN8J2NEB5	5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	3	1
No.8-32UNC	GH2	TUUN8J2NEBA	1.5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	3	1

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT STI Hand Taps for Helical Coil Wire Screw Thread Inserts

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
No.10-24UNC	GH2	TUUNAM2NEB5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-24UNC	GH2	TUUNAM2NEBA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-24UNC	GH3	TUUNAM3NEB5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-24UNC	GH3	TUUNAM3NEBA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-32UNF	GH2	TUUNAJ2NEB5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-32UNF	GH2	TUUNAJ2NEBA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-32UNF	GH3	TUUNAJ3NEB5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-32UNF	GH3	TUUNAJ3NEBA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
1/4-20UNC	GH2	TUU04N2NEB5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
1/4-20UNC	GH2	TUU04N2NEBA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
1/4-20UNC	GH3	TUU04N3NEB5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
1/4-20UNC	GH3	TUU04N3NEBA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
1/4-28UNF	GH2	TUU04K2NEB5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
1/4-28UNF	GH2	TUU04K2NEBA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
1/4-28UNF	GH3	TUU04K3NEB5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
1/4-28UNF	GH3	TUU04K3NEBA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
5/16-18UNC	GH2	TUU05O2NEB5	5P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	4	2
5/16-18UNC	GH2	TUU05O2NEBA	1.5P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	4	2
5/16-18UNC	GH3	TUU05O3NEB5	5P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	4	2
5/16-18UNC	GH3	TUU05O3NEBA	1.5P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	4	2
5/16-24UNF	GH2	TUU05M2NEB5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	2
5/16-24UNF	GH2	TUU05M2NEBA	1.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	2
5/16-24UNF	GH3	TUU05M3NEB5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	2
5/16-24UNF	GH3	TUU05M3NEBA	1.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	2
3/8-16UNC	GH3	TUU06P3NEB5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	3
3/8-16UNC	GH3	TUU06P3NEBA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	3
3/8-16UNC	GH4	TUU06P4NEB5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	3
3/8-16UNC	GH4	TUU06P4NEBA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	3
3/8-24UNF	GH2	TUU06M2NEB5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	3
3/8-24UNF	GH2	TUU06M2NEBA	1.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	3
3/8-24UNF	GH3	TUU06M3NEB5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	3
3/8-24UNF	GH3	TUU06M3NEBA	1.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	3
7/16-14UNC	GH3	TUU07Q3NEB5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
7/16-14UNC	GH3	TUU07Q3NEBA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
7/16-14UNC	GH4	TUU07Q4NEB5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
7/16-14UNC	GH4	TUU07Q4NEBA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
7/16-20UNF	GH3	TUU07N3NEB5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
7/16-20UNF	GH3	TUU07N3NEBA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
7/16-20UNF	GH4	TUU07N4NEB5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
7/16-20UNF	GH4	TUU07N4NEBA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
1/2-13UNC	GH3	TUU08R3NEB5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3
1/2-13UNC	GH3	TUU08R3NEBA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3
1/2-13UNC	GH4	TUU08R4NEB5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3
1/2-13UNC	GH4	TUU08R4NEBA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3
1/2-20UNF	GH3	TUU08N3NEB5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3
1/2-20UNF	GH3	TUU08N3NEBA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3
1/2-20UNF	GH4	TUU08N4NEB5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3
1/2-20UNF	GH4	TUU08N4NEBA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3

Think threads with YAMAWA

· This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ANSI

HT OX STI



Hand Taps for Helical Coil Wire Screw Thread Inserts, Oxided

Specification

HSS | OX Oxide

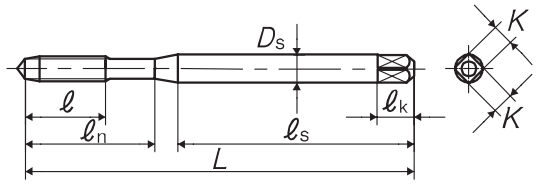


■Hand tap to cut internal threads for helical coil to enter.

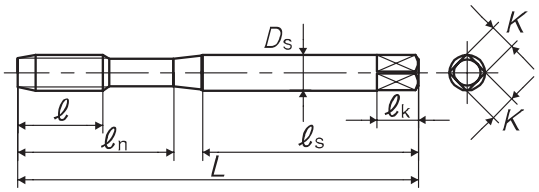
Tapping Speed depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼
5~10 (m/min)	5~10 (m/min)

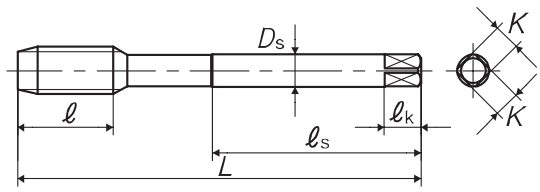
TYPE:1



TYPE:2



TYPE:3



Segment : 1A

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads												
No.2-56UNC	GH1	TUUN2E1NEX5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	1
No.2-56UNC	GH1	TUUN2E1NEXA	1.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	1
No.2-56UNC	GH2	TUUN2E2NEX5	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	1
No.2-56UNC	GH2	TUUN2E2NEXA	1.5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	3	1
No.4-40UNC	GH1	TUUN4H1NEX5	5P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	3	1
No.4-40UNC	GH1	TUUN4H1NEXA	1.5P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	3	1
No.4-40UNC	GH2	TUUN4H2NEX5	5P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	3	1
No.4-40UNC	GH2	TUUN4H2NEXA	1.5P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	3	1
No.6-32UNC	GH1	TUUN6J1NEX5	5P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	3	1
No.6-32UNC	GH1	TUUN6J1NEXA	1.5P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	3	1
No.6-32UNC	GH2	TUUN6J2NEX5	5P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	3	1
No.6-32UNC	GH2	TUUN6J2NEXA	1.5P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	3	1
No.8-32UNC	GH1	TUUN8J1NEX5	5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	3	1
No.8-32UNC	GH1	TUUN8J1NEXA	1.5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	3	1
No.8-32UNC	GH2	TUUN8J2NEX5	5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	3	1
No.8-32UNC	GH2	TUUN8J2NEXA	1.5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	3	1

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

HT OX STI Hand Taps for Helical Coil Wire Screw Thread Inserts, Oxided

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
No.10-24UNC	GH2	TUUNAM2NEX5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-24UNC	GH2	TUUNAM2NEXA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-24UNC	GH3	TUUNAM3NEX5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-24UNC	GH3	TUUNAM3NEXA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-32UNF	GH2	TUUNAJ2NEX5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-32UNF	GH2	TUUNAJ2NEXA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-32UNF	GH3	TUUNAJ3NEX5	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-32UNF	GH3	TUUNAJ3NEXA	1.5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
1/4-20UNC	GH2	TUU04N2NEX5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
1/4-20UNC	GH2	TUU04N2NEXA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
1/4-20UNC	GH3	TUU04N3NEX5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
1/4-20UNC	GH3	TUU04N3NEXA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
1/4-28UNF	GH2	TUU04K2NEX5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
1/4-28UNF	GH2	TUU04K2NEXA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
1/4-28UNF	GH3	TUU04K3NEX5	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
1/4-28UNF	GH3	TUU04K3NEXA	1.5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
5/16-18UNC	GH2	TUU05O2NEX5	5P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	4	2
5/16-18UNC	GH2	TUU05O2NEXA	1.5P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	4	2
5/16-18UNC	GH3	TUU05O3NEX5	5P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	4	2
5/16-18UNC	GH3	TUU05O3NEXA	1.5P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	4	2
5/16-24UNF	GH2	TUU05M2NEX5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	2
5/16-24UNF	GH2	TUU05M2NEXA	1.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	2
5/16-24UNF	GH3	TUU05M3NEX5	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	2
5/16-24UNF	GH3	TUU05M3NEXA	1.5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	4	2
3/8-16UNC	GH3	TUU06P3NEX5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	3
3/8-16UNC	GH3	TUU06P3NEXA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	3
3/8-16UNC	GH4	TUU06P4NEX5	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	3
3/8-16UNC	GH4	TUU06P4NEXA	1.5P	4.331	1.024	-	2.205	0.367	0.275	0.437	4	3
3/8-24UNF	GH2	TUU06M2NEX5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	3
3/8-24UNF	GH2	TUU06M2NEXA	1.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	3
3/8-24UNF	GH3	TUU06M3NEX5	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	3
3/8-24UNF	GH3	TUU06M3NEXA	1.5P	3.937	0.906	-	2.008	0.323	0.242	0.406	4	3
7/16-14UNC	GH3	TUU07Q3NEX5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
7/16-14UNC	GH3	TUU07Q3NEXA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
7/16-14UNC	GH4	TUU07Q4NEX5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
7/16-14UNC	GH4	TUU07Q4NEXA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
7/16-20UNF	GH3	TUU07N3NEX5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
7/16-20UNF	GH3	TUU07N3NEXA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
7/16-20UNF	GH4	TUU07N4NEX5	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
7/16-20UNF	GH4	TUU07N4NEXA	1.5P	4.331	1.024	-	2.205	0.429	0.322	0.5	4	3
1/2-13UNC	GH3	TUU08R3NEX5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3
1/2-13UNC	GH3	TUU08R3NEXA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3
1/2-13UNC	GH4	TUU08R4NEX5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3
1/2-13UNC	GH4	TUU08R4NEXA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3
1/2-20UNF	GH3	TUU08N3NEX5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3
1/2-20UNF	GH3	TUU08N3NEXA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3
1/2-20UNF	GH4	TUU08N4NEX5	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3
1/2-20UNF	GH4	TUU08N4NEXA	1.5P	4.331	1.024	-	2.205	0.48	0.36	0.562	4	3

Think threads with YAMAWA

· This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ANSI

SP STI



Spiral Fluted Taps for Helical Coil Wire Screw Thread Inserts

Specification

HSS

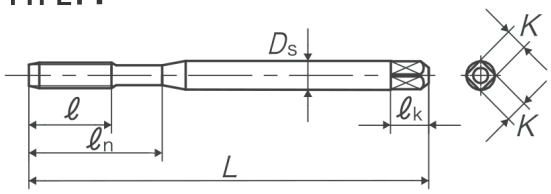


■Spiral pointed tap to cut internal threads for helical coil to enter.

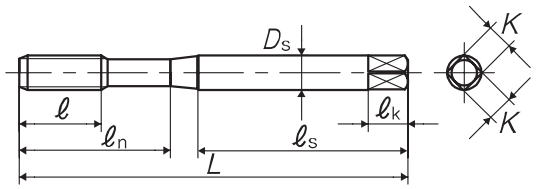
Tapping Speed depending on Materials

Brass 黄銅	Brass castings 黄銅鋳物	Bronze 青銅	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物	Magnesium alloy die castings マグネシウム合金鋳物	Zinc alloy castings 亜鉛合金鋳物
5~15 (m/min)	5~15 (m/min)	5~15 (m/min)	5~15 (m/min)	5~15 (m/min)	5~15 (m/min)	5~15 (m/min)

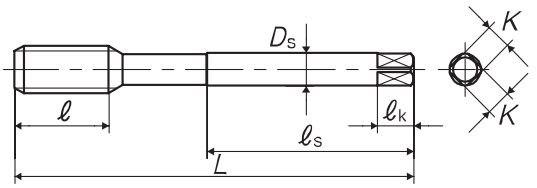
TYPE:1



TYPE:2



TYPE:3



Segment : 1C

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads												
No.2-56UNC	GH1	SUUN2E1NEB	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	1
No.2-56UNC	GH2	SUUN2E2NEB	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	1
No.4-40UNC	GH1	SUUN4H1NEB	2P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	2	1
No.4-40UNC	GH2	SUUN4H2NEB	2P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	2	1
No.6-32UNC	GH1	SUUN6J1NEB	2P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	3	1
No.6-32UNC	GH2	SUUN6J2NEB	2P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	3	1
No.8-32UNC	GH1	SUUN8J1NEB	2P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	3	1
No.8-32UNC	GH2	SUUN8J2NEB	2P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	3	1
No.10-24UNC	GH2	SUUNAM2NEB	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-24UNC	GH3	SUUNAM3NEB	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-32UNF	GH2	SUUNAJ2NEB	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-32UNF	GH3	SUUNAJ3NEB	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
1/4-20UNC	GH2	SUU04N2NEB	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
1/4-20UNC	GH3	SUU04N3NEB	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
1/4-28UNF	GH2	SUU04K2NEB	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SP STI Spiral Fluted Taps for Helical Coil Wire Screw Thread Inserts

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
1/4-28UNF	GH3	SUU04K3NEB	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
5/16-18UNC	GH2	SUU05O2NEB	2P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	3	2
5/16-18UNC	GH3	SUU05O3NEB	2P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	3	2
5/16-24UNF	GH2	SUU05M2NEB	2P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	2
5/16-24UNF	GH3	SUU05M3NEB	2P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	2
3/8-16UNC	GH2	SUU06P2NEB	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	3
3/8-16UNC	GH3	SUU06P3NEB	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	3
3/8-24UNF	GH2	SUU06M2NEB	2P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	3
3/8-24UNF	GH3	SUU06M3NEB	2P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	3
7/16-14UNC	GH2	SUU07Q2NEB	2P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
7/16-14UNC	GH3	SUU07Q3NEB	2P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
7/16-20UNF	GH2	SUU07N2NEB	2P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
7/16-20UNF	GH3	SUU07N3NEB	2P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
1/2-13UNC	GH2	SUU08R2NEB	2P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	3
1/2-13UNC	GH3	SUU08R3NEB	2P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	3
1/2-20UNF	GH2	SUU08N2NEB	2P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	3
1/2-20UNF	GH3	SUU08N3NEB	2P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	3

Think threads with YAMAWA

· This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ANSI

SP OX STI



Spiral Fluted Taps for Helical Coil Wire Screw Thread Inserts, Oxided

Specification

HSS | OX Oxide

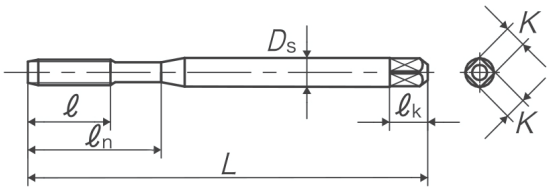


Tapping Speed depending on Materials

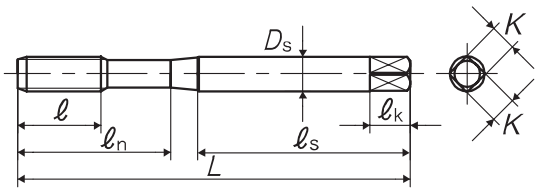
Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼
5~10 (m/min)	5~10 (m/min)

■On parts made from comparatively soft materials, helical coil wire thread inserts are often used in order to strengthen internal screws and increase toughness. SP OX STI produces threads oversize enough to accommodate helical coil wire thread inserts.

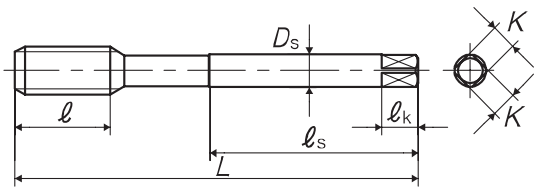
TYPE:1



TYPE:2



TYPE:3



Segment : 1C

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads												
No.2-56UNC	GH1	SUUN2E1NEX	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	1
No.2-56UNC	GH2	SUUN2E2NEX	2P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	1
No.4-40UNC	GH1	SUUN4H1NEX	2P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	2	1
No.4-40UNC	GH2	SUUN4H2NEX	2P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	2	1
No.6-32UNC	GH1	SUUN6J1NEX	2P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	3	1
No.6-32UNC	GH2	SUUN6J2NEX	2P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	3	1
No.8-32UNC	GH1	SUUN8J1NEX	2P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	3	1
No.8-32UNC	GH2	SUUN8J2NEX	2P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	3	1
No.10-24UNC	GH2	SUUNAM2NEX	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-24UNC	GH3	SUUNAM3NEX	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-32UNF	GH2	SUUNAJ2NEX	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
No.10-32UNF	GH3	SUUNAJ3NEX	2P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	3	1
1/4-20UNC	GH2	SUU04N2NEX	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
1/4-20UNC	GH3	SUU04N3NEX	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
1/4-28UNF	GH2	SUU04K2NEX	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
1/4-28UNF	GH3	SUU04K3NEX	2P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	3	2
5/16-18UNC	GH2	SUU05O2NEX	2P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	3	2

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

SP OX STI Spiral Fluted Taps for Helical Coil Wire Screw Thread Inserts, Oxided

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
5/16-18UNC	GH3	SUU05O3NEX	2P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	3	2
5/16-24UNF	GH2	SUU05M2NEX	2P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	2
5/16-24UNF	GH3	SUU05M3NEX	2P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	3	2
3/8-16UNC	GH2	SUU06P2NEX	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	3
3/8-16UNC	GH3	SUU06P3NEX	2P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	3
3/8-24UNF	GH2	SUU06M2NEX	2P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	3
3/8-24UNF	GH3	SUU06M3NEX	2P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	3
7/16-14UNC	GH2	SUU07Q2NEX	2P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
7/16-14UNC	GH3	SUU07Q3NEX	2P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
7/16-20UNF	GH2	SUU07N2NEX	2P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
7/16-20UNF	GH3	SUU07N3NEX	2P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
1/2-13UNC	GH2	SUU08R2NEX	2P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	3
1/2-13UNC	GH3	SUU08R3NEX	2P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	3
1/2-20UNF	GH2	SUU08N2NEX	2P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	3
1/2-20UNF	GH3	SUU08N3NEX	2P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	3

· This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ANSI

ZELX NI SP STI



Spiral Fluted Taps for Helical Coil Wire Screw Thread Inserts and for Nickel Base Alloys

Specification

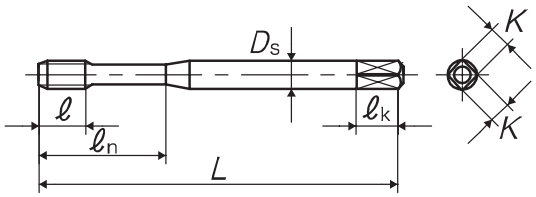
HSS-P | NX Nitride+Oxide |  | Synchro nized

Tapping Speed depending on Materials

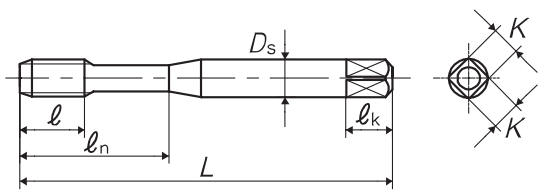
Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Stainless steels ステンレス鋼	Nickel base alloys ニッケル基合金
5~15 (m/min)	5~15 (m/min)	5~15 (m/min)	5~10 (m/min)

■ZELX NI SP STI is the tap for nickel base alloys which, with nickel as main composition, have much higher corrosion resistance and higher heat resistance than steels, and produces threads oversize enough to accommodate helical coil wire thread inserts.

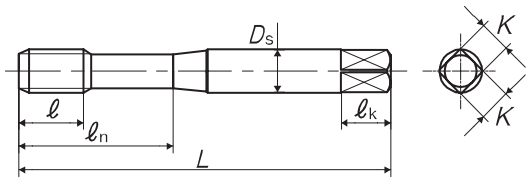
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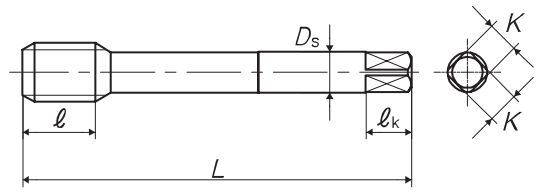
TYPE:2



TYPE:3



TYPE:4



Segment : 1D

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads											
No.2-56UNC	GH2	Y87400	3P	1.875	0.236	0.562	0.141	0.11	0.187	3	1
No.4-40UNC	GH1	Y87403	3P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.4-40UNC	GH2	Y87404	3P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.4-40UNC	GH2	Y87004	1.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.4-40UNC	GH3	Y87420	3P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.4-40UNC	GH3	Y87419	1.5P	2	0.276	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH2	Y87408	3P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.6-32UNC	GH2	Y87008	1.5P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.6-32UNC	GH3	Y87424	3P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.6-32UNC	GH3	Y87425	1.5P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.6-32UNC	GH5	Y87042	1.5P	2.375	0.354	0.875	0.194	0.152	0.25	3	1
No.6-40UNF	GH2	Y87409	3P	2.125	0.276	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH1	Y81409	3P	2.375	0.354	0.937	0.22	0.165	0.281	3	1
No.8-32UNC	GH2	Y87410	3P	2.375	0.354	0.937	0.22	0.165	0.281	3	1
No.8-32UNC	GH2	Y87026	1.5P	2.375	0.354	0.937	0.22	0.165	0.281	3	1
No.8-32UNC	GH3	Y87426	3P	2.375	0.354	0.937	0.22	0.165	0.281	3	1

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX NI SP STI Spiral Fluted Taps for Helical Coil Wire Screw Thread Inserts and for Nickel Base Alloys

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
No.10-24UNC	GH2	Y87412	3P	2.5	0.433	1	0.255	0.191	0.312	3	2
No.10-24UNC	GH2	Y87012	1.5P	2.5	0.433	1	0.255	0.191	0.312	3	2
No.10-24UNC	GH3	Y87428	3P	2.5	0.433	1	0.255	0.191	0.312	3	2
No.10-24UNC	GH3	Y87028	1.5P	2.5	0.433	1	0.255	0.191	0.312	3	2
No.10-24UNC	GH5	Y87445	1.5P	2.5	0.433	1	0.255	0.191	0.312	3	2
No.10-32UNF	GH2	Y87413	3P	2.5	0.354	1	0.255	0.191	0.312	3	2
No.10-32UNF	GH3	Y87429	3P	2.5	0.354	1	0.255	0.191	0.312	3	2
No.10-32UNF	GH3	Y87029	1.5P	2.5	0.354	1	0.255	0.191	0.312	3	2
No.10-32UNF	GH5	Y87057	1.5P	2.5	0.354	1	0.255	0.191	0.312	3	2
1/4-20UNC	GH2	Y87448	3P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
1/4-20UNC	GH3	Y87458	3P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
1/4-20UNC	GH3	Y87058	1.5P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
1/4-20UNC	GH5	Y87090	1.5P	2.718	0.472	1.125	0.318	0.238	0.375	3	3
1/4-28UNF	GH2	Y87449	3P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
1/4-28UNF	GH2	Y87059	1.5P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
1/4-28UNF	GH3	Y87459	3P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
1/4-28UNF	GH5	Y87091	1.5P	2.718	0.394	1.125	0.318	0.238	0.375	3	3
5/16-18UNC	GH2	Y87060	1.5P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
5/16-18UNC	GH3	Y87460	3P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
5/16-18UNC	GH4	Y87470	3P	2.937	0.551	1.25	0.381	0.286	0.437	3	3
5/16-24UNF	GH2	Y87451	3P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
5/16-24UNF	GH3	Y87461	3P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
5/16-24UNF	GH3	Y87061	1.5P	2.937	0.394	1.25	0.381	0.286	0.437	3	3
3/8-16UNC	GH3	Y87462	3P	3.375	0.63	-	0.367	0.275	0.437	3	4
3/8-16UNC	GH3	Y87062	1.5P	3.375	0.63	-	0.367	0.275	0.437	3	4
3/8-16UNC	GH4	Y87472	3P	3.375	0.63	-	0.367	0.275	0.437	3	4
3/8-24UNF	GH2	Y87453	3P	3.156	0.472	-	0.323	0.242	0.406	3	4
3/8-24UNF	GH2	Y87063	1.5P	3.156	0.472	-	0.323	0.242	0.406	3	4
3/8-24UNF	GH3	Y87463	3P	3.156	0.472	-	0.323	0.242	0.406	3	4
3/8-24UNF	GH5	Y87085	1.5P	3.156	0.472	-	0.323	0.242	0.406	3	4
7/16-14UNC	GH3	Y87464	3P	3.593	0.709	-	0.429	0.322	0.5	3	4
7/16-20UNF	GH3	Y87465	3P	3.375	0.472	-	0.367	0.275	0.437	3	4
7/16-20UNF	GH3	Y87065	1.5P	3.375	0.472	-	0.367	0.275	0.437	3	4
7/16-20UNF	GH4	Y87475	3P	3.375	0.472	-	0.367	0.275	0.437	3	4
1/2-13UNC	GH3	Y87466	3P	3.812	0.748	-	0.48	0.36	0.562	3	4
1/2-13UNC	GH3	Y87066	1.5P	3.812	0.748	-	0.48	0.36	0.562	3	4
1/2-13UNC	GH5	Y87088	1.5P	3.812	0.748	-	0.48	0.36	0.562	3	4
1/2-20UNF	GH3	Y87467	3P	3.593	0.512	-	0.429	0.322	0.5	3	4
1/2-20UNF	GH3	Y87067	1.5P	3.593	0.512	-	0.429	0.322	0.5	3	4

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ANSI

PO STI



Spiral Pointed Taps for Helical Coil Wire Screw Thread Inserts

Specification

HSS

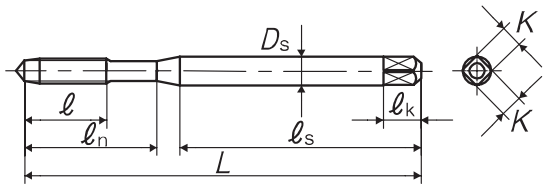


■Spiral pointed tap to cut internal threads for helical coil to enter.

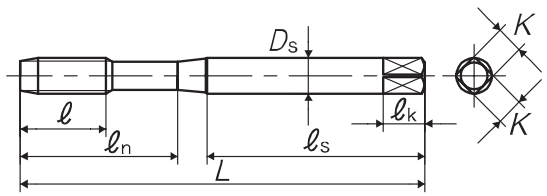
Tapping Speed depending on Materials

Brass 黄銅	Brass castings 黄銅鋳物	Bronze 青銅	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物	Magnesium alloy die castings マグネシウム合金鋳物	Zinc alloy castings 亜鉛合金鋳物
5~15 (m/min)	5~15 (m/min)	5~15 (m/min)	5~15 (m/min)	5~15 (m/min)	5~15 (m/min)	5~15 (m/min)

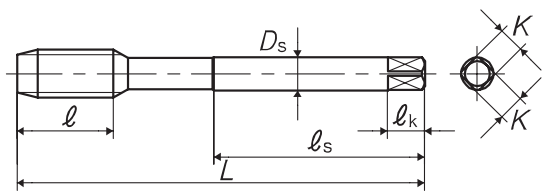
TYPE:1



TYPE:2



TYPE:3



Segment : 1E

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads												
No.2-56UNC	GH1	PUUN2E1NEB	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	1
No.2-56UNC	GH2	PUUN2E2NEB	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	1
No.4-40UNC	GH1	PUUN4H1NEB	5P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	2	1
No.4-40UNC	GH2	PUUN4H2NEB	5P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	2	1
No.6-32UNC	GH1	PUUN6J1NEB	5P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	2	1
No.6-32UNC	GH2	PUUN6J2NEB	5P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	2	1
No.8-32UNC	GH1	PUUN8J1NEB	5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	2	1
No.8-32UNC	GH2	PUUN8J2NEB	5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	2	1
No.10-24UNC	GH2	PUUNAM2NEB	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	2	1
No.10-24UNC	GH3	PUUNAM3NEB	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	2	1
No.10-32UNF	GH2	PUUNAJ2NEB	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	2	1
No.10-32UNF	GH3	PUUNAJ3NEB	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	2	1
1/4-20UNC	GH2	PUU04N2NEB	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	2	2
1/4-20UNC	GH3	PUU04N3NEB	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	2	2
1/4-28UNF	GH2	PUU04K2NEB	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	2	2
1/4-28UNF	GH3	PUU04K3NEB	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	2	2

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
5/16-18UNC	GH2	PUU05O2NEB	5P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	2	2
5/16-18UNC	GH3	PUU05O3NEB	5P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	2	2
5/16-24UNF	GH2	PUU05M2NEB	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	2	2
5/16-24UNF	GH3	PUU05M3NEB	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	2	2
3/8-16UNC	GH3	PUU06P3NEB	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	3
3/8-16UNC	GH4	PUU06P4NEB	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	3
3/8-24UNF	GH2	PUU06M2NEB	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	3
3/8-24UNF	GH3	PUU06M3NEB	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	3
7/16-14UNC	GH3	PUU07Q3NEB	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
7/16-14UNC	GH4	PUU07Q4NEB	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
7/16-20UNF	GH3	PUU07N3NEB	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
7/16-20UNF	GH4	PUU07N4NEB	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
1/2-13UNC	GH3	PUU08R3NEB	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	3
1/2-13UNC	GH4	PUU08R4NEB	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	3
1/2-20UNF	GH3	PUU08N3NEB	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	3
1/2-20UNF	GH4	PUU08N4NEB	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	3

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Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

ANSI

PO OX STI



Spiral Pointed Taps for Helical Coil Wire Screw Thread Inserts, Oxidized

Specification

HSS | OX Oxide

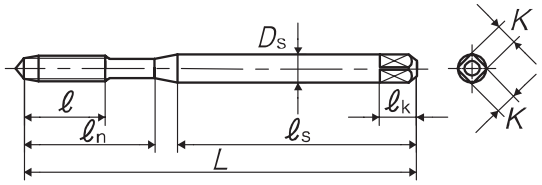


■Spiral pointed tap to cut internal threads for helical coil to enter.

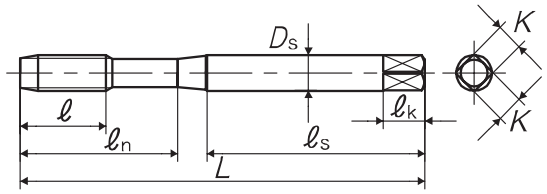
Tapping Speed depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼
5~10 (m/min)	5~10 (m/min)

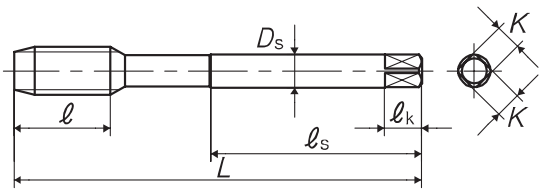
TYPE : 1



TYPE : 2



TYPE : 3



Segment : 1E

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads												
No.2-56UNC	GH1	PUUN2E1NEX	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	1
No.2-56UNC	GH2	PUUN2E2NEX	5P	2.205	0.354	0.709	1.28	0.141	0.11	0.187	2	1
No.4-40UNC	GH1	PUUN4H1NEX	5P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	2	1
No.4-40UNC	GH2	PUUN4H2NEX	5P	2.48	0.512	0.827	1.496	0.168	0.131	0.25	2	1
No.6-32UNC	GH1	PUUN6J1NEX	5P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	2	1
No.6-32UNC	GH2	PUUN6J2NEX	5P	2.756	0.551	0.945	1.654	0.194	0.131	0.25	2	1
No.8-32UNC	GH1	PUUN8J1NEX	5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	2	1
No.8-32UNC	GH2	PUUN8J2NEX	5P	3.15	0.591	0.984	1.929	0.22	0.165	0.281	2	1
No.10-24UNC	GH2	PUUNAM2NEX	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	2	1
No.10-24UNC	GH3	PUUNAM3NEX	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	2	1
No.10-32UNF	GH2	PUUNAJ2NEX	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	2	1
No.10-32UNF	GH3	PUUNAJ3NEX	5P	3.15	0.591	1.181	1.713	0.255	0.191	0.312	2	1
1/4-20UNC	GH2	PUU04N2NEX	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	2	2
1/4-20UNC	GH3	PUU04N3NEX	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	2	2
1/4-28UNF	GH2	PUU04K2NEX	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	2	2
1/4-28UNF	GH3	PUU04K3NEX	5P	3.543	0.748	1.378	1.831	0.318	0.238	0.375	2	2
5/16-18UNC	GH2	PUU05O2NEX	5P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	2	2

Think threads with YAMAWA

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Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	ℓs	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	ℓs (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
5/16-18UNC	GH3	PUU05O3NEX	5P	3.937	0.906	1.535	2.067	0.381	0.286	0.437	2	2
5/16-24UNF	GH2	PUU05M2NEX	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	2	2
5/16-24UNF	GH3	PUU05M3NEX	5P	3.937	0.906	1.535	2.028	0.381	0.286	0.437	2	2
3/8-16UNC	GH3	PUU06P3NEX	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	3
3/8-16UNC	GH4	PUU06P4NEX	5P	4.331	1.024	-	2.205	0.367	0.275	0.437	3	3
3/8-24UNF	GH2	PUU06M2NEX	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	3
3/8-24UNF	GH3	PUU06M3NEX	5P	3.937	0.906	-	2.008	0.323	0.242	0.406	3	3
7/16-14UNC	GH3	PUU07Q3NEX	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
7/16-14UNC	GH4	PUU07Q4NEX	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
7/16-20UNF	GH3	PUU07N3NEX	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
7/16-20UNF	GH4	PUU07N4NEX	5P	4.331	1.024	-	2.205	0.429	0.322	0.5	3	3
1/2-13UNC	GH3	PUU08R3NEX	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	3
1/2-13UNC	GH4	PUU08R4NEX	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	3
1/2-20UNF	GH3	PUU08N3NEX	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	3
1/2-20UNF	GH4	PUU08N4NEX	5P	4.331	1.024	-	2.205	0.48	0.36	0.562	3	3

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

ZELX NI PO STI



Spiral Pointed Taps for Helical Coil Wire Screw Thread Inserts and for Nickel Base Alloys

Specification

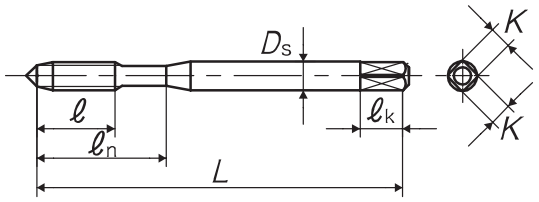
HSS-P | NX Nitride+Oxide |  | Synchro nized

Tapping Speed depending on Materials

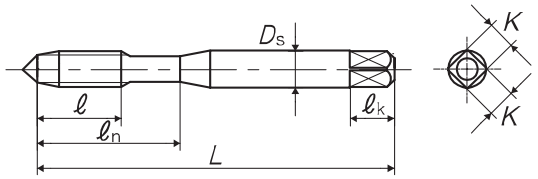
Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Nickel base alloys ニッケル基合金
5~10 (m/min)	5~10 (m/min)	5~10 (m/min)	5~10 (m/min)

■ZELX NI PO STI is the spiral pointed tap for nickel base alloys which, with nickel as main composition, have much higher corrosion resistance and much higher heat resistance than steels, and produces threads oversize enough to accommodate helical coil wire thread inserts.

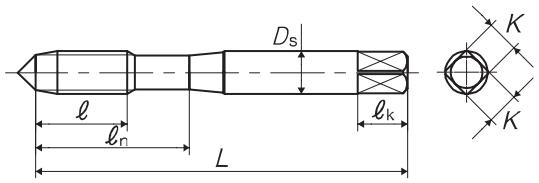
TYPE:1



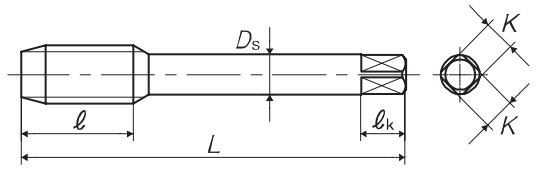
TYPE:2



TYPE:3



TYPE:4



Segment : 1E

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Unified Threads											
No.2-56UNC	GH2	Y87200	4.5P	1.875	0.335	0.562	0.141	0.11	0.187	2	1
No.4-40UNC	GH1	Y87203	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.4-40UNC	GH2	Y87204	4.5P	2	0.413	0.687	0.141	0.11	0.187	3	1
No.6-32UNC	GH2	Y87208	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.6-32UNC	GH3	Y87224	4.5P	2.375	0.531	0.875	0.194	0.152	0.25	3	1
No.6-40UNF	GH2	Y87209	4.5P	2.125	0.453	0.75	0.168	0.131	0.25	3	1
No.8-32UNC	GH2	Y87210	4.5P	2.375	0.571	0.937	0.22	0.165	0.281	3	1
No.8-32UNC	GH3	Y87226	4.5P	2.375	0.571	0.937	0.22	0.165	0.281	3	1
No.10-24UNC	GH2	Y87212	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
No.10-24UNC	GH3	Y87228	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
No.10-32UNF	GH2	Y87213	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
No.10-32UNF	GH3	Y87229	4.5P	2.5	0.591	1	0.255	0.191	0.312	3	2
1/4-20UNC	GH2	Y87248	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
1/4-20UNC	GH3	Y87258	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
1/4-28UNF	GH2	Y87249	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
1/4-28UNF	GH3	Y87259	4.5P	2.718	0.669	1.125	0.318	0.238	0.375	3	3
5/16-18UNC	GH3	Y87260	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3

Think threads with YAMAWA

・This product is different from JIS products in shape and dimensions, please be careful when using.

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Overall length	Thread length	Thread + Neck length	Shank dia.	Size of square	Length of square
L	ℓ	ℓn	Ds	K	ℓk

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	ℓn (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
5/16-18UNC	GH4	Y87272	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
5/16-24UNF	GH2	Y87251	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
5/16-24UNF	GH3	Y87261	4.5P	2.937	0.748	1.25	0.381	0.286	0.437	3	3
3/8-16UNC	GH3	Y87262	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
3/8-16UNC	GH4	Y87270	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
3/8-24UNF	GH2	Y87253	4.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
3/8-24UNF	GH3	Y87263	4.5P	3.156	0.866	-	0.323	0.242	0.406	3	4
7/16-14UNC	GH3	Y87264	4.5P	3.593	0.984	-	0.429	0.322	0.5	3	4
7/16-20UNF	GH3	Y87265	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
7/16-20UNF	GH4	Y87275	4.5P	3.375	0.984	-	0.367	0.275	0.437	3	4
1/2-13UNC	GH3	Y87266	4.5P	3.812	1.083	-	0.48	0.36	0.562	3	4
1/2-20UNF	GH3	Y87267	4.5P	3.593	0.984	-	0.429	0.322	0.5	3	4

・This product is different from JIS products in shape and dimensions, please be careful when using.

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JIS • ANSI • DIN

LINE UP

⑧ PIPE TAP SERIES



	JIS	ANSI	DIN
AUSP Rc	⑧-7		
AUSP Rp	⑧-9		
AUSP G	⑧-11		
Rc	⑧-13		
PT	⑧-14		
PT LH	⑧-15		
PT-X	⑧-16		
S-PT	⑧-17		
S-PT LH	⑧-18		
LS-PT	⑧-19		
LS-S-PT	⑧-20		
SP-PT	⑧-21		
SP-S-PT	⑧-22		
SP-PT-X	⑧-23		
LS-SP-PT	⑧-24		
LS-SP-S-PT	⑧-25		
INT-PT	⑧-26		
INT-S-PT	⑧-27		
LS-INT-PT	⑧-28		
LS-INT-S-PT	⑧-29		
LC-PT	⑧-30		
LC-S-PT	⑧-31		
SU-PT	⑧-32		
SU-S-PT	⑧-33		
SU-SP-PT	⑧-34		
SU-SP-S-PT	⑧-35		
FC-PT	⑧-36		
FC-S-PT	⑧-37		
CT-PT	⑧-38		
CT-S-PT	⑧-39		
Rp	⑧-40		
PS	⑧-41		
PS LH	⑧-43		
LS-PS	⑧-44		
SP-PS	⑧-45		
LS-SP-PS	⑧-46		
FC-PS	⑧-47		
CT-PS	⑧-48		
G	⑧-49		
SP G			⑧-51
SP OX G			⑧-52
SP V G			⑧-53
SP-VA G			⑧-54
SU2-SP G			⑧-55
LO-SP G			⑧-56
LO-SP OX G			⑧-57
PH-SP G			⑧-58
PO G			⑧-59

	JIS	ANSI	DIN
PO OX G			⑧-60
PO V G			⑧-61
PO-VA G			⑧-62
HT G			⑧-63
GGST G			⑧-65
GG-HT G			⑧-66
GG-HT G（Coating）			⑧-67
EH-HT G			⑧-68
R-D G			⑧-69
R-D G（Coating）			⑧-70
PF	⑧-71		
PF LH	⑧-73		
LS-PF	⑧-74		
SP-PF	⑧-75		
LS-SP-PF	⑧-76		
SU-PF	⑧-77		
SU-SP-PF	⑧-78		
FC-PF	⑧-79		
CT-PF	⑧-80		
NPT	⑧-81	⑧-82	
ZELX MOLD NPT		⑧-83	
NPT-CI		⑧-84	
S-NPT	⑧-85		
LS-NPT	⑧-86		
SP-NPT	⑧-87		
ZELX SS NPT		⑧-88	
LS-SP-S-NPT	⑧-89		
INT-NPT	⑧-90	⑧-91	
INT-S-NPT	⑧-92		
NPTF	⑧-93	⑧-94	
NPTF-CI		⑧-95	
ZELX SS NPTF		⑧-96	
LS-NPTF	⑧-97		
NPS	⑧-98	⑧-99	
NPSF	⑧-100	⑧-101	

・For improvement, spec may change without advance notice.

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Selection chart of taps

Tapping conditions										
Product symbol		Rc	PT	PT-X	S-PT	SP-PT	SP-S-PT	SP-PT-X	LS-PT	LS-S-PT
Tap material Surface treatment		HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS
Name		For taper pipe threads; For general use							For taper pipe threads; Long, for general use	
										
Bored Hole Shape										
For Metric Threads										
For Unified Threads										
For Whitworth Threads										
For Screw Threads used on Sewing Machines										
Pipe Threads		⑧-13	⑧-14	⑧-16	⑧-17	⑧-21	⑧-22	⑧-23	⑧-19	⑧-20
American Pipe Threads										
For Miniature Threads										
For Trapezoidal Threads										

～S25C	Low carbon steels									◆	◎	◆	◎	◆	◎				
S25C～S45C	Medium carbon steels	◆	◎	◆	◎	◆	◎	◆	◎	◆	◎	◆	◎	◆	◎	◆	◎	◆	◎
S45C～	High carbon steels	◆	○	◆	○	◆	○	◆	○	◆	○	◆	○	◆	○	◆	○	◆	○
SCM	Alloy steels	◆	○	◆	○	◆	○	◆	○							◆	○	◆	○
25～35HRC	Heat treated steel																		
35～45HRC	Heat treated steel																		
45～55HRC	Heat treated steel																		
55～63HRC	Heat treated steel																		
SUS	Stainless steels (SUS)																		
SKD	Tool steels																		
SC	Cast steels																		
FC	Cast irons																		
FCD	Ductile cast irons																		
Cu	Copper																		
Bs	Brass																		
BsC	Brass castings																		
PB	Bronze																		
AL	Wrought aluminum																		
AC, ADC	Aluminum alloy casting																		
Mg	Magnesium alloy die castings																		
ZDC	Zinc alloy die castings																		
	Titanium alloys																		
	Nickel base alloys																		
	Thermosetting plastic																		
	Thermoplastic resin																		

Think threads with YAMAWA

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Recommended tap: ◎: Most suitable tap ○: Suitable tap
Recommended tapping fluid: ◆: Insoluble ◆: Water-soluble

Machining, in low-speed tapping area

	LS-SP-PT	LS-SP-S-PT	PT LH	S-PT LH	Z-PRO AUSP Rc		LC-PT		LC-S-PT		SU-PT		SU-S-PT		SU-SP-PT		SU-SP-S-PT		INT-PT		INT-S-PT	
	HSS	HSS	HSS	HSS	HSS	Coating	HSS	OX	HSS	OX	HSS	OX	HSS	OX	HSS	OX	HSS	OX	HSS	OX	HSS	OX
	For taper pipe threads; Long, for general use		For taper pipe threads For general use; For left-hand threads		For taper pipe threads, coated		For taper pipe threads For low carbon steel				For taper pipe threads For stainless steel								For taper pipe threads For stainless steel, interrupted			
																						
	⑧-24	⑧-25	⑧-15	⑧-18	⑧-8		⑧-30		⑧-31		⑧-32		⑧-33		⑧-34		⑧-35		⑧-26		⑧-27	
	◆	◎	◆	◎																		
	◆	◎	◆	◎	◆	◎	◆	◎	◆	◎	◆	◎	◆	◎	◆	◎	◆	◎	◆	○	◆	○
	◆	○	◆	○	◆	○	◆	○	◆	◎					◆	○	◆	○				
					◆	○	◆	○	◆	◎					◆	◎	◆	◎				
					◆	○					◆	◎	◆	◎	◆	◎	◆	◎	◆	◎	◆	◎
							◆	○	◆	○									◆	○	◆	○
					◆	○																
					◆	○																

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Selection chart of taps

Tapping conditions																		
Product symbol		LS-INT-PT		LS-INT-S-PT		FC-PT		FC-S-PT		CT-PT	CT-S-PT	NPT		S-NPT		SP-NPT		
Tap material Surface treatment		HSS	OX	HSS	OX	HSS	NI	HSS	NI	HF	HF	HSS		HSS		HSS		
Name		For taper pipe threads, long For stainless steel, interrupted				For taper pipe threads; For cast iron						For American taper pipe threads; For general use						
																		
Bored Hole Shape																		
For Metric Threads																		
For Unified Threads																		
For Whitworth Threads																		
For Screw Threads used on Sewing Machines																		
Pipe Threads		⑧-28		⑧-29		⑧-36		⑧-37		⑧-38	⑧-39							
American Pipe Threads												⑧-81		⑧-85		⑧-87		
For Miniature Threads																		
For Trapezoidal Threads																		
～S25C	Low carbon steels	◆	○	◆	○											◆	◎	
S25C～S45C	Medium carbon steels											◆	◎	◆	◎	◆	◎	
S45C～	High carbon steels											◆	○	◆	○	◆	○	
SCM	Alloy steels											◆	○	◆	○			
25～35HRC	Heat treated steel																	
35～45HRC	Heat treated steel																	
45～55HRC	Heat treated steel																	
55～63HRC	Heat treated steel																	
SUS	Stainless steels (SUS)	◆	◎	◆	◎													
SKD	Tool steels																	
SC	Cast steels	◆	○	◆	○													
FC	Cast irons					◆	◎	◆	◎	◆	◎	◆	◎					
FCD	Ductile cast irons					◆	○	◆	○	◆	○	◆	○					
Cu	Copper																	
Bs	Brass																	
BsC	Brass castings									◆	◎	◆	◎					
PB	Bronze																	
AL	Wrought aluminum																	
AC, ADC	Aluminum alloy casting																	
Mg	Magnesium alloy die castings																	
ZDC	Zinc alloy die castings																	
	Titanium alloys																	
	Nickel base alloys																	
	Thermosetting plastic																	
	Thermoplastic resin																	

Think threads with YAMAWA

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Recommended tap ◎: Most suitable tap ○: Suitable tap

Recommended tapping fluid ◆: Insoluble ◆: Water-soluble

Machining, in low-speed tapping area							Machining, in low/middle speed tapping area						
LS-NPT	LS-SP-S-NPT	INT-NPT	INT-S-NPT	NPTF	LS-NPTF	Rp	PS	SP-PS	G	PF	SP-PF	LS-PS
HSS	HSS	HSS OX	HSS OX	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS
For American taper pipe threads Long, for general use		For American taper pipe threads For stainless steel, interrupted		For American Dryseal taper pipe threads; For general use	For American Dryseal taper pipe threads Long, for general use	For parallel pipe threads; For general use						For parallel pipe threads; Long, for general use
												
												
						⑧-40	⑧-41	⑧-45	⑧-49	⑧-71	⑧-75	⑧-44
⑧-86	⑧-89	⑧-90	⑧-92	⑧-93	⑧-97							

Think threads with YAMAWA

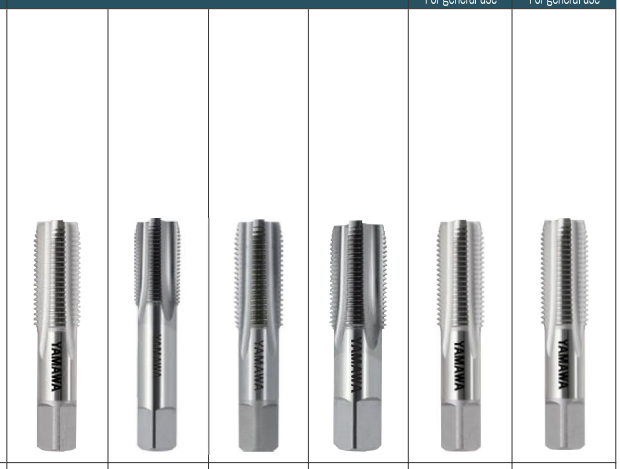
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Selection chart of taps

Tapping conditions																
Product symbol		LS-SP-PS	LS-PF	LS-SP-PF	PS LH	PF LH	Z-PRO AUSP Rp		Z-PRO AUSP G		SU-PF		SU-SP-PF		
Tap material Surface treatment		HSS	HSS	HSS	HSS	HSS	HSS	Coating	HSS	Coating	HSS	OX	HSS	OX	
Name		For parallel pipe threads; Long, for general use			For parallel pipe threads; For general use For left-hand threads		For parallel pipe threads, coated				For parallel pipe threads For stainless steel				
															
Bored Hole Shape																
For Metric Threads																
For Unified Threads																
For Whitworth Threads																
For Screw Threads used on Sewing Machines																
Pipe Threads		⑧-46	⑧-74	⑧-76	⑧-43	⑧-73	⑧-10		⑧-12		⑧-77		⑧-78			
American Pipe Threads																
For Miniature Threads																
For Trapezoidal Threads																
～S25C	Low carbon steels	◆	○	◆	○	◆	○	◆	○	◆	○	◆◆	◎	◆◆	◎	◆	◎	◆	◎
S25C～S45C	Medium carbon steels	◆	◎	◆	◎	◆	◎	◆	◎	◆	◎	◆◆	◎	◆◆	◎	◆	○	◆	○
S45C～	High carbon steels	◆	○	◆	○	◆	○	◆	○	◆	○	◆◆	◎	◆◆	◎			◆	○
SCM	Alloy steels											◆◆	◎	◆◆	◎			◆	◎
25～35HRC	Heat treated steel																		
35～45HRC	Heat treated steel																		
45～55HRC	Heat treated steel																		
55～63HRC	Heat treated steel																		
SUS	Stainless steels (SUS)											◆◆	○	◆◆	○	◆	◎	◆	◎
SKD	Tool steels																		
SC	Cast steels																		
FC	Cast irons																		
FCD	Ductile cast irons																		
Cu	Copper																		
Bs	Brass																		
BsC	Brass castings																		
PB	Bronze																		
AL	Wrought aluminum																		
AC, ADC	Aluminum alloy casting											◆	○	◆	○				
Mg	Magnesium alloy die castings																		
ZDC	Zinc alloy die castings											◆	○	◆	○				
	Titanium alloys																		
	Nickel base alloys																		
	Thermosetting plastic																		
	Thermoplastic resin																		

Think threads with YAMAWA

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Machining, in low/middle speed tapping area						
	FC-PS	CT-PS	FC-PF	CT-PF	NPS	NPSF
	HSS NI	HF	HSS NI	HF	HSS	HSS
	For parallel pipe threads; For cast iron				For American parallel pipe threads; For general use	For American Dryseal parallel pipe threads; For general use
						
						
	⑧-47	⑧-48	⑧-79	⑧-80		
					⑧-98	⑧-100

									◆	○	◆	○
									◆	◎	◆	◎
									◆	○	◆	○
	◆	◎	◆	◎	◆	◎	◆	◎				
	◆	○	◆	○	◆	○	◆	○				
			◆	◎			◆	◎				

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Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

ANSI

NPT

Hand Taps for American Taper Pipe Threads



Specification

HSS | OX Oxide

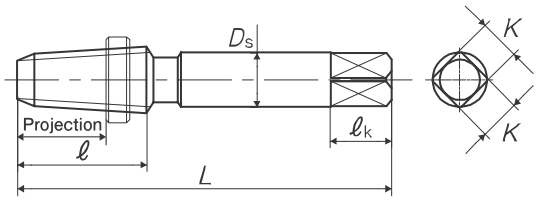


Tapping Speed depending on Materials

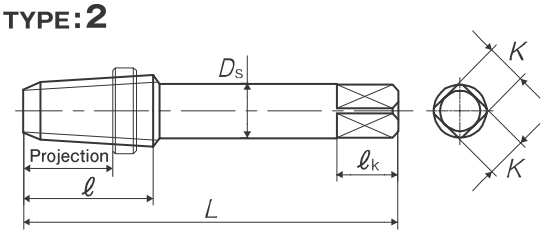
Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼
~5 (m/min)	~5 (m/min)	~5 (m/min)

■The NPT tap is a hand tap for the American tapered pipe threads and is used for products whose main purpose is the tightness of threaded parts in the connection of parts for pipes.

TYPE: 1



TYPE: 2



Segment : 1G

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Projection (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For American Pipe Threads											
1/16-27 NPT	ANSI G	Y83100	3P	2.125	0.687	0.312	0.312	0.234	0.375	4	1
1/16-27 NPT	ANSI G	Y83100BR	3P	2.125	0.687	0.312	0.312	0.234	0.375	4	1
1/8-27 NPT	ANSI G	Y83101	3P	2.125	0.75	0.312	0.437	0.328	0.375	4	1
1/8-27 NPT	ANSI G	Y83101BR	3P	2.125	0.75	0.312	0.437	0.328	0.375	4	1
1/8-27 NPT	ANSI G	Y83102	3P	2.125	0.75	0.312	0.312	0.234	0.375	4	2
1/8-27 NPT	ANSI G	Y83102BR	3P	2.125	0.75	0.312	0.312	0.234	0.375	4	2
1/4-18 NPT	ANSI G	Y83103	3P	2.437	1.062	0.459	0.562	0.421	0.437	4	1
1/4-18 NPT	ANSI G	Y83103BR	3P	2.437	1.062	0.459	0.562	0.421	0.437	4	1
3/8-18 NPT	ANSI G	Y83104	3P	2.562	1.062	0.454	0.7	0.531	0.5	4	1
3/8-18 NPT	ANSI G	Y83104BR	3P	2.562	1.062	0.454	0.7	0.531	0.5	4	1
1/2-14 NPT	ANSI G	Y83105	3P	3.125	1.375	0.579	0.687	0.515	0.625	4	2
1/2-14 NPT	ANSI G	Y83105BR	3P	3.125	1.375	0.579	0.687	0.515	0.625	4	2
3/4-14 NPT	ANSI G	Y83106	3P	3.25	1.375	0.565	0.906	0.679	0.687	4	2
3/4-14 NPT	ANSI G	Y83106BR	3P	3.25	1.375	0.565	0.906	0.679	0.687	4	2
1 -11 1/2 NPT	ANSI G	Y83107	3P	3.75	1.75	0.678	1.125	0.843	0.812	5	2
1 -11 1/2 NPT	ANSI G	Y83107BR	3P	3.75	1.75	0.678	1.125	0.843	0.812	5	2
1 1/4-11 1/2 NPT	ANSI G	Y83108	3P	4	1.75	0.686	1.312	0.984	0.937	5	2
1 1/4-11 1/2 NPT	ANSI G	Y83108BR	3P	4	1.75	0.686	1.312	0.984	0.937	5	2
1 1/2-11 1/2 NPT	ANSI G	Y83109	3P	4.25	1.75	0.699	1.5	1.125	1	6	2
1 1/2-11 1/2 NPT	ANSI G	Y83109BR	3P	4.25	1.75	0.699	1.5	1.125	1	6	2
2 -11 1/2 NPT	ANSI G	Y83110	3P	4.5	1.75	0.667	1.875	1.406	1.125	6	2
2 -11 1/2 NPT	ANSI G	Y83110BR	3P	4.5	1.75	0.667	1.875	1.406	1.125	6	2

・This product is different from JIS products in shape and dimensions, please be careful when using.
・BR at the end of a product code indicates untreated products.

Think threads with YAMAWA

ANSI Only - PioneerNA.com

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

ZELX MOLD NPT



Hand Taps for Hard-to-Machine Materials For American Taper Pipe Threads

Specification

HSS-Co

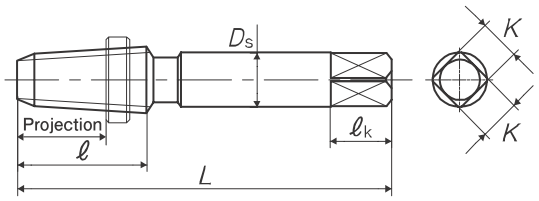


■Suitable for hard steels of 35 ～ 45HRC, such as forgings and thermal refined steels of high carbon steels and alloy steels, and die steels.

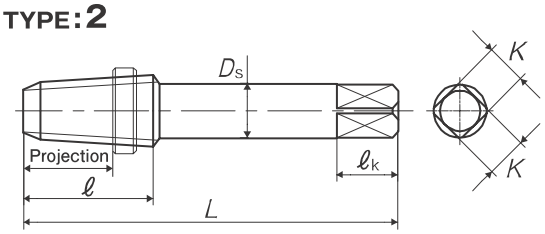
Tapping Speed depending on Materials

Thermal refined steels 調質鋼	Tool steels 工具鋼
~5 (m/min)	~5 (m/min)
35～45HRC	

TYPE: 1



TYPE: 2



Segment : 1H

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Projection (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For American Pipe Threads											
1/8-27 NPT	ANSI G	Y89641	3P	2.125	0.75	0.312	0.437	0.328	0.375	4	1
1/4-18 NPT	ANSI G	Y89643	3P	2.437	1.062	0.459	0.562	0.421	0.437	4	1
3/8-18 NPT	ANSI G	Y89644	3P	2.562	1.062	0.454	0.7	0.531	0.5	4	1
1/2-14 NPT	ANSI G	Y89645	3P	3.125	1.375	0.579	0.687	0.515	0.625	4	2
3/4-14 NPT	ANSI G	Y89646	3P	3.25	1.375	0.565	0.906	0.679	0.687	5	2

Think threads with YAMAWA

・This product is different from JIS products in shape and dimensions, please be careful when using.

ANSI Only - PioneerNA.com

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

ANSI

NPT-CI



Hand Taps for American Taper Pipe Threads for Cast Irons

Specification

HSS | NI Nitride

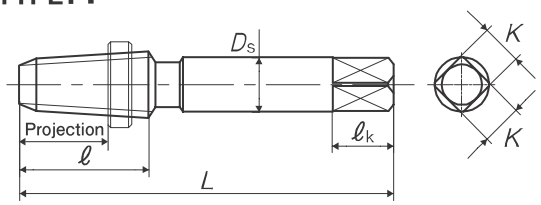


■Suitable for hard and abrasive materials such as cast irons.

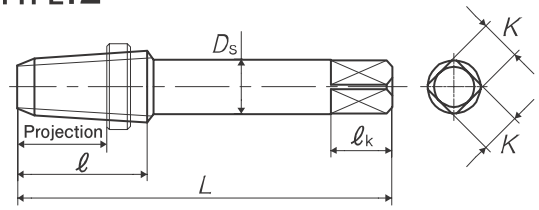
Tapping Speed depending on Materials

Cast irons 鋳鉄	Ductile cast irons 強靭鋳鉄
~5 (m/min)	~5 (m/min)

TYPE: 1



TYPE: 2



Segment : 1G

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Projection (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For American Pipe Threads											
1/8-27 NPT	ANSI G	Y83201	3P	2.125	0.75	0.312	0.437	0.328	0.375	4	1
1/8-27 NPT	ANSI G	Y83202	3P	2.125	0.75	0.312	0.312	0.234	0.375	4	2
1/4-18 NPT	ANSI G	Y83203	3P	2.437	1.062	0.459	0.562	0.421	0.437	4	1
3/8-18 NPT	ANSI G	Y83204	3P	2.562	1.062	0.454	0.7	0.531	0.5	4	1
1/2-14 NPT	ANSI G	Y83205	3P	3.125	1.375	0.579	0.687	0.515	0.625	4	2
3/4-14 NPT	ANSI G	Y83206	3P	3.25	1.375	0.565	0.906	0.679	0.687	5	2
1 -11 1/2 NPT	ANSI G	Y83207	3P	3.75	1.75	0.678	1.125	0.843	0.812	5	2
1 1/4-11 1/2 NPT	ANSI G	Y83208	3P	4	1.75	0.686	1.312	0.984	0.937	5	2
1 1/2-11 1/2 NPT	ANSI G	Y83209	3P	4.25	1.75	0.699	1.5	1.125	1	7	2
2 -11 1/2 NPT	ANSI G	Y83210	3P	4.5	1.75	0.667	1.875	1.406	1.125	7	2

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

ANSI Only - PioneerNA.com

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

ANSI

ZELX SS NPT



Taps for American Taper Pipe Threads

Specification

HSS | OX Oxide

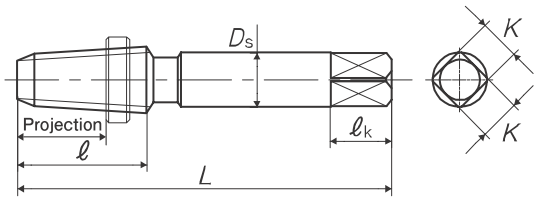


■Suitable for tapping stainless steels, chrome steels and chrome molybdenum steels.

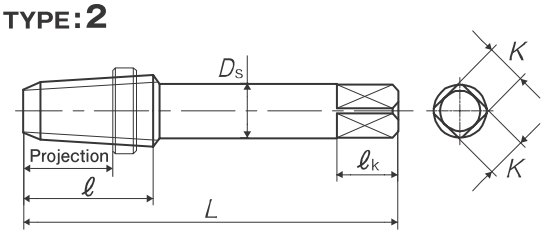
Tapping Speed depending on Materials

Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Stainless steels ステンレス鋼	Ductile cast irons 強靭鋳鉄
~5 (m/min)	~5 (m/min)	~5 (m/min)	~5 (m/min)	~5 (m/min)

TYPE: 1



TYPE: 2



Segment : 1H

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Projection (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For American Pipe Threads											
1/16-27 NPT	ANSI G	Y83640	2.5P	2.125	0.687	0.312	0.312	0.234	0.375	4	1
1/8-27 NPT	ANSI G	Y83641	2.5P	2.125	0.75	0.312	0.437	0.328	0.375	4	1
1/8-27 NPT	ANSI G	Y83642	2.5P	2.125	0.75	0.312	0.312	0.234	0.375	4	2
1/4-18 NPT	ANSI G	Y83643	2.5P	2.437	1.062	0.459	0.562	0.421	0.437	4	1
3/8-18 NPT	ANSI G	Y83644	2.5P	2.562	1.062	0.454	0.7	0.531	0.5	4	1
1/2-14 NPT	ANSI G	Y83645	2.5P	3.125	1.375	0.579	0.687	0.515	0.625	4	2
3/4-14 NPT	ANSI G	Y83646	2.5P	3.25	1.375	0.565	0.906	0.679	0.687	4	2
1 -11 1/2 NPT	ANSI G	Y83647	2.5P	3.75	1.75	0.678	1.125	0.843	0.812	4	2

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

INT-NPT

Interrupted Taps for American Taper Pipe Threads



Specification

HSS | OX Oxide

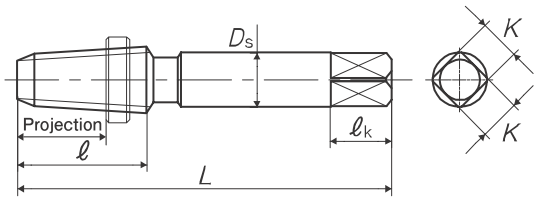


Tapping Speed depending on Materials

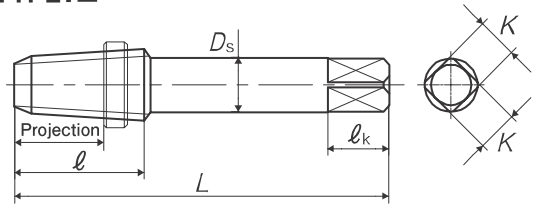
Low carbon steels 低炭素鋼	Stainless steels ステンレス鋼	Cast steels 鋳鋼
~5 (m/min)	~5 (m/min)	~5 (m/min)

■INT-NPT having low left-hand spiral flutes and having every other thread ground off, reduces cutting torque. INT-NPT is suitable for such sticky materials as stainless steels and chrome molybdenum steels.

TYPE: 1



TYPE: 2



Segment : 1G

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Projection (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For American Pipe Threads											
1/8-27 NPT	ANSI G	Y83151	3P	2.125	0.75	0.312	0.437	0.328	0.375	5	1
1/8-27 NPT	ANSI G	Y83151BR	3P	2.125	0.75	0.312	0.437	0.328	0.375	5	1
1/8-27 NPT	ANSI G	Y83152	3P	2.125	0.75	0.312	0.312	0.234	0.375	5	2
1/8-27 NPT	ANSI G	Y83152BR	3P	2.125	0.75	0.312	0.312	0.234	0.375	5	2
1/4-18 NPT	ANSI G	Y83153	3P	2.437	1.062	0.459	0.562	0.421	0.437	5	1
1/4-18 NPT	ANSI G	Y83153BR	3P	2.437	1.062	0.459	0.562	0.421	0.437	5	1
3/8-18 NPT	ANSI G	Y83154	3P	2.562	1.062	0.454	0.7	0.531	0.5	5	1
3/8-18 NPT	ANSI G	Y83154BR	3P	2.562	1.062	0.454	0.7	0.531	0.5	5	1
1/2-14 NPT	ANSI G	Y83155	3P	3.125	1.375	0.579	0.687	0.515	0.625	5	2
1/2-14 NPT	ANSI G	Y83155BR	3P	3.125	1.375	0.579	0.687	0.515	0.625	5	2
3/4-14 NPT	ANSI G	Y83156	3P	3.25	1.375	0.565	0.906	0.679	0.687	5	2
3/4-14 NPT	ANSI G	Y83156BR	3P	3.25	1.375	0.565	0.906	0.679	0.687	5	2
1 -11 1/2 NPT	ANSI G	Y83157	3P	3.75	1.75	0.678	1.125	0.843	0.812	5	2
1 -11 1/2 NPT	ANSI G	Y83157BR	3P	3.75	1.75	0.678	1.125	0.843	0.812	5	2
1 1/4-11 1/2 NPT	ANSI G	Y83158	3P	4	1.75	0.686	1.312	0.984	0.937	5	2
1 1/4-11 1/2 NPT	ANSI G	Y83158BR	3P	4	1.75	0.686	1.312	0.984	0.937	5	2
1 1/2-11 1/2 NPT	ANSI G	Y83159	3P	4.25	1.75	0.699	1.5	1.125	1	7	2
1 1/2-11 1/2 NPT	ANSI G	Y83159BR	3P	4.25	1.75	0.699	1.5	1.125	1	7	2
2 -11 1/2 NPT	ANSI G	Y83160	3P	4.5	1.75	0.667	1.875	1.406	1.125	7	2
2 -11 1/2 NPT	ANSI G	Y83160BR	3P	4.5	1.75	0.667	1.875	1.406	1.125	7	2

Think threads with YAMAWA

・This product is different from JIS products in shape and dimensions, please be careful when using.
・BR at the end of a product code indicates untreated products.

ANSI Only - PioneerNA.com

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

ANSI

NPTF

Hand Taps for American Dryseal Taper Pipe Threads



Specification

HSS | OX Oxide

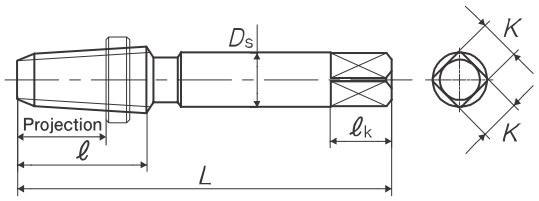


Tapping Speed depending on Materials

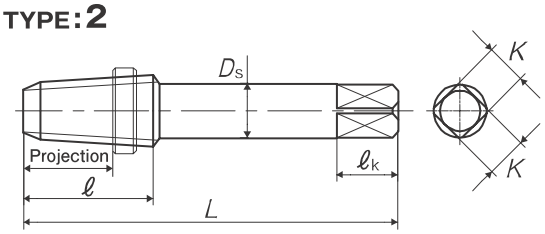
Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼
~5 (m/min)	~5 (m/min)	~5 (m/min)

■The NPTF is a hand tap for the American dry seal tapered pipe threads and is used for products whose main purpose is the tightness of the threaded part in connection with pipe parts, etc.

TYPE: 1



TYPE: 2



Segment : 1G

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Projection (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Dryseal American Pipe Threads											
1/16-27 NPTF	ANSI G	Y83125	3P	2.125	0.687	0.312	0.312	0.234	0.375	4	1
1/16-27 NPTF	ANSI G	Y83125BR	3P	2.125	0.687	0.312	0.312	0.234	0.375	4	1
1/8-27 NPTF	ANSI G	Y83126	3P	2.125	0.75	0.312	0.437	0.328	0.375	4	1
1/8-27 NPTF	ANSI G	Y83126BR	3P	2.125	0.75	0.312	0.437	0.328	0.375	4	1
1/8-27 NPTF	ANSI G	Y83127	3P	2.125	0.75	0.312	0.312	0.234	0.375	4	2
1/8-27 NPTF	ANSI G	Y83127BR	3P	2.125	0.75	0.312	0.312	0.234	0.375	4	2
1/4-18 NPTF	ANSI G	Y83128	3P	2.437	1.062	0.459	0.562	0.421	0.437	4	1
1/4-18 NPTF	ANSI G	Y83128BR	3P	2.437	1.062	0.459	0.562	0.421	0.437	4	1
3/8-18 NPTF	ANSI G	Y83129	3P	2.562	1.062	0.454	0.7	0.531	0.5	4	1
3/8-18 NPTF	ANSI G	Y83129BR	3P	2.562	1.062	0.454	0.7	0.531	0.5	4	1
1/2-14 NPTF	ANSI G	Y83130	3P	3.125	1.375	0.579	0.687	0.515	0.625	4	2
1/2-14 NPTF	ANSI G	Y83130BR	3P	3.125	1.375	0.579	0.687	0.515	0.625	4	2
3/4-14 NPTF	ANSI G	Y83131	3P	3.25	1.375	0.565	0.906	0.679	0.687	5	2
3/4-14 NPTF	ANSI G	Y83131BR	3P	3.25	1.375	0.565	0.906	0.679	0.687	5	2
1 -11 1/2 NPTF	ANSI G	Y83132	3P	3.75	1.75	0.678	1.125	0.843	0.812	5	2
1 -11 1/2 NPTF	ANSI G	Y83132BR	3P	3.75	1.75	0.678	1.125	0.843	0.812	5	2
1 1/4-11 1/2 NPTF	ANSI G	Y83133	3P	4	1.75	0.686	1.312	0.984	0.937	5	2
1 1/4-11 1/2 NPTF	ANSI G	Y83133BR	3P	4	1.75	0.686	1.312	0.984	0.937	5	2
1 1/2-11 1/2 NPTF	ANSI G	Y83134	3P	4.25	1.75	0.699	1.5	1.125	1	6	2
1 1/2-11 1/2 NPTF	ANSI G	Y83134BR	3P	4.25	1.75	0.699	1.5	1.125	1	6	2
2 -11 1/2 NPTF	ANSI G	Y83135	3P	4.5	1.75	0.667	1.875	1.406	1.125	6	2
2 -11 1/2 NPTF	ANSI G	Y83135BR	3P	4.5	1.75	0.667	1.875	1.406	1.125	6	2

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Think threads with YAMAWA

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Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

NPTF-CI



Hand Taps for American Dryseal Taper Pipe Threads, for Cast Irons

Specification

HSS | NI Nitride

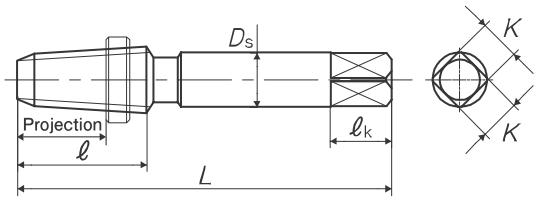


■Suitable for hard and abrasive materials such as cast irons.

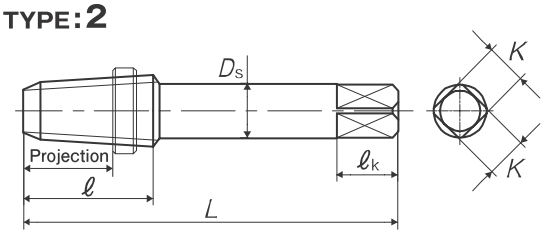
Tapping Speed depending on Materials

Cast irons 鋳鉄	Ductile cast irons 強靭鋳鉄
~5 (m/min)	~5 (m/min)

TYPE: 1



TYPE: 2



Segment : 1G

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Projection (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Dryseal American Pipe Threads											
1/8-27 NPTF	ANSI G	Y83226	3P	2.125	0.75	0.312	0.437	0.328	0.375	4	1
1/8-27 NPTF	ANSI G	Y83227	3P	2.125	0.75	0.312	0.312	0.234	0.375	4	2
1/4-18 NPTF	ANSI G	Y83228	3P	2.437	1.062	0.459	0.562	0.421	0.437	4	1
3/8-18 NPTF	ANSI G	Y83229	3P	2.562	1.062	0.454	0.7	0.531	0.5	4	1
1/2-14 NPTF	ANSI G	Y83230	3P	3.125	1.375	0.579	0.687	0.515	0.625	4	2
3/4-14 NPTF	ANSI G	Y83231	3P	3.25	1.375	0.565	0.906	0.679	0.687	5	2
1 -11 1/2 NPTF	ANSI G	Y83232	3P	3.75	1.75	0.678	1.125	0.843	0.812	5	2
1 1/4-11 1/2 NPTF	ANSI G	Y83233	3P	4	1.75	0.686	1.312	0.984	0.937	5	2
1 1/2-11 1/2 NPTF	ANSI G	Y83234	3P	4.25	1.75	0.699	1.5	1.125	1	7	2
2 -11 1/2 NPTF	ANSI G	Y83235	3P	4.5	1.75	0.667	1.875	1.406	1.125	7	2

Think threads with YAMAWA

・This product is different from JIS products in shape and dimensions, please be careful when using.

ANSI Only - PioneerNA.com

Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

ANSI

ZELX SS NPTF



Taps for American Dryseal Taper Pipe Threads

Specification

HSS | OX Oxide

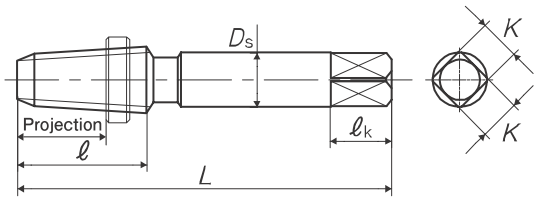


■Suitable for tapping stainless steels, chrome steels and chrome molybdenum steels.

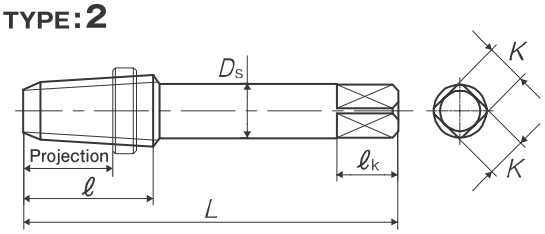
Tapping Speed depending on Materials

Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Stainless steels ステンレス鋼	Ductile cast irons 強靭鋳鉄
~5 (m/min)	~5 (m/min)	~5 (m/min)	~5 (m/min)	~5 (m/min)

TYPE: 1



TYPE: 2



Segment : 1H

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Projection (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Dryseal American Pipe Threads											
1/16-27 NPTF	ANSI G	Y83660	2.5P	2.125	0.687	0.312	0.312	0.234	0.375	4	1
1/8-27 NPTF	ANSI G	Y83661	2.5P	2.125	0.75	0.312	0.437	0.328	0.375	4	1
1/8-27 NPTF	ANSI G	Y83662	2.5P	2.125	0.75	0.312	0.312	0.234	0.375	4	2
1/4-18 NPTF	ANSI G	Y83663	2.5P	2.437	1.062	0.459	0.562	0.421	0.437	4	1
3/8-18 NPTF	ANSI G	Y83664	2.5P	2.562	1.062	0.454	0.7	0.531	0.5	4	1
1/2-14 NPTF	ANSI G	Y83665	2.5P	3.125	1.375	0.579	0.687	0.515	0.625	4	2
3/4-14 NPTF	ANSI G	Y83666	2.5P	3.25	1.375	0.565	0.906	0.679	0.687	4	2
1 -11 1/2 NPTF	ANSI G	Y83667	2.5P	3.75	1.75	0.678	1.125	0.843	0.812	4	2

・This product is different from JIS products in shape and dimensions, please be careful when using.

Think threads with YAMAWA

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Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

NPS

Hand Taps for American Parallel Pipe Threads



Specification

HSS | OX Oxide

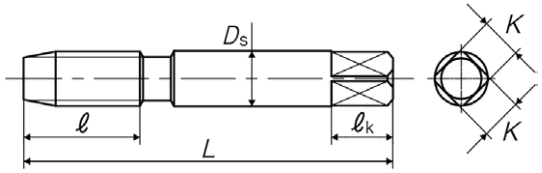


Tapping Speed depending on Materials

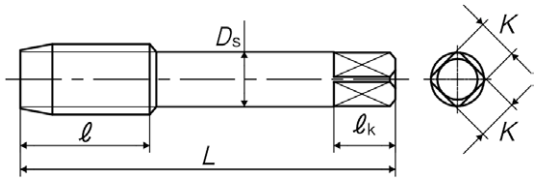
Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼
5~10 (m/min)	5~10 (m/min)	5~10 (m/min)

■The NPS tap is a hand tap for American parallel pipe threads and is used for products whose main purpose is the tightness of the threaded part in connecting pipe parts and the like.

TYPE: 1



TYPE: 2



Segment : 1G

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For American Pipe Threads										
1/8-27 NPS	ANSI G	Y83301	4P	2.125	0.75	0.437	0.328	0.375	4	1
1/8-27 NPS	ANSI G	Y83301BR	4P	2.125	0.75	0.437	0.328	0.375	4	1
1/8-27 NPS	ANSI G	Y83302	4P	2.125	0.75	0.312	0.234	0.375	4	2
1/8-27 NPS	ANSI G	Y83302BR	4P	2.125	0.75	0.312	0.234	0.375	4	2
1/4-18 NPS	ANSI G	Y83303	4P	2.437	1.062	0.562	0.421	0.437	4	1
1/4-18 NPS	ANSI G	Y83303BR	4P	2.437	1.062	0.562	0.421	0.437	4	1
3/8-18 NPS	ANSI G	Y83304	4P	2.562	1.062	0.7	0.531	0.5	4	1
3/8-18 NPS	ANSI G	Y83304BR	4P	2.562	1.062	0.7	0.531	0.5	4	1
1/2-14 NPS	ANSI G	Y83305	4P	3.125	1.375	0.687	0.515	0.625	4	2
1/2-14 NPS	ANSI G	Y83305BR	4P	3.125	1.375	0.687	0.515	0.625	4	2
3/4-14 NPS	ANSI G	Y83306	4P	3.25	1.375	0.906	0.679	0.687	5	2
3/4-14 NPS	ANSI G	Y83306BR	4P	3.25	1.375	0.906	0.679	0.687	5	2
1 -11 1/2 NPS	ANSI G	Y83307	4P	3.75	1.75	1.125	0.843	0.812	5	2
1 -11 1/2 NPS	ANSI G	Y83307BR	4P	3.75	1.75	1.125	0.843	0.812	5	2

Think threads with YAMAWA

・This product is different from JIS products in shape and dimensions, please be careful when using.
・BR at the end of a product code indicates untreated products.

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Overall length	Thread length	Shank dia.	Size of square	Length of square
L	ℓ	Ds	K	ℓk

NPSF

Hand Taps for American Dryseal Parallel Pipe Threads



Specification

HSS | OX Oxide

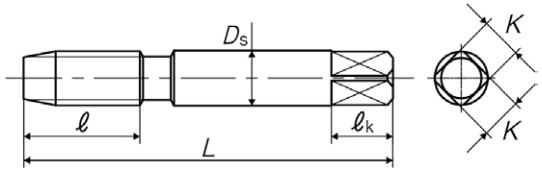


Tapping Speed depending on Materials

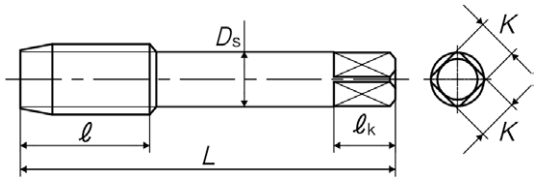
Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼
5~10 (m/min)	5~10 (m/min)	5~10 (m/min)

■The NPSF is a hand tap for the American dry seal parallel pipe threads and is used for screw tapping of products whose main purpose is the tightness of threaded parts in connection with pipe parts etc.

TYPE: 1



TYPE: 2



Segment : 1G

Size	Class	Code	Chamfer	L (inch)	ℓ (inch)	Ds (inch)	K (inch)	ℓk (inch)	No. of flutes	TYPE
For Dryseal American Pipe Threads										
1/8-27 NPSF	ANSI G	Y83326	4P	2.125	0.75	0.437	0.328	0.375	4	1
1/8-27 NPSF	ANSI G	Y83326BR	4P	2.125	0.75	0.437	0.328	0.375	4	1
1/8-27 NPSF	ANSI G	Y83327	4P	2.125	0.75	0.312	0.234	0.375	4	2
1/8-27 NPSF	ANSI G	Y83327BR	4P	2.125	0.75	0.312	0.234	0.375	4	2
1/4-18 NPSF	ANSI G	Y83328	4P	2.437	1.062	0.562	0.421	0.437	4	1
1/4-18 NPSF	ANSI G	Y83328BR	4P	2.437	1.062	0.562	0.421	0.437	4	1
3/8-18 NPSF	ANSI G	Y83329	4P	2.562	1.062	0.7	0.531	0.5	4	1
1/2-14 NPSF	ANSI G	Y83330	4P	3.125	1.375	0.687	0.515	0.625	4	2
1/2-14 NPSF	ANSI G	Y83330BR	4P	3.125	1.375	0.687	0.515	0.625	4	2
3/4-14 NPSF	ANSI G	Y83331	4P	3.25	1.375	0.906	0.679	0.687	5	2
3/4-14 NPSF	ANSI G	Y83331BR	4P	3.25	1.375	0.906	0.679	0.687	5	2
1 -11 1/2 NPSF	ANSI G	Y83332	4P	3.75	1.75	1.125	0.843	0.812	5	2
1 -11 1/2 NPSF	ANSI G	Y83332BR	4P	3.75	1.75	1.125	0.843	0.812	5	2

Think threads with YAMAWA

・This product is different from JIS products in shape and dimensions, please be careful when using.
・BR at the end of a product code indicates untreated products.

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JIS • ANSI • DIN

LINE UP

⑩ DIES



	JIS	ANSI	DIN
D	⑩-1		
D LH	⑩-16		
D PT	⑩-26		
D PT LH	⑩-27		
D PF	⑩-28		
D PF LH	⑩-29		
D NPT	⑩-30		
D NPTF	⑩-31		
D NPSM	⑩-32		
DPO	⑩-33		⑩-39
SP-D	⑩-43		
HS-D	⑩-44		
MS-RS-D RS -D	⑩-47		
N-RSD	⑩-51		
DA SS	⑩-53		
RD-DA	⑩-55	⑩-57	

・For improvement, spec may change without advance notice.

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Shank dia.	Holder dia.	Recess dia.	Overall length	Shank length	Depth of die mounting	Cutting depth	Outside dia of Die	Thickness of Die
Ds	D_1	D_2	L	ℓ_s	ℓ	ℓ_1	D	T

RD-DA

Die Attachment (Designed Specially for Solid Round Dies)



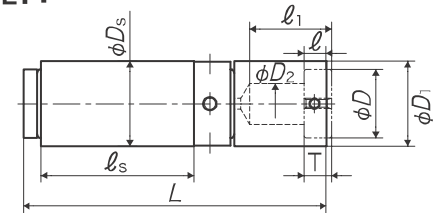
Specification

Bearing steel

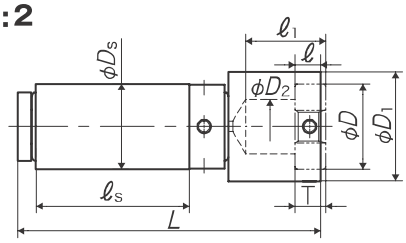
Synchro nized

- Tooling designed specially for solid dies, with the mechanism to compensate for feed error and to absorb misalignment.
- Combined with CNC toolings, this attachment enables the cutting of external threads on complex workpieces with ease.

TYPE: 1



TYPE: 2



Segment : 3A

Code	Ds (inch)	D_1 (inch)	D_2 (inch)	L (inch)	ℓs (inch)	ℓ (inch)	ℓ_1 (inch)	D (inch)	T (inch)	TYPE	
DA10-.75	0.75	0.787	0.236	2.795	1.574	0.118	0.433	0.394	0.137	1	▲
DA16-.75	0.75	0.787	0.393	2.992	1.574	0.177	0.63	0.63	0.196	1	▲
DA20-1	1	0.984	0.472	3.503	1.771	0.255	0.885	0.787	0.275	1	▲
DA25-1	1	1.26	0.63	3.503	1.771	0.295	0.866	0.984	0.354	2	▲
DA38-1.25	1.25	1.968	1.023	4.803	2.362	0.433	1.417	1.496	0.511	2	▲

Note: Products marked with an ▲ in the stock column are available while supplies last.

Think threads with YAMAWA

· This product is different from JIS products in shape and dimensions, please be careful when using.

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LINE UP

⑪ CENTER DRILLS / CENTERING TOOLS



	JIS	ANSI	DIN
CESA	⑪-1		
CE-S	⑪-2		
CE-S (I)	⑪-3		
CD-S	⑪-4		
CD-S (I)	⑪-5		
CD-S LH	⑪-6		
CE-S V	⑪-7		
CE-S V (I)	⑪-8		
CD-S V	⑪-9		
CD-S V (I)	⑪-10		
C-CD-S	⑪-11		
CE-SL	⑪-12		
CD-SL	⑪-13		
CE-SL V	⑪-14		
CD-SL V	⑪-15		
C-CD-SL	⑪-16		
CEQA	⑪-17		
CE-Q	⑪-18		
CD-Q	⑪-19		
CD-Q LH	⑪-20		
CE-Q V	⑪-21		
CD-Q V	⑪-22		
C-CD-Q	⑪-23		
CE-QL	⑪-24		
CE-QL V	⑪-25		
C-CD-QL	⑪-26		
CESB	⑪-27		
CE-S (II)	⑪-28		
CD-S (II)	⑪-29		
CESC	⑪-30		
CEIR	⑪-31		
CD-R	⑪-32		
CE-T	⑪-33		
MHCDS	⑪-35		
AUCES	⑪-37		
AUCDS	⑪-37		
AUPEQ	⑪-39		
AUPES	⑪-39		
SHANK EXTENSION	⑪-41		
POINT DRILLS	⑪-43		
PE-Q	⑪-44		
PE-Q V	⑪-45		
C-PE-Q V	⑪-46		
PE-QL V	⑪-47		
PE-S	⑪-48		
PE-S V	⑪-49		
C-PE-S V	⑪-50		
PE-SL V	⑪-51		

	JIS	ANSI	DIN
NC-SD V	⑪-53		
NC-SD	⑪-53		
CS-Q	⑪-55		
CS-QM	⑪-56		
CS-G	⑪-57		
JOINT TOOLS	⑪-59		
JO-CES	⑪-60		
JO-CES V	⑪-60		
JO-CDS	⑪-61		
JO-CDS V	⑪-61		
JO-C-CDS	⑪-62		
JO-CDS (II)	⑪-62		
JO-PEQ	⑪-63		
JO-PEQ V	⑪-63		
JO-C-PEQ V	⑪-64		
JO-NCSD V	⑪-64		
JO-CSQM	⑪-65		
JO-HOLDER	⑪-65		

・For improvement, spec may change without advance notice.

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-face Hole size
Dc	Ds	L	ℓ	Dw

JIS

CESA



High Helix Center Drills-JIS Type A 60°

Specification

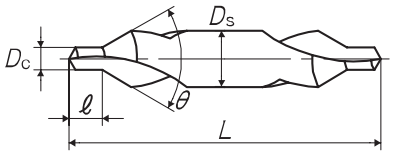
HSS

■High helix center drills - JIS Type A suitable for soft or relatively tough materials.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
15~30 (m/min)	15~30 (m/min)	5~10 (m/min)	25~50 (m/min)	25~50 (m/min)	20~40 (m/min)	20~40 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
0.5 × 60° × 3.15	CEA0.5	0.5	3.15	31.5	0.8	1.06	1	¥ 2,480
0.63 × 60° × 3.15	CEA0.63	0.63	3.15	31.5	1	1.32	1	¥ 2,230
0.8 × 60° × 3.15	CEA0.8	0.8	3.15	31.5	1.2	1.7	1	¥ 1,710
1 × 60° × 3.15	CEA1.0	1	3.15	31.5	1.5	2.12	1	¥ 1,520
1.25 × 60° × 3.15	CEA1.25	1.25	3.15	31.5	1.9	2.65	1	¥ 1,400
1.6 × 60° × 4	CEA1.6	1.6	4	35.5	2.4	3.35	1	¥ 1,340
2 × 60° × 5	CEA2.0	2	5	40	3	4.25	1	¥ 1,120
2.5 × 60° × 6.3	CEA2.5	2.5	6.3	45	3.8	5.3	1	¥ 1,210
3.15 × 60° × 8	CEA3.15	3.15	8	50	4.8	6.7	1	¥ 1,620
4 × 60° × 10	CEA4.0	4	10	56	6	8.5	1	¥ 2,960
5 × 60° × 12.5	CEA5.0	5	12.5	63	7.5	10.6	1	¥ 3,970
6.3 × 60° × 16	CEA6.3	6.3	16	71	9.2	13.2	1	¥ 7,660
8 × 60° × 20	CEA8.0	8	20	80	11.5	17	1	¥ 15,600
10 × 60° × 25	CEA010	10	25	100	14.2	21.2	1	¥ 27,300

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JIS

CE-S

High Helix Center Drills-Type A 60°



Specification

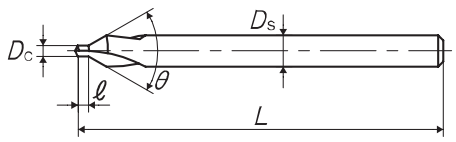
HSS

■High helix center drills - Type A suitable for soft or relatively tough materials.

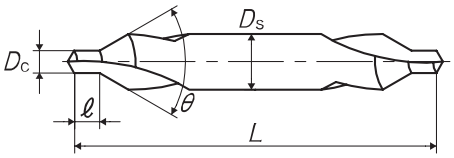
Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
15~30 (m/min)	15~30 (m/min)	5~10 (m/min)	25~50 (m/min)	25~50 (m/min)	20~40 (m/min)	20~40 (m/min)

TYPE: 1



TYPE: 2



Unit: Inch

Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
0.3 × 60° × 3	CE0.3	0.3	3	35	0.3	1	1	¥ 2,280 ※
0.4 × 60° × 3	CE0.4	0.4	3	35	0.4	1	1	¥ 2,080 ※
0.5 × 60° × 3.5	CE0.5	0.5	3.5	35	0.5	1.5	2	¥ 3,010
0.6 × 60° × 3.5	CE0.6	0.6	3.5	35	0.6	1.5	2	¥ 2,730
0.7 × 60° × 3.5	CE0.7	0.7	3.5	35	0.7	2	2	¥ 2,420
0.8 × 60° × 3.5	CE0.8	0.8	3.5	35	0.8	2	2	¥ 2,070
0.9 × 60° × 4	CE0.9	0.9	4	35	0.9	2.5	2	¥ 1,940
1 × 60° × 4	CE1.0	1	4	35	1	2.5	2	¥ 1,700
1.2 × 60° × 5	CE1.2	1.2	5	40	1.2	3	2	¥ 1,550
1.5 × 60° × 5	CE1.5	1.5	5	40	1.5	4	2	¥ 1,330
2 × 60° × 6	CE2.0	2	6	45	2	5	2	¥ 1,480
2.5 × 60° × 7.7	CE2.5	2.5	7.7	50	2.5	6.5	2	¥ 1,810
3 × 60° × 7.7	CE3.0	3	7.7	55	3	6.5	2	¥ 1,810
3 × 60° × 8	CE3.0-8	3	8	55	3	6.5	2	¥ 1,940
4 × 60° × 10	CE4.0	4	10	65	4.5	8.5	2	¥ 3,610
5 × 60° × 11	CE5.0	5	11	78	5.5	9	2	¥ 3,900
5 × 60° × 12	CE5.0-12	5	12	78	5.5	10	2	¥ 4,830
6 × 60° × 16	CE6.0-16	6	16	90	6.5	13.5	2	¥ 9,370
6 × 60° × 18	CE6.0	6	18	90	6.5	15	2	¥ 13,200
8 × 60° × 18	CE8.0	8	18	100	8.5	15	2	¥ 15,100
10 × 60° × 18	CE010	10	18	100	11	15	2	¥ 15,100
12 × 60° × 25	CE012	12	25	120	13	21	2	¥ 32,000
1/16 × 60° × 5	CEU04	1/16	5	40	1.5	4	2	¥ 1,450 ※
3/32 × 60° × 7.7	CEU06	3/32	7.7	50	2.5	6	2	¥ 1,990 ※
1/8 × 60° × 7.7	CEU08	1/8	7.7	55	3	6.5	2	¥ 1,990 ※
3/16 × 60° × 11	CEU12	3/16	11	78	5.5	9	2	¥ 4,340 ※
1/4 × 60° × 18	CEU16	1/4	18	90	6.5	15	2	¥ 14,400 ※

※ = Specified Distribution Items. Made to order products.

Think threads with YAMAWA

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-face Hole size
Dc	Ds	L	ℓ	Dw

CE-S(I)



High Helix Center Drills-Type A 60°, (Old JIS Type 1)

Specification

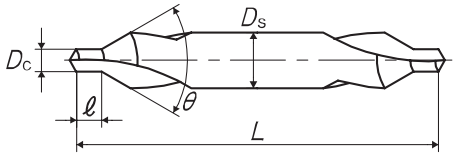
HSS

■High helix center drills - old JIS Type A suitable for soft or relatively tough materials.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
15~30 (m/min)	15~30 (m/min)	5~10 (m/min)	25~50 (m/min)	25~50 (m/min)	20~40 (m/min)	20~40 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
2.5 × 60° × 8	CE12.5	2.5	8	50	3.5	6.5	1	¥ 1,940
3 × 60° × 10	CE13.0	3	10	55	4	8	1	¥ 3,060
4 × 60° × 12	CE14.0	4	12	66	5	10	1	¥ 4,360
5 × 60° × 14	CE15.0	5	14	78	6.5	12	1	¥ 6,560

Think threads with YAMAWA

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JIS

CD-S

Low Helix Center Drills-Type A 60°



Specification

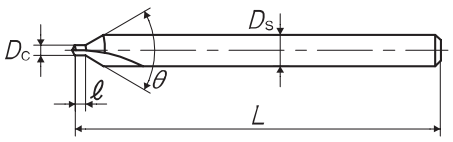
HSS

■Low helix center drills - Type A suitable for relatively hard materials.

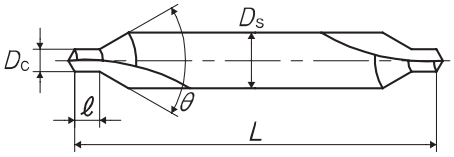
Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Cast steels 鋳鋼	Cast irons 鋳鉄	Ductile cast irons 強靭鋳鉄
15~30 (m/min)	15~30 (m/min)	15~30 (m/min)	10~25 (m/min)	15~30 (m/min)	10~15 (m/min)	10~20 (m/min)

TYPE: 1



TYPE: 2



Unit: Inch

Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
0.3 × 60° × 3	CY0.3	0.3	3	35	0.3	1	1	¥ 2,280 ※
0.4 × 60° × 3	CY0.4	0.4	3	35	0.4	1	1	¥ 2,080 ※
0.5 × 60° × 3.5	CY0.5	0.5	3.5	35	0.5	1.5	2	¥ 3,010
0.6 × 60° × 3.5	CY0.6	0.6	3.5	35	0.6	1.5	2	¥ 2,730
0.7 × 60° × 3.5	CY0.7	0.7	3.5	35	0.7	2	2	¥ 2,420 ※
0.8 × 60° × 3.5	CY0.8	0.8	3.5	35	0.8	2	2	¥ 2,070
0.9 × 60° × 4	CY0.9	0.9	4	35	0.9	2.5	2	¥ 1,940 ※
1 × 60° × 4	CY1.0	1	4	35	1	2.5	2	¥ 1,700
1.2 × 60° × 5	CY1.2	1.2	5	40	1.2	3	2	¥ 1,550
1.5 × 60° × 5	CY1.5	1.5	5	40	1.5	4	2	¥ 1,330
2 × 60° × 6	CY2.0	2	6	45	2	5	2	¥ 1,480
2.5 × 60° × 7.7	CY2.5	2.5	7.7	50	2.5	6.5	2	¥ 1,810
3 × 60° × 7.7	CY3.0	3	7.7	55	3	6.5	2	¥ 1,810
3 × 60° × 8	CY3.0-8	3	8	55	3	6.5	2	¥ 1,940
4 × 60° × 10	CY4.0	4	10	65	4.5	8.5	2	¥ 3,610
5 × 60° × 11	CY5.0	5	11	78	5.5	9	2	¥ 3,900
6 × 60° × 16	CY6.0-16	6	16	90	6.5	13.5	2	¥ 9,370
6 × 60° × 18	CY6.0	6	18	90	6.5	15	2	¥ 13,200
1/8 × 60° × 7.7	CYU08	1/8	7.7	55	3	6.5	2	¥ 1,990 ※

※ = Specified Distribution Items. Made to order products.

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-Face Hole size
Dc	Ds	L	ℓ	Dw

CD-S(I)



Low Helix Center Drills-Type A 60°, (Old JIS Type 1)

Specification

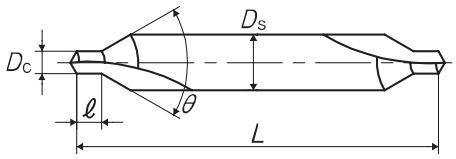
HSS

■The CD-S(I) is an old JIS 1 low helix center hole drill suitable for relatively hard materials.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Cast steels 鋳鋼	Cast irons 鋳鉄	Ductile cast irons 強靱鋳鉄
15~30 (m/min)	15~30 (m/min)	15~30 (m/min)	10~25 (m/min)	15~30 (m/min)	10~15 (m/min)	10~20 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
2.5 × 60° × 8	C12.5	2.5	8	50	3.5	6.5	1	¥ 1,940
3 × 60° × 10	C13.0	3	10	55	4	8	1	¥ 3,060
4 × 60° × 12	C14.0	4	12	66	5	10	1	¥ 4,360
5 × 60° × 14	C15.0	5	14	78	6.5	12	1	¥ 6,560

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-face Hole size
Dc	Ds	L	ℓ	Dw

CD-S LH



Low Helix Center Drills-Type A 60°, Left Hand Cut

Specification

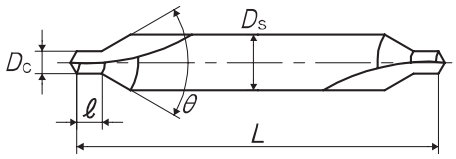
HSS LH

■Low helix center drills - Type A suitable for relatively hard materials.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Cast steels 鋳鋼	Cast irons 鋳鉄	Ductile cast irons 強靭鋳鉄
15~30 (m/min)	15~30 (m/min)	15~30 (m/min)	10~25 (m/min)	15~30 (m/min)	10~15 (m/min)	10~20 (m/min)

TYPE: 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
0.5 × 60° × 3.5	CY0.5-L	0.5	3.5	35	0.5	1.5	1	¥ 3,920 ※
0.7 × 60° × 3.5	CY0.7-L	0.7	3.5	35	0.7	2	1	¥ 3,150 ※
0.8 × 60° × 3.5	CY0.8-L	0.8	3.5	35	0.8	2	1	¥ 2,700 ※
0.9 × 60° × 4	CY0.9-L	0.9	4	35	0.9	2.5	1	¥ 2,530 ※
1 × 60° × 4	CY1.0-L	1	4	35	1	2.5	1	¥ 2,210 ※
1.2 × 60° × 5	CY1.2-L	1.2	5	40	1.2	3	1	¥ 2,020 ※
1.5 × 60° × 5	CY1.5-L	1.5	5	40	1.5	4	1	¥ 1,730 ※
2 × 60° × 6	CY2.0-L	2	6	45	2	5	1	¥ 1,930 ※
2.5 × 60° × 7.7	CY2.5-L	2.5	7.7	50	2.5	6.5	1	¥ 2,360 ※
3 × 60° × 7.7	CY3.0-L	3	7.7	55	3	6.5	1	¥ 2,360 ※
4 × 60° × 10	CY4.0-L	4	10	65	4.5	8.5	1	¥ 4,700 ※
5 × 60° × 11	CY5.0-L	5	11	78	5.5	9	1	¥ 5,070 ※
6 × 60° × 16	CY6.0-L16	6	16	90	6.5	13.5	1	¥ 12,200 ※
6 × 60° × 18	CY6.0-L	6	18	90	6.5	15	1	¥ 17,200 ※

※ = Specified Distribution Items. Made to order products.

Think threads with YAMAWA

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-face Hole size
Dc	Ds	L	ℓ	Dw

CE-S V



High Helix Center Drills-Type A 60°, Coated

Specification

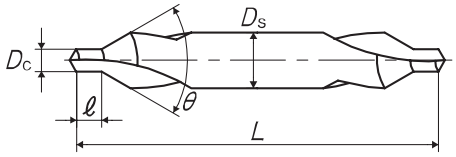
HSS Coating

■The CE-S V is a coated type A high helix center hole drill with excellent wear resistance and welding resistance.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
20~40 (m/min)	20~40 (m/min)	5~15 (m/min)	30~60 (m/min)	30~60 (m/min)	25~50 (m/min)	25~50 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 60° × 4	VCE1.0	1	4	35	1	2.5	1	¥ 3,560
1.5 × 60° × 5	VCE1.5	1.5	5	40	1.5	4	1	¥ 3,120
2 × 60° × 6	VCE2.0	2	6	45	2	5	1	¥ 3,310
2.5 × 60° × 7.7	VCE2.5	2.5	7.7	50	2.5	6.5	1	¥ 3,760
3 × 60° × 7.7	VCE3.0	3	7.7	55	3	6.5	1	¥ 3,760
3 × 60° × 8	VCE3.0-8	3	8	55	3	6.5	1	¥ 4,240 ※
4 × 60° × 10	VCE4.0	4	10	65	4.5	8.5	1	¥ 6,140
5 × 60° × 11	VCE5.0	5	11	78	5.5	9	1	¥ 6,880
6 × 60° × 18	VCE6.0	6	18	90	6.5	15	1	¥ 20,000

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-face Hole size
Dc	Ds	L	ℓ	Dw

JIS

CE-S V(I)



High Helix Center Drills-Type A 60°, Coated, (Old JIS Type 1)

Specification

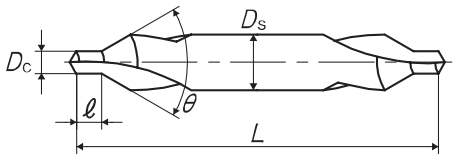
HSS Coating

■Optimum coating suitable for the cutting condition.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
20~40 (m/min)	20~40 (m/min)	5~15 (m/min)	30~60 (m/min)	30~60 (m/min)	25~50 (m/min)	25~50 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
2.5 × 60° × 8	VCE12.5	2.5	8	50	3.5	6.5	1	¥ 4,240 ※
3 × 60° × 10	VCE13.0	3	10	55	4	8	1	¥ 5,880 ※
4 × 60° × 12	VCE14.0	4	12	66	5	10	1	¥ 7,900 ※
5 × 60° × 14	VCE15.0	5	14	78	6.5	12	1	¥ 11,600 ※

※ = Specified Distribution Items. Made to order products.

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-Face Hole size
Dc	Ds	L	ℓ	Dw

CD-S V



Type A Low Helix Coated 60° Center Hole Drill

Specification

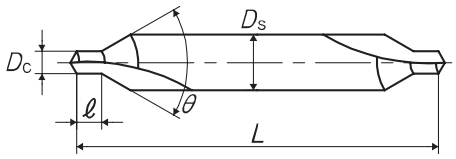
HSS Coating

■The CD-S V is a coated type A center hole drill with excellent abrasion resistance and welding resistance.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Cast steels 鋳鋼	Cast irons 鋳鉄	Ductile cast irons 強靱鋳鉄
20~40 (m/min)	20~40 (m/min)	20~40 (m/min)	15~30 (m/min)	20~40 (m/min)	10~20 (m/min)	10~25 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 60° × 4	VCY1.0	1	4	35	1	2.5	1	¥ 3,560 ※
1.5 × 60° × 5	VCY1.5	1.5	5	40	1.5	4	1	¥ 3,120 ※
2 × 60° × 6	VCY2.0	2	6	45	2	5	1	¥ 3,310 ※
2.5 × 60° × 7.7	VCY2.5	2.5	7.7	50	2.5	6.5	1	¥ 3,760 ※
3 × 60° × 7.7	VCY3.0	3	7.7	55	3	6.5	1	¥ 3,760 ※
4 × 60° × 10	VCY4.0	4	10	65	4.5	8.5	1	¥ 6,140 ※
5 × 60° × 11	VCY5.0	5	11	78	5.5	9	1	¥ 6,880 ※
6 × 60° × 18	VCY6.0	6	18	90	6.5	15	1	¥ 20,000 ※

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-Face Hole size
Dc	Ds	L	ℓ	Dw

CD-S V(I)



Coating Low Helix A Type 60° Center Hole Drill Former JIS Type 1

Specification

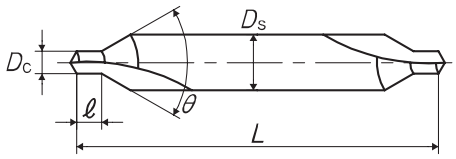
HSS Coating

■The CD-S V(I) is a coated low helix former JIS type 1 center hole drill with excellent wear resistance and welding resistance.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Cast steels 鋳鋼	Cast irons 鋳鉄	Ductile cast irons 強靭鋳鉄
20~40 (m/min)	20~40 (m/min)	20~40 (m/min)	15~30 (m/min)	20~40 (m/min)	10~20 (m/min)	10~25 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
2.5 × 60° × 8	VC12.5	2.5	8	50	3.5	6.5	1	¥ 4,240 ※
3 × 60° × 10	VC13.0	3	10	55	4	8	1	¥ 5,880 ※
4 × 60° × 12	VC14.0	4	12	66	5	10	1	¥ 7,900 ※
5 × 60° × 14	VC15.0	5	14	78	6.5	12	1	¥ 11,600 ※

※ = Specified Distribution Items. Made to order products.

Think threads with YAMAWA

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-Face Hole size
Dc	Ds	L	ℓ	Dw

C-CD-S

Carbide Center Drills-Type A 60°



Specification

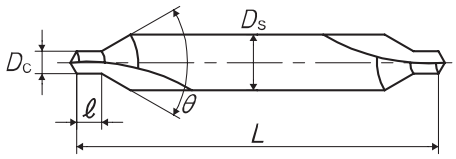
HF

■Low helix carbide center drills - Type A suitable for hard materials and mass production.

Tapping Speeds depending on Materials

High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼	Thermal refined steels 調質鋼	Cast irons 鋳鉄	Brass castings 黄銅鋳物	Aluminum alloy castings アルミ合金鋳物
30~50 (m/min)	20~40 (m/min)	10~25 (m/min) 25~35HRC	5~15 (m/min) 35~45HRC	30~50 (m/min)	30~60 (m/min)	30~60 (m/min)

TYPE : 1



Segment : 52

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 60° × 4	CCD1.0	1	4	35	1	2.5	1	¥ 14,400
1.2 × 60° × 5	CCD1.2	1.2	5	40	1.2	3	1	¥ 20,700 ※
1.5 × 60° × 5	CCD1.5	1.5	5	40	1.5	4	1	¥ 18,200
2 × 60° × 6	CCD2.0	2	6	45	2	5	1	¥ 22,200
2.5 × 60° × 7.7	CCD2.5	2.5	7.7	50	2.5	6.5	1	¥ 28,600
2.5 × 60° × 8	CCD2.5-8	2.5	8	50	2.5	6.5	1	¥ 29,700 ※
3 × 60° × 7.7	CCD3.0	3	7.7	55	3	6.5	1	¥ 28,600
3 × 60° × 8	CCD3.0-8	3	8	55	3	6.5	1	¥ 29,700 ※
4 × 60° × 10	CCD4.0	4	10	65	4.5	8.5	1	¥ 45,100
5 × 60° × 11	CCD5.0	5	11	78	5.5	9	1	¥ 48,500
5 × 60° × 12	CCD5.0-12	5	12	78	5.5	10	1	¥ 48,800 ※
6 × 60° × 18	CCD6.0	6	18	90	6.5	15	1	¥122,000 ※

Think threads with YAMAWA

※ = Specified Distribution Items. Made to order products.

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CE-SL



Long Shank High Helix Center Drills-Type A 60°

Specification

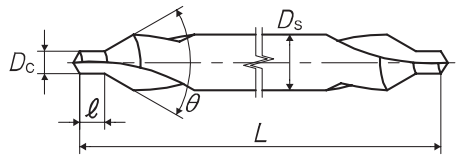
HSS

■Long shank high helix center drills - Type A suitable for soft or relatively tough materials.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
10~25 (m/min)	10~25 (m/min)	5~10 (m/min)	20~40 (m/min)	20~40 (m/min)	15~30 (m/min)	15~30 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 60° × 4	CEL1.0	1	4	100	1	2.5	1	¥ 7,130
1 × 60° × 4	CEM1.0	1	4	150	1	2.5	1	¥ 10,800
1.5 × 60° × 5	CEL1.5	1.5	5	100	1.5	4	1	¥ 5,330
1.5 × 60° × 5	CEM1.5	1.5	5	150	1.5	4	1	¥ 8,750
2 × 60° × 6	CEL2.0	2	6	100	2	5	1	¥ 5,980
2 × 60° × 6	CEM2.0	2	6	150	2	5	1	¥ 9,060
2.5 × 60° × 8	CEL2.5	2.5	8	100	2.5	6.5	1	¥ 7,130
2.5 × 60° × 8	CEM2.5	2.5	8	150	2.5	6.5	1	¥ 10,800
3 × 60° × 8	CEL3.0	3	8	100	3	6.5	1	¥ 7,130
3 × 60° × 8	CEM3.0	3	8	150	3	6.5	1	¥ 10,800
3 × 60° × 8	CEN3.0	3	8	200	3	6.5	1	¥ 14,200 ※
4 × 60° × 10	CEL4.0	4	10	100	4.5	8.5	1	¥ 8,000
4 × 60° × 10	CEM4.0	4	10	150	4.5	8.5	1	¥ 11,700
4 × 60° × 10	CEN4.0	4	10	200	4.5	8.5	1	¥ 15,400 ※
5 × 60° × 12	CEL5.0	5	12	100	5.5	10	1	¥ 10,200
5 × 60° × 12	CEM5.0	5	12	150	5.5	10	1	¥ 15,700
5 × 60° × 12	CEN5.0	5	12	200	5.5	10	1	¥ 20,600 ※

※ = Specified Distribution Items. Made to order products.

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-face Hole size
Dc	Ds	L	ℓ	Dw

CD-SL



Long Shank Low Helix Center Drills-Type A 60°

Specification

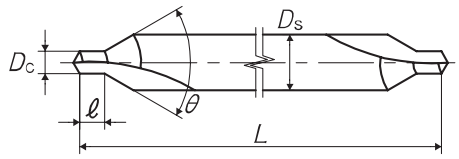
HSS

■Long shank low helix center drills - Type A suitable for relatively hard materials.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Cast steels 鋳鋼	Cast irons 鋳鉄	Ductile cast irons 強靭鋳鉄
10~25 (m/min)	10~25 (m/min)	10~25 (m/min)	10~20 (m/min)	10~25 (m/min)	5~10 (m/min)	5~15 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 60° × 4	CDL1.0	1	4	100	1	2.5	1	¥ 7,130
1 × 60° × 4	CDM1.0	1	4	150	1	2.5	1	¥ 10,800
1.5 × 60° × 5	CDL1.5	1.5	5	100	1.5	4	1	¥ 5,330
1.5 × 60° × 5	CDM1.5	1.5	5	150	1.5	4	1	¥ 8,750
2 × 60° × 6	CDL2.0	2	6	100	2	5	1	¥ 5,980
2 × 60° × 6	CDM2.0	2	6	150	2	5	1	¥ 9,060
2.5 × 60° × 8	CDL2.5	2.5	8	100	2.5	6.5	1	¥ 7,130
2.5 × 60° × 8	CDM2.5	2.5	8	150	2.5	6.5	1	¥ 10,800
3 × 60° × 8	CDL3.0	3	8	100	3	6.5	1	¥ 7,130
3 × 60° × 8	CDM3.0	3	8	150	3	6.5	1	¥ 10,800
3 × 60° × 8	CDN3.0	3	8	200	3	6.5	1	¥ 14,200 ※
4 × 60° × 10	CDL4.0	4	10	100	4.5	8.5	1	¥ 8,000
4 × 60° × 10	CDM4.0	4	10	150	4.5	8.5	1	¥ 11,700
4 × 60° × 10	CDN4.0	4	10	200	4.5	8.5	1	¥ 15,400 ※
5 × 60° × 12	CDL5.0	5	12	100	5.5	10	1	¥ 10,200
5 × 60° × 12	CDM5.0	5	12	150	5.5	10	1	¥ 15,700
5 × 60° × 12	CDN5.0	5	12	200	5.5	10	1	¥ 20,600 ※

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-face Hole size
Dc	Ds	L	ℓ	Dw

JIS

CE-SL V



Long Shank High Helix Center Drills-Type A 60°, Coated

Specification

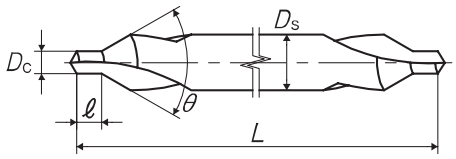
HSS Coating

■Long shank high helix center drills - Type A suitable for relatively hard materials and coated to improve wear resistance and anti-welding.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
15~30 (m/min)	15~30 (m/min)	5~10 (m/min)	25~50 (m/min)	25~50 (m/min)	20~40 (m/min)	20~40 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 60° × 4	VCEL1.0	1	4	100	1	2.5	1	¥ 9,870
1 × 60° × 4	VCEM1.0	1	4	150	1	2.5	1	¥ 16,100
1.5 × 60° × 5	VCEL1.5	1.5	5	100	1.5	4	1	¥ 8,020
1.5 × 60° × 5	VCEM1.5	1.5	5	150	1.5	4	1	¥ 14,200
2 × 60° × 6	VCEL2.0	2	6	100	2	5	1	¥ 8,830
2 × 60° × 6	VCEM2.0	2	6	150	2	5	1	¥ 14,600
2.5 × 60° × 8	VCEL2.5	2.5	8	100	2.5	6.5	1	¥ 9,970
2.5 × 60° × 8	VCEM2.5	2.5	8	150	2.5	6.5	1	¥ 16,100
3 × 60° × 8	VCEL3.0	3	8	100	3	6.5	1	¥ 9,970
3 × 60° × 8	VCEM3.0	3	8	150	3	6.5	1	¥ 16,100
4 × 60° × 10	VCEL4.0	4	10	100	4.5	8.5	1	¥ 12,100
4 × 60° × 10	VCEM4.0	4	10	150	4.5	8.5	1	¥ 18,800
5 × 60° × 12	VCEL5.0	5	12	100	5.5	10	1	¥ 15,800
5 × 60° × 12	VCEM5.0	5	12	150	5.5	10	1	¥ 22,800

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-Face Hole size
Dc	Ds	L	ℓ	Dw

CD-SL V



Long Shank Low Helix Center Drills-Type A 60°, Coated

Specification

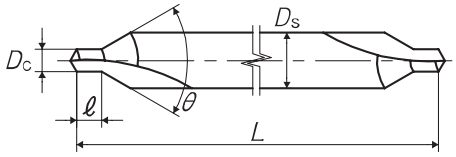
HSS Coating

■Long shank low helix center drills - Type A suitable for relatively hard materials and coated to improve wear resistance and anti-welding.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Cast steels 鋳鋼	Cast irons 鋳鉄	Ductile cast irons 強靭鋳鉄
15~30 (m/min)	15~30 (m/min)	15~30 (m/min)	10~25 (m/min)	15~30 (m/min)	10~15 (m/min)	10~20 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 60° ×4	VCDL1.0	1	4	100	1	2.5	1	¥ 9,870 ※
1 × 60° ×4	VCDM1.0	1	4	150	1	2.5	1	¥ 16,100 ※
1.5 × 60° × 5	VCDL1.5	1.5	5	100	1.5	4	1	¥ 8,020 ※
1.5 × 60° × 5	VCDM1.5	1.5	5	150	1.5	4	1	¥ 14,200 ※
2 × 60° × 6	VCDL2.0	2	6	100	2	5	1	¥ 8,830 ※
2 × 60° × 6	VCDM2.0	2	6	150	2	5	1	¥ 14,600 ※
2.5 × 60° ×8	VCDL2.5	2.5	8	100	2.5	6.5	1	¥ 9,970 ※
2.5 × 60° ×8	VCDM2.5	2.5	8	150	2.5	6.5	1	¥ 16,100 ※
3 × 60° × 8	VCDL3.0	3	8	100	3	6.5	1	¥ 9,970 ※
3 × 60° × 8	VCDM3.0	3	8	150	3	6.5	1	¥ 16,100 ※
4 × 60° ×10	VCDL4.0	4	10	100	4.5	8.5	1	¥ 12,100 ※
4 × 60° ×10	VCDM4.0	4	10	150	4.5	8.5	1	¥ 18,800 ※
5 × 60° × 12	VCDL5.0	5	12	100	5.5	10	1	¥ 15,800 ※
5 × 60° × 12	VCDM5.0	5	12	150	5.5	10	1	¥ 22,800 ※

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-Face Hole size
Dc	Ds	L	ℓ	Dw

JIS

C-CD-SL



Long Shank Low Helix Carbide Center Drills-Type A 60°

Specification

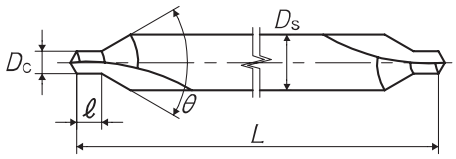
HF

■Long shank low helix carbide center drills - Type A suitable for hard materials and mass production.

Tapping Speeds depending on Materials

High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼	Thermal refined steels 調質鋼	Cast irons 鋳鉄	Brass castings 黄銅鋳物	Aluminum alloy castings アルミ合金鋳物
25~40 (m/min)	15~30 (m/min)	10~20 (m/min) 25~35HRC	5~10 (m/min) 35~45HRC	25~40 (m/min)	25~50 (m/min)	25~50 (m/min)

TYPE : 1



Segment : 52

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 60° × 4	CCDL1.0	1	4	100	1	2.5	1	¥ 19,300 ※
1.5 × 60° × 5	CCDL1.5	1.5	5	100	1.5	4	1	¥ 22,200 ※
2 × 60° × 6	CCDL2.0	2	6	100	2	5	1	¥ 25,100 ※
2 × 60° × 6	CCDM2.0	2	6	150	2	5	1	¥ 30,400 ※
2.5 × 60° × 8	CCDL2.5	2.5	8	100	2.5	6.5	1	¥ 33,300 ※
2.5 × 60° × 8	CCDM2.5	2.5	8	150	2.5	6.5	1	¥ 40,300 ※
3 × 60° × 8	CCDL3.0	3	8	100	3	6.5	1	¥ 33,300 ※
3 × 60° × 8	CCDM3.0	3	8	150	3	6.5	1	¥ 40,300 ※
4 × 60° × 10	CCDL4.0	4	10	100	4.5	8.5	1	¥ 42,000 ※
4 × 60° × 10	CCDM4.0	4	10	150	4.5	8.5	1	¥ 50,900 ※
5 × 60° × 12	CCDL5.0	5	12	100	5.5	10	1	¥ 51,200 ※
5 × 60° × 12	CCDM5.0	5	12	150	5.5	10	1	¥ 61,100 ※

※ = Specified Distribution Items. Made to order products.

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-Face Hole size
Dc	Ds	L	ℓ	Dw

JIS

CEQA



High Helix Center Drills-JIS Type A 90°

Specification

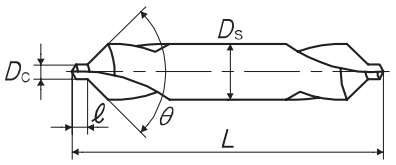
HSS

■High helix center drills - JIS Type A center drill for machining 90° center hole. Suitable for soft and relatively tough materials.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
15~30 (m/min)	15~30 (m/min)	5~10 (m/min)	25~50 (m/min)	25~50 (m/min)	20~40 (m/min)	20~40 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 90° × 4	CEA1.0Q	1	4	35.5	1.1	2.8	1	¥ 1,610
1.25 × 90° × 5	CEA1.25Q	1.25	5	40	1.4	3.55	1	¥ 1,340
1.6 × 90° × 6.3	CEA1.6Q	1.6	6.3	45	1.8	4.5	1	¥ 1,450
2 × 90° × 8	CEA2.0Q	2	8	50	2.2	5.6	1	¥ 1,950
2.5 × 90° × 10	CEA2.5Q	2.5	10	56	2.8	7.1	1	¥ 3,560
3.15 × 90° × 11.2	CEA3.15Q	3.15	11.2	60	3.6	9	1	¥ 3,970
4 × 90° × 12.5	CEA4.0Q	4	12.5	63	4.5	11.2	1	¥ 4,760
5 × 90° × 16	CEA5.0Q	5	16	71	5.6	14	1	¥ 9,200
6.3 × 90° × 20	CEA6.3Q	6.3	20	80	7.1	18	1	¥ 18,700
8 × 90° × 25	CEA8.0Q	8	25	100	9	22.4	1	¥ 32,700
10 × 90° × 31.5	CEA010Q	10	31.5	125	11.2	28	1	¥ 46,400
12.5 × 90° × 35.5	CEA12.5Q	12.5	35.5	140	14	31.5	1	¥ 83,700

Think threads with YAMAWA

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-Face Hole size
Dc	Ds	L	ℓ	Dw

CE-Q

High Helix Center Drills-Type A 90°



Specification

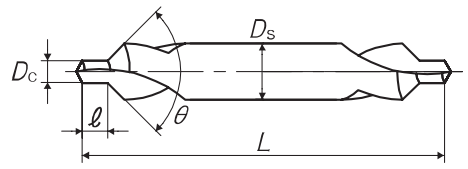
HSS

■High helix center drills - Type A center drill for machining 90° center hole. Suitable for soft and relatively tough materials.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
15~30 (m/min)	15~30 (m/min)	5~10 (m/min)	25~50 (m/min)	25~50 (m/min)	20~40 (m/min)	20~40 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
0.5 × 90° × 3.5	CY0.5Z	0.5	3.5	35	0.5	1.5	1	¥ 3,620 ※
0.6 × 90° × 3.5	CY0.6Z	0.6	3.5	35	0.6	2	1	¥ 3,280 ※
0.7 × 90° × 3.5	CY0.7Z	0.7	3.5	35	0.7	2	1	¥ 2,910
0.8 × 90° × 3.5	CY0.8Z	0.8	3.5	35	0.8	2.5	1	¥ 2,490
0.9 × 90° × 4	CY0.9Z	0.9	4	35	0.9	2.5	1	¥ 2,330 ※
1 × 90° × 4	CY1.0Z	1	4	35	1	3	1	¥ 2,040
1.2 × 90° × 5	CY1.2Z	1.2	5	40	1.2	3.5	1	¥ 1,860 ※
1.5 × 90° × 5	CY1.5Z	1.5	5	40	1.5	4	1	¥ 1,600
2 × 90° × 6	CY2.0Z	2	6	45	2	5	1	¥ 1,780
2.5 × 90° × 7.7	CY2.5Z	2.5	7.7	50	2.5	6.5	1	¥ 2,180
3 × 90° × 7.7	CY3.0Z	3	7.7	55	3	6.5	1	¥ 2,180
4 × 90° × 10	CY4.0Z	4	10	65	4.5	8.5	1	¥ 4,340
5 × 90° × 11	CY5.0Z	5	11	78	5.5	9	1	¥ 4,680
6 × 90° × 16	CY6.0Z-16	6	16	90	6.5	13.5	1	¥ 11,300
6 × 90° × 18	CY6.0Z	6	18	90	6.5	15	1	¥ 15,900

※ = Specified Distribution Items. Made to order products.

Think threads with YAMAWA

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-Face Hole size
Dc	Ds	L	ℓ	Dw

JIS

CD-Q

Low Helix Center Drills-Type A 90°



Specification

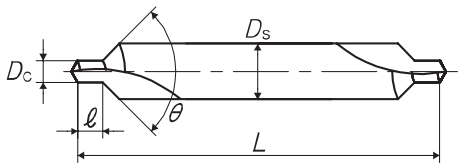
HSS

■Low helix center drills - Type A center drill for machining 90° center hole. Suitable for relatively hard materials.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Cast steels 鋳鋼	Cast irons 鋳鉄	Ductile cast irons 強靱鋳鉄
15~30 (m/min)	15~30 (m/min)	15~30 (m/min)	10~25 (m/min)	15~30 (m/min)	10~15 (m/min)	10~20 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
0.5 × 90° × 3.5	CY0.5Q	0.5	3.5	35	0.5	1.5	1	¥ 3,620 ※
0.6 × 90° × 3.5	CY0.6Q	0.6	3.5	35	0.6	2	1	¥ 3,280 ※
0.8 × 90° × 3.5	CY0.8Q	0.8	3.5	35	0.8	2.5	1	¥ 2,490 ※
1 × 90° × 4	CY1.0Q	1	4	35	1	3	1	¥ 2,040
1.2 × 90° × 5	CY1.2Q	1.2	5	40	1.2	3.5	1	¥ 1,860 ※
1.5 × 90° × 5	CY1.5Q	1.5	5	40	1.5	4	1	¥ 1,600
2 × 90° × 6	CY2.0Q	2	6	45	2	5	1	¥ 1,780
2.5 × 90° × 7.7	CY2.5Q	2.5	7.7	50	2.5	6.5	1	¥ 2,180
3 × 90° × 7.7	CY3.0Q	3	7.7	55	3	6.5	1	¥ 2,180
4 × 90° × 10	CY4.0Q	4	10	65	4.5	8.5	1	¥ 4,340
5 × 90° × 11	CY5.0Q	5	11	78	5.5	9	1	¥ 4,680
6 × 90° × 16	CY6.0Q-16	6	16	90	6.5	13.5	1	¥ 11,300 ※
6 × 90° × 18	CY6.0Q	6	18	90	6.5	15	1	¥ 15,900 ※

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CD-Q LH



Low Helix Center Drills - Type A 90°, Left Hand Cut

Specification

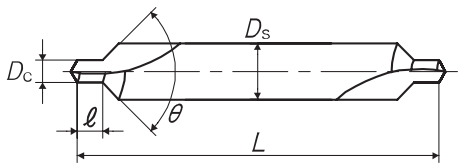
HSS LH

■Low helix left hand center drills - Type A center drill for machining 90° center hole. Suitable for relatively hard materials.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Cast steels 鋳鋼	Cast irons 鋳鉄	Ductile cast irons 強靱鋳鉄
15~30 (m/min)	15~30 (m/min)	15~30 (m/min)	10~25 (m/min)	15~30 (m/min)	10~15 (m/min)	10~20 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 90° × 4	CY1.0Q-L	1	4	35	1	3	1	¥ 2,660 ※
1.2 × 90° × 5	CY1.2Q-L	1.2	5	40	1.2	3.5	1	¥ 2,420 ※
1.5 × 90° × 5	CY1.5Q-L	1.5	5	40	1.5	4	1	¥ 2,080 ※
2 × 90° × 6	CY2.0Q-L	2	6	45	2	5	1	¥ 2,320 ※
2.5 × 90° × 7.7	CY2.5Q-L	2.5	7.7	50	2.5	6.5	1	¥ 2,840 ※
2.5 × 90° × 8	CY2.5Q8L	2.5	8	50	2.5	6.5	1	¥ 3,030 ※
3 × 90° × 7.7	CY3.0Q-L	3	7.7	55	3	6.5	1	¥ 2,840 ※
3 × 90° × 8	CY3.0Q8L	3	8	55	3	6.5	1	¥ 3,030 ※
4 × 90° × 10	CY4.0Q-L	4	10	65	4.5	8.5	1	¥ 5,650 ※
5 × 90° × 12	CY5.0Q12L	5	12	78	5.5	10	1	¥ 7,540 ※
6 × 90° × 18	CY6.0Q-L	6	18	90	6.5	15	1	¥ 20,700 ※

※ = Specified Distribution Items. Made to order products.

Think threads with YAMAWA

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-Face Hole size
Dc	Ds	L	ℓ	Dw

CE-Q V



High Helix Center Drills-Type A 90°, Coated

Specification

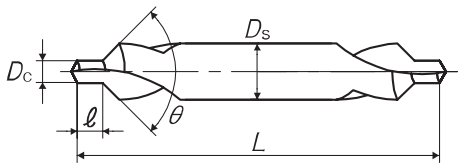
HSS Coating

■High helix center drills - Type A center drill for machining 90° center hole. Coated to improve wear resistance and anti-welding.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
20~40 (m/min)	20~40 (m/min)	5~15 (m/min)	30~60 (m/min)	30~60 (m/min)	25~50 (m/min)	25~50 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 90° × 4	VCY1.0Z	1	4	35	1	3	1	¥ 3,850
1.5 × 90° × 5	VCY1.5Z	1.5	5	40	1.5	4	1	¥ 3,480
2 × 90° × 6	VCY2.0Z	2	6	45	2	5	1	¥ 3,660
2.5 × 90° × 7.7	VCY2.5Z	2.5	7.7	50	2.5	6.5	1	¥ 4,280
3 × 90° × 7.7	VCY3.0Z	3	7.7	55	3	6.5	1	¥ 4,280
4 × 90° × 10	VCY4.0Z	4	10	65	4.5	8.5	1	¥ 6,880
5 × 90° × 11	VCY5.0Z	5	11	78	5.5	9	1	¥ 7,440
6 × 90° × 18	VCY6.0Z	6	18	90	6.5	15	1	¥ 21,400

Think threads with YAMAWA

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CD-Q V



Low Helix Center Drills-Type A 90°, Coated

Specification

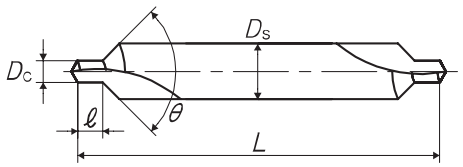
HSS Coating

■Low helix center drills - Type A center drill for machining 90° center hole. Coated to improve wear resistance and anti-welding.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Cast steels 鋳鋼	Cast irons 鋳鉄	Ductile cast irons 強靭鋳鉄
20~40 (m/min)	20~40 (m/min)	20~40 (m/min)	15~30 (m/min)	20~40 (m/min)	10~20 (m/min)	10~25 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 90° × 4	VCY1.0Q	1	4	35	1	3	1	¥ 3,850 ※
1.5 × 90° × 5	VCY1.5Q	1.5	5	40	1.5	4	1	¥ 3,480 ※
2 × 90° × 6	VCY2.0Q	2	6	45	2	5	1	¥ 3,660 ※
2.5 × 90° × 7.7	VCY2.5Q	2.5	7.7	50	2.5	6.5	1	¥ 4,280 ※
3 × 90° × 7.7	VCY3.0Q	3	7.7	55	3	6.5	1	¥ 4,280 ※
4 × 90° × 10	VCY4.0Q	4	10	65	4.5	8.5	1	¥ 6,880 ※
5 × 90° × 11	VCY5.0Q	5	11	78	5.5	9	1	¥ 7,440 ※
6 × 90° × 18	VCY6.0Q	6	18	90	6.5	15	1	¥ 21,400 ※

※ = Specified Distribution Items. Made to order products.

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-Face Hole size
Dc	Ds	L	ℓ	Dw

C-CD-Q



Low Helix Carbide Center Drills-Type A 90°

Specification

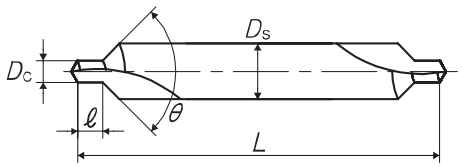
HF

■Low helix center drills - Type A center drill for machining 90° center hole. Suitable for hard materials and mass production.

Tapping Speeds depending on Materials

High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼	Thermal refined steels 調質鋼	Cast irons 鋳鉄	Brass castings 黄銅鋳物	Aluminum alloy castings アルミ合金鋳物
30~50 (m/min)	20~40 (m/min)	10~25 (m/min) 25~35HRC	5~15 (m/min) 35~45HRC	30~50 (m/min)	30~60 (m/min)	30~60 (m/min)

TYPE : 1



Segment : 52

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 90° × 4	CC1.0Q	1	4	35	1	3	1	¥ 14,400 ※
1.5 × 90° × 5	CC1.5Q	1.5	5	40	1.5	4	1	¥ 18,200 ※
2 × 90° × 6	CC2.0Q	2	6	45	2	5	1	¥ 22,200 ※
2.5 × 90° × 7.7	CC2.5Q	2.5	7.7	50	2.5	6.5	1	¥ 28,600 ※
2.5 × 90° × 8	CC2.5Q-8	2.5	8	50	2.5	6.5	1	¥ 29,700 ※
3 × 90° × 7.7	CC3.0Q	3	7.7	55	3	6.5	1	¥ 28,600 ※
3 × 90° × 8	CC3.0Q-8	3	8	55	3	6.5	1	¥ 29,700 ※
4 × 90° × 10	CC4.0Q	4	10	65	4.5	8.5	1	¥ 45,100 ※
5 × 90° × 11	CC5.0Q	5	11	78	5.5	9	1	¥ 48,500 ※
5 × 90° × 12	CC5.0Q-12	5	12	78	5.5	10	1	¥ 48,800 ※
6 × 90° × 18	CC6.0Q	6	18	90	6.5	15	1	¥122,000 ※

Think threads with YAMAWA

※ = Specified Distribution Items. Made to order products.

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-Face Hole size
Dc	Ds	L	ℓ	Dw

CE-QL



Long Shank High Helix Center Drills-Type A 90°

Specification

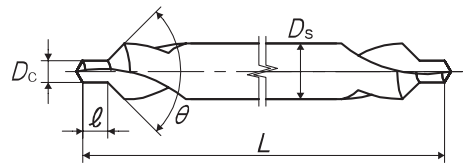
HSS

■Long shank high helix center drills - Type A center drill for machining 90° center hole. Suitable for soft or relatively tough materials.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
10~25 (m/min)	10~25 (m/min)	5~10 (m/min)	20~40 (m/min)	20~40 (m/min)	15~30 (m/min)	15~30 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 90° × 4	CL1.0Z	1	4	100	1	3	1	¥ 8,560
1 × 90° × 4	CM1.0Z	1	4	150	1	3	1	¥ 13,000 ※
1.5 × 90° × 5	CL1.5Z	1.5	5	100	1.5	4	1	¥ 6,400
1.5 × 90° × 5	CM1.5Z	1.5	5	150	1.5	4	1	¥ 10,500
2 × 90° × 6	CL2.0Z	2	6	100	2	5	1	¥ 7,180
2 × 90° × 6	CM2.0Z	2	6	150	2	5	1	¥ 10,900
2.5 × 90° × 8	CL2.5Z	2.5	8	100	2.5	6.5	1	¥ 8,560
2.5 × 90° × 8	CM2.5Z	2.5	8	150	2.5	6.5	1	¥ 13,000
3 × 90° × 8	CL3.0Z	3	8	100	3	6.5	1	¥ 8,560
3 × 90° × 8	CM3.0Z	3	8	150	3	6.5	1	¥ 13,000
4 × 90° × 10	CL4.0Z	4	10	100	4.5	8.5	1	¥ 9,600
4 × 90° × 10	CM4.0Z	4	10	150	4.5	8.5	1	¥ 14,100
5 × 90° × 12	CL5.0Z	5	12	100	5.5	10	1	¥ 12,300
5 × 90° × 12	CM5.0Z	5	12	150	5.5	10	1	¥ 18,900

※ = Specified Distribution Items. Made to order products.

Think threads with YAMAWA

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-Face Hole size
Dc	Ds	L	ℓ	Dw

CE-QL V



Long Shank High Helix Center Drills-Type A 90°, Coated

Specification

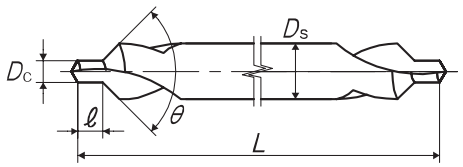
HSS Coating

■Long shank high helix center drills - Type A center drill for machining 90° center hole. Coated to improve wear resistance and anti-welding.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
15~30 (m/min)	15~30 (m/min)	5~10 (m/min)	25~50 (m/min)	25~50 (m/min)	20~40 (m/min)	20~40 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 90° × 4	VCL1.0Z	1	4	100	1	3	1	¥ 11,600
1 × 90° × 4	VCM1.0Z	1	4	150	1	3	1	¥ 18,800 ※
1.5 × 90° × 5	VCL1.5Z	1.5	5	100	1.5	4	1	¥ 9,340
1.5 × 90° × 5	VCM1.5Z	1.5	5	150	1.5	4	1	¥ 15,500 ※
2 × 90° × 6	VCL2.0Z	2	6	100	2	5	1	¥ 9,780
2 × 90° × 6	VCM2.0Z	2	6	150	2	5	1	¥ 15,800
2.5 × 90° × 8	VCL2.5Z	2.5	8	100	2.5	6.5	1	¥ 11,400
2.5 × 90° × 8	VCM2.5Z	2.5	8	150	2.5	6.5	1	¥ 18,100
3 × 90° × 8	VCL3.0Z	3	8	100	3	6.5	1	¥ 11,400
3 × 90° × 8	VCM3.0Z	3	8	150	3	6.5	1	¥ 18,100
4 × 90° × 10	VCL4.0Z	4	10	100	4.5	8.5	1	¥ 14,500
4 × 90° × 10	VCM4.0Z	4	10	150	4.5	8.5	1	¥ 21,400
5 × 90° × 12	VCL5.0Z	5	12	100	5.5	10	1	¥ 17,800
5 × 90° × 12	VCM5.0Z	5	12	150	5.5	10	1	¥ 26,100

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-Face Hole size
Dc	Ds	L	ℓ	Dw

JIS

C-CD-QL



Long Shank Low Helix Carbide Center Drills-Type A 90°

Specification

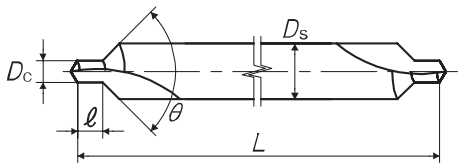
HF

■The C-CD-QL is a carbide long shank low helix center hole drill suitable for hard materials and mass production of center with 90° center holes.

Tapping Speeds depending on Materials

High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼	Thermal refined steels 調質鋼	Cast irons 鋳鉄	Brass castings 黄銅鋳物	Aluminum alloy castings アルミ合金鋳物
25~40 (m/min)	15~30 (m/min)	10~20 (m/min) 25~35HRC	5~10 (m/min) 35~45HRC	25~40 (m/min)	25~50 (m/min)	25~50 (m/min)

TYPE : 1



Segment : 52

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 90° × 4	CCL1.0Q	1	4	100	1	3	1	¥ 19,300 ※
1.5 × 90° × 5	CCL1.5Q	1.5	5	100	1.5	4	1	¥ 22,200 ※
2 × 90° × 6	CCL2.0Q	2	6	100	2	5	1	¥ 25,100 ※
2 × 90° × 6	CCM2.0Q	2	6	150	2	5	1	¥ 30,400 ※
2.5 × 90° × 8	CCL2.5Q	2.5	8	100	2.5	6.5	1	¥ 33,300 ※
2.5 × 90° × 8	CCM2.5Q	2.5	8	150	2.5	6.5	1	¥ 40,300 ※
3 × 90° × 8	CCL3.0Q	3	8	100	3	6.5	1	¥ 33,300 ※
3 × 90° × 8	CCM3.0Q	3	8	150	3	6.5	1	¥ 40,300 ※
4 × 90° × 10	CCL4.0Q	4	10	100	4.5	8.5	1	¥ 42,000 ※
4 × 90° × 10	CCM4.0Q	4	10	150	4.5	8.5	1	¥ 50,900 ※
5 × 90° × 12	CCL5.0Q	5	12	100	5.5	10	1	¥ 51,200 ※
5 × 90° × 12	CCM5.0Q	5	12	150	5.5	10	1	¥ 61,100 ※

※ = Specified Distribution Items. Made to order products.

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Drill dia.	Shank dia.	Maximum dia.	Overall length	Drill length	Workpiece end-face Hole size
Dc	Ds	D_1	L	ℓ	Dw

JIS

CESB



High Helix Center Drills-JIS Type B 60°

Specification

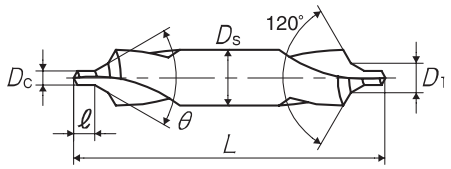
HSS

■High helix center drills - JIS Type B suitable for soft or relatively tough materials.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
15~30 (m/min)	15~30 (m/min)	5~10 (m/min)	25~50 (m/min)	25~50 (m/min)	20~40 (m/min)	20~40 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	D_1 (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
0.5 × 60° × 3.15	CEB0.5	0.5	3.15	1.06	31.5	0.8	1.6	1	¥ 3,280
0.63 × 60° × 3.15	CEB0.63	0.63	3.15	1.32	31.5	1	2	1	¥ 2,940
0.8 × 60° × 3.15	CEB0.8	0.8	3.15	1.7	31.5	1.2	2.5	1	¥ 2,520
1 × 60° × 4	CEB1.0	1	4	2.12	35.5	1.5	3.15	1	¥ 2,140
1.25 × 60° × 5	CEB1.25	1.25	5	2.65	40	1.9	4	1	¥ 2,010
1.6 × 60° × 6.3	CEB1.6	1.6	6.3	3.35	45	2.4	5	1	¥ 2,550
2 × 60° × 8	CEB2.0	2	8	4.25	50	3	6.3	1	¥ 2,550
2.5 × 60° × 10	CEB2.5	2.5	10	5.3	56	3.8	8	1	¥ 3,710
3.15 × 60° × 11.2	CEB3.15	3.15	11.2	6.7	60	4.8	10	1	¥ 5,490
4 × 60° × 14	CEB4.0	4	14	8.5	67	6	12.5	1	¥ 7,110
5 × 60° × 18	CEB5.0	5	18	10.6	75	7.5	16	1	¥ 14,700
6.3 × 60° × 20	CEB6.3	6.3	20	13.2	80	9.2	18	1	¥ 19,900
8 × 60° × 25	CEB8.0	8	25	17	100	11.5	22.4	1	¥ 29,300
10 × 60° × 31.5	CEB010	10	31.5	21.2	125	14.2	28	1	¥ 53,800

Think threads with YAMAWA

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CE-S(II)



High Helix Center Drills-Type B 60°, (Old JIS Type 2)

Specification

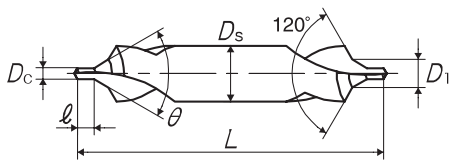
HSS

■High helix center drills - old JIS Type 2 suitable for soft or relatively tough materials.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
15~30 (m/min)	15~30 (m/min)	5~10 (m/min)	25~50 (m/min)	25~50 (m/min)	20~40 (m/min)	20~40 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	D1 (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 60° × 6	CE21.0	1	6	2.5	45	1.5	4	1	¥ 3,270
1.5 × 60° × 8	CE21.5	1.5	8	4	50	2	6	1	¥ 3,100
2 × 60° × 10	CE22.0	2	10	5	55	3	8	1	¥ 4,510
2.5 × 60° × 12	CE22.5	2.5	12	6.5	60	3.5	10	1	¥ 6,520
3 × 60° × 14	CE23.0	3	14	8	65	4	12	1	¥ 8,530
4 × 60° × 18	CE24.0	4	18	10	76	5	14	1	¥ 17,800
5 × 60° × 22	CE25.0	5	22	12	88	6.5	17	1	¥ 24,600
6 × 60° × 25	CE26.0	6	25	15	100	8	21	1	¥ 35,300

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Drill dia.	Shank dia.	Maximum dia.	Overall length	Drill length	Workpiece end-Face Hole size
Dc	Ds	D1	L	ℓ	Dw

CD-S(II)



Low Helix Center Drills-Type B 60°, (Old JIS Type 2)

Specification

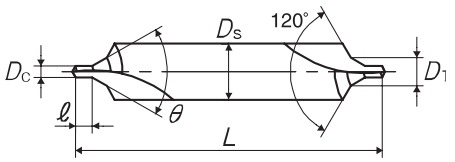
HSS

■The CD-S(II) is an old JIS type 2 center hole drill suitable for relatively hard materials.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Cast steels 鋳鋼	Cast irons 鋳鉄	Ductile cast irons 強靱鋳鉄
15~30 (m/min)	15~30 (m/min)	15~30 (m/min)	10~25 (m/min)	15~30 (m/min)	10~15 (m/min)	10~20 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	D1 (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 60° × 6	C21.0	1	6	2.5	45	1.5	4	1	¥ 3,270
1.5 × 60° × 8	C21.5	1.5	8	4	50	2	6	1	¥ 3,100
2 × 60° × 10	C22.0	2	10	5	55	3	8	1	¥ 4,510
2.5 × 60° × 12	C22.5	2.5	12	6.5	60	3.5	10	1	¥ 6,520
3 × 60° × 14	C23.0	3	14	8	65	4	12	1	¥ 8,530
4 × 60° × 18	C24.0	4	18	10	76	5	14	1	¥ 17,800
5 × 60° × 22	C25.0	5	22	12	88	6.5	17	1	¥ 24,600
6 × 60° × 25	C26.0	6	25	15	100	8	21	1	¥ 35,300

Think threads with YAMAWA

ANSI Only - PioneerNA.com

CESC

High Helix Center Drills-JIS Type C 60°



Specification

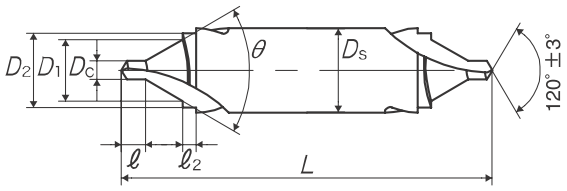
HSS

■High helix center drills - JIS Type C suitable for soft or relatively tough materials.

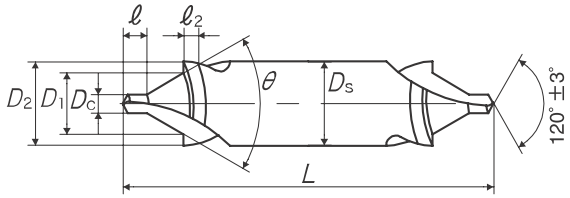
Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
15~30 (m/min)	15~30 (m/min)	5~10 (m/min)	25~50 (m/min)	25~50 (m/min)	20~40 (m/min)	20~40 (m/min)

TYPE: 1



TYPE: 2



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	D_2 (mm)	D_1 (mm)	L (mm)	ℓ (mm)	ℓ_2 (mm)	Dw (mm)	TYPE	MSRP
0.5 × 60° × 3.15	CEC0.5	0.5	3.15	1.6	1.06	31.5	0.8	0.6	1.6	1	¥ 4,590
0.63 × 60° × 3.15	CEC0.63	0.63	3.15	2	1.32	31.5	1	0.8	2	1	¥ 4,130
0.8 × 60° × 3.15	CEC0.8	0.8	3.15	2.5	1.7	31.5	1.2	1	2.5	1	¥ 3,540
1 × 60° × 3.15	CEC1.0	1	3.15	3.15	2.12	31.5	1.5	1.2	3.15	2	¥ 3,540
1.25 × 60° × 4	CEC1.25	1.25	4	4	2.65	35.5	1.9	1.5	4	2	¥ 3,320
1.6 × 60° × 5	CEC1.6	1.6	5	5	3.35	40	2.4	1.8	5	2	¥ 2,810
2 × 60° × 6.3	CEC2.0	2	6.3	6.3	4.25	45	3	2.2	6.3	2	¥ 2,920
2.5 × 60° × 8	CEC2.5	2.5	8	8	5.3	50	3.8	3	8	2	¥ 3,320
3.15 × 60° × 10	CEC3.15	3.15	10	10	6.7	56	4.8	3.5	10	2	¥ 4,820
4 × 60° × 12.5	CEC4.0	4	12.5	12.5	8.5	63	6	4.2	12.5	2	¥ 6,100
5 × 60° × 16	CEC5.0	5	16	16	10.6	71	7.5	5.5	16	2	¥ 10,800
6.3 × 60° × 18	CEC6.3	6.3	18	18	13.2	75	9.2	5.5	18	2	¥ 20,000
8 × 60° × 22.4	CEC8.0	8	22.4	22.4	17	90	11.5	5.5	22.4	2	¥ 29,900
10 × 60° × 28	CEC010	10	28	28	21.2	112	14.2	7	28	2	¥ 68,800

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-face Hole size
Dc	Ds	L	ℓ	Dw

CEIR



High Helix Center Drills-JIS Type R

Specification

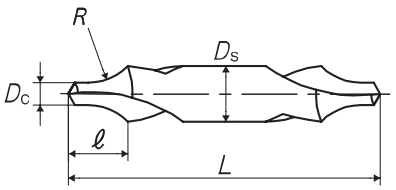
HSS

■The CEIR is a high helix JIS type R center hole drill.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
15~30 (m/min)	15~30 (m/min)	5~10 (m/min)	25~50 (m/min)	25~50 (m/min)	20~40 (m/min)	20~40 (m/min)

TYPE : 1



Segment : 51

Size Dc × R × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Rmax (mm)	Rmin (mm)	Dw (mm)	TYPE	MSRP
1 × R × 3.15	CE1.0RI	1	3.15	31.5	3	3.15	2.5	2.12	1	¥ 1,520
1.25 × R × 3.15	CE1.25RI	1.25	3.15	31.5	3.35	4	3.15	2.65	1	¥ 1,400
1.6 × R × 4	CE1.6RI	1.6	4	35.5	4.25	5	4	3.35	1	¥ 1,340
2 × R × 5	CE2.0RI	2	5	40	5.3	6.3	5	4.25	1	¥ 1,120
2.5 × R × 6.3	CE2.5RI	2.5	6.3	45	6.7	8	6.3	5.3	1	¥ 1,210
3.15 × R × 8	CE3.15RI	3.15	8	50	8.5	10	8	6.7	1	¥ 1,620
4 × R × 10	CE4.0RI	4	10	56	10.6	12.5	10	8.5	1	¥ 2,960
5 × R × 12.5	CE5.0RI	5	12.5	63	13.2	16	12.5	10.6	1	¥ 3,970
6.3 × R × 16	CE6.3RI	6.3	16	71	17	20	16	13.2	1	¥ 7,660
8 × R × 20	CE8.0RI	8	20	80	21.2	25	20	17	1	¥ 15,600
10 × R × 25	CE010RI	10	25	100	26.5	31.5	25	21.2	1	¥ 27,300

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JIS

CD-R

Low Helix Center Drills-Type R



Specification

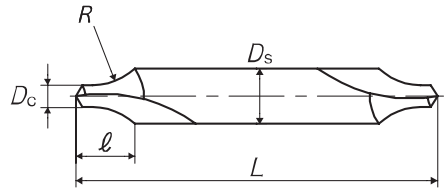
HSS

■The CD-R is a high helix type R center hole drill.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Cast steels 鋳鋼	Cast irons 鋳鉄	Ductile cast irons 強靭鋳鉄
15~30 (m/min)	15~30 (m/min)	15~30 (m/min)	10~25 (m/min)	15~30 (m/min)	10~15 (m/min)	10~20 (m/min)

TYPE : 1



Segment : 51

Size Dc × R × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Rmax (mm)	Dw (mm)	TYPE	MSRP
0.7 × R × 3.5	CY0.7R	0.7	3.5	35	2.5	2.5	2	1	¥ 3,390 ※
0.8 × R × 3.5	CY0.8R	0.8	3.5	35	2.6	2.5	2	1	¥ 2,890 ※
1 × R × 4	CY1.0R	1	4	35	3.25	3.15	2.5	1	¥ 2,540 ※
1.5 × R × 5	CY1.5R	1.5	5	40	4.6	5	4	1	¥ 2,000
2 × R × 6	CY2.0R	2	6	45	5.75	6.3	5	1	¥ 2,230
2.5 × R × 7.7	CY2.5R	2.5	7.7	50	7.3	8	6.5	1	¥ 2,890
3 × R × 7.7	CY3.0R	3	7.7	55	8.3	10	6.5	1	¥ 3,780
4 × R × 10	CY4.0R	4	10	65	10.6	12.5	8.5	1	¥ 6,130
5 × R × 11	CY5.0R	5	11	78	12.4	16	9	1	¥ 7,790 ※
6 × R × 16	CY6.0R-16	6	16	90	16.9	20	13.5	1	¥ 11,800 ※
6 × R × 18	CY6.0R	6	18	90	17.8	20	15	1	¥ 16,600 ※

※ = Specified Distribution Items. Made to order products.

Think threads with YAMAWA

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-Face Hole size
Dc	Ds	L	ℓ	Dw

JIS

CE-T



High Helix A Type 75° Center Hole Drill

Specification

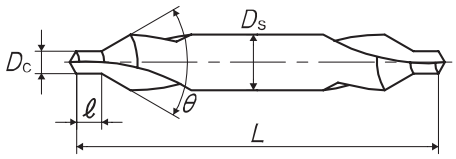
HSS

■High helix center drills - Type A center drill for machining 75° center hole. Suitable for soft or relatively tough materials.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
15~30 (m/min)	15~30 (m/min)	5~10 (m/min)	25~50 (m/min)	25~50 (m/min)	20~40 (m/min)	20~40 (m/min)

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 75° × 4	CE1.0T	1	4	35	1	2.5	1	¥ 2,130 ※
1.5 × 75° × 5	CE1.5T	1.5	5	40	1.5	4	1	¥ 1,670 ※
2 × 75° × 6	CE2.0T	2	6	45	2	5	1	¥ 1,850 ※
2.5 × 75° × 7.7	CE2.5T	2.5	7.7	50	2.5	6.5	1	¥ 2,270 ※
3 × 75° × 7.7	CE3.0T	3	7.7	55	3	6.5	1	¥ 2,270 ※
4 × 75° × 10	CE4.0T	4	10	65	4.5	8.5	1	¥ 4,520 ※
5 × 75° × 11	CE5.0T	5	11	78	5.5	9	1	¥ 4,880 ※
6 × 75° × 18	CE6.0T	6	18	90	6.5	15	1	¥ 16,500 ※
8 × 75° × 18	CE8.0T	8	18	100	8.5	15	1	¥ 18,900 ※
10 × 75° × 18	CE010T	10	18	100	11	15	1	¥ 18,900 ※

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MEMO

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-face Hole size
Dc	Ds	L	ℓ	Dw

JIS

MHCDS



Center Drills for Carbon Steels of Medium Hardness for Running at High Speed

Specification

HSS-Co | Coating

Tapping Speeds depending on Materials

Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼	Stainless steels ステンレス鋼	Tool steels 工具鋼	Ductile cast irons 強靭鋳鉄
20~40 (m/min)	20~40 (m/min)	20~40 (m/min)	10~20 (m/min)	10~20 (m/min)	15~30 (m/min)	15~40 (m/min)
			25~35HRC			

Product Features

- In order to improve positioning accuracy of projection and shank tolerance, MHCDS has the cutting edge only on one end.
- Considering clearance between center point and bottom of center hole, cutting edge length (ℓ) is made as short as possible to increase toughness.
- To increase centrality, drill point has 3 rakes and X thinning design, which enables high speed cutting and feeding.
- Increased centrality leads to great improvement of surface finish and circularity of center-drilled hole.

Cutting Data

Great extension of tool life with MHCDS

Right pictures show difference of the damage on cutting edge between CD-S and MHCDS after 480 hole cuttings under same cutting condition (stated in right) MHCDS has smaller wear and edge damage. This tells we can continue to use MHCDS further.

Cutting condition [3×60°×8]

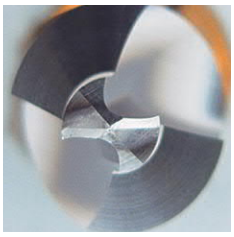
Work material	S55C
Cutting speed	30m/min (1,200min^{-1})
Feed	0.15mm/rev
Machine	NC lathe
Cutting Fluid	Water soluble cutting fluid

<After drilling 480 holes> **Large wear**



CD-S

<After drilling 480 holes> **Small wear**



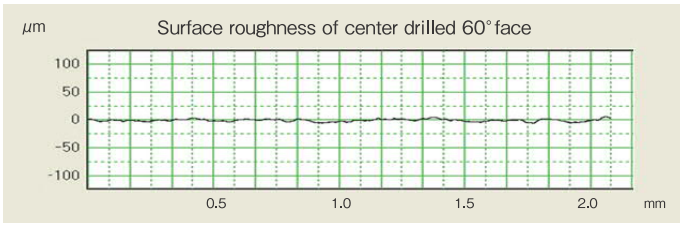
MHCDS

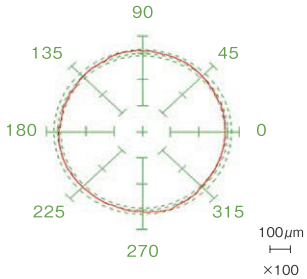
Great improvement in surface roughness and circularity with MHCDS

Under the cutting condition stated above, the surface finish of center-drilled hole has greatly been improved.
Circularity of center drilled hole as well as run-out tolerance of turning axis has been improved.



Enlarged picture





Circularity of center drilled 60° face

Recommended cutting condition

●Material : Carbon Steels(S55C) Alloy Steels(SCM440)

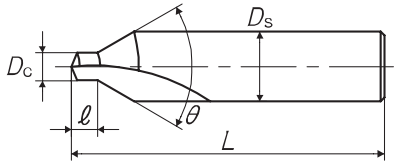
Designation Dc×θ×Ds	Feed (mm/rev)	Revolution speed (min^{-1})
1×60°×4	0.1	3,800
1.5×60°×5		2,400
2×60°×6	0.15	1,900
2.5×60°×8		1,500
3×60°×8		1,200
4×60°×10	0.2	1,000
5×60°×12		800
6×60°×16		600

Think threads with YAMAWA

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-face Hole size
Dc	Ds	L	ℓ	Dw

TYPE : 1



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1 × 60° × 4	VMHCD1.0S	1	4	30	1	2.5	1	¥ 2,600
1.5 × 60° × 5	VMHCD1.5S	1.5	5	30	1.5	4	1	¥ 2,470
2 × 60° ×6	VMHCD2.0S	2	6	30	1.9	5	1	¥ 2,700
2.5 × 60° × 8	VMHCD2.5S	2.5	8	40	2.4	6.5	1	¥ 3,270
3 × 60° × 8	VMHCD3.0S	3	8	40	2.8	6.5	1	¥ 3,270
4 × 60° × 10	VMHCD4.0S	4	10	45	3.8	8.5	1	¥ 4,780
5 × 60° × 12	VMHCD5.0S	5	12	55	4.6	10	1	¥ 6,170
6 × 60° ×16	VMHCD6.0S	6	16	65	5.5	13.5	1	¥ 14,400

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Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-face Hole size
Dc	Ds	L	ℓ	Dw

AUCES

Coated Type A 60° High Helix Single End Center Hole Drill



Specification

HSS

Coating

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼
20~40 (m/min)	20~40 (m/min)	10~20 (m/min)

Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
30~60 (m/min)	30~60 (m/min)	25~60 (m/min)	25~60 (m/min)

AUCDS

Coated Type A 60° Low Helix Single End Center Hole Drill



Specification

HSS

Coating

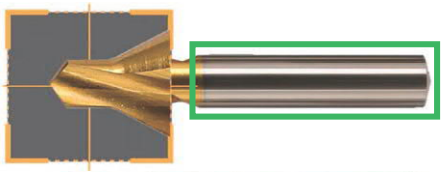
Tapping Speeds depending on Materials

Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼
20~40 (m/min)	20~40 (m/min)	20~40 (m/min)	15~30 (m/min) 25~35HRC

Cast steels 鋳鋼	Cast irons 鋳鉄	Ductile cast irons 強靭鋳鉄
20~40 (m/min)	10~40 (m/min)	10~40 (m/min)

Product Features

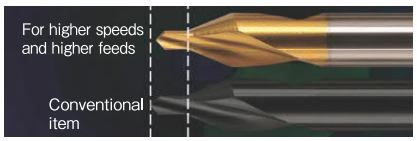
- To improve the tools precision and accuracy, YAMAWA adopted a single end design.
- Higher quality center holes can be achieved with the AUCES and AUSDS coated, single end design center hole drill.
- Because of the single end design, the tool length in the holder is constant and the tool projection is constant.



Compared with a double end center hole drill, the accuracy of the drill part and shank accuracy are improved with a single end center hole drill.

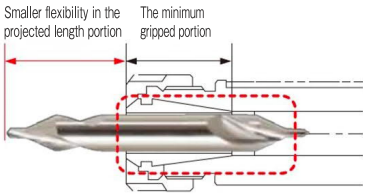


The position of the tool identification markings is made at the back of the shank part to avoid holding at the marking position of the drill.

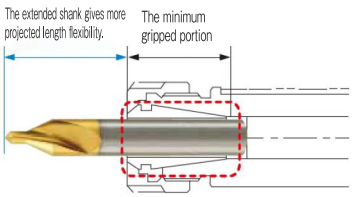


The drill length (ℓ) is shorter than the conventional double end product. Higher speed, higher feed machining is possible.

Double-ended type



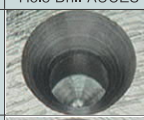
Single-ended type



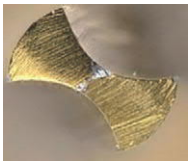
Cutting Data

Tool Type	Coated Single-End Center Hole Drill AUCES	Coated Double Ended Center Hole Drill CE-SV
Size	3×60°×8	
Workpiece Material & Hardness	S50C (96～98HRB)	
Cutting Speed	10m/min, 30m/min	
Feed Per Rev.	0.05mm/rev, 0.12mm/rev	
Large Diameter	ϕ6	
Machinery Type	Vertical machining center	
Cutting Fluid	Water soluble cutting fluid (20 to 1 dilution)	

Tool Type	Coated Single-End Center Hole Drill AUCES	Coated Double Ended Center Hole Drill CE-SV
Size	1×60°×4	
Workpiece Material	S50C	
Cutting Speed	30m/min	
Feed Per Rev.	0.04mm/rev	
Large Diameter	ϕ3	

Machining Conditions	Single End Center Hole Drill AUCES	Double End Center hole drill CE-SV
Workpiece Material:S50C Cutting Speed10m/min Feed Rate: 0.05mm/rev		
Material S50C Cutting Speed 30m/min Feed Rate: :0.12mm/rev		

Coated Single End Center Hole Drill AUCES



Coated Double End Center Hole Drill CE-SV



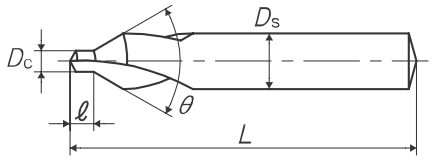
Think threads with YAMAWA

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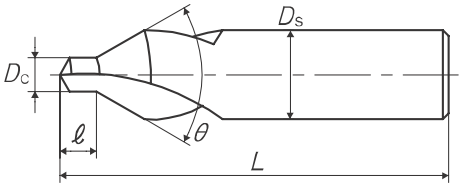
Drill dia.	Shank dia.	Overall length	Drill length	Workpiece end-face Hole size
Dc	Ds	L	ℓ	Dw

AUCES Coated Type A 60° High Helix Single End Center Hole Drill

TYPE: 1



TYPE: 2

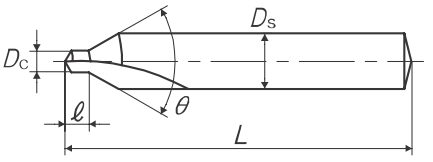


Segment : 51

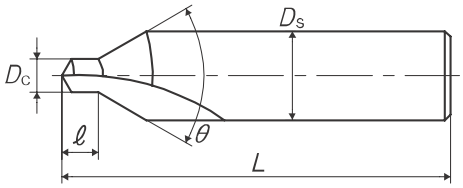
Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1× 60°× 4	YH61.00ZNEVD	1	4	35	1.1	2.5	1	¥ 1,660
1.5× 60°× 5	YH61.50ZNEVE	1.5	5	40	1.6	4	1	¥ 1,580
2× 60°× 6	YH62.00ZNEVF	2	6	45	2.1	5	1	¥ 1,720
2.5× 60°× 8	YH62.50ZNEVI	2.5	8	50	2.7	6.5	1	¥ 2,090
3× 60°× 8	YH63.00ZNEVI	3	8	50	3.2	6.5	1	¥ 2,090
4× 60°× 10	YH64.00ZNEVJ	4	10	55	4.3	8.5	1	¥ 3,050
5× 60°× 12	YH65.00ZNEVM	5	12	65	5.3	10	1	¥ 3,940
6× 60°× 16	YH66.00ZNEVP	6	16	70	6.4	13.5	2	¥ 9,180

AUCDS Coated Type A 60 °Low Helix Single End Center Hole Drill

TYPE: 1



TYPE: 2



Segment : 51

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	Dw (mm)	TYPE	MSRP
1× 60°× 4	YL61.00ZNEVD	1	4	35	1.1	2.5	1	¥ 1,660
1.5× 60°× 5	YL61.50ZNEVE	1.5	5	40	1.6	4	1	¥ 1,580
2× 60°× 6	YL62.00ZNEVF	2	6	45	2.1	5	1	¥ 1,720
2.5× 60°× 8	YL62.50ZNEVI	2.5	8	50	2.7	6.5	1	¥ 2,090
3× 60°× 8	YL63.00ZNEVI	3	8	50	3.2	6.5	1	¥ 2,090
4× 60°× 10	YL64.00ZNEVJ	4	10	55	4.3	8.5	1	¥ 3,050
5× 60°× 12	YL65.00ZNEVM	5	12	65	5.3	10	1	¥ 3,940
6× 60°× 16	YL66.00ZNEVP	6	16	70	6.4	13.5	2	¥ 9,180

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Drill dia.	Shank dia.	Overall length	Drill length
Dc	Ds	L	ℓ1

AUPEQ

Coated Single End Point Drill PE-90°



Specification

HSS

Coating

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼
38~48 (m/min)	33~43 (m/min)	28~38 (m/min)	26~33 (m/min)

Thermal refined steels 調質鋼	Stainless steels ステンレス鋼	Cast irons 鋳鉄	Aluminum alloy castings アルミ合金鋳物
13~17 (m/min)	13~20 (m/min)	40~50 (m/min)	84~120 (m/min)

25~35HRC

AUPES

Coated Single End Point Drill PE-60°



Specification

HSS

Coating

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼
38~48 (m/min)	33~43 (m/min)	28~38 (m/min)	26~33 (m/min)

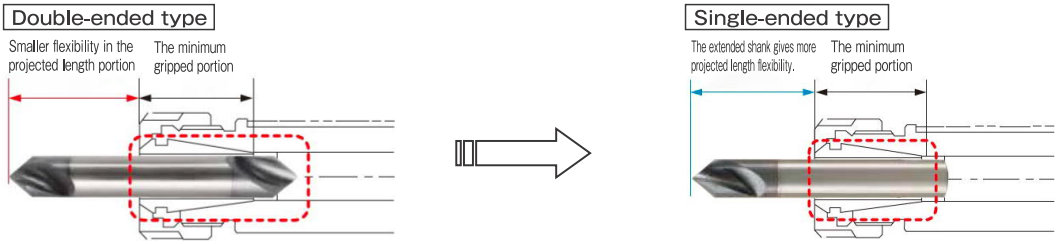
Thermal refined steels 調質鋼	Stainless steels ステンレス鋼	Cast irons 鋳鉄	Aluminum alloy castings アルミ合金鋳物
13~17 (m/min)	13~20 (m/min)	40~50 (m/min)	84~120 (m/min)

25~35HRC

Product Features

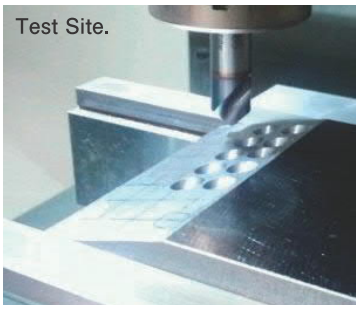
- ●An excellent surface finish can be obtained while maintaining cutting edge sharpness from the high helix flute design.
- ●Accuracy improvements are also achieved from the single end design.
- ●A design for higher rigidity enables high speed cutting.
- ●The problem of cutting edge breakage when the center hole drill is in use has been solved by using the point drill.
- ●Simultaneous combining the center positioning and chamfering is possible. It can also be used as a multi function tool like groove processing.
- ●Higher precision machining can be achieved with the two stage point shape design.
- ●With a single end center point drill, the degree of chip space widens, so the chips are discharged smoothly.

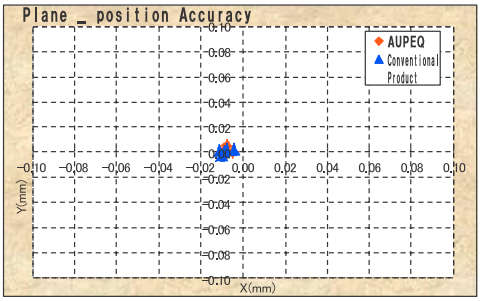
Differences in projection length and degrees of freedom between single end and double end point drills

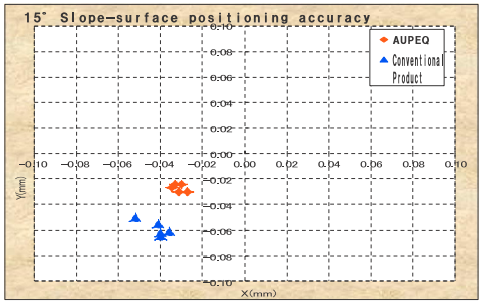


■Cutting data

Tool Type	Coated Single End Point Drill AUPEQ	Coated Double End Point Drill Comparison Product
Size	12×3.5×90°	
Workpiece Material	SCM440(alloy steel)	
Surface Condition	flat 15°incline surface	
Cutting Speed	10m/min	
Feed Per Rev.	0.05mm/rev	
Processing Length	φ8 flat surface	
Cutting Fluid	Water soluble cutting fluid (x20)	
Machinery Type	Vertical machining center	







AUPEQ / AUPES improves positioning accuracy dramatically.
High precision positioning is possible as shown in the above figure.

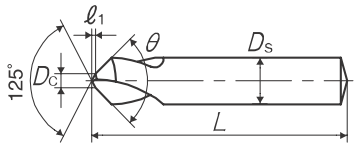
Think threads with YAMAWA

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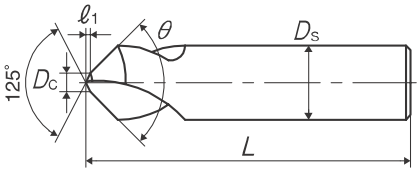
Drill dia.	Shank dia.	Overall length	Drill length
Dc	Ds	L	ℓ1

AUPEQ Coated Single End Point Drill PE-90°

TYPE: 1



TYPE: 2

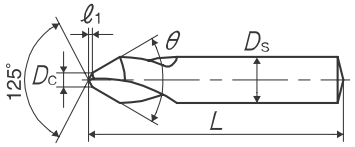


Segment : 56

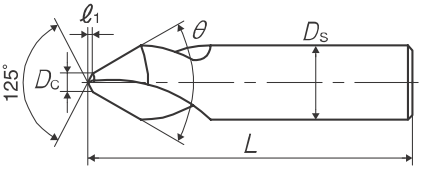
Size Ds × Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ1 (mm)	TYPE	MSRP
3×0.5×90°	PZ93.00ZNETZ	0.5	3	35	0.13	1	¥ 3,220
4×1×90°	PZ94.00ZNETZ	1	4	35	0.26	1	¥ 2,910
6×2×90°	PZ96.00ZNETZ	2	6	45	0.52	1	¥ 3,240
8×2.5×90°	PZ98.00ZNETZ	2.5	8	50	0.65	1	¥ 3,980
10×3×90°	PZ910.0ZNETZ	3	10	55	0.78	1	¥ 5,150
12×3.5×90°	PZ912.0ZNETZ	3.5	12	65	0.91	1	¥ 6,610
16×4×90°	PZ916.0ZNETZ	4	16	70	1.04	2	¥ 9,870
20×5×90°	PZ920.0ZNETZ	5	20	80	1.30	2	¥ 15,100

AUPES Coated Single End Point Drill PE-60°

TYPE: 1



TYPE: 2



Segment : 56

Size Ds × Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ1 (mm)	TYPE	MSRP
3×0.5×60°	PZ63.00ZNETZ	0.5	3	35	0.13	1	¥ 3,220
4×1×60°	PZ64.00ZNETZ	1	4	35	0.26	1	¥ 2,910
6×2×60°	PZ66.00ZNETZ	2	6	45	0.52	1	¥ 3,240
8×2.5×60°	PZ68.00ZNETZ	2.5	8	50	0.65	1	¥ 3,980
10×3×60°	PZ610.0ZNETZ	3	10	55	0.78	1	¥ 5,150
12×3.5×60°	PZ612.0ZNETZ	3.5	12	65	0.91	1	¥ 6,610
16×4×60°	PZ616.0ZNETZ	4	16	70	1.04	2	¥ 9,870
20×5×60°	PZ620.0ZNETZ	5	20	80	1.30	2	¥ 15,100

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JIS

SHANK EXTENSION



Shank Extension

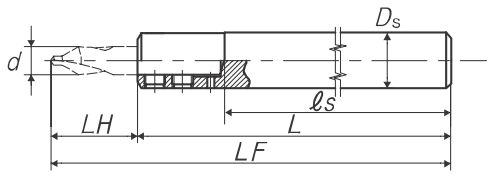
Specification

Alloy steel

Product Features

●The shank extension can provide a long overall length (LF) of 150 mm when used with a coated single end center drill (AUCES/AUCDS) or coated single end point drill (AUPEQ/AUPES).
●The shank diameter Ds is 16 mm or 20 mm, so it can be held by a general holder.

TYPE : 1



Area : 5A

Size d × Ds × LF	Product Code	d (mm)	Ds (mm)	L (mm)	LF (mm)	LH (mm)	ℓs (mm)	Shape type	Manufacturer's Retail Price
6 × 16 × 150	SE0616M	6	16	128	150	22	105	1	¥ 13,100 □
8 × 16 × 150	SE0816M	8	16	125	150	25	100	1	¥ 13,100 □
10 × 20 × 150	SE1020M	10	20	123	150	27	95	1	¥ 14,700 □

Note:
・Insert the center hole drill or the point drill all the way into the shank extension, alternately tighten the two set screws so to develop a balanced fastening. Secure the tool tight in the holder. Also, note that tightening only one set screw will cause run-out.

Think threads with YAMAWA □=In stock at manufacturer.

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MEMO

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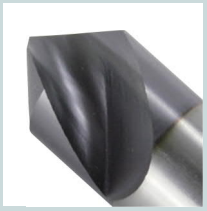
Point dia.	Shank dia.	Overall length	Point length
Dc	Ds	L	ℓ1

POINT DRILLS

Product Features



- The improved design enables better rigidity for high speed cutting.
- A stronger helical flute design helps improve surface roughness while maintaining good cutting edge sharpness.



The drill point angle is 125°, The chamfer angle is available as a 90° or 60°. Simultaneous centering and chamfering with one tool! Chamfering and groove processing are also possible!

- Unlike a normal center hole drill, a point drill has no cutting edge part, so problems with breakage of the drill portion are eliminated.
- Simultaneous combining the positioning and chamfering are possible. It can also be used as a multi-function tool for groove machining.
- High precision machining can be achieved with the two stage point shape.

Usage example

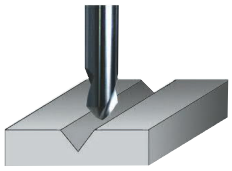
Centering and Chamfering



Chamfering



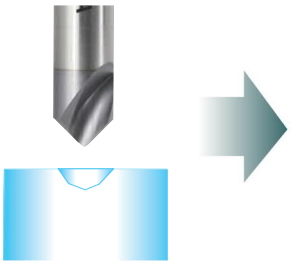
Groove Machining



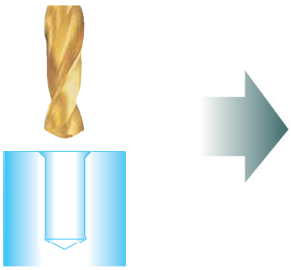
Drill and tap processing

Point Drill

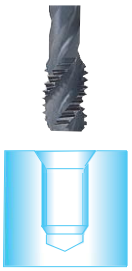
Centering/ Chamfering machining at the same time



Drilling



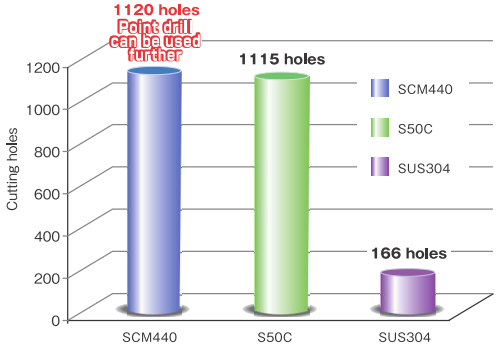
Tapping



Centering continuous processing data

Tool	Workpiece Material	Cutting Speed	Feed Rate	Chamfer Hole Diameter	Cutting Depth	Used Machine	Cutting fluid
PE-Q 12×3.5×90°	SCM440 (Alloy steel)	25m/min	0.15mm/rev	φ8.0	3.0mm	Machining Center Vertical type	Water - soluble oil (20-fold dilution)
	S50C (Carbon steel)	25m/min	0.2mm/rev				
	SUS304 (Stainless steel)	15m/min	0.1mm/rev				

Comparison of the number of holes processed in various workpiece materials.



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PE-Q

Point Drills 90°



Specification

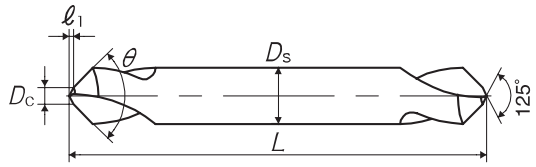
HSS

■PE-Q is the point drill enabling positioning (125° edge angle) and chamfering (90°) simultaneously. High cutting accuracy is available owing to a good cutting-start due to 2 step flat design.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Stainless steels ステンレス鋼	Cast irons 鋳鉄	Aluminum alloy castings アルミ合金鋳物
30~40 (m/min)	25~35 (m/min)	20~30 (m/min)	20~25 (m/min)	10~15 (m/min)	30~40 (m/min)	70~100 (m/min)

TYPE : 1



Segment : 56

Size Ds × Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ1 (mm)	TYPE	MSRP
3 × 0.5 × 90°	PE3.0Q	0.5	3	40	0.13	1	¥ 2,930
4 × 1 × 90°	PE4.0Q	1	4	45	0.26	1	¥ 2,380
6 × 2 × 90°	PE6.0Q	2	6	55	0.52	1	¥ 2,260
8 × 2.5 × 90°	PE8.0Q	2.5	8	65	0.65	1	¥ 2,710
10 × 3 × 90°	PE010Q	3	10	75	0.78	1	¥ 4,050
12 × 3.5 × 90°	PE012Q	3.5	12	85	0.91	1	¥ 5,330
16 × 4 × 90°	PE016Q	4	16	90	1.04	1	¥ 9,090
20 × 5 × 90°	PE020Q	5	20	100	1.30	1	¥ 13,600

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Point dia.	Shank dia.	Overall length	Point length
Dc	Ds	L	ℓ_1

JIS

PE-Q V

Point Drills 90°, Coated



Specification

HSS Coating

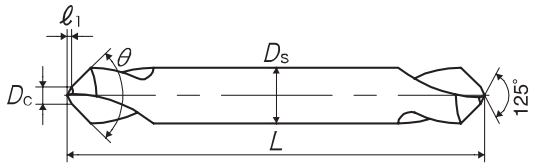
■PE-Q V is the coated point drill enabling positioning (125° edge angle) and chamfering (90°) simultaneously. High cutting accuracy is available owing to a good cutting-start due to 2 step flat design. Optimum coating suitable for the cutting condition.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼	Stainless steels ステンレス鋼	Cast irons 鋳鉄
40~50 (m/min)	30~45 (m/min)	30~46 (m/min)	25~35 (m/min)	10~20 (m/min) 25~35HRC	15~20 (m/min)	40~50 (m/min)

Aluminum alloy castings アルミ合金鋳物 85~120 (m/min)

TYPE : 1



Segment : 56

Size Ds × Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ_1 (mm)	TYPE	MSRP
3 × 0.5 × 90°	VPE3.0Q	0.5	3	40	0.13	1	¥ 4,930
4 × 1 × 90°	VPE4.0Q	1	4	45	0.26	1	¥ 4,560
6 × 2 × 90°	VPE6.0Q	2	6	55	0.52	1	¥ 4,990
8 × 2.5 × 90°	VPE8.0Q	2.5	8	65	0.65	1	¥ 6,250
10 × 3 × 90°	VPE010Q	3	10	75	0.78	1	¥ 8,000
12 × 3.5 × 90°	VPE012Q	3.5	12	85	0.91	1	¥ 10,200
16 × 4 × 90°	VPE016Q	4	16	90	1.04	1	¥ 15,300
20 × 5 × 90°	VPE020Q	5	20	100	1.30	1	¥ 23,500

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JIS

C-PE-Q V



Carbide Point Drills 90°, Coated

Specification

HF Coating

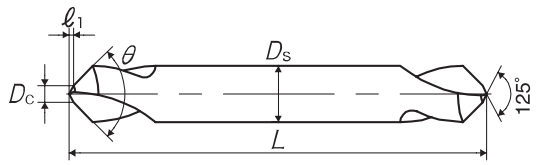
■C-PE-Q V is the carbide point drill enabling positioning (125° edge angle) and chamfering (90°) simultaneously. High cutting accuracy is available owing to a good cutting-start due to 2 step flat design. Optimum coating suitable for the cutting condition.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼	Stainless steels ステンレス鋼	Cast irons 鋳鉄
85~100 (m/min)	75~90 (m/min)	65~80 (m/min)	60~70 (m/min)	30~40 (m/min)	35~45 (m/min)	90~100 (m/min)
				25~35HRC		

Aluminum alloy castings アルミ合金鋳物 120~160 (m/min)

TYPE : 1



Segment : 52

Size Ds × Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ1 (mm)	TYPE	MSRP
3 × 0.5 × 90°	VCPE3.0Q	0.5	3	40	0.13	1	¥ 16,100
4 × 1 × 90°	VCPE4.0Q	1	4	45	0.26	1	¥ 14,700
6 × 2 × 90°	VCPE6.0Q	2	6	55	0.52	1	¥ 19,900
8 × 2.5 × 90°	VCPE8.0Q	2.5	8	65	0.65	1	¥ 25,300
10 × 3 × 90°	VCPE010Q	3	10	75	0.78	1	¥ 35,200
12 × 3.5 × 90°	VCPE012Q	3.5	12	85	0.91	1	¥ 41,200
16 × 4 × 90°	VCPE016Q	4	16	90	1.04	1	¥ 61,500

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Point dia.	Shank dia.	Overall length	Point length
Dc	Ds	L	ℓ_1

PE-QL V



Long Shank Point Drills 90°, Coated

Specification

HSS Coating

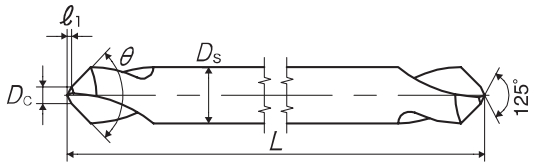
■PE-QL V is the long shank coated point drill enabling positioning (125° edge angle) and chamfering (90°) simultaneously. High cutting accuracy is available owing to a good cutting-start due to 2 step flat design. Optimum coating suitable for the cutting condition.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼	Stainless steels ステンレス鋼	Cast irons 鋳鉄
30~40 (m/min)	25~35 (m/min)	20~30 (m/min)	20~25 (m/min)	10~15 (m/min) 25~35HRC	10~15 (m/min)	30~40 (m/min)

Aluminum alloy castings アルミ合金鋳物 65~95 (m/min)

TYPE : 1



Segment : 56

Size Ds × Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ_1 (mm)	TYPE	MSRP
4 × 1 × 90°	VPEL4.0Q	1	4	100	0.26	1	¥ 9,230
6 × 2 × 90°	VPEL6.0Q	2	6	100	0.52	1	¥ 9,710
8 × 2.5 × 90°	VPEL8.0Q	2.5	8	100	0.65	1	¥ 10,900
8 × 2.5 × 90°	VPEM8.0Q	2.5	8	150	0.65	1	¥ 14,600
10 × 3 × 90°	VPEL010Q	3	10	100	0.78	1	¥ 13,100
10 × 3 × 90°	VPEM010Q	3	10	150	0.78	1	¥ 16,800
12 × 3.5 × 90°	VPEL012Q	3.5	12	100	0.91	1	¥ 15,500
12 × 3.5 × 90°	VPEM012Q	3.5	12	150	0.91	1	¥ 19,700
16 × 4 × 90°	VPEM016Q	4	16	150	1.04	1	¥ 25,200
20 × 5 × 90°	VPEM020Q	5	20	150	1.30	1	¥ 34,500

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Point dia.	Shank dia.	Overall length	Point length
Dc	Ds	L	ℓ_1

JIS

PE-S

Point Drills 60°



Specification

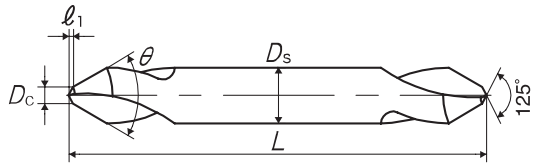
HSS

■PE-S is the point drill enabling positioning (125° edge angle) and chamfering (60°) simultaneously. High cutting accuracy is available owing to a good cutting-start due to 2 step flat design.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Stainless steels ステンレス鋼	Cast irons 鋳鉄	Aluminum alloy castings アルミ合金鋳物
30~40 (m/min)	25~35 (m/min)	20~30 (m/min)	20~25 (m/min)	10~15 (m/min)	30~40 (m/min)	70~100 (m/min)

TYPE : 1



Segment : 56

Size Ds × Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ_1 (mm)	TYPE	MSRP
3 × 0.5 × 60°	PE3.0S	0.5	3	40	0.13	1	¥ 2,930
4 × 1 × 60°	PE4.0S	1	4	45	0.26	1	¥ 2,380
6 × 2 × 60°	PE6.0S	2	6	55	0.52	1	¥ 2,260
8 × 2.5 × 60°	PE8.0S	2.5	8	65	0.65	1	¥ 2,710
10 × 3 × 60°	PE010S	3	10	75	0.78	1	¥ 4,050
12 × 3.5 × 60°	PE012S	3.5	12	85	0.91	1	¥ 5,330
16 × 4 × 60°	PE016S	4	16	90	1.04	1	¥ 9,090
20 × 5 × 60°	PE020S	5	20	100	1.30	1	¥ 13,600

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Point dia.	Shank dia.	Overall length	Point length
Dc	Ds	L	ℓ_1

JIS

PE-S V

Point Drills 60°, Coated



Specification

HSS Coating

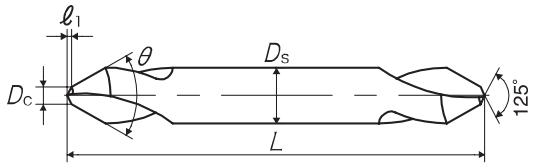
■PE-S V is the coated point drill enabling positioning (125° edge angle) and chamfering (60°) simultaneously. High cutting accuracy is available owing to a good cutting-start due to 2 step flat design. Optimum coating suitable for the cutting condition.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼	Stainless steels ステンレス鋼	Cast irons 鋳鉄
40~50 (m/min)	30~45 (m/min)	30~40 (m/min)	25~35 (m/min)	10~15 (m/min) 25~35HRC	10~20 (m/min)	40~50 (m/min)

Aluminum alloy castings アルミ合金鋳物 85~120 (m/min)

TYPE : 1



Segment : 56

Size Ds × Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ_1 (mm)	TYPE	MSRP
3 × 0.5 × 60°	VPE3.0S	0.5	3	40	0.13	1	¥ 4,930
4 × 1 × 60°	VPE4.0S	1	4	45	0.26	1	¥ 4,560
6 × 2 × 60°	VPE6.0S	2	6	55	0.52	1	¥ 4,990
8 × 2.5 × 60°	VPE8.0S	2.5	8	65	0.65	1	¥ 6,250
10 × 3 × 60°	VPE010S	3	10	75	0.78	1	¥ 8,000
12 × 3.5 × 60°	VPE012S	3.5	12	85	0.91	1	¥ 10,200
16 × 4 × 60°	VPE016S	4	16	90	1.04	1	¥ 15,300
20 × 5 × 60°	VPE020S	5	20	100	1.30	1	¥ 23,500

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JIS

C-PE-S V

Carbide Point Drills 60°, Coated



Specification

HF Coating

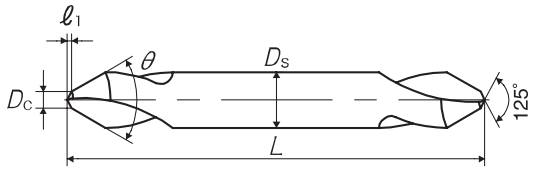
■C-PE-S V is the carbide point drill enabling positioning (125° edge angle) and chamfering (60°) simultaneously. High cutting accuracy is available owing to a good cutting-start due to 2 step flat design. Optimum coating suitable for the cutting condition.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼	Stainless steels ステンレス鋼	Cast irons 鋳鉄
85~100 (m/min)	75~90 (m/min)	65~80 (m/min)	60~70 (m/min)	30~40 (m/min)	35~45 (m/min)	90~100 (m/min)
				25~35HRC		

Aluminum alloy castings アルミ合金鋳物 120~160 (m/min)

TYPE : 1



Segment : 52

Size Ds × Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ1 (mm)	TYPE	MSRP
6 × 2 × 60°	VCPE6.0S	2	6	55	0.52	1	¥ 19,900
8 × 2.5 × 60°	VCPE8.0S	2.5	8	65	0.65	1	¥ 25,300
10 × 3 × 60°	VCPE010S	3	10	75	0.78	1	¥ 35,200

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Point dia.	Shank dia.	Overall length	Point length
Dc	Ds	L	ℓ1

JIS

PE-SL V



Long Shank Point Drills 60°, Coated

Specification

HSS Coating

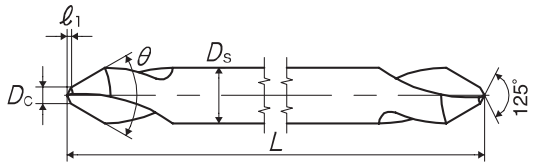
■PE-SL V is the point drill enabling positioning (125°edge angle) and chamfering (60°) simultaneously. High cutting accuracy is available owing to a good cutting-start due to 2 step flat design. Optimum coating suitable for the cutting condition.

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼	Stainless steels ステンレス鋼	Cast irons 鋳鉄
30~40 (m/min)	25~35 (m/min)	20~30 (m/min)	20~25 (m/min)	10~15 (m/min) 25~35HRC	10~15 (m/min)	30~40 (m/min)

Aluminum alloy castings アルミ合金鋳物 65~95 (m/min)

TYPE : 1



Segment : 56

Size Ds × Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ1 (mm)	TYPE	MSRP
4 × 1 × 60°	VPEL4.0S	1	4	100	0.26	1	¥ 9,230
6 × 2 × 60°	VPEL6.0S	2	6	100	0.52	1	¥ 9,710
8 × 2.5 × 60°	VPEL8.0S	2.5	8	100	0.65	1	¥ 10,900
8 × 2.5 × 60°	VPEM8.0S	2.5	8	150	0.65	1	¥ 14,600
10 × 3 × 60°	VPEL010S	3	10	100	0.78	1	¥ 13,100
10 × 3 × 60°	VPEM010S	3	10	150	0.78	1	¥ 16,800
12 × 3.5 × 60°	VPEL012S	3.5	12	100	0.91	1	¥ 15,500
12 × 3.5 × 60°	VPEM012S	3.5	12	150	0.91	1	¥ 19,700
16 × 4 × 60°	VPEM016S	4	16	150	1.04	1	¥ 25,200

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MEMO

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Dia.	Shank dia.	Overall length	Flute length
Dc	Ds	L	ℓ

NC-SD V

NC Starting Drills for Chamfering (90°), Coated



Specification

HSS-Co / Coating

Tapping Speeds depending on Materials

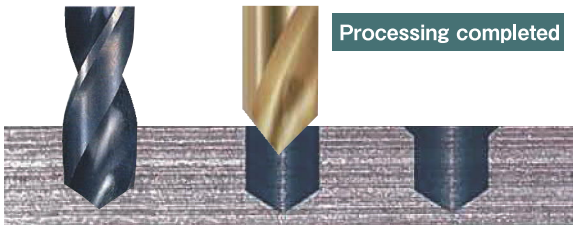
Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼
25~40 (m/min)	25~35 (m/min)	25~30 (m/min)	15~25 (m/min)

Stainless steels ステンレス鋼	Tool steels 工具鋼	Cast irons 鋳鉄	Aluminum alloy castings アルミ合金鋳物
5~10 (m/min)	5~10 (m/min)	20~35 (m/min)	60~90 (m/min)

Product Features

After drilling with a general purpose drill, using a NC - SD V (90°) that is larger than the drilled hole diameter makes an excellent chamfer surface finish.

Universal Drill　NC-SD V 90°



NC-SD

NC Starting Drills for Center Positioning (125°)



Specification

HSS-Co

Tapping Speeds depending on Materials

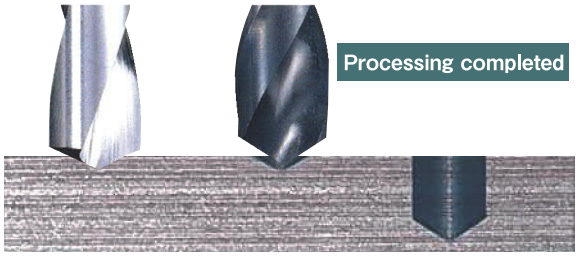
Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼
20~30 (m/min)	20~30 (m/min)	20~25 (m/min)	10~20 (m/min)

Stainless steels ステンレス鋼	Tool steels 工具鋼	Cast irons 鋳鉄	Aluminum alloy castings アルミ合金鋳物
5~10 (m/min)	5~10 (m/min)	15~30 (m/min)	50~70 (m/min)

Product Features

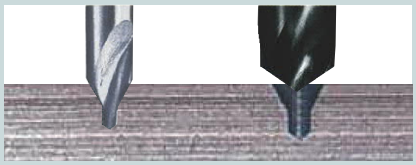
The NC starting drill with a 125° drill point is a positioning drill dedicated to centering to increase hole positioning accuracy. The NC starting drill with a 125° drill is selected to be slightly larger than the tip angle of the general-purpose drill. This creates a highly accurate hole positioning without causing chipping on the cutting edge of the drill.

NC-SD 125°　Universal Drill



Difference between starting drill and center hole drill

It is also possible to use a center hole drill for positioning. If the center hole drill is used first and is allowed to go too deep, there is a chance the general purpose drill will hit the hole diameter instead of the center of the hole location. This can cause the drills cutting edge to chip.



Recommended cutting conditions.

Unit : min^{-1}

Workpiece Material	Cutting Speed (m/min)	Diameter (mm)									
		φ 3	φ 4	φ 5	φ 6	φ 8	φ 10	φ 12	φ 16	φ 20	φ 25
SS400	25 ~ 40	3400	2600	2100	1700	1300	1050	850	640	510	410
S50C	25 ~ 32	3000	2300	1800	1500	1150	900	750	560	450	360
FC250	20 ~ 35	2900	2200	1750	1450	1100	860	720	540	430	350
SCM440	15 ~ 25	2200	1600	1300	1100	800	640	540	400	320	260
SUS304	7 ~ 12	1100	800	640	540	400	320	270	200	160	130
SKD61	8 ~ 15	1200	880	700	590	440	360	300	220	180	150
SKD11	7 ~ 12	1100	800	640	540	400	320	270	200	160	130
AC4C	60 ~ 90	8000	6000	4800	4000	3000	2400	2000	1500	1200	1000

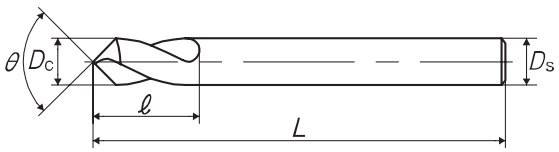
* Standard feed rates (mm / rev) should be 1% to 3% of the drill diameter. In the case of machining on a curved surface or an inclined surface, please set a consistent feed rate of 0.1 mm / rev.

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Dia.	Shank dia.	Overall length	Flute length
Dc	Ds	L	ℓ

NC-SD V NC Starting Drills for Chamfering (90°), Coated

TYPE: 1

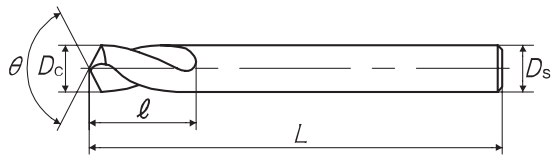


Segment : 56

Size Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	TYPE	MSRP
3 × 90°	VCS-D3.0Q	3	3	46	10	1	¥ 2,650
4 × 90°	VCS-D4.0Q	4	4	55	12	1	¥ 3,140
5 × 90°	VCS-D5.0Q	5	5	62	13	1	¥ 3,410
6 × 90°	VCS-D6.0Q	6	6	66	15	1	¥ 3,600
8 × 90°	VCS-D8.0Q	8	8	79	20	1	¥ 4,770
10 × 90°	VCS-D010Q	10	10	89	23	1	¥ 6,530
12 × 90°	VCS-D012Q	12	12	102	26	1	¥ 9,760
16 × 90°	VCS-D016Q	16	16	115	32	1	¥ 13,100
20 × 90°	VCS-D020Q	20	20	131	40	1	¥ 18,400
25 × 90°	VCS-D025Q	25	25	151	50	1	¥ 28,900

NC-SD NC Starting Drills for Center Positioning (125°)

TYPE: 1



Segment : 56

Size Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	TYPE	MSRP
3 × 125°	CS-D3.0	3	3	46	10	1	¥ 2,050
4 × 125°	CS-D4.0	4	4	55	12	1	¥ 2,300
5 × 125°	CS-D5.0	5	5	62	13	1	¥ 2,600
6 × 125°	CS-D6.0	6	6	66	15	1	¥ 2,780
8 × 125°	CS-D8.0	8	8	79	20	1	¥ 3,430
10 × 125°	CS-D010	10	10	89	23	1	¥ 5,220
12 × 125°	CS-D012	12	12	102	26	1	¥ 7,810
16 × 125°	CS-D016	16	16	115	32	1	¥ 9,570
20 × 125°	CS-D020	20	20	131	40	1	¥ 13,800
25 × 125°	CS-D025	25	25	151	50	1	¥ 20,200

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Dia.	Tool end dia.	Shank dia.	Overall length	Cutting edge length
D_1	Dc	Ds	L	ℓ



CS-Q

Countersinks 90°, Machining Center Use

Specification

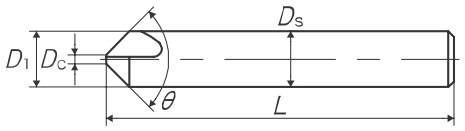
HSS

■CS-Q is suitable for the machining of high accuracy on the chamfering of round hole and on the chamfering of attaching face of screw bolts. Having one cutting edge, this tool is suitable for machining center use.

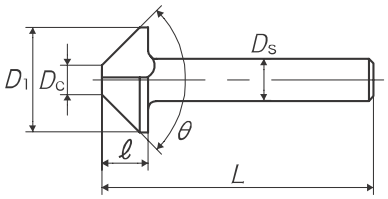
Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Stainless steels ステンレス鋼	Tool steels 工具鋼	Cast irons 鋳鉄	Aluminum alloy castings アルミ合金鋳物
10~20 (m/min)	10~20 (m/min)	10~20 (m/min)	10~15 (m/min)	10~15 (m/min)	10~15 (m/min)	10~30 (m/min)	15~45 (m/min)

TYPE: 1



TYPE: 2



Segment : 53

Size $D_1 \times \theta \times Ds$	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	No. of flutes	TYPE	MSRP
4 × 90° × 4	CS4.0Q	0.6	4	50	-	1	1	¥ 1,000 ※
6 × 90° × 6	CS6.0Q	1	6	50	-	1	1	¥ 1,200
8 × 90° × 8	CS8.0Q	1.3	8	50	-	1	1	¥ 1,400
10 × 90° × 8	CS010Q	1.6	8	46	5.5	1	2	¥ 3,170
15 × 90° × 10	CS015Q	3.2	10	56	7.5	1	2	¥ 4,580
20 × 90° × 10	CS020Q	4	10	60	10	1	2	¥ 6,110
25 × 90° × 10	CS025Q	7	10	65	11	1	2	¥ 8,080
30 × 90° × 12	CS030Q	9	12	70	12.5	1	2	¥ 10,300
35 × 90° × 12	CS035Q	11	12	75	15	1	2	¥ 14,700
40 × 90° × 12	CS040Q	12.5	12	80	17	1	2	¥ 19,300
45 × 90° × 12	CS045Q	14	12	85	18.5	1	2	¥ 23,600
50 × 90° × 12	CS050Q	16	12	90	20	1	2	¥ 28,200
60 × 90° × 16	CS060Q	20	16	100	24	1	2	¥ 41,300

Think threads with YAMAWA

※ = Specified Distribution Items. Made to order products.

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Dia.	Tool end dia.	Shank dia.	Overall length	Cutting edge length
D_1	Dc	Ds	L	ℓ

JIS

CS-QM

Countersinks 90° and 60°, Drilling Machine Use



Specification

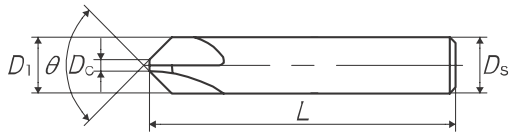
HSS

■CS-QM is suitable for the machining of high accuracy on the chamfering of round hole and on the chamfering of attaching face of screw bolts. Having plural cutting edges, this tool is suitable for drilling machine use.

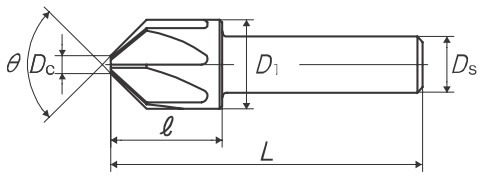
Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Stainless steels ステンレス鋼	Tool steels 工具鋼	Cast irons 鋳鉄	Aluminum alloy castings アルミ合金鋳物
10~20 (m/min)	10~20 (m/min)	10~20 (m/min)	10~15 (m/min)	5~10 (m/min)	10~15 (m/min)	10~30 (m/min)	15~45 (m/min)

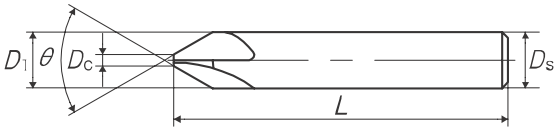
TYPE: 1



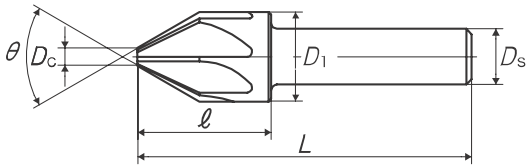
TYPE: 2



TYPE: 3



TYPE: 4



Segment : 53

Size $D_1 \times \theta \times Ds$	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	No. of flutes	TYPE	MSRP
6 × 90° × 6	CS6.0QM9	1.2	6	42	-	3	1	¥ 1,700
8 × 90° × 8	CS8.0QM9	1.6	8	44	-	3	1	¥ 2,070
10 × 90° × 8	CS010QM9	2	8	46	14	3	2	¥ 3,620
12 × 90° × 8	CS012QM9	2.5	8	48	16	5	2	¥ 4,240
16 × 90° × 10	CS016QM9	3.2	10	56	20	5	2	¥ 4,780
20 × 90° × 10	CS020QM9	4	10	60	24	5	2	¥ 6,350
25 × 90° × 10	CS025QM9	7	10	65	29	7	2	¥ 8,520
30 × 90° × 12	CS030QM9	9	12	68	32	7	2	¥ 10,900
35 × 90° × 12	CS035QM9	11	12	70	34	7	2	¥ 15,300
40 × 90° × 12	CS040QM9	12.5	12	71	35	7	2	¥ 20,300
6 × 60° × 6	CS6.0QM6	1.2	6	46	-	3	3	¥ 1,800 ※
8 × 60° × 8	CS8.0QM6	1.6	8	48	-	3	3	¥ 2,160
10 × 60° × 8	CS010QM6	2	8	50	18	3	4	¥ 3,750 ※
12 × 60° × 8	CS012QM6	2.5	8	52	20	5	4	¥ 4,390 ※
16 × 60° × 10	CS016QM6	3.2	10	60	24	5	4	¥ 4,940
20 × 60° × 10	CS020QM6	4	10	64	28	5	4	¥ 6,670
25 × 60° × 10	CS025QM6	7	10	69	33	7	4	¥ 10,300
30 × 60° × 12	CS030QM6	9	12	76	40	7	4	¥ 13,000 ※
35 × 60° × 12	CS035QM6	11	12	79	43	7	4	¥ 18,500 ※
40 × 60° × 12	CS040QM6	12.5	12	81	45	7	4	¥ 24,100 ※

※ = Specified Distribution Items. Made to order products.

Think threads with YAMAWA

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Drill dia.	Shank dia.	Overall length	Drill length
Dc	Ds	L	ℓ

JIS

CS-G

Submarine Gate Cutter, 20°, 30°



Specification

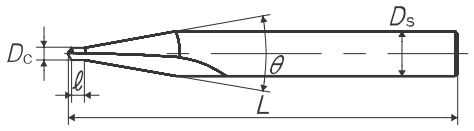
HSS

■CS-G is the special drill for making submarine gate (tunnel gate) on the die mold of plastic injection machine.

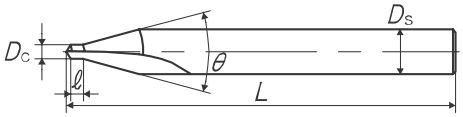
Tapping Speeds depending on Materials

Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼
5~15 (m/min)	5~15 (m/min)	5~15 (m/min)

TYPE: 1



TYPE: 2



Segment : 54

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	No. of flutes	TYPE	MSRP
0.5 × 20° × 6	CS-G0.52-J	0.5	6	57	0.5	2	1	¥ 5,020 ※
0.5 × 30° × 6	CS-G0.53-J	0.5	6	57	0.5	2	2	¥ 5,020 ※
0.5 × 20° × 6	CS-G0.52-LS	0.5	6	100	0.5	2	1	¥ 6,460 ※
0.5 × 30° × 6	CS-G0.53-LS	0.5	6	100	0.5	2	2	¥ 6,460 ※
0.6 × 20° × 6	CS-G0.62-J	0.6	6	57	0.5	2	1	¥ 4,240 ※
0.6 × 30° × 6	CS-G0.63-J	0.6	6	57	0.5	2	2	¥ 4,240 ※
0.6 × 20° × 6	CS-G0.62-LS	0.6	6	100	0.5	2	1	¥ 5,490 ※
0.6 × 30° × 6	CS-G0.63-LS	0.6	6	100	0.5	2	2	¥ 5,490 ※
0.7 × 20° × 6	CS-G0.72-J	0.7	6	57	0.5	2	1	¥ 3,880 ※
0.7 × 30° × 6	CS-G0.73-J	0.7	6	57	0.5	2	2	¥ 3,880 ※
0.7 × 20° × 6	CS-G0.72-LS	0.7	6	100	0.5	2	1	¥ 5,020 ※
0.7 × 30° × 6	CS-G0.73-LS	0.7	6	100	0.5	2	2	¥ 5,020 ※
0.8 × 20° × 6	CS-G0.82-J	0.8	6	57	0.5	2	1	¥ 3,620 ※
0.8 × 30° × 6	CS-G0.83-J	0.8	6	57	0.5	2	2	¥ 3,620 ※
0.8 × 20° × 6	CS-G0.82-LS	0.8	6	100	0.5	2	1	¥ 4,690 ※
0.8 × 30° × 6	CS-G0.83-LS	0.8	6	100	0.5	2	2	¥ 4,690 ※
0.9 × 20° × 6	CS-G0.92-LS	0.9	6	100	0.5	2	1	¥ 4,170 ※
0.9 × 30° × 6	CS-G0.93-LS	0.9	6	100	0.5	2	2	¥ 4,170 ※
1 × 20° × 6	CS-G1.02-J	1	6	57	0.5	2	1	¥ 2,830 ※
1 × 20° × 8	CS-G1.028J	1	8	57	0.5	2	1	¥ 3,240 ※
1 × 30° × 6	CS-G1.03-J	1	6	57	0.5	2	2	¥ 2,830 ※
1 × 30° × 8	CS-G1.038J	1	8	57	0.5	2	2	¥ 3,240 ※
1 × 20° × 8	CS-G1.028K	1	8	70	0.5	2	1	¥ 3,620 ※
1 × 30° × 8	CS-G1.038K	1	8	70	0.5	2	2	¥ 3,620 ※
1 × 20° × 6	CS-G1.02-LS	1	6	100	0.5	2	1	¥ 3,690 ※

Think threads with YAMAWA

※ = Specified Distribution Items. Made to order products.

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Drill dia.	Shank dia.	Overall length	Drill length
Dc	Ds	L	ℓ

Size Dc × θ × Ds	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	No. of flutes	TYPE	MSRP
1 × 20° × 8	CS-G1.028LS	1	8	100	0.5	2	1	¥ 4,690 ※
1 × 30° × 6	CS-G1.03-LS	1	6	100	0.5	2	2	¥ 3,690 ※
1 × 30° × 8	CS-G1.038LS	1	8	100	0.5	2	2	¥ 4,690 ※
1.5 × 20° × 8	CS-G1.52-K	1.5	8	70	0.5	2	1	¥ 3,620 ※
1.5 × 30° × 8	CS-G1.53-K	1.5	8	70	0.5	2	2	¥ 3,620 ※
1.5 × 20° × 8	CS-G1.52-LS	1.5	8	100	0.5	2	1	¥ 4,690 ※
1.5 × 30° × 8	CS-G1.53-LS	1.5	8	100	0.5	2	2	¥ 4,690 ※
2 × 20° × 8	CS-G2.02-K	2	8	70	0.5	2	1	¥ 3,620 ※
2 × 30° × 8	CS-G2.03-K	2	8	70	0.5	2	2	¥ 3,620 ※
2 × 20° × 8	CS-G2.02-LS	2	8	100	0.5	2	1	¥ 4,690 ※
2 × 30° × 8	CS-G2.03-LS	2	8	100	0.5	2	2	¥ 4,690 ※

※ = Specified Distribution Items. Made to order products.

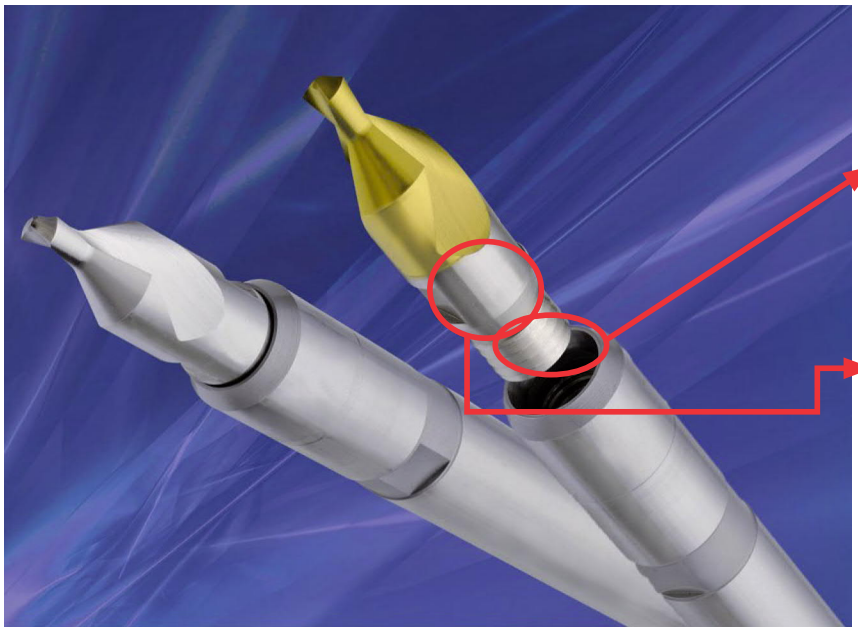
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Drill dia.	Shank dia.	Overall length	Drill length	Body length	–	Workpiece end-face Hole size
Dc	Ds	L	ℓ	ℓ2	H	Dw

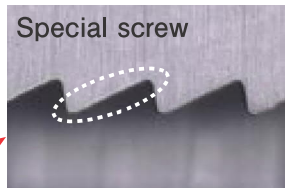
JOINT TOOLS

Product Features

- It can easily be transformed into a long-shank model by attaching various cutting edges (joint tools) tailored to the machining application onto a single holder.
- When a cutting edge is fastened to the joint tool holder, the overall length becomes 150 mm or 200 mm.
- Joint tool types include center drills, point drills, NC starting drills, and countersinks.
- This is an environmentally-friendly product contributing to resource conservation, since only the cutting edge will be replaced even if damaged, without any need to replace the holder.



①Strengthened fastening power



②Superior Runout Accuracy

Fastening section (Fitting of conical surface)



③High rigidity

Excellent stiffness is ensured by enhanced fastening force and high runout accuracy, which also enables heavy-load machining.



For JO-PEQ (V), flute machining is also possible.

■Line up



JO-CES V　JO-CES　JO-CDS V　JO-CDS　JO-C-CDS CEMENTED CARBIDE TAP SERIES　JO-CDS (Ⅱ)



JO-CSQM　JO-PEQ V　JO-PEQ　JO-NCSD V　JO-C-PEQ V CEMENTED CARBIDE TAP SERIES

+



Holder 200mm



Holder 150mm

■Example of use



Since it is available as a long-shank model, it can be used for machining in deep positions and around obstacles.



Notes

- Gloves should be worn when replacing the cutting edge, since touching the cutting edge with bare hands can result in injury.
- Use a spanner wrench (JIS B 4630) when exchanging the cutting tools.
- For the size of the spanner, refer to the H dimension in the dimension table.
- Be aware that excessive tightening can cause damage to the cutting edge.

[Reference] Tightening torque (Nm)

Applicable holder Shank diameter	Tightening torque
14	5
16	10
20	30

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JIS

JO-CES

Joint- High Helix Center Drills-Type A 60°



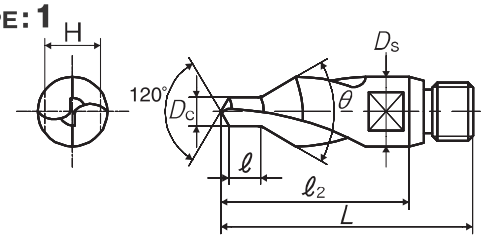
Specification

HSS

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
10~25 (m/min)	10~25 (m/min)	5~10 (m/min)	20~40 (m/min)	20~40 (m/min)	15~30 (m/min)	15~30 (m/min)

TYPE: 1



■The JO-CES is a high helix JIS type A center hole drill joint tool that is particularly suitable for soft material and relatively free machining materials.

Segment : 5C

Size Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	ℓ2 (mm)	H (mm)	Adaptable holder Shank dia.	Dw (mm)	TYPE	MSRP
4 × 60°	JCE4.0	4	10	37.5	4.5	27.5	8	14	8.5	1	¥ 3,090
5 × 60°	JCE5.0	5	12	43.5	5.5	32.5	10	16	10	1	¥ 3,180
6 × 60°	JCE6.0	6	16	48.5	6.5	34.5	13	20	13.5	1	¥ 3,980

JIS

JO-CES V

Joint- High Helix Center Drills-Type A 60°, Coated



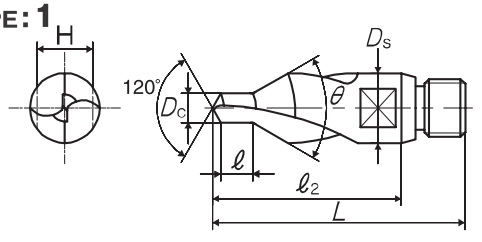
Specification

HSS Coating

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	Stainless steels ステンレス鋼	Brass 黄銅	Brass castings 黄銅鋳物	Wrought aluminum アルミ圧延材	Aluminum alloy castings アルミ合金鋳物
15~30 (m/min)	15~30 (m/min)	5~15 (m/min)	25~30 (m/min)	25~30 (m/min)	20~40 (m/min)	20~40 (m/min)

TYPE: 1



■Optimum coating suitable for the cutting condition.

Segment : 5C

Size Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	ℓ2 (mm)	H (mm)	Adaptable holder Shank dia.	Dw (mm)	TYPE	MSRP
4 × 60°	JVCE4.0	4	10	37.5	4.5	27.5	8	14	8.5	1	¥ 5,450
5 × 60°	JVCE5.0	5	12	43.5	5.5	32.5	10	16	10	1	¥ 6,270
6 × 60°	JVCE6.0	6	16	48.5	6.5	34.5	13	20	13.5	1	¥ 8,580

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Drill dia.	Shank dia.	Overall length	Drill length	Body length	Workpiece end-face Hole size
Dc	Ds	L	ℓ	ℓ2	Dw

JO-CDS



Joint- Low Helix Center Drills-Type A 60°

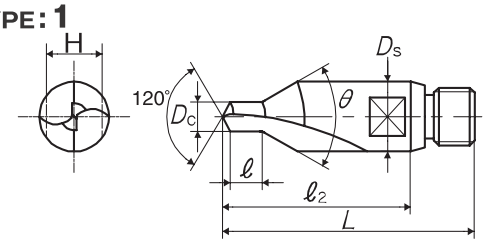
Specification

HSS

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Cast steels 鋳鋼	Cast irons 鋳鉄	Ductile cast irons 強靭鋳鉄
10~25 (m/min)	10~25 (m/min)	10~25 (m/min)	10~20 (m/min)	10~25 (m/min)	5~10 (m/min)	5~15 (m/min)

TYPE: 1



■The JO-CDS is a low helix type A center hole drill joint tool suitable for comparatively hard materials.

Segment : 5C

Size Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	ℓ2 (mm)	H (mm)	Adaptable holder Shank dia.	Dw (mm)	TYPE	MSRP
4 × 60°	JCY4.0	4	10	37.5	4.5	27.5	8	14	8.5	1	¥ 3,090
5 × 60°	JCY5.0	5	12	43.5	5.5	32.5	10	16	10	1	¥ 3,180
6 × 60°	JCY6.0	6	16	48.5	6.5	34.5	13	20	13.5	1	¥ 3,980

JO-CDS V



Joint- Low Helix Center Drills-Type A 60°, Coated

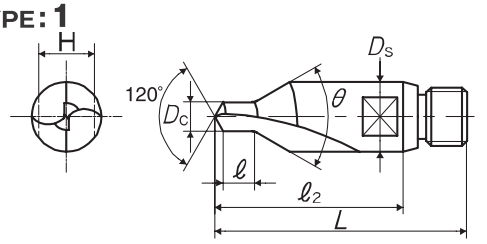
Specification

HSS Coating

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Cast steels 鋳鋼	Cast irons 鋳鉄	Ductile cast irons 強靭鋳鉄
15~30 (m/min)	15~30 (m/min)	15~30 (m/min)	10~25 (m/min)	15~30 (m/min)	8~15 (m/min)	10~20 (m/min)

TYPE: 1



■ Optimum coating suitable for the cutting.

Segment : 5C

Size Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	ℓ2 (mm)	H (mm)	Adaptable holder Shank dia.	Dw (mm)	TYPE	MSRP
4 × 60°	JVCY4.0	4	10	37.5	4.5	27.5	8	14	8.5	1	¥ 5,450
5 × 60°	JVCY5.0	5	12	43.5	5.5	32.5	10	16	10	1	¥ 6,270
6 × 60°	JVCY6.0	6	16	48.5	6.5	34.5	13	20	13.5	1	¥ 8,580

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JIS

JO-C-CDS



Joint- Low Helix Carbide Center Drills-Type A 60°

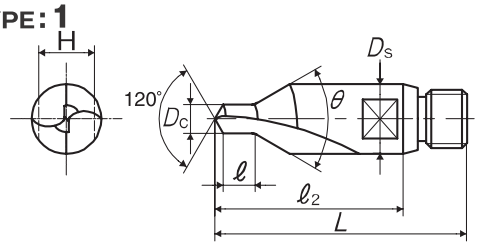
Specification **HF**

Tapping Speeds depending on Materials

High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼	Thermal refined steels 調質鋼	Cast irons 鋳鉄	Brass castings 黄銅鋳物	Aluminum alloy castings アルミ合金鋳物
25~40 (m/min)	15~30 (m/min)	10~20 (m/min) 25~35HRC	5~10 (m/min) 35~45HRC	25~40 (m/min)	25~50 (m/min)	25~50 (m/min)

■The JO-C-CDS is a carbide type A center hole drill joint tool suitable for hard materials and mass production processing.

TYPE: 1



Segment : 5C

Size Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	ℓ_2 (mm)	H (mm)	Adaptable holder Shank dia.	Dw (mm)	TYPE	MSRP
4 × 60°	JCCY4.0	4	10	37.5	4.5	27.5	8	14	8.5	1	¥ 16,100
5 × 60°	JCCY5.0	5	12	43.5	5.5	32.5	10	16	10	1	¥ 19,400
6 × 60°	JCCY6.0	6	16	48.5	6.5	34.5	13	20	13.5	1	¥ 47,000

JIS

JO-CDS(II)



Joint- Low Helix Center Drills-Type B 60°, (Old JIS Type 2)

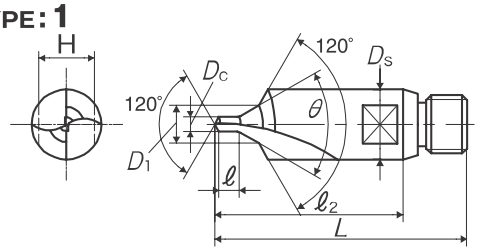
Specification **HSS**

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Cast steels 鋳鋼	Cast irons 鋳鉄	Ductile cast irons 強靭鋳鉄
10~25 (m/min)	10~25 (m/min)	10~25 (m/min)	10~20 (m/min)	10~25 (m/min)	5~10 (m/min)	5~15 (m/min)

■The JO-CDS(II) is a old JIS type 2 center hole drill joint tool suitable for relatively hard materials.

TYPE: 1



Segment : 5C

Size Dc × θ	Code	Dc (mm)	Ds (mm)	D_1 (mm)	L (mm)	ℓ (mm)	ℓ_2 (mm)	H (mm)	Adaptable holder Shank dia.	Dw (mm)	TYPE	MSRP
2 × 60°	JC22.0	2	10	5	37.5	3	27.5	8	14	8	1	¥ 3,250
2.5 × 60°	JC22.5	2.5	12	6.5	43.5	3.5	32.5	10	16	10	1	¥ 3,280
3 × 60°	JC23.0	3	16	8	48.5	4	34.5	13	20	12	1	¥ 4,040

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Point dia.	Shank dia.	Overall length	Point length	Body length
Dc	Ds	L	ℓ1	ℓ2

JIS

JO-PEQ

Joint- Point Drills 90°

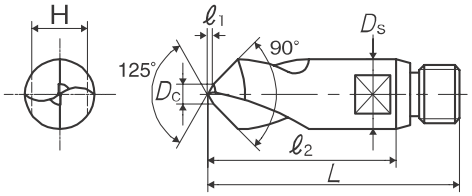


Specification Tapping Speeds depending on Materials

	Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Stainless steels ステンレス鋼	Cast irons 鋳鉄	Aluminum alloy castings アルミ合金鋳物
HSS	25~30 (m/min)	20~30 (m/min)	20~25 (m/min)	15~20 (m/min)	5~10 (m/min)	25~30 (m/min)	55~80 (m/min)

■The JO-PEQ is a point drill joint tool that can perform simultaneous combined machining of positioning and chamfering.

TYPE: 1



Segment : 5C

Size Ds × Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ1 (mm)	ℓ2 (mm)	H (mm)	Adaptable holder Shank dia.	TYPE	MSRP
10 × 3 × 90°	JPE010Q	3	10	37.5	0.78	27.5	8	14	1	¥ 2,910
12 × 3.5 × 90°	JPE012Q	3.5	12	43.5	0.91	32.5	10	16	1	¥ 2,980
16 × 4 × 90°	JPE016Q	4	16	48.5	1.04	34.5	13	20	1	¥ 3,820

JIS

JO-PEQ V

Joint- Point Drills 90°, Coated



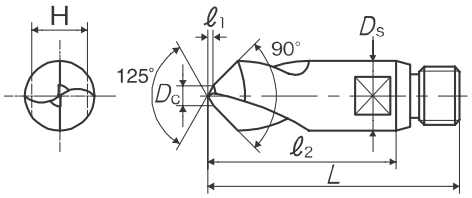
Specification Tapping Speeds depending on Materials

	Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼	Stainless steels ステンレス鋼	Cast irons 鋳鉄
HSS	30~40 (m/min)	25~35 (m/min)	20~30 (m/min)	20~25 (m/min)	10~15 (m/min)	10~15 (m/min)	30~40 (m/min)
					25~35HRC		

	Aluminum alloy castings アルミ合金鋳物
Coating	70~95 (m/min)

■The JO-PEQ V has excellent wear resistance and welding resistance, coating point drill joint tool.

TYPE: 1



Segment : 5C

Size Ds × Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ1 (mm)	ℓ2 (mm)	H (mm)	Adaptable holder Shank dia.	TYPE	MSRP
10 × 3 × 90°	JVPE010Q	3	10	37.5	0.78	27.5	8	14	1	¥ 4,460
12 × 3.5 × 90°	JVPE012Q	3.5	12	43.5	0.91	32.5	10	16	1	¥ 4,960
16 × 4 × 90°	JVPE016Q	4	16	48.5	1.04	34.5	13	20	1	¥ 5,920

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Point dia.	Shank dia.	Overall length	Point length	Body length
Dc	Ds	L	ℓ1	ℓ2

JIS

JO-C-PEQ V

Joint- Carbide Point Drills 90°, Coated



Specification Tapping Speeds depending on Materials

HF

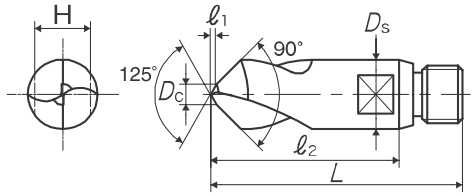
Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Thermal refined steels 調質鋼	Stainless steels ステンレス鋼	Cast irons 鋳鉄
70~80 (m/min)	60~70 (m/min)	50~60 (m/min)	50~55 (m/min)	25~30 (m/min)	30~35 (m/min)	70~80 (m/min)
				25~35HRC		

Coating

Aluminum alloy castings アルミ合金鋳物
95~130 (m/min)

■The JO-C-PEQ V is a coated carbide point drill joint tool that can perform simultaneous combined machining of positioning and chamfering.

TYPE: 1



Segment : 5C

Size Ds × Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ1 (mm)	ℓ2 (mm)	H (mm)	Adaptable holder Shank dia.	TYPE	MSRP
10 × 3 × 90°	JVCPE010Q	3	10	37.5	0.78	27.5	8	14	1	¥ 23,000
12 × 3.5 × 90°	JVCPE012Q	3.5	12	43.5	0.91	32.5	10	16	1	¥ 23,000
16 × 4 × 90°	JVCPE016Q	4	16	48.5	1.04	34.5	13	20	1	¥ 32,800

Drill dia.	Shank dia.	Overall length	Body length
Dc	Ds	L	ℓ2

JIS

JO-NCSD V

Joint- NC Starting Drills for Chamfering 90°, Coated



Specification Tapping Speeds depending on Materials

HSS-Co

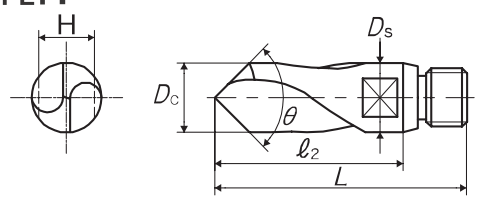
Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Stainless steels ステンレス鋼	Tool steels 工具鋼	Cast irons 鋳鉄
20~30 (m/min)	20~30 (m/min)	20~25 (m/min)	10~20 (m/min)	5~10 (m/min)	5~10 (m/min)	15~30 (m/min)

Coating

Aluminum alloy castings アルミ合金鋳物
50~70 (m/min)

■ Optimum coating suitable for the cutting.

TYPE: 1



Segment : 5C

Size Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ2 (mm)	H (mm)	Adaptable holder Shank dia.	TYPE	MSRP
10 × 90°	JVCS-D010Q	10	10	37.5	27.5	8	14	1	¥ 4,310
12 × 90°	JVCS-D012Q	12	12	43.5	32.5	10	16	1	¥ 4,850
16 × 90°	JVCS-D016Q	16	16	48.5	34.5	13	20	1	¥ 5,730

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Drill dia.	Tool end dia.	Shank dia.	Overall length	Cutting edge length	Body length
D_2	Dc	Ds	L	ℓ	ℓ_2

JIS

JO-CSQM

Joint- Countersinks 90°, Drilling Machine Use



Specification Tapping Speeds depending on Materials

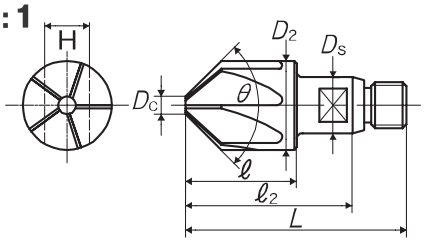
HSS

Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼	Stainless steels ステンレス鋼	Tool steels 工具鋼	Cast irons 鋳鉄
10~15 (m/min)	10~15 (m/min)	10~15 (m/min)	5~10 (m/min)	5~10 (m/min)	5~10 (m/min)	10~25 (m/min)

Aluminum alloy castings アルミ合金鋳物 12~36 (m/min)

■The JO-CSQM is a countersink joint tool for chamfering with a drilling machine.

TYPE: 1



Segment : 5C

Size $D_2 \times \theta$	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	ℓ_2 (mm)	H (mm)	No. of flutes	Adaptable holder Shank dia.	TYPE	MSRP
16 × 90°	JCS016QM9	3.2	10	37.5	20	27.5	8	5	14	1	¥ 3,600
20 × 90°	JCS020QM9	4	12	43.5	24	32.5	10	5	16	1	¥ 4,070

Shank dia.	Overall length	Body length
Ds	L	ℓ

JIS

JO-HOLDER

Holders for Joint Tools, for 150mm and for 200mm

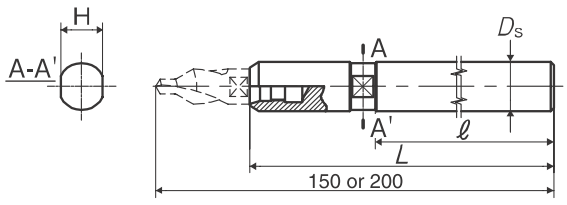


Specification

Alloy steel

■A holder exclusively for the Joint Tools. After installing into the Joint tool, we offer long types of 150 mm and 200 mm including the tool length.

TYPE: 1



Segment : 5A

Size	Code	Ds (mm)	L (mm)	ℓ (mm)	H (mm)	Applicable cutting edge shank dia.	TYPE	MSRP
14 × 150	JH1014M	14	122.5	86	12	10	1	¥ 8,780 □
16 × 150	JH1216M	16	117.5	80	14	12	1	¥ 8,740 □
20 × 150	JH1620M	20	115.5	74	17	16	1	¥ 9,180 □
14 × 200	JH1014N	14	172.5	136	12	10	1	¥ 10,100 □
16 × 200	JH1216N	16	167.5	130	14	12	1	¥ 9,980 □
20 × 200	JH1620N	20	165.5	124	17	16	1	¥ 11,200 □

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YAMAWA
LINE-UPS ARRANGED ON SIZES



M2 Taps	Sizes-3	M9 ~ M24 Taps	Sizes-55
M2 Dies	Sizes-5	M9 ~ M24 Dies	Sizes-74
M3 Taps	Sizes-6	M25 ~ M48 Taps	Sizes-78
M3 Dies	Sizes-9	M25 ~ M48 Dies	Sizes-88
M4 Taps	Sizes-10	M50 ~ M100 Taps	Sizes-93
M4 Dies	Sizes-13	M50 ~ M100 Dies	Sizes-97
M5 Taps	Sizes-14	For Unified threads Taps	Sizes-103
M5 Dies	Sizes-17	For Unified threads Dies	Sizes-116
M6 Taps	Sizes-18	For Whitworth threads Taps	Sizes-119
M6 Dies	Sizes-22	For Whitworth threads Dies	Sizes-123
M8 Taps	Sizes-23	For Screw threads used on sewing machines Taps (SM)	Sizes-124
M8 Dies	Sizes-27	For Screw threads used on sewing machines Dies (SM)	Sizes-125
M10 Taps	Sizes-28	For Pipe threads Taps	Sizes-126
M10 Dies	Sizes-34	For Pipe threads Dies	Sizes-132
M12 Taps	Sizes-35	For American pipe threads Taps	Sizes-133
M12 Dies	Sizes-43	For American pipe threads Dies	Sizes-135
M1 ~ M8.5 Taps	Sizes-44	For Miniature threads Taps	Sizes-136
M1 ~ M8.5 Dies	Sizes-52	For Miniature threads Dies	Sizes-138

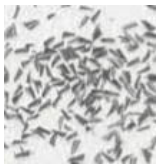
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Explanation of catalogue contents

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For cast irons	Carbide	12 13 16	N-CT FC	TCNR2.0E3	HT	P3	40	3	3P	⑤-8
				TCNR2.0E1					1.5P	⑤-8
For aluminum		15 16 17 18 19 20 21	AL+SP	ASHPQ2.0E	SP	P2	42	3	2.5P	①-122
			AL-SP 1.5P	SY2.0EQLENA					1.5P	①-123
		18 19 21	LA-HT	TY2.0EQLEN5	HT	P2	42	3	5P	④-102
				TY2.0EQLENA					1.5P	④-102

Page shown in line-ups depending on products

Classification of materials

Kind	Chip shape after boring (drilling)		No.	Examples of materials
Ferrous		Chip or powder like	⑫⑬	Cast iron, Ductile cast iron
			⑧	Thermal refined steel (50~63HRC)
			⑦	Thermal refined steel (45~55HRC)
			⑥	Thermal refined steel (35~45HRC)
			⑤	Thermal refined steel (25~35HRC)
			③④⑩	High carbon steel, Alloy steel, Tool steel
			②⑪	Medium carbon steel, Cast steel
			⑨	Stainless steel
		Continuous	①	Low carbon steel
Non-ferrous		Continuous	㉒	Titanium alloy
			㉓	Nickel base alloy
			⑭⑮⑰⑱	Copper, Brass, Bronze, Wrought aluminum
		Chip or powder like	⑯⑲⑳㉑	Brass casting, Aluminum alloy casting, Magnesium alloy, Zinc alloy
			㉔㉕	Thermosetting plastic, Thermoplastic resin

Hardness of materials : Please refer to material composition table shown in technical data.

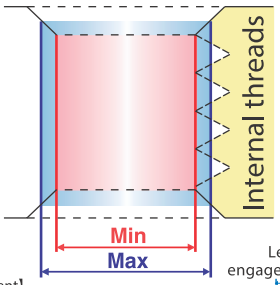
Flute shape of taps and chip ejection

SP= Spiral	PO= Spiral point	SL= LH spiral	HT= Straight	RO= Forming
				
 Continuous chips	 Chip ejection		 Broken chips stored in flutes	No chips thread forming

Think threads with YAMAWA
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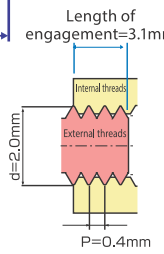
Flowchart : M2 tapping

Boring before tapping — Check 1

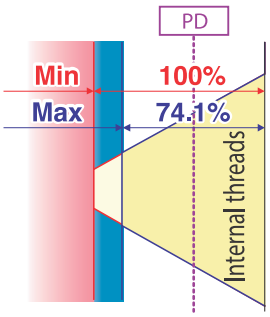


【Length of engagement】
On "middle" engagement class, 7H class can be chosen in case of "L" engagement length.

Symbol	Engagement length classification \ Engagement classification	Fine	Middle	Coarse	Engagement length
S	Short engagement length	4H	5H	–	S≦1(mm)
M	Normal engagement length	5H	6H	7H	1<M≦3(mm)
L	Long engagement length	6H	7H	8H	3<L(mm)



Engagement ratio on cutting taps

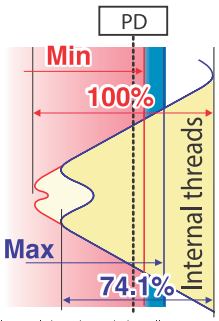


Unit : mm

	Drill size (ref.)	D1 Min	D1 Max
Bored hole size	1.6	1.567	1.679
Engagement ratio	92.4%	100%	74.1%

D1 is minor diameter of JIS 6H(2nd Class) of internal threads

Engagement ratio on roll taps



Internal threads made by roll taps are different from those made by cutting taps on the shape of minor dimameter.

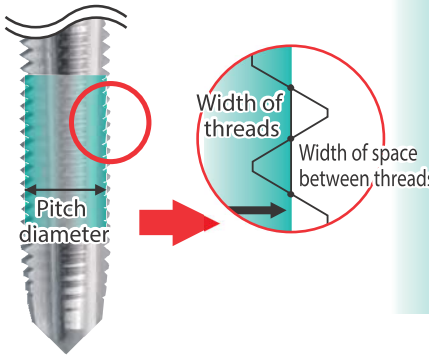
Unit : mm

*Hole size for thread forming taps	
Min	Max
1.79	1.84

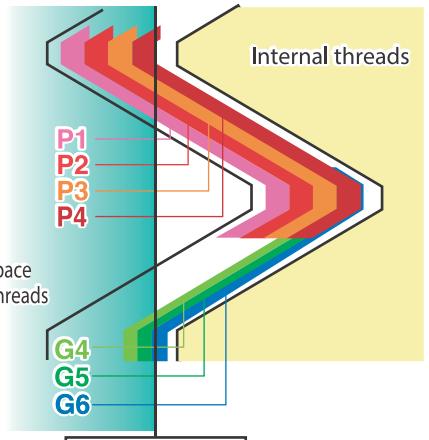
Forming condition changes depending on workpiece's Material and shape. Above is for customer's reference.

Threading — Check 2

【Pitch diameter】
Diameter of imaginary cylinder or cone which makes equal the width of threads and width of space between the threads



Tolerance area of tap's pitch diameter



【Thread class of cutting taps】

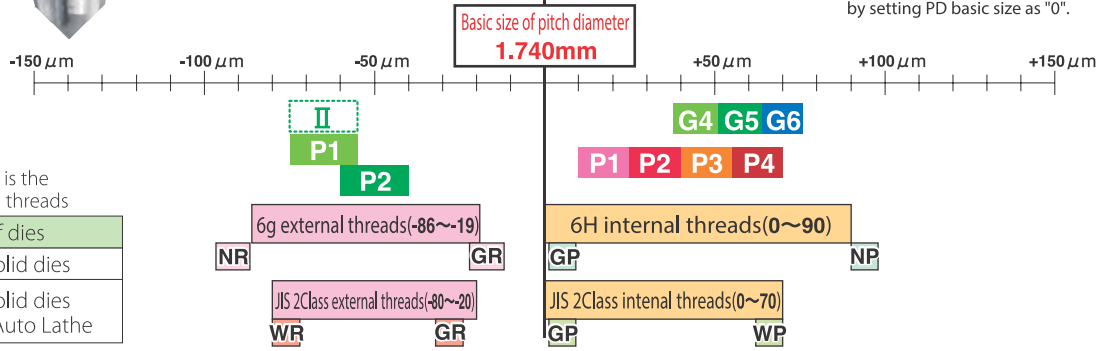
Class	PD tolerance
P1	10μm～25μm
P2	25μm～40μm
P3	40μm～55μm
P4	55μm～70μm

*Above shows the plus tolerance by setting PD basic size as "0".

【Thread class of roll taps】

Class	PD tolerance
G4	38μm～51μm
G5	51μm～64μm
G6	64μm～76μm

*Above shows the plus tolerance by setting PD basic size as "0".



Tolerance of dies is the target of external threads

Class of dies	
Ⅱ	Solid dies
P1 P2	Solid dies for Auto Lathe

Relative position of PD tolerance area of external threads, internal threads, taps and gages.

Gage check — Check 3

(−) ← Basic size of pitch diameter → (+)
1.740mm

Unit : μm

Ring gage pitch diameter (for external threads inspection)			
NR6g	-96 ～ -86	GR6g	-22 ～ -12
WRⅡ	-80 ～ -72	GRⅡ	-32 ～ -24

NR : NOT GO ring gage GR : GO ring gage
WR : NOT GO working ring gage

Unit : μm

Plug gage pitch diameter (for internal threads inspection)			
GP6H	2 ～ 10	NP6H	90 ～ 98
GPⅡ	4 ～ 12	WPⅡ	62 ～ 70

GP : GO plug gage NP : NOT GO plug gage
WP : NOT GO working plug gage

Unit : mm

Accuracy of external threads			
	Major diameter	Pitch diameter	Minor diameter
6g	1.886～1.981	1.654～1.721	–
JIS 2class	1.890～1.980	1.660～1.720	～1.490



Unit : mm



Accuracy of internal threads			
	Major diameter	Pitch diameter	Minor diameter
6H	–	1.740～1.830	1.567～1.679
JIS 2class	–	1.740～1.810	1.567～1.679

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Taps / M2 × 0.4

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
General purpose		1	R-Y	RY2.0E3	RO	-	42	3	3P	⑥-63
Standard		2 3	SP	SPP2.0E	SP	P1	42	3	2.5P	①-41
			+SP	SNPP2.0E						①-59
			SP 1.5P	SY2.0EPNEBA					1.5P	①-60
			PO	POQ2.0E	PO	P2			5P	③-15
		1 2 3	HT	TNMP2.0E5	HT	P1	42	3	5P	④-5
				TNMP2.0E1					1.5P	④-5
	Oversize	2 3	SP	SPQ2.0E	SP	P2	42	3	2.5P	①-41
				SPR2.0E		P3				①-41
				SPS2.0E		P4				①-41
			PO	POR2.0E	PO	P3			5P	③-15
				POS2.0E		P4				③-15
		1 2 3	HT	TNMR2.0E5	HT	P3	42	3	5P	④-5
				TNMR2.0E1					1.5P	④-5
				TNMS2.0E5		P4			5P	④-5
				TNMS2.0E1					1.5P	④-5
For left hand threads		2 3	SP LH	SPP2.0E--L	SP	P1	42	3	2.5P	①-81
			PO LH	POQ2.0E--L	PO	P2			5P	③-48
		1 2 3	HT LH	TNMP2.0E5-L	HT	P1	42	3	5P	④-66
				TNMP2.0E1-L					1.5P	④-66
Oxidizing		1 2 3	SP OX	SPP2.0EX	SP	P1	42	3	2.5P	①-67
			PO OX	POQ2.0EX	PO	P2			5P	③-36
	Oversize	1 2 3	PO OX	POR2.0EX	PO	P3	42	3	5P	③-36
Coating		1 2 3 4 9 19 21	AU+SP	VSAPQ2.0E	SP	P2	42	3	2.5P	①-88
		1 2 3 4 9 10 13 18 19	VUPO	1102101021	PO	P2	45	3	5P	③-4
		1 2 3 4	PO V	VPOQ2.0E	PO	P2	42	3	5P	③-50
		1 2 9 14 18 19 21	R+V	RVP42.0EP	RO	G4	42	3	4P	⑥-39
				RVP42.0EB					2P	⑥-39
				RVP52.0EP		G5			4P	⑥-39
				RVP52.0EB					2P	⑥-39
				RVP62.0EP		G6			4P	⑥-39
				RVP62.0EB					2P	⑥-39
Long		2 3	LS-SP	SPFP2.0EL07	SP	P1	70	3	2.5P	①-91
			LS-PO	POFQ2.0EL07	PO	P2			5P	③-53
		1 2 3	LS-HT	TNFP2.0E507	HT	P1	70	3	5P	④-73
				TNFP2.0E107					1.5P	④-73
Thread forming taps for steels		1 2	N+RZ	NRZP42.0EP	RO	G4	42	3	4P	⑥-14
				NRZP42.0EB					2P	⑥-14
				NRZP52.0EP		G5			4P	⑥-14
				NRZP52.0EB					2P	⑥-14
				NRZP62.0EP		G6			4P	⑥-14
				NRZP62.0EB					2P	⑥-14
For high carbon steels		2 3 5	HC+PO	PCPQ2.0E	PO	P2	42	3	5P	③-80
For medium hardness carbon steels		2 3 4 5 6 10	MHSL	1109101021	SL	P2	45	3	5P	②-4
	Long	2 3 4 5 6 10	MHSL	2209101021	SL	P2	100	3	5P	②-4
Carbide taps for ultra hard materials		8	UH-CT	UHCR2.0E5	HT	P3	40	4	5P	⑤-28
For stainless steels		2 3 4 9	SU+SP	SUPP2.0E	SP	P1	42	3	2.5P	①-102
		1 2 3 4 9	SU+PO	PUPQ2.0E	PO	P2	42	3	5P	③-62
		1 2 9	SU-HT	TUMQ2.0E4	HT	P2	42	3	4P	④-90
				TUMQ2.0E1					1.5P	④-90
For stainless steels	Oversize	2 3 4 9	SU+SP	SUPQ2.0E	SP	P2	42	3	2.5P	①-102
				SUPR2.0E		P3				①-102
		1 2 3 4 9	SU+PO	PUPR2.0E	PO	P3	42	3	5P	③-62
	For left hand threads	2 3 4 9	SU-SP LH	SUMP2.0E--L	SP	P1	42	3	2.5P	①-117
For cast irons	Carbide	12 13 16	N-CT FC	TCNR2.0E3	HT	P3	40	3	3P	⑤-10
				TCNR2.0E1					1.5P	⑤-10
For aluminum		15 16 17 18 19 20 21	AL+SP	ASHPQ2.0E	SP	P2	42	3	2.5P	①-140
			AL-SP 1.5P	SY2.0EQLENA					1.5P	①-141
		18 19 21	LA-HT	TY2.0EQLEN5	HT	P2	42	3	5P	④-110
				TY2.0EQLENA					1.5P	④-110
	Carbide	19 21	N-CT LA	TCNR2.0E3A	HT	P3	40	3	3P	⑤-3
				TCNR2.0E1A					1.5P	⑤-3
Thread forming taps for non-ferrous materials		18 19 21	N+RS	NRSP42.0EP	RO	G4	42	3	4P	⑥-26
				NRSP42.0EB					2P	⑥-26
				NRSP52.0EP		G5			4P	⑥-26
				NRSP52.0EB					2P	⑥-26
				NRSP62.0EP		G6			4P	⑥-26
				NRSP62.0EB					2P	⑥-26
Short chamfer		19 20 21	MG-HT	TMGMQ2.0E1	HT	P2	42	3	1P	④-118
For Thermoplastic Resins	Thermosetting	24	PL1	TPLM2.0E3	HT	P4	42	3	3P	④-120
	Thermoplastic	24 25	PL2	TY2.0ESMEN3	HT	P4	42	3	3P	④-122
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL+RZ	OLRZP42.0EP	RO	G4	42	3	4P	⑥-42
				OLRZP52.0EP		G5				⑥-42
				OLRZP62.0EP		G6				⑥-42
High performance thread forming taps		1 2 3 4 5 9 19	HP+RZ	HRZP42.0EB	RO	G4	42	3	2P	⑥-48
				HRZP52.0EB		G5				⑥-48
Torqueless thread forming taps	Short chamfer	1 2 3 9 19 21	SC-TL-RZ	SRZM42.0E1	RO	G4	42	3	1P	⑥-58
	Seamless	1 2 9	SURZ	SURZ42.0EB	RO	G4	42	3	2P	⑥-60
For deep hole use		2 3 4 13	S-SP	SSMP2.0E	SP	P1	42	3	2.5P	①-127
		1 2 3 4	S-PO	PSMQ2.0E	PO	P2	42	3	5P	③-77
	Oversize	2 3 4 13	S-SP	SSMR2.0E	SP	P3	42	3	2.5P	①-127
		1 2 3 4	S-PO	PSMR2.0E	PO	P3	42	3	5P	③-77
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW2.0E1LEB5	HT	I b	46	3	5P	⑦-3
				TW2.0E1LEBA					1.5P	⑦-3
Nut taps		1 2	NT	NH22.0E	HT	II b	75	1.4	25P	⑦-27

Taps / M2 × 0.25

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard		2 3	SP	SPP2.0B	SP	P1	42	3	2.5P	①-41
			PO	POP2.0B	PO				5P	③-15
		1 2 3	HT	TNMP2.0B5	HT	P1	42	3	5P	④-5
				TNMP2.0B1					1.5P	④-5
Thread forming taps for steels		1 2	N-RZ	NRZM42.0BP	RO	G4	42	3	4P	⑥-15
				NRZM42.0BB					2P	⑥-15
				NRZM52.0BP		G5			4P	⑥-15
				NRZM52.0BB					2P	⑥-15
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM42.0BP	RO	G4	42	3	4P	⑥-27
				NRSM42.0BB					2P	⑥-27
				NRSM52.0BP		G5			4P	⑥-27
				NRSM52.0BB					2P	⑥-27

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*D*s	ℓc

Symbol of flute design

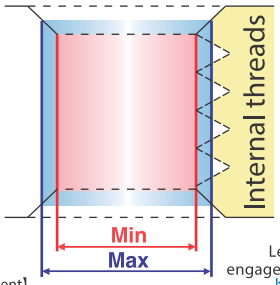
	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Dies selection		Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ M2 × 0.4										
Solid dies		HSS	1 2 15 16 18 19	D	II	16	5	2.5P	TYD2.0EDNEBC	⑩-2
						20	7		TYE2.0EDNEBC	⑩-2
						25	9		TYG2.0EDNEBC	⑩-2
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYE2.0EDNEBC	⑩-16
Point solid dies		HSS	1 2 15 16 18 19	DPO	S5	20	7	1.5P	PYE2.0ETNEBA	⑩-34
						25	9		PYG2.0ETNEBA	⑩-34
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE2.0EQNEBA	⑩-34
						25	9		PYG2.0EQNEBA	⑩-34
Rolling dies		HSS	1 2 9 15	RS-D	R2	16	5	-	RDQ2.0E	⑩-48
					R3				RDR2.0E	⑩-48
					R4				RDS2.0E	⑩-48
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	10	3	2P	HBP2.0E	⑩-45
						16	5		HDP2.0E	⑩-45
						20	7		HEP2.0E	⑩-45
					P2	10	3		HBQ2.0E	⑩-45
						16	5		HDQ2.0E	⑩-45
						20	7		HEQ2.0E	⑩-45
Dies ／ M2 × 0.25										
Solid dies		HSS	1 2 15 16 18 19	D	II	16	5	2.5P	TYD2.0BDNEBC	⑩-2
						20	7		TYE2.0BDNEBC	⑩-2
Point solid dies		HSS	1 2 15 16 18 19	DPO	S4	20	7	1.5P	PYE2.0BSNEBA	⑩-34
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE2.0BQNEBA	⑩-34
Rolling dies		HSS	1 2 9 15	RS-D	R2	16	5	-	RDQ2.0B	⑩-48
					R3				RDR2.0B	⑩-48
					R4				RDS2.0B	⑩-48
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	10	3	2P	HBP2.0B	⑩-45
						16	5		HDP2.0B	⑩-45
					P2	10	3		HBQ2.0B	⑩-45
						16	5		HDQ2.0B	⑩-45

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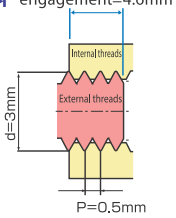
Flowchart : M3 tapping

Boring before tapping — Check 1

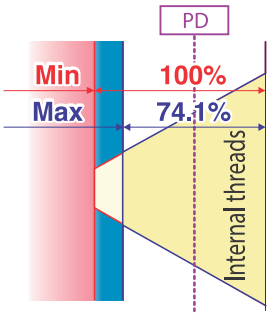


【Length of engagement】
On "middle" engagement class, 7H class can be chosen in case of "L" engagement length.

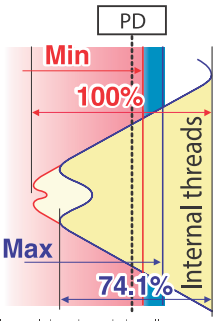
Symbol	Engagement length classification \ Engagement classification	Fine	Middle	Coarse	Engagement length
S	Short engagement length	4H	5H	–	S≦1.5(mm)
M	Normal engagement length	5H	6H	7H	1.5<M≦4.5(mm)
L	Long engagement length	6H	7H	8H	4.5<L(mm)



Engagement ratio on cutting taps



Engagement ratio on roll taps



Internal threads made by roll taps are different from those made by cutting taps on the shape of minor dimameter.

Unit : mm

	Drill size (ref.)	D1 Min	D1 Max
Bored hole size	2.5	2.459	2.599
Engagement ratio	92.4%	100%	74.1%

D1 is minor diameter of JIS 6H(2nd Class) of internal threads

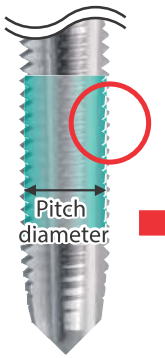
Unit : mm

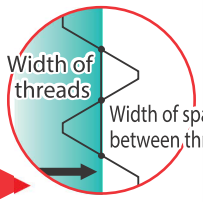
*Hole size for thread forming taps	
Min	Max
2.75	2.82

Forming condition changes depending on workpiece's Material and shape. Above is for customer's reference.

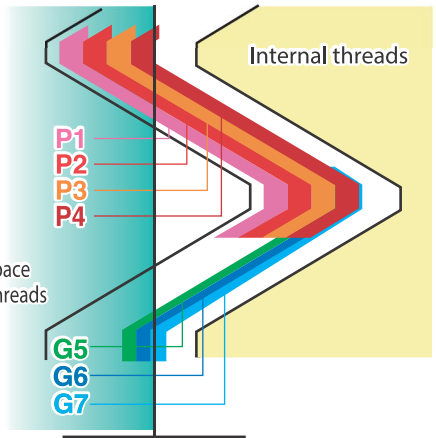
Threading — Check 2

【Pitch diameter】
Diameter of imaginary cylinder or cone which makes equal the width of threads and width of space between the threads





Tolerance area of tap's pitch diameter



【Thread class of cutting taps】

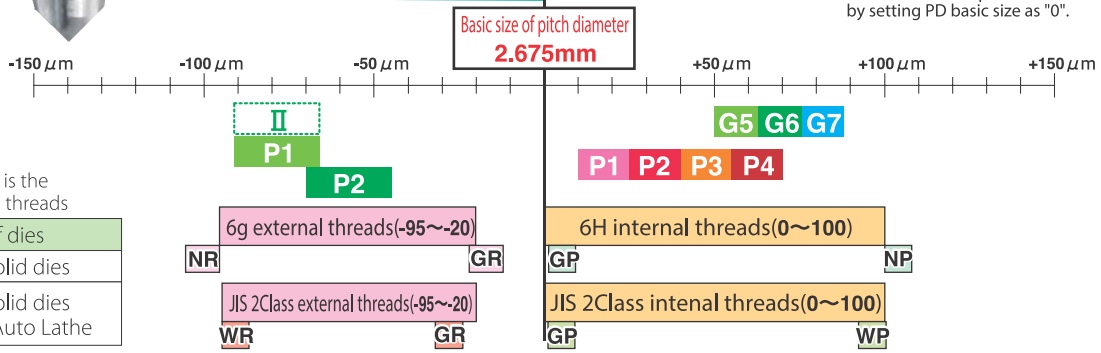
Class	PD tolerance
P1	10μm～25μm
P2	25μm～40μm
P3	40μm～55μm
P4	55μm～70μm

*Above shows the plus tolerance by setting PD basic size as "0".

【Thread class of roll taps】

Class	PD tolerance
G5	51μm～64μm
G6	64μm～76μm
G7	76μm～89μm

*Above shows the plus tolerance by setting PD basic size as "0".



Tolerance of dies is the target of external threads

Class of dies	
Ⅱ	Solid dies
P1 P2	Solid dies for Auto Lathe

Relative position of PD tolerance area of external threads, internal threads, taps and gages.

Gage check — Check 3

(–) ← Basic size of pitch diameter → (+)
2.675mm

Unit : μm

Ring gage pitch diameter (for external threads inspection)			
NR6g	-105～-95	GR6g	-23～-13
WRⅡ	-95～-87	GRⅡ	-32～-24

NR : NOT GO ring gage
GR : GO ring gage
WR : NOT GO working ring gage

Unit : μm

Plug gage pitch diameter (for internal threads inspection)			
GP6H	2～10	NP6H	100～108
GPⅡ	4～12	WPⅡ	92～100

GP : GO plug gage
NP : NOT GO plug gage
WP : NOT GO working plug gage

Unit : mm

Accuracy of external threads			
	Major diameter	Pitch diameter	Minor diameter
6g	2.874～2.980	2.580～2.655	–
JIS 2class	2.874～2.980	2.580～2.655	～2.367



Unit : mm



Accuracy of internal threads			
	Major diameter	Pitch diameter	Minor diameter
6H	–	2.675～2.775	2.459～2.599
JIS 2class	–	2.675～2.775	2.459～2.599

Think threads with YAMAWA
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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Taps ／ M3 × 0.5

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
General purpose		1	ISP	SI73.0GBP	SP	-	46	4	2.5P	①-64
			IPO	PI73.0GBP	PO				5P	③-34
		1 2	IHT	HI73.0G5BP	HT	-	46	4	5P	④-52
				HI73.0G2BP					2P	④-52
		1	R-Y	RY3.0G3	RO	-	46	4	3P	⑥-63
Standard		2 3	SP	SPP3.0G	SP	P1	46	4	2.5P	①-41
			+SP	SNPP3.0G						①-59
			SP 1.5P	SY3.0GPNEBA					1.5P	①-61
			PO	POQ3.0G	PO	P2			5P	③-15
			+PO	PNPQ3.0G						③-32
		1 2 3	HT	TNMQ3.0G5	HT	P2	46	4	5P	④-6
				TNMQ3.0G1					1.5P	④-6
	Oversize	2 3	SP	SPQ3.0G	SP	P2	46	4	2.5P	①-41
				SPR3.0G		P3				①-41
				SPS3.0G		P4				①-41
			PO	POR3.0G	PO	P3			5P	③-15
				POS3.0G		P4				③-15
		1 2 3	HT	TNMR3.0G5	HT	P3	46	4	5P	④-6
				TNMR3.0G1					1.5P	④-6
				TNMS3.0G5		P4			5P	④-6
				TNMS3.0G1					1.5P	④-6
				TNMT3.0G5		P5			5P	④-6
				TNMT3.0G1					1.5P	④-6
	Long neck	1 2	LKSL	1307101035	SL	P3	56	4	5P	②-11
For left hand threads		2 3	SP LH	SPP3.0G--L	SP	P1	46	4	2.5P	①-81
			PO LH	POQ3.0G--L	PO	P2			5P	③-48
		1 2 3	HT LH	TNMQ3.0G5-L	HT	P2	46	4	5P	④-66
				TNMQ3.0G1-L					1.5P	④-66
Oxidizing		1 2 3	SP OX	SPP3.0GX	SP	P1	46	4	2.5P	①-67
			PO OX	POQ3.0GX	PO	P2			5P	③-36
	Oversize	1 2 3	SP OX	SPQ3.0GX	SP	P2	46	4	2.5P	①-67
				SPR3.0GX		P3				①-67
			PO OX	POR3.0GX	PO				5P	③-36
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101035	SP	P2	56	4	2.5P	①-6
		1 2 3 4 9 19 21	AU+SP	VSAPQ3.0G	SP	P2	46	4	2.5P	①-88
			AU+SL	VSAPQ3.0GL	SL				5P	②-14
		1 2 3 4 9 10 13 18 19	VUPO	1102101035	PO	P2	56	4	5P	③-4
		1 2 3 4	PO V	VPOQ3.0G	PO	P2	46	4	5P	③-50
		1 2 9 14 18 19 21	R+V	RVP53.0GP	RO	G5	46	4	4P	⑥-39
				RVP53.0GB					2P	⑥-39
				RVP63.0GP		G6			4P	⑥-39
				RVP63.0GB					2P	⑥-39
				RVP73.0GP		G7			4P	⑥-39
				RVP73.0GB					2P	⑥-39
				RVP83.0GP		G8			4P	⑥-39

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Coating	Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201035	SP	P3	56	4	2.5P	①-6
				1101301035		P4				①-6
			VUPO	1102201035	PO	P3			5P	③-4
				1102301035		P4				③-4
	Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101035	SP	P2	56	4	1.5P	①-16
	Long	1 2 3 4 9 10 13 18 19	VUSP	2101101035	SP	P2	100	4	2.5P	①-7
			VUPO	2102101035	PO				5P	③-6
Long		2 3	LS-SP	SPFP3.0GL07	SP	P1	70	4	2.5P	①-91
				SPFP3.0GL10			100			①-91
				SPFP3.0GL12			120			①-91
				SPFP3.0GL15			150			①-91
			LS-PO	POFQ3.0GL07	PO	P2	70		5P	③-53
				POFQ3.0GL10			100			③-53
				POFQ3.0GL12			120			③-53
				POFQ3.0GL15			150			③-53
		1 2 3	LS-HT	TNFP3.0G507	HT	P1	70	4	5P	④-73
				TNFP3.0G510			100			④-73
				TNFP3.0G512			120			④-73
				TNFP3.0G515			150			④-73
				TNFP3.0G107			70		1.5P	④-73
				TNFP3.0G110			100			④-73
				TNFP3.0G112			120			④-74
				TNFP3.0G115			150			④-74
	Oversize	2 3	LS-SP	SPFQ3.0GL10	SP	P2	100	4	2.5P	①-91
				SPFQ3.0GL15			150			①-91
				SPFR3.0GL10		P3	100			①-91
				SPFR3.0GL15			150			①-91
			LS-PO	POFR3.0GL10	PO		100		5P	③-53
				POFR3.0GL15			150			③-53
		1 2 3	LS-HT	TNFR3.0G510	HT	P3	100	4	5P	④-74
				TNFR3.0G515			150			④-74
				TNFR3.0G110			100		1.5P	④-74
				TNFR3.0G115			150			④-74
	With neck	2 3	LS-SP-K	SY3.0GPFEBE	SP	P1	100	4	2.5P	①-99
				SY3.0GPFEBF			120			①-99
				SY3.0GPFEBG			150			①-99
			LS-PO-K	PY3.0GQFEBE	PO	P2	100		4.5P	③-60
				PY3.0GQFEBF			120			③-60
				PY3.0GQFEBG			150			③-60
	Long neck	1 2	LKSL XL	2008101035	SL	P3	100	4	5P	②-12
	For left hand threads	2 3	LS-SP LH	SPFP3.0GL10L	SP	P1	100	4	2.5P	①-97
		1 2 3	LS-HT LH	TNFP3.0G510L	HT	P1	100	4	5P	④-84
				TNFP3.0G110L					1.5P	④-84
	Coating	1 2 3 4	LS-SP V	VSPFP3.0GL10	SP	P1	100	4	2.5P	①-98
			LS-PO V	VPOFQ3.0GL10	PO	P2			5P	③-59
		2 3 4	LS-HT V	TNFP3.0G510V	HT	P1	100	4	5P	④-86
				TNFP3.0G110V					1.5P	④-86
For soft structural steels		1 2	E-SP	ESHMP3.0G	SP	P1	46	4	2.5P	①-134
				ESHMP3.0G-3						①-134

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For steels	1 2 3 4 5 9 11	HVSP	SY3.0GREEXJ	SP	P3	56	4	2.5P	①-26
Thread forming taps for steels	1 2	N+RZ	NRZP53.0GP	RO	G5	46	4	4P	⑥-15
			NRZP53.0GB					2P	⑥-15
			NRZP63.0GP		G6			4P	⑥-15
			NRZP63.0GB					2P	⑥-15
			NRZP73.0GP		G7			4P	⑥-15
			NRZP73.0GB					2P	⑥-15
			NRZP83.0GP		G8			4P	⑥-15
			NRZP83.0GB					2P	⑥-15
Long	1 2	LS-N-RZ	NRZF53.0GP10	RO	G5	100	4	4P	⑥-23
			NRZF53.0GB10					2P	⑥-23
			NRZF63.0GP10		G6			4P	⑥-23
			NRZF63.0GB10					2P	⑥-23
For high carbon steels	2 3	HC+SP	SCPP3.0G	SP	P1	46	4	2.5P	①-136
	2 3 5	HC-PO	PCMQ3.0G	PO	P2	46	4	5P	③-80
Oxidizing	2 3	HC+SP OX	SCPP3.0GX	SP	P1	46	4	2.5P	①-138
For hard-to-machine materials	3 5 6	EH-PO	EPHMR3.0G	PO	P3	46	4	4.5P	③-86
	6 10	EH-HT	ETHMR3.0G5	HT	P3	46	4	5P	④-124
			ETHMR3.0G1					2.5P	④-124
Powdered HSS	3 5 6	PM-SP	SY3.0GRDPB	SP	P3	46	4	2.75P	①-174
		LS-PM-SP	S43.0GRDPBE			100			①-181
		PM-PO	PY3.0GRDPB	PO		46		5.5P	③-98
		LS-PM-PO	P43.0GRDPBE			100			③-104
For titanium alloys	22	ZET-B	ZETBMQ3.0G	SP	P2	46	4	3P	①-158
		ZET-P	ZETPMR3.0G	SL	P3			5P	②-22
For nickel base alloys	1 2 9 23	ZEN-B	ZENBMQ3.0G	SP	P2	46	4	3P	①-166
		ZEN-P	ZENPMR3.0G	PO	P3			4.5P	③-90
For medium hardness carbon steels	2 3 4 5 6 10	MHSL	1109101035	SL	P3	56	4	5P	②-4
Long	2 3 4 5 6 10	MHSL	2109101035	SL	P3	100	4	5P	②-4
Carbide taps for hard materials	7	EH-CT	EHCR3.0G5	HT	P3	46	4	5P	⑤-24
Carbide taps for ultra hard materials	8	UH-CT	UHCR3.0G5	HT	P3	46	5	5P	⑤-28
For stainless steels	2 3 4 9	SU+SP	SUPP3.0G	SP	P1	46	4	2.5P	①-102
	1 2 3 4 9	SU+SL	SUPQ3.0GL	SL	P2	46	4	5P	②-18
		SU-PO	PUMQ3.0G	PO					③-62
	1 2 9	SU-HT	TUMQ3.0G4	HT	P2	46	4	4P	④-90
			TUMQ3.0G1					1.5P	④-90
Oversize	2 3 4 9	SU+SP	SUPQ3.0G	SP	P2	46	4	2.5P	①-102
			SUPR3.0G		P3				①-102
	1 2 3 4 9	SU-PO	PUMR3.0G	PO	P3	46	4	5P	③-62
			PUMS3.0G		P4				③-62
For left hand threads	2 3 4 9	SU-SP LH	SUMP3.0G–L	SP	P1	46	4	2.5P	①-117
For deep hole use	1 2 3 4 9	SU-S-SP	SSMP3.0G-SU	SP	P1	46	4	2.5P	①-123
	1 2 3 9	LS-SU-S-SP	SY3.0GPGEXES	SP	P1	100	4	2.5P	①-124
		LS-SU-S-PO	PY3.0GQGEXES	PO	P2			4.5P	③-74
For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MQ3.0G	SP	P2	46	4	3P	①-120
For cast irons	12 13	FC-HT	TY3.0GRAEN5	HT	P3	46	4	5P	④-94
			TY3.0GRAENA					1.5P	④-94
Carbide	12 13 16	N-CT FC	TCNR3.0G3	HT	P3	46	4	3P	⑤-11
			TCNR3.0G1					1.5P	⑤-11
Long shank, carbide	12 13 16	LS-N-CT	TY3.0GRAWB3E	HT	P3	100	4	3P	⑤-18
			TY3.0GRAWBAE					1.5P	⑤-18

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For aluminum	15 16 17 18 19 20 21	AL+SP	ASHPQ3.0G	SP	P2	46	4	2.5P	①-140
		AL-SP 1.5P	SY3.0GQLENA					1.5P	①-141
	18 19 21	LA-HT	TY3.0GQLEN5	HT	P2	46	4	5P	④-110
			TY3.0GQLENA					1.5P	④-110
Carbide	19 21	N-CT LA	TCNR3.0G3A	HT	P3	46	4	3P	⑤-4
			TCNR3.0G1A					1.5P	⑤-4
Carbide spiral fluted taps	18 19 21	N-CT-SP	SY3.0GRKWB	SP	P3	46	4	2.5P	⑤-20
Carbide spiral pointed taps	15 16 17 18 19 20 21	N-CT-PO	PCNR3.0G	PO	P3	46	4	5P	⑤-21
Thread forming taps for non-ferrous materials	18 19 21	N+RS	NRSP53.0GP	RO	G5	46	4	4P	⑥-27
			NRSP53.0GB					2P	⑥-27
			NRSP63.0GP		G6			4P	⑥-27
			NRSP63.0GB					2P	⑥-27
			NRSP73.0GP		G7			4P	⑥-27
			NRSP73.0GB					2P	⑥-27
			NRSP83.0GP		G8			4P	⑥-27
			NRSP83.0GB					2P	⑥-27
Long	18 19 21	LS-N-RS	NRSF53.0GP10	RO	G5	100	4	4P	⑥-36
			NRSF53.0GB10					2P	⑥-36
			NRSF63.0GP10		G6			4P	⑥-36
			NRSF63.0GB10					2P	⑥-36
Short chamfer	19 20 21	MG-HT	TMGMQ3.0G1	HT	P2	46	4	1P	④-118
For Thermoplastic Resins — Thermosetting	24	PL1	TPLM3.0G3	HT	P5	46	4	3P	④-120
For Thermoplastic Resins — Thermoplastic	24 25	PL2	TY3.0GTMEN3	HT	P5	46	4	3P	④-122
For high speed	1 2	F-SP	VFSHMQ3.0G	SP	P2	46	4	2.5P	①-184
		F-SL	VFSHMQ3.0GL	SL				5P	②-28
Long	1 2	LS-F-SP	S43.0GQFEVES	SP	P2	100	4	2.5P	①-188
		LS-F-SL	L43.0GQFEVE	SL				5P	②-32
Thread forming taps for dry tapping	1 2 3 4 5 9 19	OL+RZ	OLRZP53.0GP	RO	G5	46	4	4P	⑥-42
			OLRZP63.0GP		G6				⑥-42
High performance thread forming taps	1 2 3 4 5 9 19	HP+RZ	HRZP53.0GP	RO	G5	46	4	4P	⑥-48
			HRZP53.0GB					2P	⑥-48
			HRZP63.0GP		G6			4P	⑥-48
			HRZP63.0GB					2P	⑥-48
Torqueless thread forming taps — Short chamfer	1 2 3 9 19 21	SC-TL-RZ	SRZM53.0G1	RO	G5	46	4	1P	⑥-58
Torqueless thread forming taps — Seamless	1 2 9	SURZ	SURZ53.0GB	RO	G5	46	4	2P	⑥-60
For deep hole use	2 3 4 13	S-SP	SSMP3.0G-3	SP	P1	46	4	2.5P	①-127
	1 2 3 4	S-PO	PSMQ3.0G	PO	P2	46	4	5P	③-77
Oversize	2 3 4 13	S-SP	SSMQ3.0G	SP	P2	46	4	2.5P	①-127
			SSMR3.0G		P3				①-127
	1 2 3 4	S-PO	PSMR3.0G	PO	P3	46	4	5P	③-77
Low spiral	2 3	LO-SP 8°	LSHMP3.0G8	SP	P1	46	4	2.5P	①-148
		LO-SP 15°	LSHMP3.0G15						①-148
		LO-SP 20°	LSHMP3.0G20						①-148
For helical coil wire screw thread inserts	18 19 21	AL-HT STI	TW3.0G1LEB5	HT	I b	52	5	5P	⑦-3
			TW3.0G1LEBA					1.5P	⑦-3
	15 16 17 18 19 20 21	AL-SP STI	SW3.0G1LEN	SP	I b	52	5	2.5P	⑦-10
		AL-PO STI	PW3.0G1LEB	PO				5P	⑦-18
	18 19 21	N-RS STI	RW3.0G3LENP	RO	G3	52	5	4P	⑦-25
			RW3.0G3LENB					2P	⑦-25

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*D*s	ℓc

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

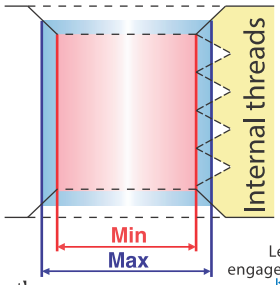
Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*D*s	ℓc	Product page
For helical coil wire screw thread inserts	Oversize	18 19 21	AL-HT STI	TW3.0G3LEB5	HT	I b+30	52	5	5P	⑦-3
				TW3.0G3LEBA					1.5P	⑦-3
		15 16 17 18 19 20 21	AL-SP STI	SW3.0G3LEN	SP	I b+30	52	5	2.5P	⑦-10
	Carbide	19 21	N-CT LA STI	TW3.0G1LWB5	HT	I b	52	5	5P	⑦-26
				TW3.0G1LWBA					1.5P	⑦-26
Nut taps		1 2	NT	NH23.0G	HT	II b	90	2.1	30P	⑦-27
Taps ／ 3M 0.6										
Standard		2 3	SP	SPP3.0H	SP	P1	46	4	2.5P	①-41
			PO	POQ3.0H	PO	P2			5P	③-15
		1 2 3	HT	TNMQ3.0H5	HT	P2	46	4	5P	④-6
				TNMQ3.0H1					1.5P	④-6
For left hand threads		1 2 3	HT LH	TNMQ3.0H5-L	HT	P2	46	4	5P	④-66
				TNMQ3.0H1-L					1.5P	④-66
Oxidizing		1 2 3	SP OX	SPP3.0HX	SP	P1	46	4	2.5P	①-67
			PO OX	POQ3.0HX	PO	P2			5P	③-36
For stainless steels		2 3 4 9	SU+SP	SUPP3.0H	SP	P1	46	4	2.5P	①-102
		1 2 3 4 9	SU-PO	PUMQ3.0H	PO	P2	46	4	5P	③-62
For deep hole use		1 2 3 4	S-PO	PSMQ3.0H	PO	P2	46	4	5P	③-77
Nut taps		1 2	NT	NH23.0H	HT	II b	90	2.1	25P	⑦-27
Taps ／ M3 × 0.35										
Standard		2 3	SP	SPP3.0D	SP	P1	46	4	2.5P	①-41
			PO	POQ3.0D	PO	P2			5P	③-15
		1 2 3	HT	TNMQ3.0D5	HT	P2	46	4	5P	④-6
				TNMQ3.0D1					1.5P	④-6
For left hand threads		1 2 3	HT LH	TNMQ3.0D5-L	HT	P2	46	4	5P	④-66
				TNMQ3.0D1-L					1.5P	④-66
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101036	SP	P2	56	4	2.5P	①-6
			VUPO	1102101036	PO				5P	③-4
	Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201036	SP	P3	56	4	2.5P	①-6
				1101301036		P4				①-6
			VUPO	1102201036	PO	P3			5P	③-4
				1102301036		P4				③-4
	Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101036	SP	P2	56	4	1.5P	①-16
	Long	1 2 3 4 9 10 13 18 19	VUSP	2101101036	SP	P2	100	4	2.5P	①-7
			VUPO	2102101036	PO				5P	③-6
For steels		1 2 3 4 5 9 11	HVSP	SY3.0DREEXJ	SP	P3	56	4	2.5P	①-26
Thread forming taps for steels		1 2	N-RZ	NRZM53.0DP	RO	G5	46	4	4P	⑥-16
				NRZM53.0DB					2P	⑥-16
For cast irons	Carbide	12 13 16	N-CT FC	TCNR3.0D3	HT	P3	46	4	3P	⑤-11
				TCNR3.0D1					1.5P	⑤-11
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM53.0DP	RO	G5	46	4	4P	⑥-28
				NRSM53.0DB					2P	⑥-28
				NRSM63.0DP		G6			4P	⑥-28
				NRSM63.0DB					2P	⑥-28

Dies selection		Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ M3 × 0.5										
Solid dies		HSS	1 2 15 16 18 19	D	II	16	5	2.5P	TYD3.0GDNEBC	⑩-2
						20	7		TYE3.0GDNEBC	⑩-2
						25	9		TYG3.0GDNEBC	⑩-2
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYE3.0GDNEBC	⑩-16
						25	9		GYG3.0GDNEBC	⑩-16
Point solid dies		HSS	1 2 15 16 18 19	DPO	S6	20	7	1.5P	PYE3.0GUNEBA	⑩-34
						25	9		PYG3.0GUNEBA	⑩-34
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE3.0GQNEBA	⑩-34
						25	9		PYG3.0GQNEBA	⑩-34
Rolling dies		HSS	1 2 9 15	RS-D	R2	20	7	-	REQ3.0G	⑩-49
					R4				RES3.0G	⑩-49
					R5				RET3.0G	⑩-49
New rolling dies		HSS	1 2 9 15	N-RSD	R4	25	9	2P	NRGS3.0G	⑩-52
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	16	5	2P	HDP3.0G	⑩-45
						20	7		HEP3.0G	⑩-45
					P2	16	5		HDQ3.0G	⑩-45
						20	7		HEQ3.0G	⑩-45
Spiral dies		HSS	1 2	SP-D	P1	20	7	1.5P	SEP3.0G	⑩-43
Dies ／ 3M 0.6										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE3.0HDNEBC	⑩-2
						25	9		TYG3.0HDNEBC	⑩-2
Dies ／ M3 × 0.35										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE3.0DDNEBC	⑩-3
						25	9		TYG3.0DDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYE3.0DDNEBC	⑩-16
Point solid dies		HSS	1 2 15 16 18 19	DPO	S5	20	7	1.5P	PYE3.0DTNEBA	⑩-34
						25	9		PYG3.0DTNEBA	⑩-34
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE3.0DQNEBA	⑩-34
						25	9		PYG3.0DQNEBA	⑩-34
Rolling dies		HSS	1 2 9 15	RS-D	R2	20	7	-	REQ3.0D	⑩-49
					R4				RES3.0D	⑩-49
					R5				RET3.0D	⑩-49
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	16	5	2P	HDP3.0D	⑩-45
						20	7		HEP3.0D	⑩-45
					P2	16	5		HDQ3.0D	⑩-45
						20	7		HEQ3.0D	⑩-45

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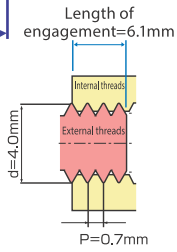
Flowchart : M4 tapping

Boring before tapping — Check 1

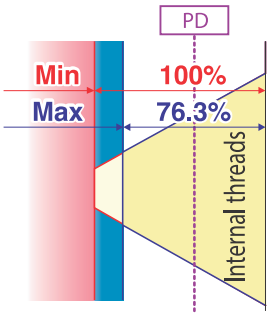


【Length of engagement】
On "middle" engagement class, 7H class can be chosen in case of "L" engagement length.

Symbol	Engagement length classification \ Engagement classification	Fine	Middle	Coarse	Engagement length
S	Short engagement length	4H	5H	–	S≦2(mm)
M	Normal engagement length	5H	6H	7H	2<M≦6(mm)
L	Long engagement length	6H	7H	8H	6<L(mm)



Engagement ratio on cutting taps

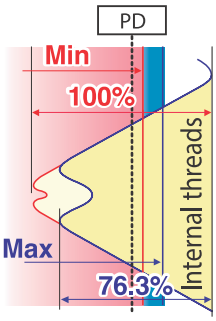


Unit : mm

	Drill size (ref.)	D1 Min	D1 Max
Bored hole size	3.3	3.242	3.422
Engagement ratio	92.4%	100%	76.3%

D1 is minor diameter of JIS 6H(2nd Class) of internal threads

Engagement ratio on roll taps



Internal threads made by roll taps are different from those made by cutting taps on the shape of minor dimameter.

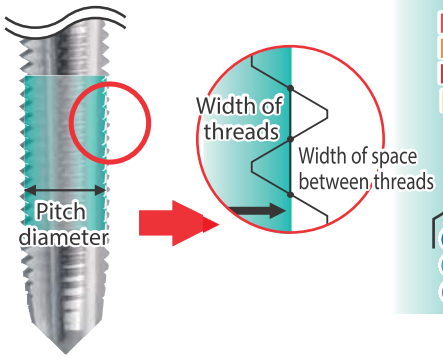
Unit : mm

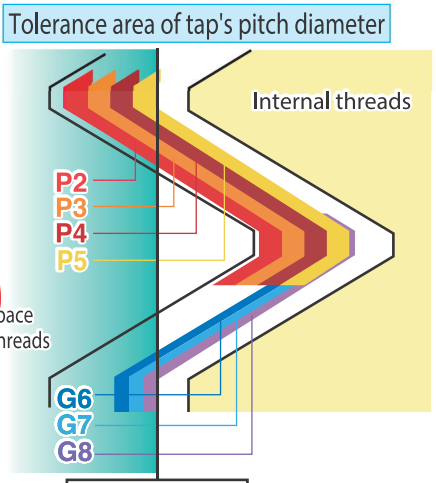
*Hole size for thread forming taps	
Min	Max
3.65	3.72

Forming condition changes depending on workpiece's Material and shape. Above is for customer's reference.

Threading — Check 2

【Pitch diameter】
Diameter of imaginary cylinder or cone which makes equal the width of threads and width of space between the threads





【Thread class of cutting taps】

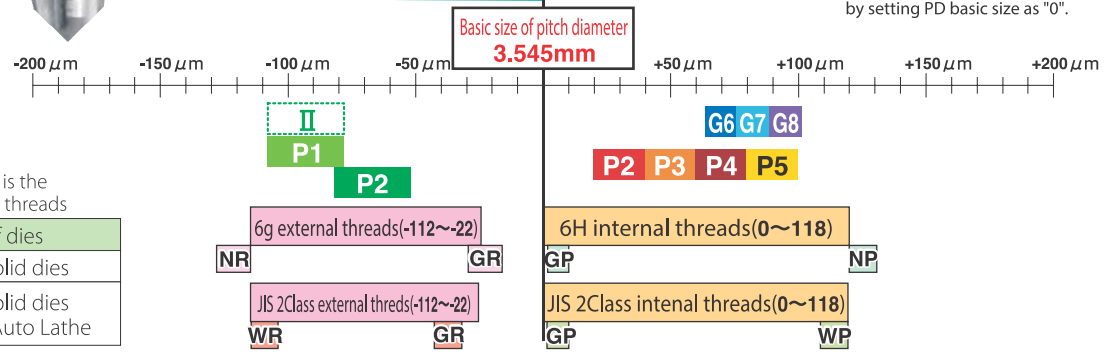
Class	PD tolerance
P2	20μm~40μm
P3	40μm~60μm
P4	60μm~80μm
P5	80μm~100μm

*Above shows the plus tolerance by setting PD basic size as "0".

【Thread class of roll taps】

Class	PD tolerance
G6	64μm~76μm
G7	76μm~89μm
G8	89μm~102μm

*Above shows the plus tolerance by setting PD basic size as "0".



Tolerance of dies is the target of external threads

Class of dies	
Ⅱ	Solid dies
P1	Solid dies for Auto Lathe
P2	

Relative position of PD tolerance area of external threads, internal threads, taps and gages.

Gage check — Check 3

(−) ← Basic size of pitch diameter → (+)
3.545mm

Unit : μm

Ring gage pitch diameter (for external threads inspection)			
NR6g	-126 ~-112	GR6g	-31 ~-17
WRⅡ	-112 ~-104	GRⅡ	-34 ~-26

NR : NOT GO ring gage
GR : GO ring gage
WR : NOT GO working ring gage

Unit : μm

Plug gage pitch diameter (for internal threads inspection)			
GP6H	2 ~ 10	NP6H	118 ~ 126
GPⅡ	4 ~ 12	WPⅡ	110 ~ 118

GP : GO plug gage
NP : NOT GO plug gage
WP : NOT GO working plug gage

Unit : mm

Accuracy of external threads			
	Major diameter	Pitch diameter	Minor diameter
6g	3.838~3.978	3.433~3.523	–
JIS 2class	3.838~3.978	3.433~3.523	~3.119



Unit : mm

Accuracy of internal threads			
	Major diameter	Pitch diameter	Minor diameter
6H	–	3.545~3.663	3.242~3.422
JIS 2class	–	3.545~3.663	3.242~3.422



Think threads with YAMAWA

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Taps ／ M4 × 0.7

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
General purpose		1	ISP	SI74.0IBP	SP	-	52	5	2.5P	①-64
			IPO	PI74.0IBP	PO				5P	③-34
		1 2	IHT	HI74.0I5BP	HT	-	52	5	5P	④-52
				HI74.0I2BP					2P	④-52
		1	R-Y	RY4.0I3	RO	-	52	5	3P	⑥-63
Standard		2 3	SP	SPQ4.0I	SP	P2	52	5	2.5P	①-41
			+SP	SNPQ4.0I						①-59
			SP 1.5P	SY4.0IQNEBA					1.5P	①-61
			PO	POQ4.0I	PO				5P	③-15
			+PO	PNPQ4.0I						③-32
		1 2 3	HT	TNMQ4.0I5	HT	P2	52	5	5P	④-6
				TNMQ4.0I1					1.5P	④-6
	Oversize	2 3	SP	SPR4.0I	SP	P3	52	5	2.5P	①-41
				SPS4.0I		P4				①-41
			PO	POR4.0I	PO	P3			5P	③-15
				POS4.0I		P4				③-15
		1 2 3	HT	TNMR4.0I53	HT	P3	52	5	5P	④-6
				TNMR4.0I13					1.5P	④-6
				TNMS4.0I53		P4			5P	④-6
				TNMS4.0I13					1.5P	④-6
				TNMT4.0I53		P5			5P	④-6
				TNMT4.0I13					1.5P	④-6
	Long neck	1 2	LKSL	1307101042	SL	P3	63	5	5P	②-11
For left hand threads		2 3	SP LH	SPQ4.0I--L	SP	P2	52	5	2.5P	①-81
			PO LH	POQ4.0I--L	PO				5P	③-48
		1 2 3	HT LH	TNMQ4.0I53-L	HT	P2	52	5	5P	④-66
				TNMQ4.0I13-L					1.5P	④-66
Oxidizing		1 2 3	SP OX	SPQ4.0IX	SP	P2	52	5	2.5P	①-67
			PO OX	POQ4.0IX	PO				5P	③-36
	Oversize	1 2 3	SP OX	SPR4.0IX	SP	P3	52	5	2.5P	①-67
			PO OX	POR4.0IX	PO				5P	③-36
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101042	SP	P2	63	5	2.5P	①-6
		1 2 3 4 9 19 21	AU+SP	VSAPQ4.0I	SP	P2	52	5	2.5P	①-88
			AU+SL	VSAPR4.0IL	SL	P3			5P	②-14
		1 2 3 4 9 10 13 18 19	VUPO	1102101042	PO	P3	63	5	5P	③-4
		1 2 3 4	PO V	VPOQ4.0I	PO	P2	52	5	5P	③-50
		1 2 9 14 18 19 21	R+V	RVP54.0IP	RO	G5	52	5	4P	⑥-39
				RVP54.0IB					2P	⑥-39
				RVP64.0IP		G6			4P	⑥-39
				RVP64.0IB					2P	⑥-39
				RVP74.0IP		G7			4P	⑥-39
				RVP74.0IB					2P	⑥-39
				RVP84.0IP		G8			4P	⑥-39
				RVP84.0IB					2P	⑥-39
	Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201042	SP	P3	63	5	2.5P	①-6
				1101301042		P4				①-6
			VUPO	1102201042	PO				5P	③-4
				1102301042		P5				③-4

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Coating	Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101042	SP	P2	63	5	1.5P	①-16
	Long	1 2 3 4 9 10 13 18 19	VUSP	2101101042	SP	P2	100	5	2.5P	①-7
			VUPO	2102101042	PO	P3			5P	③-6
Long		2 3	LS-SP	SPFQ4.0IL07	SP	P2	70	5	2.5P	①-91
				SPFQ4.0IL10			100			①-91
				SPFQ4.0IL12			120			①-91
				SPFQ4.0IL15			150			①-91
			LS-PO	POFQ4.0IL07	PO		70		5P	③-53
				POFQ4.0IL10			100			③-53
				POFQ4.0IL12			120			③-53
				POFQ4.0IL15			150			③-53
		1 2 3	LS-HT	TNFQ4.0I507	HT	P2	70	5	5P	④-74
				TNFQ4.0I510			100			④-74
				TNFQ4.0I512			120			④-74
				TNFQ4.0I515			150			④-74
				TNFQ4.0I107			70		1.5P	④-74
				TNFQ4.0I110			100			④-74
				TNFQ4.0I112			120			④-74
				TNFQ4.0I115			150			④-74
	Oversize	2 3	LS-SP	SPFR4.0IL10	SP	P3	100	5	2.5P	①-91
				SPFR4.0IL15			150			①-92
			LS-PO	POFR4.0IL10	PO		100		5P	③-54
				POFR4.0IL15			150			③-54
		1 2 3	LS-HT	TNFR4.0I510	HT	P3	100	5	5P	④-74
				TNFR4.0I515			150			④-74
				TNFR4.0I110			100		1.5P	④-74
				TNFR4.0I115			150			④-74
	With neck	2 3	LS-SP-K	SY4.0IQFEBE	SP	P2	100	5	2.5P	①-99
				SY4.0IQFEBF			120			①-99
				SY4.0IQFEBG			150			①-99
			LS-PO-K	PY4.0IQFEBE	PO		100		4.5P	③-60
				PY4.0IQFEBF			120			③-60
				PY4.0IQFEBG			150			③-60
	Long neck	1 2	LKSL XL	2008101042	SL	P3	100	5	5P	②-12
	For left hand threads	2 3	LS-SP LH	SPFQ4.0IL10L	SP	P2	100	5	2.5P	①-97
		1 2 3	LS-HT LH	TNFQ4.0I510L	HT	P2	100	5	5P	④-84
				TNFQ4.0I110L					1.5P	④-84
	Coating	1 2 3 4	LS-SP V	VSPFQ4.0IL10	SP	P2	100	5	2.5P	①-98
			LS-PO V	VPOFQ4.0IL10	PO				5P	③-59
		2 3 4	LS-HT V	TNFQ4.0I510V	HT	P2	100	5	5P	④-86
				TNFQ4.0I110V					1.5P	④-86
For soft structural steels		1 2	E-SP	ESHMQ4.0I	SP	P2	52	5	2.5P	①-134
For steels		1 2 3 4 5 9 11	HVSP	SY4.0ISEEXJ	SP	P4	63	5	2.5P	①-26
Thread forming taps for steels		1 2	N+RZ	NRZP54.0IP	RO	G5	52	5	4P	⑥-15
				NRZP54.0IB					2P	⑥-15
				NRZP64.0IP		G6			4P	⑥-15
				NRZP64.0IB					2P	⑥-15
				NRZP74.0IP		G7			4P	⑥-15
				NRZP74.0IB					2P	⑥-15
				NRZP84.0IP		G8			4P	⑥-15
				NRZP84.0IB					2P	⑥-15

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Thread forming taps for steels	Long	1 2	LS-N-RZ	NRZF64.0IP10	RO	G6	100	5	4P	⑥-23
				NRZF64.0IB10					2P	⑥-23
				NRZF74.0IP10		G7			4P	⑥-23
				NRZF74.0IB10					2P	⑥-23
For high carbon steels		2 3	HC+SP	SCPQ4.0I	SP	P2	52	5	2.5P	①-136
		2 3 5	HC-PO	PCMQ4.0I	PO	P2	52	5	5P	③-80
	Oxidizing	2 3	HC+SP OX	SCPQ4.0IX	SP	P2	52	5	2.5P	①-138
For hard-to-machine materials		3 5 6	EH-PO	EPHMR4.0I	PO	P3	52	5	4.5P	③-86
		6 10	EH-HT	ETHMR4.0I5	HT	P3	52	5	5P	④-124
				ETHMR4.0I1					2.5P	④-124
	Powdered HSS	3 5 6	PM-SP	SY4.0IRDPB	SP	P3	52	5	2.75P	①-174
			LS-PM-SP	S44.0IRDPBE			100			①-181
			PM-PO	PY4.0IRDPB	PO		52		5.5P	③-98
			LS-PM-PO	P44.0IRDPBE			100			③-104
For titanium alloys		22	ZET-B	ZETBMR4.0I	SP	P3	52	5	3P	①-158
			ZET-P	ZETPMR4.0I	SL				5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMR4.0I	SP	P3	52	5	3P	①-166
			ZEN-P	ZENPMR4.0I	PO				4.5P	③-90
For medium hardness carbon steels		2 3 4 5 6 10	MHSL	1109101042	SL	P3	63	5	5P	②-4
	Long	2 3 4 5 6 10	MHSL	2109101042	SL	P3	100	5	5P	②-4
Carbide taps for hard materials		7	EH-CT	EHCR4.0I5	HT	P3	52	5	5P	⑤-24
Carbide taps for ultra hard materials		8	UH-CT	UHCR4.0I5	HT	P3	52	5.5	5P	⑤-28
For stainless steels		2 3 4 9	SU+SP	SUPQ4.0I	SP	P2	52	5	2.5P	①-102
		1 2 3 4 9	SU+SL	SUPQ4.0IL	SL	P2	52	5	5P	②-18
			SU-PO	PUMQ4.0I	PO					③-62
		1 2 9	SU-HT	TUMQ4.0I4	HT	P2	52	5	4P	④-90
				TUMQ4.0I1					1.5P	④-90
	Oversize	2 3 4 9	SU+SP	SUPR4.0I	SP	P3	52	5	2.5P	①-102
				SUPS4.0I		P4				①-102
		1 2 3 4 9	SU-PO	PUMR4.0I	PO	P3	52	5	5P	③-62
				PUMS4.0I		P4				③-62
	For left hand threads	2 3 4 9	SU-SP LH	SUMQ4.0I--L	SP	P2	52	5	2.5P	①-117
	For deep hole use	1 2 3 4 9	SU-S-SP	SSMQ4.0I-SU	SP	P2	52	5	2.5P	①-123
		1 2 3 9	LS-SU-S-SP	SY4.0IQGEXES	SP	P2	100	5	2.5P	①-124
				SY4.0IQGEXGS			150			①-124
			LS-SU-S-PO	PY4.0IQGEXES	PO		100		4.5P	③-74
				PY4.0IQGEXGS			150			③-74
	For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MQ4.0I	SP	P2	52	5	3P	①-120
For cast irons		12 13	FC-HT	TY4.0IRAEN5	HT	P3	52	5	5P	④-94
				TY4.0IRAENA					1.5P	④-94
	Carbide	12 13 16	N-CT FC	TCNR4.0I3	HT	P3	52	5	3P	⑤-11
				TCNR4.0I1					1.5P	⑤-11
	Long shank, carbide	12 13 16	LS-N-CT	TY4.0IRAWB3E	HT	P3	100	5	3P	⑤-18
				TY4.0IRAWBAE					1.5P	⑤-18
For aluminum		15 16 17 18 19 20 21	AL+SP	ASHPR4.0I	SP	P3	52	5	2.5P	①-140
			AL-SP 1.5P	SY4.0IRLENA					1.5P	①-141
		18 19 21	LA-HT	TY4.0IRLEN5	HT	P3	52	5	5P	④-110
				TY4.0IRLENA					1.5P	④-110
	Carbide	19 21	N-CT LA	TCNR4.0I3A	HT	P3	52	5	3P	⑤-4
				TCNR4.0I1A					1.5P	⑤-4
	Carbide spiral fluted taps	18 19 21	N-CT-SP	SY4.0IRKWB	SP	P3	52	5	2.5P	⑤-20
	Carbide spiral pointed taps	15 16 17 18 19 20 21	N-CT-PO	PCNR4.0I	PO	P3	52	5	5P	⑤-21

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Thread forming taps for non-ferrous materials		18 19 21	N+RS	NRSP54.0IP	RO	G5	52	5	4P	⑥-27
				NRSP54.0IB					2P	⑥-27
				NRSP64.0IP		G6			4P	⑥-27
				NRSP64.0IB					2P	⑥-27
				NRSP74.0IP		G7			4P	⑥-27
				NRSP74.0IB					2P	⑥-27
				NRSP84.0IP		G8			4P	⑥-27
				NRSP84.0IB					2P	⑥-27
	Long	18 19 21	LS-N-RS	NRSF64.0IP10	RO	G6	100	5	4P	⑥-36
				NRSF64.0IB10					2P	⑥-36
				NRSF74.0IP10		G7			4P	⑥-36
				NRSF74.0IB10					2P	⑥-36
For Thermoplastic Resins	Thermosetting	24	PL1	TPLM4.0I3	HT	P5	52	5	3P	④-120
	Thermoplastic	24 25	PL2	TY4.0ITMEN3	HT	P5	52	5	3P	④-122
For high speed		1 2	F-SP	VFSHMQ4.0I	SP	P2	52	5	2.5P	①-184
			F-SL	VFSHMQ4.0IL	SL				5P	②-28
	Long	1 2	LS-F-SP	S44.0IQFEVES	SP	P2	100	5	2.5P	①-188
			LS-F-SL	L44.0IQFEVE	SL				5P	②-32
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL+RZ	OLRZP64.0IP	RO	G6	52	5	4P	⑥-42
				OLRZP74.0IP		G7				⑥-42
High performance thread forming taps		1 2 3 4 5 9 19	HP+RZ	HRZP64.0IP	RO	G6	52	5	4P	⑥-49
				HRZP64.0IB					2P	⑥-49
				HRZP74.0IP		G7			4P	⑥-49
				HRZP74.0IB					2P	⑥-49
Torqueless thread forming taps	Short chamfer	1 2 3 9 19 21	SC-TL-RZ	SRZM64.0I1	RO	G6	52	5	1P	⑥-58
For deep hole use		2 3 4 13	S-SP	SSMQ4.0I	SP	P2	52	5	2.5P	①-127
		1 2 3 4	S-PO	PSMQ4.0I	PO	P2	52	5	5P	③-77
	Oversize	2 3 4 13	S-SP	SSMR4.0I	SP	P3	52	5	2.5P	①-127
		1 2 3 4	S-PO	PSMR4.0I	PO	P3	52	5	5P	③-77
				PSMS4.0I		P4				③-77
Low spiral		2 3	LO-SP 8°	LSHMQ4.0I8	SP	P2	52	5	2.5P	①-148
			LO-SP 15°	LSHMQ4.0I15						①-148
			LO-SP 20°	LSHMQ4.0I20						①-148
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW4.0I1LEB5	HT	I b	60	5.5	5P	⑦-3
				TW4.0I1LEBA					1.5P	⑦-3
		15 16 17 18 19 20 21	AL-SP STI	SW4.0I1LEN	SP	I b	60	5.5	2.5P	⑦-10
			AL-PO STI	PW4.0I1LEB	PO				5P	⑦-18
		18 19 21	N-RS STI	RW4.0I4LENP	RO	G4	60	5.5	4P	⑦-25
				RW4.0I4LENB					2P	⑦-25
	Oversize	18 19 21	AL-HT STI	TW4.0I3LEB5	HT	I b+30	60	5.5	5P	⑦-3
				TW4.0I3LEBA					1.5P	⑦-3
		15 16 17 18 19 20 21	AL-SP STI	SW4.0I3LEN	SP	I b+30	60	5.5	2.5P	⑦-10
	Carbide	19 21	N-CT LA STI	TW4.0I1LWB5	HT	I b	60	5.5	5P	⑦-26
				TW4.0I1LWBA					1.5P	⑦-26
Nut taps		1 2	NT	NH24.0I	HT	II b	100	2.8	27P	⑦-27

Taps ／ 4M 0.75

Standard		2 3	SP	SPQ4.0J	SP	P2	52	5	2.5P	①-41
			PO	POQ4.0J	PO				5P	③-15
		1 2 3	HT	TNMQ4.0J53	HT	P2	52	5	5P	④-7
				TNMQ4.0J13					1.5P	④-7

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*D*s	*ℓ*c

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

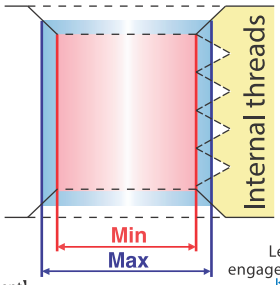
Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*D*s	*ℓ*c	Product page
For left hand threads		1 2 3	HT LH	TNMQ4.0J53-L	HT	P2	52	5	5P	④-66
				TNMQ4.0J13-L					1.5P	④-66
Oxidizing		1 2 3	PO OX	POQ4.0JX	PO	P2	52	5	5P	③-36
For stainless steels		2 3 4 9	SU+SP	SUPQ4.0J	SP	P2	52	5	2.5P	①-102
		1 2 3 4 9	SU-PO	PUMQ4.0J	PO	P2	52	5	5P	③-63
For deep hole use		1 2 3 4	S-PO	PSMQ4.0J	PO	P2	52	5	5P	③-77
Nut taps		1 2	NT	NH24.0J	HT	II b	100	2.8	25P	⑦-27
Taps ／ M4 × 0.5										
Standard		2 3	SP	SPP4.0G	SP	P1	52	5	2.5P	①-41
			PO	POQ4.0G	PO	P2			5P	③-15
		1 2 3	HT	TNMQ4.0G5	HT	P2	52	5	5P	④-7
				TNMQ4.0G1					1.5P	④-7
For left hand threads		1 2 3	HT LH	TNMQ4.0G5-L	HT	P2	52	5	5P	④-66
				TNMQ4.0G1-L					1.5P	④-66
Oxidizing		1 2 3	SP OX	SPP4.0GX	SP	P1	52	5	2.5P	①-67
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101043	SP	P2	63	5	2.5P	①-6
			VUPO	1102101043	PO				5P	③-4
	Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201043	SP	P3	63	5	2.5P	①-6
				1101301043		P4				①-6
			VUPO	1102201043	PO	P3			5P	③-4
				1102301043		P4				③-4
	Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101043	SP	P2	63	5	1.5P	①-16
	Long	1 2 3 4 9 10 13 18 19	VUSP	2101101043	SP	P2	100	5	2.5P	①-7
			VUPO	2102101043	PO				5P	③-6
For steels		1 2 3 4 5 9 11	HVSP	SY4.0GSEEXJ	SP	P4	63	5	2.5P	①-26
Thread forming taps for steels		1 2	N-RZ	NRZM54.0GP	RO	G5	52	5	4P	⑥-16
				NRZM54.0GB					2P	⑥-16
				NRZM64.0GP		G6			4P	⑥-16
				NRZM64.0GB					2P	⑥-16
				NRZM74.0GB		G7				⑥-16
For cast irons	Carbide	12 13 16	N-CT FC	TCNR4.0G3	HT	P3	52	5	3P	⑤-11
				TCNR4.0G1					1.5P	⑤-11
For aluminum	Carbide	19 21	N-CT LA	TCNR4.0G3A	HT	P3	52	5	3P	⑤-4
				TCNR4.0G1A					1.5P	⑤-4
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM64.0GP	RO	G6	52	5	4P	⑥-28
				NRSM64.0GB					2P	⑥-28
				NRSM74.0GP		G7			4P	⑥-28
				NRSM74.0GB					2P	⑥-28

Dies selection		Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ M4 × 0.7										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE4.0IDNEBC	⑩-3
						25	9		TYG4.0IDNEBC	⑩-3
						38	13		TYJ4.0IDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYE4.0IDNEBC	⑩-16
						25	9		GYG4.0IDNEBC	⑩-16
Point solid dies		HSS	1 2 15 16 18 19	DPO	S4	20	7	1.5P	PYE4.0ISNEBA	⑩-34
						25	9		PYG4.0ISNEBA	⑩-34
						38	13		PYJ4.0ISNEBA	⑩-34
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE4.0IQNEBA	⑩-34
						25	9		PYG4.0IQNEBA	⑩-34
						38	13		PYJ4.0IQNEBA	⑩-34
New rolling dies		HSS	1 2 9 15	N-RSD	R4	25	9	2P	NRGS4.0I	⑩-52
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	16	5	2P	HDP4.0I	⑩-46
						20	7		HEP4.0I	⑩-46
					P2	16	5		HDQ4.0I	⑩-46
						20	7		HEQ4.0I	⑩-46
Spiral dies		HSS	1 2	SP-D	P1	20	7	1.5P	SEP4.0I	⑩-43
Dies ／ 4M 0.75										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE4.0JDNEBC	⑩-3
						25	9		TYG4.0JDNEBC	⑩-3
Dies ／ M4 × 0.5										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE4.0GDNEBC	⑩-3
						25	9		TYG4.0GDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYE4.0GDNEBC	⑩-16
Point solid dies		HSS	1 2 15 16 18 19	DPO	S6	20	7	1.5P	PYE4.0GUNEBA	⑩-35
						25	9		PYG4.0GUNEBA	⑩-35
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE4.0GQNEBA	⑩-35
						25	9		PYG4.0GQNEBA	⑩-35
Rolling dies		HSS	1 2 9 15	RS-D	R3	20	7	-	RER4.0G	⑩-49
					R5				RET4.0G	⑩-49
					R6				REU4.0G	⑩-49
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	16	5	2P	HDP4.0G	⑩-46
						20	7		HEP4.0G	⑩-46
					P2	16	5		HDQ4.0G	⑩-46
						20	7		HEQ4.0G	⑩-46
Dies ／ M4 × 0.35										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE4.0DDNEBC	⑩-3

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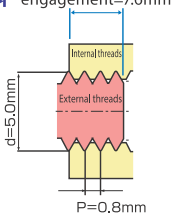
Flowchart : M5 tapping

Boring before tapping — Check 1

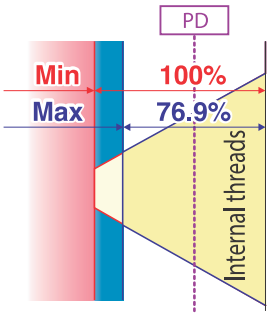


【Length of engagement】
On "middle" engagement class, 7H class can be chosen in case of "L" engagement length.

Symbol	Engagement length classification \ Engagement classification	Fine	Middle	Coarse	Engagement length
S	Short engagement length	4H	5H	–	S≦2.5(mm)
M	Normal engagement length	5H	6H	7H	2.5<M≦7.5(mm)
L	Long engagement length	6H	7H	8H	7.5<L(mm)



Engagement ratio on cutting taps

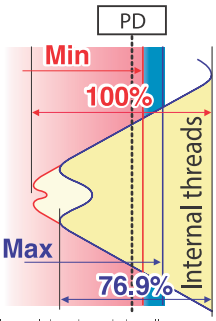


Unit : mm

	Drill size (ref.)	D1 Min	D1 Max
Bored hole size	4.2	4.134	4.334
Engagement ratio	92.4%	100%	76.9%

D1 is minor diameter of JIS 6H(2nd Class) of internal threads

Engagement ratio on roll taps



Internal threads made by roll taps are different from those made by cutting taps on the shape of minor dimameter.

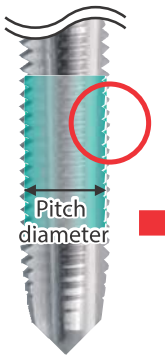
Unit : mm

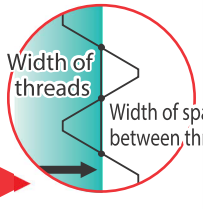
*Hole size for thread forming taps	
Min	Max
4.59	4.67

Forming condition changes depending on workpiece's Material and shape. Above is for customer's reference.

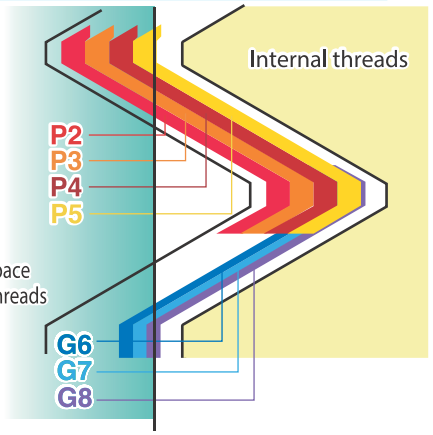
Threading — Check 2

【Pitch diameter】
Diameter of imaginary cylinder or cone which makes equal the width of threads and width of space between the threads





Tolerance area of tap's pitch diameter



【Thread class of cutting taps】

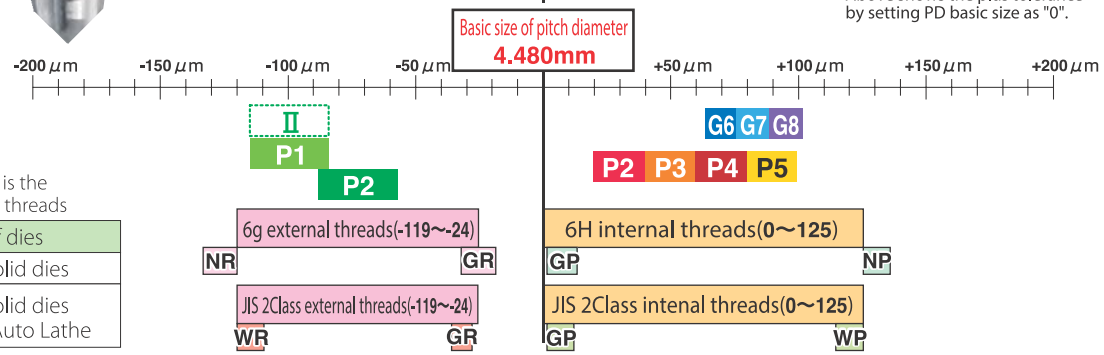
Class	PD tolerance
P2	20μm~40μm
P3	40μm~60μm
P4	60μm~80μm
P5	80μm~100μm

*Above shows the plus tolerance by setting PD basic size as "0".

【Thread class of roll taps】

Class	PD tolerance
G6	64μm~76μm
G7	76μm~89μm
G8	89μm~102μm

*Above shows the plus tolerance by setting PD basic size as "0".



Tolerance of dies is the target of external threads

Class of dies	
Ⅱ	Solid dies
P1 P2	Solid dies for Auto Lathe

Relative position of PD tolerance area of external threads, internal threads, taps and gages.

Gage check — Check 3

(–) ← Basic size of pitch diameter → (+)
4.480mm

Unit : μm

Ring gage pitch diameter (for external threads inspection)			
NR6g	-133 ~ -119	GR6g	-33 ~-19
WRⅡ	-119 ~ -111	GRⅡ	-36 ~-28

NR : NOT GO ring gage
GR : GO ring gage
WR : NOT GO working ring gage

Unit : μm

Plug gage pitch diameter (for internal threads inspection)			
GP6H	2 ~ 10	NP6H	125~133
GPⅡ	4 ~ 12	WPⅡ	117~125

GP : GO plug gage
NP : NOT GO plug gage
WP : NOT GO working plug gage

Unit : mm

Accuracy of external threads			
	Major diameter	Pitch diameter	Minor diameter
6g	4.826~4.976	4.361~4.456	–
JIS 2class	4.826~4.976	4.361~4.456	~3.994



Unit : mm

Accuracy of internal threads			
	Major diameter	Pitch diameter	Minor diameter
6H	–	4.480~4.605	4.134~4.334
JIS 2Class	–	4.480~4.605	4.134~4.334



Think threads with YAMAWA

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Taps ／ M5 × 0.8

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
General purpose		1	ISP	SI75.0KBP	SP	-	60	5.5	2.5P	①-64
			IPO	PI75.0KBP	PO				5P	③-34
		1 2	IHT	HI75.0K5BP	HT	-	60	5.5	5P	④-52
				HI75.0K2BP					2P	④-52
		1	R-Y	RY5.0K3	RO	-	60	5.5	3P	⑥-63
Standard		2 3	SP	SPQ5.0K	SP	P2	60	5.5	2.5P	①-41
			+SP	SNPQ5.0K						①-59
			SP 1.5P	SY5.0KQNEBA					1.5P	①-61
			PO	POQ5.0K	PO				5P	③-15
			+PO	PNPQ5.0K						③-32
		1 2 3	HT	TNMR5.0K5	HT	P3	60	5.5	5P	④-7
				TNMR5.0K1					1.5P	④-7
				TNMR5.0K1F						④-7
	Oversize	2 3	SP	SPR5.0K	SP	P3	60	5.5	2.5P	①-42
				SPS5.0K		P4				①-42
			PO	POR5.0K	PO	P3			5P	③-15
				POS5.0K		P4				③-15
		1 2 3	HT	TNMS5.0K53	HT	P4	60	5.5	5P	④-7
				TNMS5.0K13					1.5P	④-7
				TNMS5.0K13F						④-7
				TNMT5.0K53		P5			5P	④-7
				TNMT5.0K13					1.5P	④-7
	Long neck	1 2	LKSL	1307101049	SL	P3	70	5.5	5P	②-11
For left hand threads		2 3	SP LH	SPQ5.0K--L	SP	P2	60	5.5	2.5P	①-81
			PO LH	POQ5.0K–L	PO				5P	③-48
		1 2 3	HT LH	TNMR5.0K53-L	HT	P3	60	5.5	5P	④-66
				TNMR5.0K13-L					1.5P	④-66
				TNMR5.0K13FL						④-66
Oxidizing		1 2 3	SP OX	SPQ5.0KX	SP	P2	60	5.5	2.5P	①-67
			PO OX	POQ5.0KX	PO				5P	③-36
	Oversize	1 2 3	SP OX	SPR5.0KX	SP	P3	60	5.5	2.5P	①-67
			PO OX	POR5.0KX	PO				5P	③-36
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101049	SP	P2	70	5.5	2.5P	①-6
		1 2 3 4 9 19 21	AU+SP	VSAPQ5.0K	SP	P2	60	5.5	2.5P	①-88
			AU+SL	VSAPR5.0KL	SL	P3			5P	②-14
		1 2 3 4 9 10 13 18 19	VUPO	1102101049	PO	P3	70	5.5	5P	③-5
		1 2 3 4	PO V	VPOQ5.0K	PO	P2	60	5.5	5P	③-50
		1 2 9 14 18 19 21	R+V	RVP55.0KP	RO	G5	60	5.5	4P	⑥-39
				RVP55.0KB					2P	⑥-39
				RVP65.0KP		G6			4P	⑥-39
				RVP65.0KB					2P	⑥-39
				RVP75.0KP		G7			4P	⑥-39
				RVP75.0KB					2P	⑥-39
				RVP85.0KP		G8			4P	⑥-39
				RVP85.0KB					2P	⑥-39
	Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201049	SP	P3	70	5.5	2.5P	①-6
				1101301049		P4				①-6
			VUPO	1102201049	PO				5P	③-5
				1102301049		P5				③-5

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Coating	Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101049	SP	P2	70	5.5	1.5P	①-16
	Long	1 2 3 4 9 10 13 18 19	VUSP	2101101049	SP	P2	100	5.5	2.5P	①-7
			VUPO	2102101049	PO	P3			5P	③-6
Long		2 3	LS-SP	SPFQ5.0KL07	SP	P2	70	5.5	2.5P	①-92
				SPFQ5.0KL10			100			①-92
				SPFQ5.0KL12			120			①-92
				SPFQ5.0KL15			150			①-92
			LS-PO	POFQ5.0KL10	PO		100		5P	③-54
				POFQ5.0KL12			120			③-54
				POFQ5.0KL15			150			③-54
		1 2 3	LS-HT	TNFQ5.0K507	HT	P2	70	5.5	5P	④-74
				TNFQ5.0K510			100			④-74
				TNFQ5.0K512			120			④-74
				TNFQ5.0K515			150			④-74
				TNFQ5.0K107			70		1.5P	④-74
				TNFQ5.0K110			100			④-74
				TNFQ5.0K112			120			④-74
				TNFQ5.0K115			150			④-74
	Oversize	2 3	LS-SP	SPFR5.0KL10	SP	P3	100	5.5	2.5P	①-92
				SPFR5.0KL15			150			①-92
			LS-PO	POFR5.0KL10	PO		100		5P	③-54
				POFR5.0KL15			150			③-54
				POFS5.0KL15		P4				③-54
		1 2 3	LS-HT	TNFR5.0K510	HT	P3	100	5.5	5P	④-74
				TNFR5.0K515			150			④-74
				TNFR5.0K110			100		1.5P	④-74
				TNFR5.0K115			150			④-74
	With neck	2 3	LS-SP-K	SY5.0KQFEBE	SP	P2	100	5.5	2.5P	①-99
				SY5.0KQFEBF			120			①-99
				SY5.0KQFEBG			150			①-99
			LS-PO-K	PY5.0KQFEBE	PO		100		4.5P	③-60
				PY5.0KQFEBF			120			③-60
				PY5.0KQFEBG			150			③-60
	Long neck	1 2	LKSL XL	2008101049	SL	P3	120	5.5	5P	②-12
	For left hand threads	2 3	LS-SP LH	SPFQ5.0KL10L	SP	P2	100	5.5	2.5P	①-97
		1 2 3	LS-HT LH	TNFQ5.0K510L	HT	P2	100	5.5	5P	④-84
				TNFQ5.0K110L					1.5P	④-84
	Oxidizing	1 2	LS-SP OX	SPFQ5.0KL12X	SP	P2	120	5.5	2.5P	①-96
	Coating	1 2 3 4	LS-SP V	VSPFQ5.0KL10	SP	P2	100	5.5	2.5P	①-98
			LS-PO V	VPOFQ5.0KL10	PO				5P	③-59
		2 3 4	LS-HT V	TNFQ5.0K510V	HT	P2	100	5.5	5P	④-86
				TNFQ5.0K110V					1.5P	④-86
For soft structural steels		1 2	E-SP	ESHMQ5.0K	SP	P2	60	5.5	2.5P	①-134
For steels		1 2 3 4 5 9 11	HVSP	SY5.0KSEEXJ	SP	P4	70	5.5	2.5P	①-26
Thread forming taps for steels		1 2	N+RZ	NRZP55.0KP	RO	G5	60	5.5	4P	⑥-15
				NRZP55.0KB					2P	⑥-15
				NRZP65.0KP		G6			4P	⑥-15
				NRZP65.0KB					2P	⑥-15
				NRZP75.0KP		G7			4P	⑥-15
				NRZP75.0KB					2P	⑥-15
				NRZP85.0KP		G8			4P	⑥-15
				NRZP85.0KB					2P	⑥-15

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Icons of main materials

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7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Thread forming taps for steels	Long	1 2	LS-N-RZ	NRZF65.0KP10	RO	G6	100	5.5	4P	⑥-23
				NRZF65.0KB10					2P	⑥-23
				NRZF75.0KP10		G7			4P	⑥-23
				NRZF75.0KB10					2P	⑥-23
For high carbon steels		2 3	HC+SP	SCPQ5.0K	SP	P2	60	5.5	2.5P	①-136
		2 3 5	HC-PO	PCMQ5.0K	PO	P2	60	5.5	5P	③-80
	Oxidizing	2 3	HC+SP OX	SCPQ5.0KX	SP	P2	60	5.5	2.5P	①-138
For hard-to-machine materials		3 5 6	EH-PO	EPHMR5.0K	PO	P3	60	5.5	4.5P	③-86
		6 10	EH-HT	ETHMR5.0K5	HT	P3	60	5.5	5P	④-124
				ETHMR5.0K1					2.5P	④-124
	Powdered HSS	3 5 6	PM-SP	SY5.0KRDPB	SP	P3	60	5.5	2.75P	①-174
			LS-PM-SP	S45.0KRDPBE			100			①-181
			PM-PO	PY5.0KRDPB	PO		60		5.5P	③-98
			LS-PM-PO	P45.0KRDPBE			100			③-104
For titanium alloys		22	ZET-B	ZETBMR5.0K	SP	P3	60	5.5	3P	①-158
			ZET-P	ZETPMR5.0K	SL				5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMR5.0K	SP	P3	60	5.5	3P	①-166
			ZEN-P	ZENPMR5.0K	PO				4.5P	③-90
For medium hardness carbon steels		2 3 4 5 6 10	MHSL	1109101049	SL	P3	70	5.5	5P	②-4
	Long	2 3 4 5 6 10	MHSL	2109101049	SL	P3	100	5.5	5P	②-4
Carbide taps for hard materials		7	EH-CT	EHCR5.0K5	HT	P3	60	5.5	5P	⑤-24
Carbide taps for ultra hard materials		8	UH-CT	UHCR5.0K5	HT	P3	60	6	5P	⑤-28
For stainless steels		2 3 4 9	SU+SP	SUPQ5.0K	SP	P2	60	5.5	2.5P	①-102
		1 2 3 4 9	SU+SL	SUPR5.0KL	SL	P3	60	5.5	5P	②-18
			SU-PO	PUMQ5.0K	PO	P2				③-63
		1 2 9	SU-HT	TUMQ5.0K4	HT	P2	60	5.5	4P	④-90
				TUMQ5.0K1					1.5P	④-90
	Oversize	2 3 4 9	SU+SP	SUPR5.0K	SP	P3	60	5.5	2.5P	①-102
				SUPS5.0K		P4				①-103
		1 2 3 4 9	SU-PO	PUMR5.0K	PO	P3	60	5.5	5P	③-63
				PUMS5.0K		P4				③-63
	For left hand threads	2 3 4 9	SU-SP LH	SUMQ5.0K--L	SP	P2	60	5.5	2.5P	①-117
	For deep hole use	1 2 3 4 9	SU-S-SP	SSMQ5.0K-SU	SP	P2	60	5.5	2.5P	①-123
		1 2 3 9	LS-SU-S-SP	SY5.0KQGEXES	SP	P2	100	5.5	2.5P	①-124
				SY5.0KQGEXGS			150			①-124
			LS-SU-S-PO	PY5.0KQGEXES	PO		100		4.5P	③-74
				PY5.0KQGEXGS			150			③-74
	For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MQ5.0K	SP	P2	60	5.5	3P	①-120
For cast irons		12 13	FC-HT	TY5.0KRAEN5	HT	P3	60	5.5	5P	④-94
				TY5.0KRAENA					1.5P	④-94
	Carbide	12 13 16	N-CT FC	TCNR5.0K3	HT	P3	60	5.5	3P	⑤-11
				TCNR5.0K1					1.5P	⑤-11
	Long shank, carbide	12 13 16	LS-N-CT	TY5.0KRAWB3E	HT	P3	100	5.5	3P	⑤-18
				TY5.0KRAWBAE					1.5P	⑤-18
For aluminum		15 16 17 18 19 20 21	AL+SP	ASHPR5.0K	SP	P3	60	5.5	2.5P	①-140
			AL-SP 1.5P	SY5.0KRLENA					1.5P	①-141
		18 19 21	LA-HT	TY5.0KRLEN5	HT	P3	60	5.5	5P	④-110
				TY5.0KRLENA					1.5P	④-110
	Carbide	19 21	N-CT LA	TCNR5.0K3A	HT	P3	60	5.5	3P	⑤-4
				TCNR5.0K1A					1.5P	⑤-4
	Carbide spiral fluted taps	18 19 21	N-CT-SP	SY5.0KRKWB	SP	P3	60	5.5	2.5P	⑤-20
	Carbide spiral pointed taps	15 16 17 18 19 20 21	N-CT-PO	PCNR5.0K	PO	P3	60	5.5	5P	⑤-21

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Thread forming taps for non-ferrous materials		18 19 21	N+RS	NRSP55.0KP	RO	G5	60	5.5	4P	⑥-27
				NRSP55.0KB					2P	⑥-27
				NRSP65.0KP		G6			4P	⑥-27
				NRSP65.0KB					2P	⑥-27
				NRSP75.0KP		G7			4P	⑥-27
				NRSP75.0KB					2P	⑥-27
				NRSP85.0KB		G8				⑥-27
	Long	18 19 21	LS-N-RS	NRSF65.0KP10	RO	G6	100	5.5	4P	⑥-36
				NRSF65.0KB10					2P	⑥-36
				NRSF75.0KP10		G7			4P	⑥-36
				NRSF75.0KB10					2P	⑥-36
For Thermoplastic Resins	Thermosetting	24	PL1	TPLM5.0K3	HT	P5	60	5.5	3P	④-120
	Thermoplastic	24 25	PL2	TY5.0KTMEN3	HT	P5	60	5.5	3P	④-122
For high speed		1 2	F-SP	VFSHMQ5.0K	SP	P2	60	5.5	2.5P	①-184
			F-SL	VFSHMQ5.0KL	SL				5P	②-28
	Long	1 2	LS-F-SP	S45.0KQFEVES	SP	P2	100	5.5	2.5P	①-188
			LS-F-SL	L45.0KQFEVE	SL				5P	②-32
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL+RZ	OLRZP65.0KP	RO	G6	60	5.5	4P	⑥-42
				OLRZP75.0KP		G7				⑥-42
High performance thread forming taps		1 2 3 4 5 9 19	HP+RZ	HRZP65.0KP	RO	G6	60	5.5	4P	⑥-49
				HRZP65.0KB					2P	⑥-49
				HRZP75.0KP		G7			4P	⑥-49
				HRZP75.0KB					2P	⑥-49
Torqueless thread forming taps	Short chamfer	1 2 3 9 19 21	SC-TL-RZ	SRZM65.0K1	RO	G6	60	5.5	1P	⑥-58
For deep hole use		2 3 4 13	S-SP	SSMQ5.0K	SP	P2	60	5.5	2.5P	①-128
		1 2 3 4	S-PO	PSMQ5.0K	PO	P2	60	5.5	5P	③-77
	Oversize	2 3 4 13	S-SP	SSMR5.0K	SP	P3	60	5.5	2.5P	①-128
		1 2 3 4	S-PO	PSMR5.0K	PO	P3	60	5.5	5P	③-77
				PSMS5.0K		P4				③-77
Low spiral		2 3	LO-SP 15°	LSHMQ5.0K15	SP	P2	60	5.5	2.5P	①-148
			LO-SP 20°	LSHMQ5.0K20						①-148
			LO-SP 8°	LSHMQ5.0K8						①-148
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW5.0K1LEB5	HT	I b	62	6	5P	⑦-3
				TW5.0K1LEBA					1.5P	⑦-3
		15 16 17 18 19 20 21	AL-SP STI	SW5.0K1LEN	SP	I b	62	6	2.5P	⑦-10
			AL-PO STI	PW5.0K1LEB	PO				5P	⑦-18
		18 19 21	N-RS STI	RW5.0K4LENP	RO	G4	62	6	4P	⑦-25
				RW5.0K4LENB					2P	⑦-25
	Oversize	18 19 21	AL-HT STI	TW5.0K3LEB5	HT	[b+30]	62	6	5P	⑦-4
				TW5.0K3LEBA					1.5P	⑦-4
		15 16 17 18 19 20 21	AL-SP STI	SW5.0K3LEN	SP	[b+30]	62	6	2.5P	⑦-10
	Carbide	19 21	N-CT LA STI	TW5.0K1LWB5	HT	I b	62	6	5P	⑦-26
				TW5.0K1LWBA					1.5P	⑦-26
Nut taps		1 2	NT	NH25.0K	HT	II b	110	3.6	28P	⑦-27

Taps ／ 5M 0.9

Standard		2 3	SP	SPQ5.0L	SP	P2	60	5.5	2.5P	①-42
			PO	POQ5.0L	PO				5P	③-15
		1 2 3	HT	TNMQ5.0L53	HT	P2	60	5.5	5P	④-7
				TNMQ5.0L13					1.5P	④-7

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

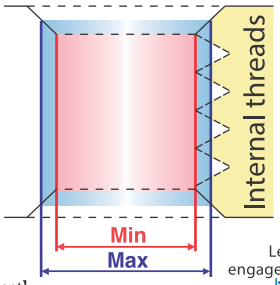
Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For left hand threads		1 2 3	HT LH	TNMQ5.0L53-L	HT	P2	60	5.5	5P	④-66
				TNMQ5.0L13-L					1.5P	④-66
Oxidizing		1 2 3	PO OX	POQ5.0LX	PO	P2	60	5.5	5P	③-37
For stainless steels		2 3 4 9	SU+SP	SUPQ5.0L	SP	P2	60	5.5	2.5P	①-103
		1 2 3 4 9	SU-PO	PUMQ5.0L	PO	P2	60	5.5	5P	③-63
For deep hole use		1 2 3 4	S-PO	PSMQ5.0L	PO	P2	60	5.5	5P	③-78
Nut taps		1 2	NT	NH25.0L	HT	II b	110	3.6	24P	⑦-27
Taps ／ M5 × 0.75										
Standard		2 3	SP	SPQ5.0J	SP	P2	60	5.5	2.5P	①-42
		1 2 3	HT	TNMQ5.0J5	HT	P2	60	5.5	5P	④-7
				TNMQ5.0J1					1.5P	④-7
Taps ／ M5 × 0.5										
Standard		2 3	SP	SPP5.0G	SP	P1	60	5.5	2.5P	①-42
			PO	POQ5.0G	PO	P2			5P	③-15
		1 2 3	HT	TNMQ5.0G5	HT	P2	60	5.5	5P	④-7
				TNMQ5.0G1					1.5P	④-7
	Oversize	1 2 3	HT	TNMR5.0G5	HT	P3	60	5.5	5P	④-7
				TNMR5.0G1					1.5P	④-7
For left hand threads		1 2 3	HT LH	TNMQ5.0G5-L	HT	P2	60	5.5	5P	④-66
				TNMQ5.0G1-L					1.5P	④-66
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101051	SP	P2	70	5.5	2.5P	①-6
			VUPO	1102101051	PO				5P	③-5
	Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201051	SP	P3	70	5.5	2.5P	①-6
				1101301051		P4				①-6
			VUPO	1102201051	PO	P3			5P	③-5
				1102301051		P4				③-5
	Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101051	SP	P2	70	5.5	1.5P	①-16
	Long	1 2 3 4 9 10 13 18 19	VUSP	2101101051	SP	P2	100	5.5	2.5P	①-8
			VUPO	2102101051	PO				5P	③-6
For steels		1 2 3 4 5 9 11	HVSP	SY5.0GSEEXJ	SP	P4	70	5.5	2.5P	①-26
Thread forming taps for steels		1 2	N-RZ	NRZM65.0GP	RO	G6	60	5.5	4P	⑥-16
				NRZM65.0GB					2P	⑥-16
For medium hardness carbon steels		2 3 4 5 6 10	MHSL	1109101051	SL	P3	70	5.5	5P	②-4
	Long	2 3 4 5 6 10	MHSL	2109101051	SL	P3	100	5.5	5P	②-4
For cast irons	Carbide	12 13 16	N-CT FC	TCNR5.0G3	HT	P3	52	5.5	3P	⑤-11
				TCNR5.0G1					1.5P	⑤-11
For aluminum	Carbide	19 21	N-CT LA	TCNR5.0G3A	HT	P3	52	5.5	3P	⑤-4
				TCNR5.0G1A					1.5P	⑤-4
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM65.0GP	RO	G6	60	5.5	4P	⑥-28
				NRSM65.0GB					2P	⑥-28
				NRSM75.0GP		G7			4P	⑥-28
				NRSM75.0GB					2P	⑥-28

Dies selection		Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ M5 × 0.8										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE5.0KDNEBC	⑩-3
						25	9		TYG5.0KDNEBC	⑩-3
						38	13		TYJ5.0KDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYE5.0KDNEBC	⑩-16
						25	9		GYG5.0KDNEBC	⑩-16
Point solid dies		HSS	1 2 15 16 18 19	DPO	S4	20	7	1.5P	PYE5.0KSNEBA	⑩-35
						25	9		PYG5.0KSNEBA	⑩-35
						38	13		PYJ5.0KSNEBA	⑩-35
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE5.0KQNEBA	⑩-35
						25	9		PYG5.0KQNEBA	⑩-35
						38	13		PYJ5.0KQNEBA	⑩-35
New rolling dies		HSS	1 2 9 15	N-RSD	R5	25	9	2P	NRGT5.0K	⑩-52
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	20	7	2P	HEP5.0K	⑩-46
					P2				HEQ5.0K	⑩-46
Spiral dies		HSS	1 2	SP-D	P1	20	7	1.5P	SEP5.0K	⑩-43
Dies ／ 5M 0.9										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE5.0LDNEBC	⑩-3
						25	9		TYG5.0LDNEBC	⑩-3
Dies ／ M5 × 0.75										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE5.0JDNEBC	⑩-3
Dies ／ M5 × 0.5										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE5.0GDNEBC	⑩-3
						25	9		TYG5.0GDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYE5.0GDNEBC	⑩-16
Point solid dies		HSS	1 2 15 16 18 19	DPO	S6	20	7	1.5P	PYE5.0GUNEBA	⑩-35
						25	9		PYG5.0GUNEBA	⑩-35
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE5.0GQNEBA	⑩-35
						25	9		PYG5.0GQNEBA	⑩-35
Rolling dies		HSS	1 2 9 15	RS-D	R3	20	7	-	RER5.0G	⑩-49
					R4				RES5.0G	⑩-49
					R5				RET5.0G	⑩-49
					R6				REU5.0G	⑩-49
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	20	7	2P	HEP5.0G	⑩-46
					P2				HEQ5.0G	⑩-46

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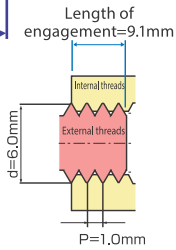
Flowchart : M6 tapping

Boring before tapping — Check 1

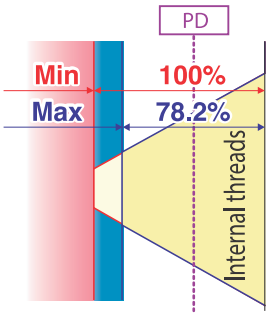


【Length of engagement】
On "middle" engagement class, 7H class can be chosen in case of "L" engagement length.

Symbol	Engagement length classification \ Engagement classification	Fine	Middle	Coarse	Engagement length
S	Short engagement length	4H	5H	–	S≦3(mm)
M	Normal engagement length	5H	6H	7H	3<M≦9(mm)
L	Long engagement length	6H	7H	8H	9<L(mm)



Engagement ratio on cutting taps

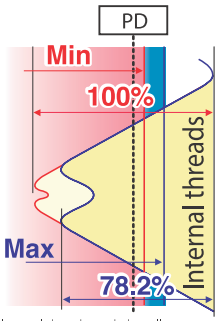


Unit : mm

	Drill size (ref.)	D1 Min	D1 Max
Bored hole size	5.0	4.917	5.153
Engagement ratio	92.4%	100%	78.2%

D1 is minor diameter of JIS 6H(2nd Class) of internal threads

Engagement ratio on roll taps



Internal threads made by roll taps are different from those made by cutting taps on the shape of minor dimameter.

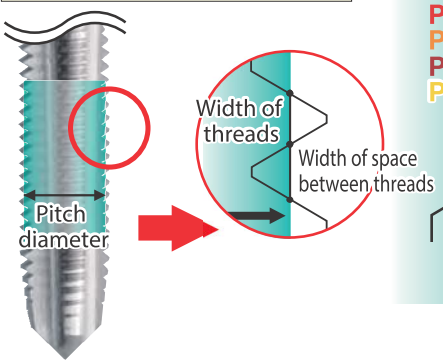
Unit : mm

*Hole size for thread forming taps	
Min	Max
5.49	5.59

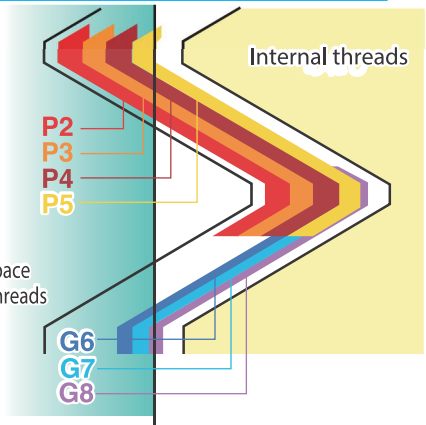
Forming condition changes depending on workpiece's Material and shape. Above is for customer's reference.

Threading — Check 2

【Pitch diameter】
Diameter of imaginary cylinder or cone which makes equal the width of threads and width of space between the threads



Tolerance area of tap's pitch diameter



【Thread class of cutting taps】

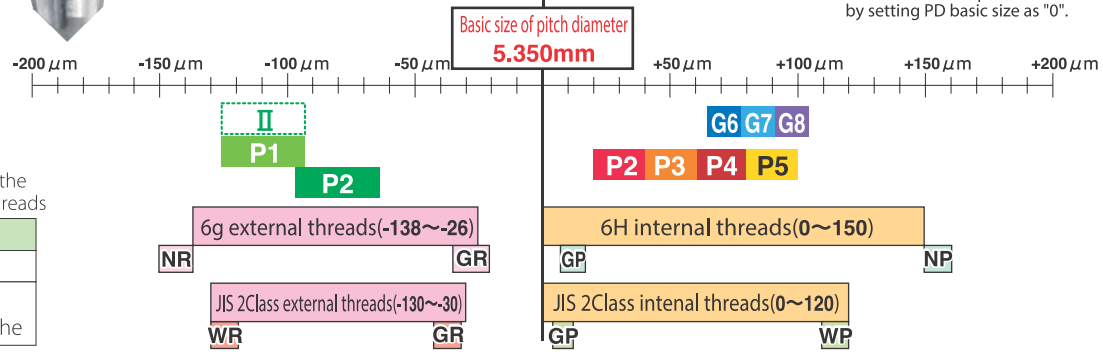
Class	PD tolerance
P2	20μm~40μm
P3	40μm~60μm
P4	60μm~80μm
P5	80μm~100μm

*Above shows the plus tolerance by setting PD basic size as "0".

【Thread class of roll taps】

Class	PD tolerance
G6	64μm~76μm
G7	76μm~89μm
G8	89μm~102μm

*Above shows the plus tolerance by setting PD basic size as "0".



Tolerance of dies is the target of external threads

Class of dies	
Ⅱ	Solid dies
P1	Solid dies for Auto Lathe
P2	

Relative position of PD tolerance area of external threads, internal threads, taps and gages.

Gage check — Check 3

(–) ← Basic size of pitch diameter → (+)
5.350mm

Unit : μm

Ring gage pitch diameter (for external threads inspection)			
NR6g	-152 ~ -138	GR6g	-35 ~ -21
WRⅡ	-130 ~ -122	GRⅡ	-42 ~ -34

NR : NOT GO ring gage GR : GO ring gage
WR : NOT GO working ring gage

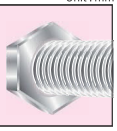
Unit : μm

Plug gage pitch diameter (for internal threads inspection)			
GP6H	7 ~ 17	NP6H	150 ~ 160
GPⅡ	4 ~ 12	WPⅡ	112 ~ 120

GP : GO plug gage NP : NOT GO plug gage
WP : NOT GO working plug gage

Unit : mm

Accuracy of external threads			
	Major diameter	Pitch diameter	Minor diameter
6g	5.794~5.974	5.212~5.324	–
JIS 2class	5.820~5.970	5.220~5.320	~4.743



Unit : mm



Accuracy of internal threads			
	Major diameter	Pitch diameter	Minor diameter
6H	–	5.350~5.500	4.917~5.153
JIS 2class	–	5.350~5.470	4.917~5.153

Think threads with YAMAWA

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Taps ／ M6 × 1

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
General purpose		1	ISP	SI76.0MBP	SP	-	62	6	2.5P	①-64
			IPO	PI76.0MBP	PO				5P	③-34
		1 2	IHT	HI76.0M5BP	HT	-	62	6	5P	④-52
				HI76.0M2BP					2P	④-52
		1	R-Y	RY6.0M3	RO	-	62	6	3P	⑥-63
Standard		2 3	SP	SPQ6.0M	SP	P2	62	6	2.5P	①-42
				SPQ6.0M-T						①-42
			+SP	SNPQ6.0M						①-59
			SP 1.5P	SY6.0MQNEBA					1.5P	①-61
			PO	POQ6.0M	PO				5P	③-16
			+PO	PNPQ6.0M						③-32
		1 2 3	HT	TNMQ6.0M5	HT	P2	62	6	5P	④-7
				TNMQ6.0M1					1.5P	④-7
				TNMQ6.0M1F						④-7
	Oversize	2 3	SP	SPR6.0M	SP	P3	62	6	2.5P	①-42
				SPS6.0M		P4				①-42
			PO	POR6.0M	PO	P3			5P	③-16
				POS6.0M		P4				③-16
		1 2 3	HT	TNMR6.0M53	HT	P3	62	6	5P	④-7
				TNMR6.0M13					1.5P	④-7
				TNMR6.0M13F						④-7
				TNMS6.0M53		P4			5P	④-7
				TNMS6.0M13					1.5P	④-7
				TNMS6.0M13F						④-7
				TNMT6.0M53		P5			5P	④-7
				TNMT6.0M13					1.5P	④-7
	Long neck	1 2	LKSL	1307101055	SL	P4	80	6	5P	②-11
For left hand threads		2 3	SP LH	SPQ6.0M–L	SP	P2	62	6	2.5P	①-81
			PO LH	POQ6.0M--L	PO				5P	③-48
		1 2 3	HT LH	TNMQ6.0M53-L	HT	P2	62	6	5P	④-66
				TNMQ6.0M13-L					1.5P	④-66
				TNMQ6.0M13FL						④-66
Oxidizing		1 2 3	SP OX	SPQ6.0MX	SP	P2	62	6	2.5P	①-67
			PO OX	POQ6.0MX	PO				5P	③-37
	Oversize	1 2 3	SP OX	SPR6.0MX	SP	P3	62	6	2.5P	①-67
			PO OX	POR6.0MX	PO				5P	③-37
				POS6.0MX		P4				③-37
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101055	SP	P2	80	6	2.5P	①-6
		1 2 3 4 9 19 21	AU+SP	VSAPQ6.0M	SP	P2	62	6	2.5P	①-88
			AU+SL	VSAPR6.0ML	SL	P3			5P	②-14
		1 2 3 4 9 10 13 18 19	VUPO	1102101055	PO	P3	80	6	5P	③-5
		1 2 3 4	PO V	VPOQ6.0M	PO	P2	62	6	5P	③-50
		1 2 9 14 18 19 21	R+V	RVP66.0MP	RO	G6	62	6	4P	⑥-40
				RVP66.0MB					2P	⑥-40
				RVP76.0MP		G7			4P	⑥-40
				RVP76.0MB					2P	⑥-40
				RVP86.0MP		G8			4P	⑥-40
				RVP86.0MB					2P	⑥-40

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Coating	Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201055	SP	P3	80	6	2.5P	①-6
				1101301055		P4				①-6
			VUPO	1102201055	PO				5P	③-5
				1102301055		P5				③-5
	Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101055	SP	P2	80	6	1.5P	①-16
	Cool hole	1 2 3 4 9 10 13 18 19	VUSP CH	1201101055	SP	P2	80	6	2.5P	①-22
	Long	1 2 3 4 9 10 13 18 19	VUSP	2101101055	SP	P2	100	6	2.5P	①-8
			VUPO	2102101055	PO	P3			5P	③-6
Long		2 3	LS-SP	SPFQ6.0ML10	SP	P2	100	6	2.5P	①-92
				SPFQ6.0ML12			120			①-92
				SPFQ6.0ML15			150			①-92
				SPFQ6.0ML20			200			①-92
			LS-PO	POFQ6.0ML10	PO		100		5P	③-54
				POFQ6.0ML12			120			③-54
				POFQ6.0ML15			150			③-54
				POFQ6.0ML20			200			③-54
		1 2 3	LS-HT	TNFQ6.0M510	HT	P2	100	6	5P	④-74
				TNFQ6.0M512			120			④-74
				TNFQ6.0M515			150			④-74
				TNFQ6.0M520			200			④-74
				TNFQ6.0M110			100		1.5P	④-74
				TNFQ6.0M112			120			④-74
				TNFQ6.0M115			150			④-74
				TNFQ6.0M120			200			④-74
	Oversize	2 3	LS-SP	SPFR6.0ML10	SP	P3	100	6	2.5P	①-92
				SPFR6.0ML15			150			①-92
			LS-PO	POFR6.0ML10	PO		100		5P	③-54
				POFR6.0ML15			150			③-54
				POFS6.0ML15		P4				③-54
		1 2 3	LS-HT	TNFR6.0M510	HT	P3	100	6	5P	④-74
				TNFR6.0M515			150			④-74
				TNFR6.0M110			100		1.5P	④-74
				TNFR6.0M115			150			④-74
	With neck	2 3	LS-SP-K	SY6.0MQFEBE	SP	P2	100	6	2.5P	①-99
				SY6.0MQFEBF			120			①-99
				SY6.0MQFEBG			150			①-99
			LS-PO-K	PY6.0MQFEBE	PO		100		4.5P	③-60
				PY6.0MQFEBF			120			③-60
				PY6.0MQFEBG			150			③-60
	Long neck	1 2	LKSL XL	2008101055	SL	P4	120	6	5P	②-12
	For left hand threads	2 3	LS-SP LH	SPFQ6.0ML10L	SP	P2	100	6	2.5P	①-97
				SPFQ6.0ML15L			150			①-97
		1 2 3	LS-HT LH	TNFQ6.0M510L	HT	P2	100	6	5P	④-84
				TNFQ6.0M515L			150			④-84
				TNFQ6.0M110L			100		1.5P	④-84
				TNFQ6.0M115L			150			④-84

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Long	Coating	1 2 3 4	LS-SP V	VSPFQ6.0ML10	SP	P2	100	6	2.5P	①-98
				VSPFQ6.0ML15			150			①-98
			LS-PO V	VPOFQ6.0ML10	PO		100		5P	③-59
				VPOFQ6.0ML15			150			③-59
		2 3 4	LS-HT V	TNFQ6.0M510V	HT	P2	100	6	5P	④-86
				TNFQ6.0M515V			150			④-86
				TNFQ6.0M110V			100		1.5P	④-86
				TNFQ6.0M115V			150			④-86
For soft structural steels		1 2	E-SP	ESHMQ6.0M	SP	P2	62	6	2.5P	①-134
For steels		1 2 3 4 5 9 11	HVSP	SY6.0MSEEXJ	SP	P4	80	6	2.5P	①-26
Thread forming taps for steels		1 2	N+RZ	NRZP56.0MP	RO	G5	62	6	4P	⑥-15
				NRZP56.0MB					2P	⑥-15
				NRZP66.0MP		G6			4P	⑥-15
				NRZP66.0MB					2P	⑥-15
				NRZP76.0MP		G7			4P	⑥-15
				NRZP76.0MB					2P	⑥-15
				NRZP86.0MP		G8			4P	⑥-15
				NRZP86.0MB					2P	⑥-15
	Long	1 2	LS-N-RZ	NRZF76.0MP10	RO	G7	100	6	4P	⑥-23
				NRZF76.0MP15			150			⑥-23
				NRZF76.0MB10			100		2P	⑥-23
				NRZF76.0MB15			150			⑥-23
				NRZF86.0MP10		G8	100		4P	⑥-23
				NRZF86.0MP15			150			⑥-23
				NRZF86.0MB10			100		2P	⑥-23
				NRZF86.0MB15			150			⑥-23
For high carbon steels		2 3	HC+SP	SCPQ6.0M	SP	P2	62	6	2.5P	①-136
		2 3 5	HC-PO	PCMQ6.0M	PO	P2	62	6	5P	③-80
	Oxidizing	2 3	HC+SP OX	SCPQ6.0MX	SP	P2	62	6	2.5P	①-138
		2 3 5	HC-PO OX	PCMQ6.0MX	PO	P2	62	6	5P	③-82
For hard-to-machine materials		3 5 6	EH-PO	EPHMR6.0M	PO	P3	62	6	4.5P	③-86
		6 10	EH-HT	ETHMR6.0M5	HT	P3	62	6	5P	④-124
				ETHMR6.0M1					2.5P	④-124
	Powdered HSS	3 5 6	PM-SP	SY6.0MRDPB	SP	P3	62	6	2.75P	①-174
			LS-PM-SP	S46.0MRDPBE			100			①-181
				S46.0MRDPBG			150			①-181
			PM-PO	PY6.0MRDPB	PO		62		5.5P	③-98
			LS-PM-PO	P46.0MRDPBE			100			③-104
				P46.0MRDPBG			150			③-104
For titanium alloys		22	ZET-B	ZETBMR6.0M	SP	P3	62	6	3P	①-158
			ZET-P	ZETPMR6.0M	SL				5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMR6.0M	SP	P3	62	6	3P	①-166
			ZEN-P	ZENPMR6.0M	PO				4.5P	③-90
For medium hardness carbon steels		2 3 4 5 10	MHSL	1109101055	SL	P3	80	6	5P	②-4
			MHSL-J	MHSLR6.0M5			62			②-6
Carbide taps for hard materials		7	EH-CT	EHCR6.0M5	HT	P3	62	6	5P	⑤-24
Carbide taps for ultra hard materials		8	UH-CT	UHCR6.0M5	HT	P3	62	6.2	5P	⑤-28
For stainless steels		2 3 4 9	SU+SP	SUPQ6.0M	SP	P2	62	6	2.5P	①-103
		1 2 3 4 9	SU+SL	SUPQ6.0ML	SL	P2	62	6	5P	②-18
			SU-PO	PUMQ6.0M	PO					③-63
		1 2 9	SU-HT	TUMQ6.0M4	HT	P2	62	6	4P	④-90
				TUMQ6.0M1					1.5P	④-90

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For stainless steels	Oversize	2 3 4 9	SU+SP	SUPR6.0M	SP	P3	62	6	2.5P	①-103
				SUPS6.0M		P4				①-103
		1 2 3 4 9	SU-PO	PUMR6.0M	PO	P3	62	6	5P	③-63
				PUMS6.0M		P4				③-63
	For left hand threads	2 3 4 9	SU-SP LH	SUMQ6.0M-L	SP	P2	62	6	2.5P	①-117
	For deep hole use	1 2 3 4 9	SU-S-SP	SSMQ6.0M-SU	SP	P2	62	6	2.5P	①-123
		1 2 3 9	LS-SU-S-SP	SY6.0MQGEXES	SP	P2	100	6	2.5P	①-124
				SY6.0MQGEXGS			150			①-124
			LS-SU-S-PO	PY6.0MQGEXES	PO		100		4.5P	③-74
				PY6.0MQGEXGS			150			③-74
	For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MQ6.0M	SP	P2	62	6	3P	①-120
For cast irons		12 13	FC-HT	TY6.0MRAEN5	HT	P3	62	6	5P	④-94
				TY6.0MRAENA					1.5P	④-94
	Carbide	12 13 16	N-CT FC	TCNR6.0M3	HT	P3	62	6	3P	⑤-11
				TCNR6.0M3F						⑤-11
				TCNR6.0M1					1.5P	⑤-11
				TCNR6.0M1F						⑤-11
	Long shank, carbide	12 13 16	LS-N-CT	TY6.0MRAWB3E	HT	P3	100	6	3P	⑤-18
				TY6.0MRAWBAE					1.5P	⑤-18
For aluminum		15 16 17 18 19 20 21	AL+SP	ASHPR6.0M	SP	P3	62	6	2.5P	①-140
			AL-SP 1.5P	SY6.0MRLENA					1.5P	①-141
		18 19 21	LA-HT	TY6.0MRLEN5	HT	P3	62	6	5P	④-110
				TY6.0MRLENA					1.5P	④-110
	AXE	12 19 21	AXE-HT	TAXEMR6.0M1	HT	P3	62	6	1.5P	④-114
	Carbide	19 21	N-CT LA	TCNR6.0M3A	HT	P3	62	6	3P	⑤-4
				TCNR6.0M1A					1.5P	⑤-4
	Carbide spiral fluted taps	18 19 21	N-CT-SP	SY6.0MRKWB	SP	P3	62	6	2.5P	⑤-20
	Carbide spiral pointed taps	15 16 17 18 19 20 21	N-CT-PO	PCNR6.0M	PO	P3	62	6	5P	⑤-21
For aluminum (with coolant hole)	Carbide	18 19 21	MC-AD-CT	(MCADR6.0M1)	HT	P3	100	6	1.5P	⑤-42
Thread forming taps for non-ferrous materials		18 19 21	N+RS	NRSP56.0MP	RO	G5	62	6	4P	⑥-27
				NRSP56.0MB					2P	⑥-27
				NRSP66.0MP		G6			4P	⑥-27
				NRSP66.0MB					2P	⑥-27
				NRSP76.0MP		G7			4P	⑥-27
				NRSP76.0MB					2P	⑥-27
				NRSP86.0MP		G8			4P	⑥-27
				NRSP86.0MB					2P	⑥-27
	Long	18 19 21	LS-N-RS	NRSF76.0MP10	RO	G7	100	6	4P	⑥-36
				NRSF76.0MP15			150			⑥-36
				NRSF76.0MB10			100		2P	⑥-36
				NRSF76.0MB15			150			⑥-36
				NRSF86.0MP10		G8	100		4P	⑥-36
				NRSF86.0MP15			150			⑥-36
				NRSF86.0MB10			100		2P	⑥-36
				NRSF86.0MB15			150			⑥-36
For Thermoplastic Resins	Thermosetting	24	PL1	TPLM6.0M3	HT	P5	62	6	3P	④-120
	Thermoplastic	24 25	PL2	TY6.0MTMEN3	HT	P5	62	6	3P	④-122
For high speed		1 2	F-SP	VFSHMQ6.0M	SP	P2	62	6	2.5P	①-184
			F-SL	VFSHMQ6.0ML	SL				5P	②-28
	Long	1 2	LS-F-SP	S46.0MQFEVES	SP	P2	100	6	2.5P	①-188
			LS-F-SL	L46.0MQFEVE	SL				5P	②-32

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Ultra fast tapping(with coolant hole)	For steels	1 2 3 4	HFIHS	HFIHSS6.0M	SP	P4	62	6	2.5P	①-192
			HFISP	HFISPS6.0M						①-196
	Carbide taps for cast irons	12 13 16	HFICT-P	HFICTPR6.0M	HT	P3	62	6	4P	⑤-36
			HFICT-B	HFICTBR6.0M					2.5P	⑤-38
	For non-ferrous materials	18 19 20 21	HFAHS	HFAHSS6.0M	SP	P4	62	6	2.5P	①-200
			HFASP	HFASPS6.0M						①-204
	Carbide taps for non-ferrous materials	16 19 20 21	HFACT-P	HFACTPR6.0M	HT	P3	62	6	4P	⑤-32
			HFACT-B	HFACTBR6.0M					2.5P	⑤-34
For dry tapping (with coolant hole)	For steels	2 3 4	HDISP	HDISPS6.0M	SP	P4	62	6	2.5P	①-208
	For non-ferrous materials	18 19 20 21	HDASP	HDASPS6.0M	SP	P4	62	6	2.5P	①-212
Ultra fast tapping(with coolant hole)	For both steels and non ferrous materials	2 3 4	HDISL	HDISLS6.0M	SL	P4	62	6	5.5P	②-34
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL+RZ	OLRZP66.0MP	RO	G6	62	6	4P	⑥-42
				OLRZP76.0MP		G7				⑥-42
High performance thread forming taps		1 2 3 4 5 9 19	HP+RZ	HRZP66.0MP	RO	G6	62	6	4P	⑥-49
				HRZP66.0MB					2P	⑥-49
				HRZP76.0MP		G7			4P	⑥-49
				HRZP76.0MB					2P	⑥-49
Thread forming taps for carbon steels of medium hardness		2 3 4 5	MHRZ	1110101055	RO	G8	80	6	4P	⑥-4
				1111101055					2P	⑥-4
			MHRZ-J	RY6.0M8OCTP			62		4P	⑥-8
				RY6.0M8OCTB					2P	⑥-8
	Long	2 3 4 5	MHRZ	2110101055	RO	G8	100	6	4P	⑥-4
				2310101055			150			⑥-4
				2111101055			100		2P	⑥-4
				2311101055			150			⑥-4
Torqueless thread forming taps	Short chamfer	1 2 3 9 19 21	SC-TL-RZ	SRZM66.0M1	RO	G6	62	6	1P	⑥-58
For deep hole use		2 3 4 13	S-SP	SSMQ6.0M	SP	P2	62	6	2.5P	①-128
		1 2 3 4	S-PO	PSMQ6.0M	PO	P2	62	6	5P	③-78
	Oversize	2 3 4 13	S-SP	SSMR6.0M	SP	P3	62	6	2.5P	①-128
		1 2 3 4	S-PO	PSMR6.0M	PO	P3	62	6	5P	③-78
				PSMS6.0M		P4				③-78
Low spiral		2 3	LO-SP 15°	LSHMQ6.0M15	SP	P2	62	6	2.5P	①-148
			LO-SP 20°	LSHMQ6.0M20						①-148
			LO-SP 8°	LSHMQ6.0M8						①-148
	Long	2 3	LS-LO-SP	LSHFQ6.0ML10	SP	P2	100	6	2.5P	①-155
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW6.0M1LEB5	HT	I b	70	6.2	5P	⑦-4
				TW6.0M1LEBA					1.5P	⑦-4
		15 16 17 18 19 20 21	AL-SP STI	SW6.0M1LEN	SP	I b	70	6.2	2.5P	⑦-10
			AL-PO STI	PW6.0M1LEB	PO				5P	⑦-18
		18 19 21	N-RS STI	RW6.0M4LENP	RO	G4	70	6.2	4P	⑦-25
				RW6.0M4LENB					2P	⑦-25
	Oversize	18 19 21	AL-HT STI	TW6.0M3LEB5	HT	I b+30	70	6.2	5P	⑦-4
				TW6.0M3LEBA					1.5P	⑦-4
		15 16 17 18 19 20 21	AL-SP STI	SW6.0M3LEN	SP	I b+30	70	6.2	2.5P	⑦-10
	Carbide	19 21	N-CT LA STI	TW6.0M1LWB5	HT	I b	65	6.2	5P	⑦-26
				TW6.0M1LWBA					1.5P	⑦-26
With coolant hole		1 2 3 4	MC-SP	(MSHQ6.0ML10)	SP	P2	100	6	2.5P	①-215
				(MSHQ6.0ML15)			150			①-215
			MC-PO	(MPHQ6.0ML10)	PO		100		5P	③-106
				(MPHQ6.0ML15)			150			③-106

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
With coolant hole		1 2 3	MC-HT	(ML106.0M5-Q)	HT	P2	100	6	5P	④-137
				(ML156.0M5-Q)			150			④-137
				(ML106.0M1-Q)			100		1.5P	④-137
				(ML156.0M1-Q)			150			④-137
For tapping aluminum cast holes (with oil hole)	Carbide	19	ACHSP	SY6.0MRLXT	SP	P3	80	6	2.5P	⑤-40
Nut taps		1 2	NT	NH26.0M	HT	II b	120	4.5	26P	⑦-27

Taps ／ M6 × 0.75

Standard		2 3	SP	SPQ6.0J	SP	P2	62	6	2.5P	①-42
			PO	POQ6.0J	PO				5P	③-16
		1 2 3	HT	TNMQ6.0J5	HT	P2	62	6	5P	④-7
				TNMQ6.0J1					1.5P	④-7
	Oversize	2 3	SP	SPR6.0J	SP	P3	62	6	2.5P	①-42
				SPS6.0J		P4				①-42
			PO	POS6.0J	PO				5P	③-16
				POR6.0J		P3				③-16
		1 2 3	HT	TNMR6.0J5	HT	P3	62	6	5P	④-7
				TNMR6.0J1					1.5P	④-7
				TNMS6.0J5		P4			5P	④-7
				TNMS6.0J1					1.5P	④-7
For left hand threads		1 2 3	HT LH	TNMQ6.0J5-L	HT	P2	62	6	5P	④-66
				TNMQ6.0J1-L					1.5P	④-66
Oxidizing		1 2 3	SP OX	SPQ6.0JX	SP	P2	62	6	2.5P	①-67
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101056	SP	P2	80	6	2.5P	①-6
			VUPO	1102101056	PO				5P	③-5
	Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201056	SP	P3	80	6	2.5P	①-6
				1101301056		P4				①-6
			VUPO	1102201056	PO	P3			5P	③-5
				1102301056		P4				③-5
	Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101056	SP	P2	80	6	1.5P	①-16
	Long	1 2 3 4 9 10 13 18 19	VUSP	2101101056	SP	P2	100	6	2.5P	①-8
			VUPO	2102101056	PO				5P	③-6
Long		2 3	LS-SP	SPFQ6.0JL10	SP	P2	100	6	2.5P	①-92
For steels		1 2 3 4 5 9 11	HVSP	SY6.0JSEEXJ	SP	P4	80	6	2.5P	①-26
Thread forming taps for steels		1 2	N-RZ	NRZM66.0JP	RO	G6	62	6	4P	⑥-16
				NRZM66.0JB					2P	⑥-16
				NRZM76.0JP		G7			4P	⑥-16
				NRZM76.0JB					2P	⑥-16
For stainless steels		2 3 4 9	SU-SP	SUMQ6.0J	SP	P2	62	6	2.5P	①-103
		1 2 3 4 9	SU-PO	PUMQ6.0J	PO	P2	62	6	5P	③-63
		1 2 9	SU-HT	TUMQ6.0J4	HT	P2	62	6	4P	④-90
				TUMQ6.0J1					1.5P	④-90
For cast irons	Carbide	12 13 16	N-CT FC	TCNR6.0J3	HT	P3	62	6	3P	⑤-11
				TCNR6.0J1					1.5P	⑤-11
For aluminum	Carbide	19 21	N-CT LA	TCNR6.0J3A	HT	P3	62	6	3P	⑤-4
				TCNR6.0J1A					1.5P	⑤-4
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM66.0JP	RO	G6	62	6	4P	⑥-28
				NRSM66.0JB					2P	⑥-28
				NRSM76.0JP		G7			4P	⑥-28
				NRSM76.0JB					2P	⑥-28
Nut taps		1 2	NT	NH26.0J	HT	II	115	4.5	24P	⑦-27

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Taps / M6 × 0.5

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard		2 3	SP	SPP6.0G	SP	P1	62	6	2.5P	①-42
			PO	POQ6.0G	PO	P2			5P	③-16
		1 2 3	HT	TNMQ6.0G5	HT	P2	62	6	5P	④-7
				TNMQ6.0G1					1.5P	④-7
	Oversize	2 3	SP	SPQ6.0G	SP	P2	62	6	2.5P	①-42
				SPR6.0G		P3				①-42
For left hand threads		1 2 3	HT LH	TNMQ6.0G5-L	HT	P2	62	6	5P	④-66
				TNMQ6.0G1-L					1.5P	④-66
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101057	SP	P2	80	6	2.5P	①-6
			VUPO	1102101057	PO				5P	③-5
	Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201057	SP	P3	80	6	2.5P	①-6
				1101301057		P4				①-6
			VUPO	1102201057	PO	P3			5P	③-5
				1102301057		P4				③-5
	Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101057	SP	P2	80	6	1.5P	①-16
	Long	1 2 3 4 9 10 13 18 19	VUSP	2101101057	SP	P2	100	6	2.5P	①-8
			VUPO	2102101057	PO				5P	③-6
For steels		1 2 3 4 5 9	HVSP	SY6.0GSEEXJ	SP	P4	80	6	2.5P	①-26
Thread forming taps for steels		1 2	N-RZ	NRZM66.0GP	RO	G6	62	6	4P	⑥-16
				NRZM66.0GB					2P	⑥-16
For cast irons	Carbide	12 13 16	N-CT FC	TCNR6.0G3	HT	P3	55	6	3P	⑤-11
				TCNR6.0G1					1.5P	⑤-11
For aluminum	Carbide	19 21	N-CT LA	TCNR6.0G3A	HT	P3	55	6	3P	⑤-4
				TCNR6.0G1A					1.5P	⑤-4
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM66.0GP	RO	G6	62	6	4P	⑥-28
				NRSM66.0GB					2P	⑥-28

Dies / M6 × 1

Dies selection		Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE6.0MDNEBC	⑩-3
						25	9		TYG6.0MDNEBC	⑩-3
						38	13		TYJ6.0MDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYE6.0MDNEBC	⑩-16
						25	9		GYG6.0MDNEBC	⑩-16
						38	13		GYJ6.0MDNEBC	⑩-16
Point solid dies		HSS	1 2 15 16 18 19	DPO	S5	20	7	1.5P	PYE6.0MTNEBA	⑩-35
						25	9		PYG6.0MTNEBA	⑩-35
						38	13		PYJ6.0MTNEBA	⑩-35
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE6.0MQNEBA	⑩-35
						25	9		PYG6.0MQNEBA	⑩-35
						38	13		PYJ6.0MQNEBA	⑩-35
New rolling dies		HSS	1 2 9 15	N-RSD	R5	30	11	2P	NRHT6.0M	⑩-52
						38	13		NRJT6.0M	⑩-52
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	20	7	2P	HEP6.0M	⑩-46
					P2				HEQ6.0M	⑩-46
Spiral dies		HSS	1 2	SP-D	P1	20	7	1.5P	SEP6.0M	⑩-43

Dies / M6 × 0.75

Dies selection		Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE6.0JDNEBC	⑩-3
						25	9		TYG6.0JDNEBC	⑩-3
						38	13		TYJ6.0JDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYE6.0JDNEBC	⑩-16
Point solid dies		HSS	1 2 15 16 18 19	DPO	S4	20	7	1.5P	PYE6.0JSNEBA	⑩-35
						25	9		PYG6.0JSNEBA	⑩-35
						38	13		PYJ6.0JSNEBA	⑩-35
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE6.0JQNEBA	⑩-35
						25	9		PYG6.0JQNEBA	⑩-35
						38	13		PYJ6.0JQNEBA	⑩-35
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	20	7	2P	HEP6.0J	⑩-46
					P2				HEQ6.0J	⑩-46

Dies / M6 × 0.5

Dies selection		Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE6.0GDNEBC	⑩-3
						25	9		TYG6.0GDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYE6.0GDNEBC	⑩-16
Point solid dies		HSS	1 2 15 16 18 19	DPO	S6	20	7	1.5P	PYE6.0GUNEBA	⑩-35
						25	9		PYG6.0GUNEBA	⑩-35
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE6.0GQNEBA	⑩-35
						25	9		PYG6.0GQNEBA	⑩-35
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	20	7	2P	HEP6.0G	⑩-46
					P2				HEQ6.0G	⑩-46

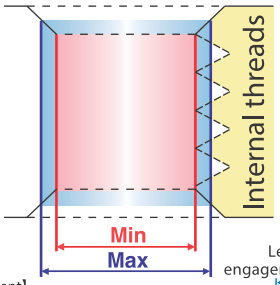
Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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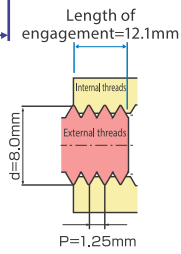
Flowchart : M8 tapping

Boring before tapping — Check 1

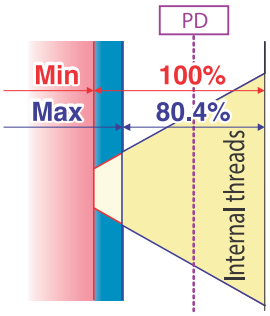


【Length of engagement】
On "middle" engagement class, 7H class can be chosen in case of "L" engagement length.

Symbol	Engagement length classification \ Engagement classification	Fine	Middle	Coarse	Engagement length
S	Short engagement length	4H	5H	–	S≦4(mm)
M	Normal engagement length	5H	6H	7H	4<M≦12(mm)
L	Long engagement length	6H	7H	8H	12<L(mm)



Engagement ratio on cutting taps

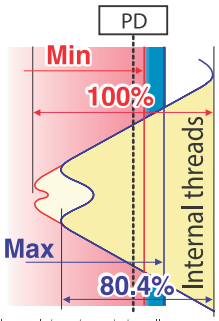


Unit : mm

	Drill size (ref.)	D1 Min	D1 Max
Bored hole size	6.8	6.647	6.912
Engagement ratio	88.7%	100%	80.4%

D1 is minor diameter of JIS 6H(2nd Class) of internal threads

Engagement ratio on roll taps



Internal threads made by roll taps are different from those made by cutting taps on the shape of minor dimameter.

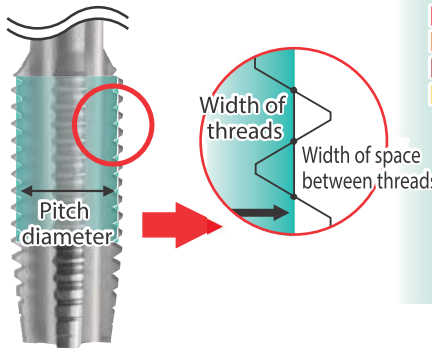
Unit : mm

*Hole size for thread forming taps	
Min	Max
7.36	7.49

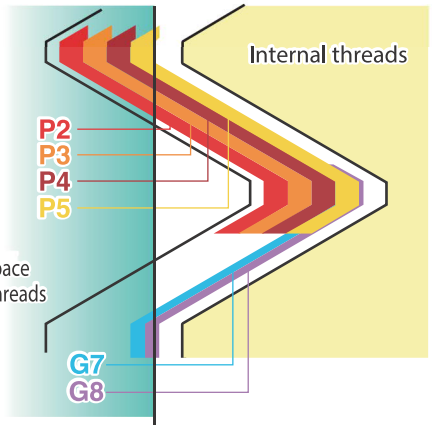
Forming condition changes depending on workpiece's Material and shape. Above is for customer's reference.

Threading — Check 2

【Pitch diameter】
Diameter of imaginary cylinder or cone which makes equal the width of threads and width of space between the threads



Tolerance area of tap's pitch diameter



【Thread class of cutting taps】

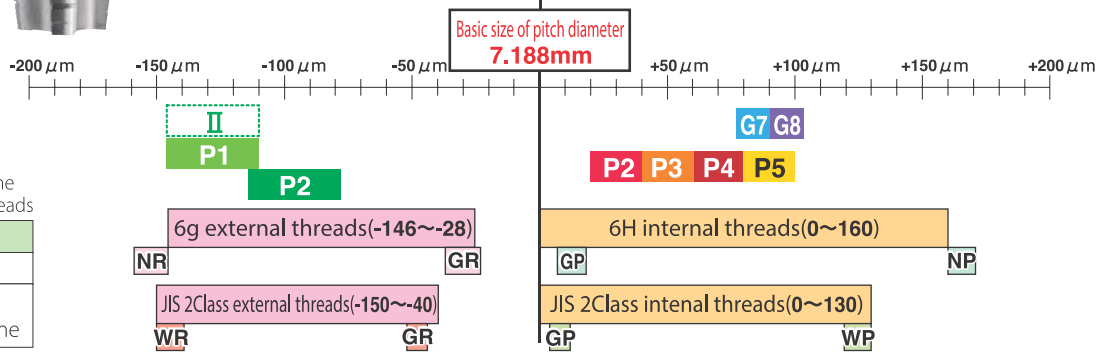
Class	PD tolerance
P2	20μm~40μm
P3	40μm~60μm
P4	60μm~80μm
P5	80μm~100μm

*Above shows the plus tolerance by setting PD basic size as "0".

【Thread class of roll taps】

Class	PD tolerance
G7	76μm~89μm
G8	89μm~102μm

*Above shows the plus tolerance by setting PD basic size as "0".



Tolerance of dies is the target of external threads

Class of dies	
Ⅱ	Solid dies
P1 P2	Solid dies for Auto Lathe

Relative position of PD tolerance area of external threads, internal threads, taps and gages.

Gage check — Check 3

(–) ← Basic size of pitch diameter → (+)
7.188mm

Unit : μm

Ring gage pitch diameter(for external threads inspection)			
NR6g	-160 ~-146	GR6g	-37~-23
WRⅡ	-150 ~-142	GRⅡ	-52 ~-44

NR : NOT GO ring gage GR : GO ring gage
WR : NOT GO working ring gage

Unit : μm

Plug gage pitch diameter(for internal threads inspection)			
GP6H	7 ~ 17	NP6H	160 ~ 170
GPⅡ	4 ~ 12	WPⅡ	122 ~ 130

GP : GO plug gage NP : NOT GO plug gage
WP : NOT GO working plug gage

Unit : mm

Accuracy of external threads			
	Major diameter	Pitch diameter	Minor diameter
6g	7.760~7.972	7.042~7.160	–
JIS 2class	7.790~7.960	7.038~7.148	~6.427



Unit : mm



Accuracy of internal threads			
	Major diameter	Pitch diameter	Minor diameter
6H	–	7.188~7.348	6.647~6.912
JIS 2class	–	7.188~7.318	6.647~6.912

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Taps / M8 × 1.25

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
General purpose	1	ISP	SI78.0NBP	SP	-	70	6.2	2.5P	①-64
		IPO	PI78.0NBP	PO				5P	③-34
	1 2	IHT	HI78.0N5BP	HT	-	70	6.2	5P	④-52
			HI78.0N2BP					2P	④-52
	1	R-Y	RY8.0N3	RO	-	70	6.2	3P	⑥-63
Standard	2 3	SP	SPQ8.0N	SP	P2	70	6.2	2.5P	①-42
		+SP	SNPQ8.0N						①-59
		SP 1.5P	SY8.0NQNEBA					1.5P	①-61
		PO	POR8.0N	PO	P3			5P	③-16
	1 2 3	HT	TNMR8.0N5	HT	P3	70	6.2	5P	④-8
			TNMR8.0N1					1.5P	④-8
			TNMR8.0N5F					5P	④-8
			TNMR8.0N1F					1.5P	④-8
Oversize	2 3	SP	SPR8.0N	SP	P3	70	6.2	2.5P	①-42
			SPS8.0N		P4				①-42
		PO	POS8.0N	PO				5P	③-16
	1 2 3	HT	TNMS8.0N5F	HT	P4	70	6.2	5P	④-8
			TNMS8.0N1F					1.5P	④-8
			TNMT8.0N5F		P5			5P	④-8
			TNMT8.0N1F					1.5P	④-8
For left hand threads	2 3	SP LH	SPQ8.0N--L	SP	P2	70	6.2	2.5P	①-81
		PO LH	POR8.0N--L	PO	P3			5P	③-48
	1 2 3	HT LH	TNMR8.0N5TL	HT	P3	70	6.2	5P	④-67
			TNMR8.0N1TL					1.5P	④-67
			TNMR8.0N5-L					5P	④-67
			TNMR8.0N1-L					1.5P	④-67
Oxidizing	1 2 3	SP OX	SPQ8.0NX	SP	P2	70	6.2	2.5P	①-67
		PO OX	POR8.0NX	PO	P3			5P	③-37
Oversize	1 2 3	SP OX	SPR8.0NX	SP	P3	70	6.2	2.5P	①-67
		PO OX	POS8.0NX	PO	P4			5P	③-37
Coating	1 2 3 4 9 10 13 18 19	VUSP	1101101064	SP	P3	90	6.2	2.5P	①-7
	1 2 3 4 9 19 21	AU+SP	VSAPR8.0N	SP	P3	70	6.2	2.5P	①-88
		AU+SL	VSAPR8.0NL	SL				5P	②-14
	1 2 3 4 9 10 13 18 19	VUPO	1102101064	PO	P3	90	6.2	5P	③-5
	1 2 3 4	PO V	VPOR8.0N	PO	P3	70	6.2	5P	③-50
Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201064	SP	P4	90	6.2	2.5P	①-7
			1101301064		P5				①-7
		VUPO	1102201064	PO	P4			5P	③-5
			1102301064		P5				③-5
Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101064	SP	P3	90	6.2	1.5P	①-16
Cool hole	1 2 3 4 9 10 13 18 19	VUSP CH	1201101064	SP	P3	90	6.2	2.5P	①-22
Long	1 2 3 4 9 10 13 18 19	VUSP	2101101064	SP	P3	150	6.2	2.5P	①-8
		VUPO	2102101064	PO				5P	③-6
Long	2 3	LS-SP	SPQ8.0NL10	SP	P2	100	6.2	2.5P	①-92
			SPQ8.0NL12			120			①-92
			SPQ8.0NL15			150			①-92
			SPQ8.0NL20			200			①-92
		LS-PO	POR8.0NL10	PO	P3	100		5P	③-54
			POR8.0NL12			120			③-54
Long	2 3	LS-PO	POR8.0NL15	PO	P3	150	6.2	5P	③-54
			POR8.0NL20			200			③-54
	1 2 3	LS-HT	TNMQ8.0N510	HT	P2	100	6.2	5P	④-74
			TNMQ8.0N512			120			④-74
			TNMQ8.0N515			150			④-74
			TNMQ8.0N520			200			④-74
			TNMQ8.0N110			100		1.5P	④-74
			TNMQ8.0N112			120			④-74
			TNMQ8.0N115			150			④-74
			TNMQ8.0N120			200			④-74
Oversize	2 3	LS-SP	SPR8.0NL10	SP	P3	100	6.2	2.5P	①-92
			SPR8.0NL15			150			①-92
		LS-PO	POS8.0NL15	PO	P4			5P	③-54
	1 2 3	LS-HT	TNMR8.0N510	HT	P3	100	6.2	5P	④-75
			TNMR8.0N515			150			④-75
			TNMR8.0N520			200			④-75
			TNMR8.0N110			100		1.5P	④-75
			TNMR8.0N115			150			④-75
			TNMR8.0N120			200			④-75
For left hand threads	2 3	LS-SP LH	SPQ8.0NL10-L	SP	P2	100	6.2	2.5P	①-97
			SPQ8.0NL15-L			150			①-97
	1 2 3	LS-HT LH	TNMQ8.0N510L	HT	P2	100	6.2	5P	④-84
			TNMQ8.0N515L			150			④-84
			TNMQ8.0N110L			100		1.5P	④-84
			TNMQ8.0N115L			150			④-84
Oxidizing	1 2	LS-SP OX	SPQ8.0NL10X	SP	P2	100	6.2	2.5P	①-96
			SPQ8.0NL12X			120			①-96
Coating	1 2 3 4	LS-SP V	VSPQ8.0NL10	SP	P2	100	6.2	2.5P	①-98
			VSPQ8.0NL15			150			①-98
		LS-PO V	VPOR8.0NL10	PO	P3	100		5P	③-59
			VPOR8.0NL15			150			③-59
	2 3 4	LS-HT V	TNMQ8.0N510V	HT	P2	100	6.2	5P	④-86
			TNMQ8.0N515V			150			④-86
			TNMQ8.0N110V			100		1.5P	④-86
			TNMQ8.0N115V			150			④-86
For soft structural steels	1 2	E-SP	ESHMQ8.0N	SP	P2	70	6.2	2.5P	①-134
For steels	1 2 3 4 5 9 11	HVSP	SY8.0NSEEXJ	SP	P4	90	6.2	2.5P	①-26
Thread forming taps for steels	1 2	N-RZ	NRZM78.0NP	RO	G7	70	6.2	4P	⑥-16
			NRZM78.0NB					2P	⑥-16
			NRZM88.0NP		G8			4P	⑥-16
			NRZM88.0NB					2P	⑥-16
Long	1 2	LS-N-RZ	NRZM78.0NP10	RO	G7	100	6.2	4P	⑥-23
			NRZM78.0NP15			150			⑥-23
			NRZM78.0NB10			100		2P	⑥-23
			NRZM78.0NB15			150			⑥-23
For Galvanizing Oversize	1 2 3 4 5 9 11	HVSP ZP	1112201064	SP	P4+0.1	90	6.2	2.5P	①-34
			1112301064		P4+0.2				①-34
			1112401064		P4+0.3				①-34
For high carbon steels	2 3	HC-SP	SCMQ8.0N	SP	P2	70	6.2	2.5P	①-136
	2 3 5	HC-PO	PCMR8.0N	PO	P3	70	6.2	5P	③-80
Oxidizing	2 3	HC-SP OX	SCMQ8.0NX	SP	P2	70	6.2	2.5P	①-138
	2 3 5	HC-PO OX	PCMR8.0NX	PO	P3	70	6.2	5P	③-82

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For hard-to-machine materials		3 5 6	EH-PO	EPHMS8.0N	PO	P4	70	6.2	4.5P	③-86
		6 10	EH-HT	ETHMS8.0N5	HT	P4	70	6.2	5P	④-124
				ETHMS8.0N1					2.5P	④-124
	Powdered HSS	3 5 6	PM-SP	SY8.0NRDPB	SP	P3	70	6.2	2.75P	①-174
			LS-PM-SP	SY8.0NRDPBE			100			①-181
				SY8.0NRDPBG			150			①-181
			PM-PO	PY8.0NSDPB	PO	P4	70		5.5P	③-98
			LS-PM-PO	PY8.0NSDPBE			100			③-104
				PY8.0NSDPBG			150			③-104
For titanium alloys		22	ZET-B	ZETBMR8.0N	SP	P3	70	6.2	3P	①-158
			ZET-P	ZETPMS8.0N	SL	P4			5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMR8.0N	SP	P3	70	6.2	3P	①-166
			ZEN-P	ZENPMS8.0N	PO	P4			4.5P	③-90
For medium hardness carbon steels		3 4 5	MHSP	SY8.0NSOCLJ	SP	P4	90	6.2	2.5P	①-36
		2 3 4 5 10	MHSL	1109101064	SL	P4	90	6.2	5P	②-4
			MHSL-J	MHSLS8.0N5			70			②-6
Carbide taps for hard materials		7	EH-CT	EHCS8.0N5	HT	P4	70	6.2	5P	⑤-24
Carbide taps for ultra hard materials		8	UH-CT	UHCS8.0N5	HT	P4	70	7	5P	⑤-28
For stainless steels		2 3 4 9	SU-SP	SUMQ8.0N	SP	P2	70	6.2	2.5P	①-103
		1 2 3 4 9	SU-PO	PUMR8.0N	PO	P3	70	6.2	5P	③-63
		1 2 9	SU-HT	TUMR8.0N4	HT	P3	70	6.2	4P	④-90
				TUMR8.0N1					1.5P	④-90
	Oversize	2 3 4 9	SU-SP	SUMR8.0N	SP	P3	70	6.2	2.5P	①-103
				SUMS8.0N		P4				①-103
		1 2 3 4 9	SU-PO	PUMS8.0N	PO	P4	70	6.2	5P	③-63
				PUMT8.0N		P5				③-63
	For left hand threads	2 3 4 9	SU-SP LH	SUMQ8.0N--L	SP	P2	70	6.2	2.5P	①-117
	For deep hole use	1 2 3 4 9	SU-S-SP	SSMQ8.0N-SU	SP	P2	70	6.2	2.5P	①-123
		1 2 3 9	LS-SU-S-SP	SY8.0NQGEXES	SP	P2	100	6.2	2.5P	①-124
				SY8.0NQGEXGS			150			①-124
				SY8.0NQGEXKS			200			①-124
			LS-SU-S-PO	PY8.0NRGEXES	PO	P3	100		5P	③-74
				PY8.0NRGEXGS			150			③-74
	For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MR8.0N	SP	P3	70	6.2	3P	①-120
For cast irons		12 13	FC-HT	TY8.0NRAEN5	HT	P3	70	6.2	5P	④-94
				TY8.0NRAENA					1.5P	④-94
	Carbide	12 13 16	N-CT FC	TCNR8.0N3	HT	P3	70	6.2	3P	⑤-11
				TCNR8.0N1					1.5P	⑤-11
				TCNS8.0N3		P4			3P	⑤-11
				TCNS8.0N1					1.5P	⑤-11
	Long shank, carbide	12 13 16	LS-N-CT	TY8.0NRAWB3E	HT	P3	100	6.2	3P	⑤-18
				TY8.0NRAWB3G			150			⑤-18
				TY8.0NRAWBAE			100		1.5P	⑤-18
				TY8.0NRAWBAG			150			⑤-18
For aluminum		15 16 17 18 19 20 21	AL-SP	ASHMR8.0N	SP	P3	70	6.2	2.5P	①-140
			AL-SP 1.5P	SY8.0NRLENA					1.5P	①-141
		18 19 21	LA-HT	TY8.0NRLEN5	HT	P3	70	6.2	5P	④-110
				TY8.0NRLENA					1.5P	④-110
	AXE	12 19 21	AXE-HT	TAXEMR8.0N1	HT	P3	70	6.2	1.5P	④-114

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For aluminum	Carbide	19 21	N-CT LA	TCNR8.0N3A	HT	P3	70	6.2	3P	⑤-4
				TCNR8.0N1A					1.5P	⑤-4
				TCNS8.0N3A		P4			3P	⑤-4
				TCNS8.0N1A					1.5P	⑤-4
	Carbide spiral fluted taps	18 19 21	N-CT-SP	SY8.0NRKWB	SP	P3	70	6.2	2.5P	⑤-20
	Carbide spiral pointed taps	15 16 17 18 19 20 21	N-CT-PO	PCNR8.0N	PO	P3	70	6.2	5P	⑤-21
For aluminum (with coolant hole)	Carbide	18 19 21	MC-AD-CT	(MCADR8.0N1)	HT	P3	100	6.2	1.5P	⑤-42
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM78.0NP	RO	G7	70	6.2	4P	⑥-28
				NRSM78.0NB					2P	⑥-28
				NRSM88.0NP		G8			4P	⑥-28
				NRSM88.0NB					2P	⑥-28
	Long	18 19 21	LS-N-RS	NRSM78.0NP10	RO	G7	100	6.2	4P	⑥-36
				NRSM78.0NP15			150			⑥-36
				NRSM78.0NB10			100		2P	⑥-36
				NRSM78.0NB15			150			⑥-36
For Thermoplastic Resins	Thermosetting	24	PL1	TPLM8.0N3	HT	P6	70	6.2	3P	④-120
	Thermoplastic	24 25	PL2	TY8.0NUMEN3	HT	P6	70	6.2	3P	④-122
For high speed		1 2	F-SP	VFSHMR8.0N	SP	P3	70	6.2	3P	①-184
			F-SL	VFSHMR8.0NL	SL				5.5P	②-28
	Long	1 2	LS-F-SP	SY8.0NRFEVES	SP	P3	100	6.2	3P	①-188
			LS-F-SL	LY8.0NRFEVE	SL				5.5P	②-32
Ultra fast tapping(with coolant hole)	For steels	1 2 3 4	HFIHS	HFIHSS8.0N	SP	P4	70	8	2.5P	①-192
			HFISP	HFISPS8.0N						①-196
	Carbide taps for cast irons	12 13 16	HFICT-P	HFICTPR8.0N	HT	P3	70	8	4P	⑤-36
			HFICT-B	HFICTBR8.0N					2.5P	⑤-38
	For non-ferrous materials	18 19 20 21	HFAHS	HFAHSS8.0N	SP	P4	70	8	2.5P	①-200
			HFASP	HFASPS8.0N						①-204
	Carbide taps for non-ferrous materials	16 19 20 21	HFACT-P	HFACTPR8.0N	HT	P3	70	8	4P	⑤-32
			HFACT-B	HFACTBR8.0N					2.5P	⑤-34
For dry tapping (with coolant hole)	For steels	2 3 4	HDISP	HDISPS8.0N	SP	P4	70	8	2.5P	①-208
	For non-ferrous materials	18 19 20 21	HDASP	HDASPS8.0N	SP	P4	70	8	2.5P	①-212
Ultra fast tapping(with coolant hole)	For both steels and non ferrous materials	2 3 4	HDISL	HDISLS8.0N	SL	P4	70	8	5.5P	②-34
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM78.0NP	RO	G7	70	6.2	4P	⑥-49
				HRZM78.0NB					2P	⑥-49
				HRZM88.0NP		G8			4P	⑥-49
				HRZM88.0NB					2P	⑥-49
Thread forming taps for carbon steels of medium hardness		2 3 4 5	MHRZ	1110101064	RO	G8	90	6.2	4P	⑥-4
				1111101064					2P	⑥-4
			MHRZ-J	RY8.0N8OCTP			70		4P	⑥-8
				RY8.0N8OCTB					2P	⑥-8
	Long	2 3 4 5	MHRZ	2110101064	RO	G8	150	6.2	4P	⑥-5
				2111101064					2P	⑥-5
For deep hole use		2 3 4 13	S-SP	SSMQ8.0N	SP	P2	70	6.2	2.5P	①-128
		1 2 3 4	S-PO	PSMR8.0N	PO	P3	70	6.2	5P	③-78
	Oversize	2 3 4 13	S-SP	SSMR8.0N	SP	P3	70	6.2	2.5P	①-128
		1 2 3 4	S-PO	PSMS8.0N	PO	P4	70	6.2	5P	③-78
Low spiral		2 3	LO-SP 15°	LSHMQ8.0N15	SP	P2	70	6.2	2.5P	①-148
			LO-SP 20°	LSHMQ8.0N20						①-148
			LO-SP 8°	LSHMQ8.0N8						①-148
	Long	2 3	LS-LO-SP	LSHMQ8.0NL10	SP	P2	100	6.2	2.5P	①-155
				LSHMQ8.0NL15			150			①-155

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW8.0N1LEB5	HT	I b	75	7	5P	⑦-4
				TW8.0N1LEBA					1.5P	⑦-4
		15 16 17 18 19 20 21	AL-SP STI	SW8.0N1LEN	SP	I b	75	7	2.5P	⑦-10
			AL-PO STI	PW8.0N1LEB	PO				5P	⑦-18
		18 19 21	N-RS STI	RW8.0N4LENP	RO	G4	75	7	4P	⑦-25
				RW8.0N4LENB					2P	⑦-25
	Oversize	18 19 21	AL-HT STI	TW8.0N3LEB5	HT	I b+30	75	7	5P	⑦-4
				TW8.0N3LEBA					1.5P	⑦-4
		15 16 17 18 19 20 21	AL-SP STI	SW8.0N3LEN	SP	I b+30	75	7	2.5P	⑦-10
	Carbide	19 21	N-CT LA STI	TW8.0N1LWB5	HT	I b	75	7	5P	⑦-26
				TW8.0N1LWBA					1.5P	⑦-26
With coolant hole		1 2 3 4	MC-SP	(MSHQ8.0NL10)	SP	P2	100	6.2	2.5P	①-215
				(MSHQ8.0NL15)			150			①-215
			MC-PO	(MPHR8.0NL10)	PO	P3	100		5P	③-106
				(MPHR8.0NL15)			150			③-106
		1 2 3	MC-HT	(ML108.0N5-Q)	HT	P2	100	6.2	5P	④-137
				(ML158.0N5-Q)			150			④-137
				(ML108.0N1-Q)			100		1.5P	④-137
				(ML158.0N1-Q)			150			④-137
For tapping aluminum cast holes (with oil hole)	Carbide	19	ACHSP	SY8.0NSLXT	SP	P4	90	8	2.5P	⑤-40
Nut taps		1 2	NT	NH28.0N	HT	II b	140	6.2	24P	⑦-28

Taps ／ M8 × 1

Standard		2 3	SP	SPQ8.0M	SP	P2	70	6.2	2.5P	①-42
			SP 1.5P	SY8.0MQNEBA					1.5P	①-61
			PO	POR8.0M	PO	P3			5P	③-16
		1 2 3	HT	TNMQ8.0M5T	HT	P2	70	6.2	5P	④-8
				TNMQ8.0M1T					1.5P	④-8
				TNMQ8.0M5					5P	④-8
				TNMQ8.0M1					1.5P	④-8
	Oversize	2 3	SP	SPR8.0M	SP	P3	70	6.2	2.5P	①-42
				SPS8.0M		P4				①-42
			PO	POS8.0M	PO				5P	③-16
		1 2 3	HT	TNMR8.0M5	HT	P3	70	6.2	5P	④-8
				TNMR8.0M1					1.5P	④-8
				TNMS8.0M5		P4			5P	④-8
				TNMS8.0M1					1.5P	④-8
For left hand threads		2 3	SP LH	SPQ8.0M–L	SP	P2	70	6.2	2.5P	①-81
			PO LH	POR8.0M–L	PO	P3			5P	③-48
		1 2 3	HT LH	TNMQ8.0M5-L	HT	P2	70	6.2	5P	④-67
				TNMQ8.0M1-L					1.5P	④-67
Oxidizing		1 2 3	SP OX	SPQ8.0MX	SP	P2	70	6.2	2.5P	①-67
			PO OX	POR8.0MX	PO	P3			5P	③-37
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101065	SP	P3	90	6.2	2.5P	①-7
		1 2 3 4 9 19 21	AU+SP	VSAPR8.0M	SP	P3	70	6.2	2.5P	①-88
			AU+SL	VSAPR8.0ML	SL				5P	②-14
		1 2 3 4 9 10 13 18 19	VUPO	1102101065	PO	P3	90	6.2	5P	③-5
	Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201065	SP	P4	90	6.2	2.5P	①-7
				1101301065		P5				①-7
			VUPO	1102201065	PO	P4			5P	③-5
				1102301065		P5				③-5

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Coating	Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101065	SP	P3	90	6.2	1.5P	①-16
	Cool hole	1 2 3 4 9 10 13 18 19	VUSP CH	1201101065	SP	P3	90	6.2	2.5P	①-22
	Long	1 2 3 4 9 10 13 18 19	VUSP	2101101065	SP	P3	150	6.2	2.5P	①-8
			VUPO	2102101065	PO				5P	③-6
Long		2 3	LS-SP	SPQ8.0ML10	SP	P2	100	6.2	2.5P	①-92
				SPQ8.0ML12			120			①-92
				SPQ8.0ML15			150			①-92
			LS-PO	POR8.0ML10	PO	P3	100		5P	③-54
				POR8.0ML12			120			③-54
				POR8.0ML15			150			③-54
		1 2 3	LS-HT	TNMQ8.0M510	HT	P2	100	6.2	5P	④-75
				TNMQ8.0M512			120			④-75
				TNMQ8.0M515			150			④-75
				TNMQ8.0M110			100		1.5P	④-75
				TNMQ8.0M112			120			④-75
				TNMQ8.0M115			150			④-75
For steels		1 2 3 4 5 9 11	HVSP	SY8.0MSEEXJ	SP	P4	90	6.2	2.5P	①-26
Thread forming taps for steels		1 2	N-RZ	NRZM78.0MP	RO	G7	70	6.2	4P	⑥-16
				NRZM78.0MB					2P	⑥-16
For high carbon steels		2 3	HC-SP	SCMQ8.0M	SP	P2	70	6.2	2.5P	①-136
	Oxidizing	2 3 5	HC-PO OX	PCMR8.0MX	PO	P3	70	6.2	5P	③-82
For stainless steels		2 3 4 9	SU-SP	SUMQ8.0M	SP	P2	70	6.2	2.5P	①-103
		1 2 3 4 9	SU-PO	PUMR8.0M	PO	P3	70	6.2	5P	③-63
		1 2 9	SU-HT	TUMR8.0M4	HT	P3	70	6.2	4P	④-90
				TUMR8.0M1					1.5P	④-90
For cast irons		12 13	FC-HT	TY8.0MRAEN5	HT	P3	70	6.2	5P	④-94
				TY8.0MRAENA					1.5P	④-94
	Carbide	12 13 16	N-CT FC	TCNR8.0M3	HT	P3	70	6.2	3P	⑤-11
				TCNR8.0M1					1.5P	⑤-11
For aluminum		18 19 21	LA-HT	TY8.0MRLEN5	HT	P3	70	6.2	5P	④-110
				TY8.0MRLENA					1.5P	④-110
	Carbide	19 21	N-CT LA	TCNR8.0M3A	HT	P3	70	6.2	3P	⑤-4
				TCNR8.0M1A					1.5P	⑤-4
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM78.0MP	RO	G7	70	6.2	4P	⑥-28
				NRSM78.0MB					2P	⑥-28
For deep hole use		2 3 4 13	S-SP	SSMQ8.0M	SP	P2	70	6.2	2.5P	①-128
		1 2 3 4	S-PO	PSMR8.0M	PO	P3	70	6.2	5P	③-78
Nut taps		1 2	NT	NH28.0M	HT	II	130	6.2	25P	⑦-28

Taps ／ M8 × 0.75

Standard		2 3	SP	SPQ8.0J	SP	P2	70	6.2	2.5P	①-42
			PO	POR8.0J	PO	P3			5P	③-16
		1 2 3	HT	TNMQ8.0J5	HT	P2	70	6.2	5P	④-8
				TNMQ8.0J1					1.5P	④-8
	Oversize	2 3	SP	SPR8.0J	SP	P3	70	6.2	2.5P	①-42
For left hand threads		1 2 3	HT LH	TNMQ8.0J5-L	HT	P2	70	6.2	5P	④-67
				TNMQ8.0J1-L					1.5P	④-67
Long		2 3	LS-SP	SPQ8.0JL10	SP	P2	100	6.2	2.5P	①-92

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	D_s	ℓ_c

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

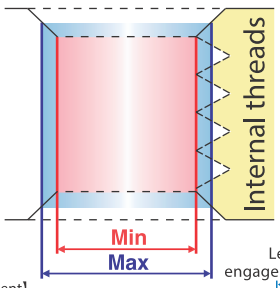
Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Thread forming taps for steels		1 2	N-RZ	NRZM78.0JP	RO	G7	70	6.2	4P	⑥-16
				NRZM78.0JB					2P	⑥-16
For stainless steels		2 3 4 9	SU-SP	SUMQ8.0J	SP	P2	70	6.2	2.5P	①-103
For cast irons	Carbide	12 13 16	N-CT FC	TCNR8.0J3	HT	P3	62	6.2	3P	⑤-11
				TCNR8.0J1					1.5P	⑤-11
For aluminum	Carbide	19 21	N-CT LA	TCNR8.0J3A	HT	P3	62	6.2	3P	⑤-4
				TCNR8.0J1A					1.5P	⑤-4
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM78.0JP	RO	G7	70	6.2	4P	⑥-28
				NRSM78.0JB					2P	⑥-28
Nut taps		1 2	NT	NH28.0J	HT	II	120	6.2	24P	⑦-28
Taps ／ M8 × 0.5										
Standard		2 3	SP	SPQ8.0G	SP	P2	70	6.2	2.5P	①-42
			PO	POQ8.0G	PO				5P	③-16
		1 2 3	HT	TNMQ8.0G5	HT	P2	70	6.2	5P	④-8
				TNMQ8.0G1					1.5P	④-8
For left hand threads		1 2 3	HT LH	TNMQ8.0G5-L	HT	P2	70	6.2	5P	④-67
				TNMQ8.0G1-L					1.5P	④-67
Oxidizing		1 2 3	PO OX	POQ8.0GX	PO	P2	70	6.2	5P	③-37

Dies selection		Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ M8 × 1.25										
Solid dies		HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYG8.0NDNEBC	⑩-3
						38	13		TYJ8.0NDNEBC	⑩-3
						50	16		TYM8.0NDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYG8.0NDNEBC	⑩-17
						38	13		GYJ8.0NDNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S5	25	9	1.5P	PYG8.0NTNEBA	⑩-35
						38	13		PYJ8.0NTNEBA	⑩-35
						50	16		PYM8.0NTNEBA	⑩-35
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	25	9	1.5P	PYG8.0NQNEBA	⑩-35
						38	13		PYJ8.0NQNEBA	⑩-35
						50	16		PYM8.0NQNEBA	⑩-35
New rolling dies		HSS	1 2 9 15	N-RSD	R6	38	13	2P	NRJU8.0N	⑩-52
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	20	7	2P	HEP8.0N	⑩-46
						25	9		HGP8.0N	⑩-46
					P2	20	7		HEQ8.0N	⑩-46
						25	9		HGQ8.0N	⑩-46
Spiral dies		HSS	1 2	SP-D	P1	25	9	1.5P	SGP8.0N	⑩-43
Dies ／ M8 × 1										
Solid dies		HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYG8.0MDNEBC	⑩-3
						38	13		TYJ8.0MDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYG8.0MDNEBC	⑩-17
						38	13		GYJ8.0MDNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S5	25	9	1.5P	PYG8.0MTNEBA	⑩-35
						38	13		PYJ8.0MTNEBA	⑩-35
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	25	9	1.5P	PYG8.0MQNEBA	⑩-35
						38	13		PYJ8.0MQNEBA	⑩-35
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	20	7	2P	HEP8.0M	⑩-46
						25	9		HGP8.0M	⑩-46
					P2	20	7		HEQ8.0M	⑩-46
						25	9		HGQ8.0M	⑩-46
Dies ／ M8 × 0.75										
Solid dies		HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYG8.0JDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYG8.0JDNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S4	25	9	1.5P	PYG8.0JSNEBA	⑩-36
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	25	9	1.5P	PYG8.0JQNEBA	⑩-36
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	20	7	2P	HEP8.0J	⑩-46
						25	9		HGP8.0J	⑩-46
					P2	20	7		HEQ8.0J	⑩-46
						25	9		HGQ8.0J	⑩-46
Dies ／ M8 × 0.5										
Solid dies		HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYG8.0GDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYG8.0GDNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S6	25	9	1.5P	PYG8.0GUNEBA	⑩-36
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	25	9	1.5P	PYG8.0GQNEBA	⑩-36
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	20	7	2P	HEP8.0G	⑩-46
					P2				HEQ8.0G	⑩-46

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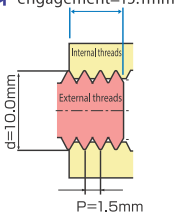
Flowchart : M10 tapping

Boring before tapping — Check 1

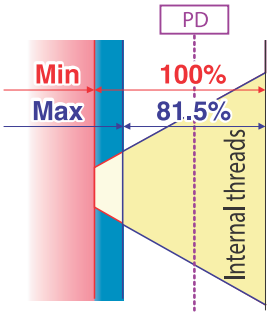


【Length of engagement】
On "middle" engagement class, 7H class can be chosen in case of "L" engagement length.

Symbol	Engagement length classification \ Engagement classification	Fine	Middle	Coarse	Engagement length
S	Short engagement length	4H	5H	–	S≦5(mm)
M	Normal engagement length	5H	6H	7H	5<M≦15(mm)
L	Long engagement length	6H	7H	8H	15<L(mm)



Engagement ratio on cutting taps

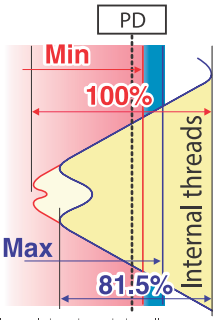


Unit : mm

	Drill size (ref.)	Min	Max
Bored hole size	8.5	8.376	8.676
Engagement ratio	92.4%	100%	81.5%

D1 is minor diameter of JIS 6H(2nd Class) of internal threads

Engagement ratio on roll taps



Internal threads made by roll taps are different from those made by cutting taps on the shape of minor dimameter.

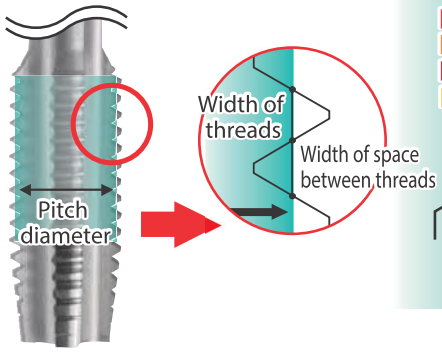
Unit : mm

*Hole size for thread forming taps	
Min	Max
9.22	9.34

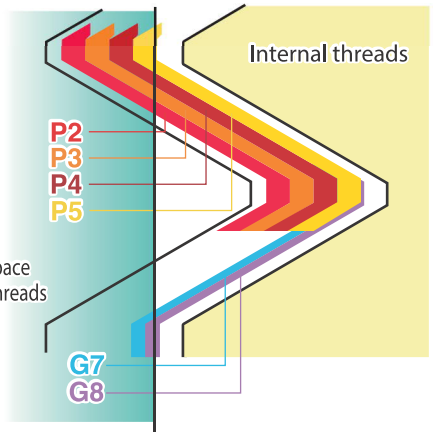
Forming condition changes depending on workpiece's Material and shape. Above is for customer's reference.

Threading — Check 2

【Pitch diameter】
Diameter of imaginary cylinder or cone which makes equal the width of threads and width of space between the threads



Tolerance area of tap's pitch diameter



【Thread class of cutting taps】

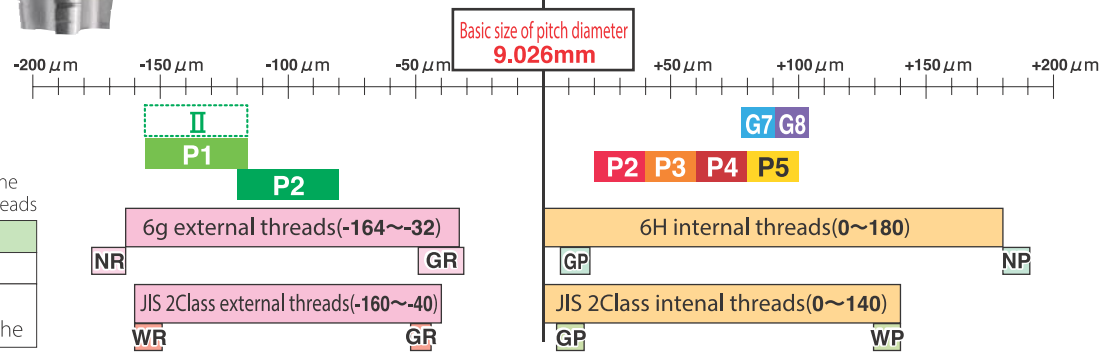
Class	PD tolerance
P2	20μm~40μm
P3	40μm~60μm
P4	60μm~80μm
P5	80μm~100μm

*Above shows the plus tolerance by setting PD basic size as "0".

【Thread class of roll taps】

Class	PD tolerance
G7	76μm~89μm
G8	89μm~102μm

*Above shows the plus tolerance by setting PD basic size as "0".



Tolerance of dies is the target of external threads

Class of dies	
Ⅱ	Solid dies
P1	Solid dies for Auto Lathe
P2	

Relative position of PD tolerance area of external threads, internal threads, taps and gages.

Gage check — Check 3

(–) ← Basic size of pitch diameter → (+)
9.026mm

Unit : μm

Ring gage pitch diameter(for external threads inspection)			
NR6g	-182 ~-164	GR6g	-49 ~-31
WRⅡ	-160 ~-152	GRⅡ	-52 ~-44

NR : NOT GO ring gage GR : GO ring gage
WR : NOT GO working ring gage

Unit : μm

Plug gage pitch diameter(for internal threads inspection)			
GP6H	7 ~ 17	NP6H	180 ~ 190
GPⅡ	4 ~ 12	WPⅡ	132 ~ 140

GP : GO plug gage NP : NOT GO plug gage
WP : NOT GO working plug gage

Unit : mm

Accuracy of external threads			
	Major diameter	Pitch diameter	Minor diameter
6g	9.732~9.968	8.862~8.994	–
JIS 2class	9.770~9.960	8.866~8.986	~8.119



Unit : mm

Accuracy of internal threads			
	Major diameter	Pitch diameter	Minor diameter
6H	–	9.026~9.206	8.376~8.676
JIS 2class	–	9.026~9.166	8.376~8.676



Think threads with YAMAWA
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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Taps ／ M10 × 1.5

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
General purpose	1	ISP	SI7010OBP	SP	-	75	7	2.5P	①-64
		IPO	PI7010OBP	PO				5P	③-34
	1 2	IHT	HI7010O5BP	HT	-	75	7	5P	④-52
			HI7010O2BP					2P	④-52
Standard	2 3	SP	SPQ010O	SP	P2	75	7	2.5P	①-42
		+SP	SNPQ010O						①-59
		SP 1.5P	SY010OQNEBA					1.5P	①-61
		PO	POR010O	PO	P3			5P	③-16
	1 2 3	HT	TNMR010O5T	HT	P3	75	7	5P	④-9
			TNMR010O1T					1.5P	④-9
			TNMR010O5					5P	④-9
			TNMR010O1					1.5P	④-9
Oversize	2 3	SP	SPR010O	SP	P3	75	7	2.5P	①-42
			SPS010O		P4				①-42
		PO	POT010O	PO	P5			5P	③-16
			POS010O		P4				③-16
	1 2 3	HT	TNMS010O5	HT	P4	75	7	5P	④-9
			TNMS010O1					1.5P	④-9
			TNMT010O5		P5			5P	④-9
			TNMT010O1					1.5P	④-9
For left hand threads	2 3	SP LH	SPQ010O--L	SP	P2	75	7	2.5P	①-81
		PO LH	POR010O--L	PO	P3			5P	③-48
	1 2 3	HT LH	TNMR010O5-L	HT	P3	75	7	5P	④-67
			TNMR010O1-L					1.5P	④-67
Oxidizing	1 2 3	SP OX	SPQ010OX	SP	P2	75	7	2.5P	①-67
		PO OX	POR010OX	PO	P3			5P	③-37
Oversize	1 2 3	PO OX	POS010OX	PO	P4	75	7	5P	③-37
Coating	1 2 3 4 9 10 13 18 19	VUSP	1101101078	SP	P3	100	7	2.5P	①-7
	1 2 3 4 9 19 21	AU+SP	VSAPR010O	SP	P3	75	7	2.5P	①-88
		AU+SL	VSAPR010OL	SL				5P	②-14
	1 2 3 4 9 10 13 18 19	VUPO	1102101078	PO	P3	100	7	5P	③-5
	1 2 3 4	PO V	VPOR010O	PO	P3	75	7	5P	③-50
Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201078	SP	P4	100	7	2.5P	①-7
			1101301078		P5				①-7
		VUPO	1102201078	PO	P4			5P	③-5
			1102301078		P5				③-5
Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101078	SP	P3	100	7	1.5P	①-16
Cool hole	1 2 3 4 9 10 13 18 19	VUSP CH	1201101078	SP	P3	100	7	2.5P	①-22
Long	1 2 3 4 9 10 13 18 19	VUSP	2101101078	SP	P3	150	7	2.5P	①-8
		VUPO	2102101078	PO				5P	③-6
Long	2 3	LS-SP	SPQ010OL10	SP	P2	100	7	2.5P	①-92
			SPQ010OL12			120			①-92
			SPQ010OL15			150			①-92
			SPQ010OL20			200			①-92
		LS-PO	POR010OL10	PO	P3	100		5P	③-54
			POR010OL12			120			③-54
			POR010OL15			150			③-54
			POR010OL20			200			③-54
	1 2 3	LS-HT	TNMQ010O510	HT	P2	100	7	5P	④-75
			TNMQ010O512			120			④-75
Long	1 2 3	LS-HT	TNMQ010O515	HT	P2	150	7	5P	④-75
			TNMQ010O520			200			④-75
			TNMQ010O525			250			④-75
			TNMQ010O110			100		1.5P	④-75
			TNMQ010O112			120			④-75
			TNMQ010O115			150			④-75
			TNMQ010O120			200			④-75
			TNMQ010O125			250			④-75
Oversize	2 3	LS-SP	SPR010OL10	SP	P3	100	7	2.5P	①-92
			SPR010OL15			150			①-92
		LS-PO	POS010OL15	PO	P4			5P	③-54
	1 2 3	LS-HT	TNMR010O510	HT	P3	100	7	5P	④-75
			TNMR010O515			150			④-75
			TNMR010O520			200			④-75
			TNMR010O110			100		1.5P	④-75
			TNMR010O115			150			④-75
			TNMR010O120			200			④-75
			TNMS010O510		P4	100		5P	④-75
			TNMS010O515			150			④-75
			TNMS010O110			100		1.5P	④-75
			TNMS010O115			150			④-75
For left hand threads	2 3	LS-SP LH	SPQ010OL10-L	SP	P2	100	7	2.5P	①-97
			SPQ010OL15-L			150			①-97
	1 2 3	LS-HT LH	TNMQ010O510L	HT	P2	100	7	5P	④-84
			TNMQ010O515L			150			④-84
			TNMQ010O110L			100		1.5P	④-84
			TNMQ010O115L			150			④-84
Oxidizing	1 2	LS-SP OX	SPQ010OL12X	SP	P2	120	7	2.5P	①-96
			SPQ010OL15X			150			①-96
Coating	1 2 3 4	LS-SP V	VSPQ010OL15	SP	P2	150	7	2.5P	①-98
		LS-PO V	VPOR010OL15	PO	P3			5P	③-59
	2 3 4	LS-HT V	TNMQ010O510V	HT	P2	100	7	5P	④-86
			TNMQ010O515V			150			④-86
			TNMQ010O110V			100		1.5P	④-86
			TNMQ010O115V			150			④-86
For soft structural steels	1 2	E-SP	ESHMQ010O	SP	P2	75	7	2.5P	①-134
For steels	1 2 3 4 5 9 11	HVSP	SY010OSEEXJ	SP	P4	100	7	2.5P	①-26
Thread forming taps for steels	1 2	N-RZ	NRZM7010OP	RO	G7	75	7	4P	⑥-16
			NRZM7010OB					2P	⑥-16
			NRZM8010OP		G8			4P	⑥-16
			NRZM8010OB					2P	⑥-16
Long	1 2	LS-N-RZ	NRZM7010OP10	RO	G7	100	7	4P	⑥-24
			NRZM7010OP15			150			⑥-24
			NRZM7010OB10			100		2P	⑥-24
			NRZM7010OB15			150			⑥-24
For Galvanizing Oversize	1 2 3 4 5 9 11	HVSP ZP	1112201078	SP	P4+0.1	100	7	2.5P	①-34
			1112301078		P4+0.2				①-34
			1112401078		P4+0.3				①-34
For high carbon steels	2 3	HC-SP	SCMQ010O	SP	P2	75	7	2.5P	①-136
	2 3 5	HC-PO	PCMR010O	PO	P3	75	7	5P	③-80
Oxidizing	2 3	HC-SP OX	SCMQ010OX	SP	P2	75	7	2.5P	①-138

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7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For hard-to-machine materials		3 5 6	EH-PO	EPHMS010O	PO	P4	75	7	4.5P	③-86
		6 10	EH-HT	ETHMS010O5	HT	P4	75	7	5P	④-124
				ETHMS010O1					2.5P	④-124
	Powdered HSS	3 5 6	PM-SP	SY010ORDPB	SP	P3	75	7	2.75P	①-174
			LS-PM-SP	SY010ORDPBG			150			①-181
			PM-PO	PY010OSDPB	PO	P4	75		5.5P	③-98
			LS-PM-PO	PY010OSDPBG			150			③-104
For titanium alloys		22	ZET-B	ZETBMR010O	SP	P3	75	7	3P	①-158
			ZET-P	ZETPMS010O	SL	P4			5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMR010O	SP	P3	75	7	3P	①-166
			ZEN-P	ZENPMS010O	PO	P4			4.5P	③-90
For medium hardness carbon steels		3 4 5	MHSP	SY010OSOCLJ	SP	P4	100	7	2.5P	①-36
		2 3 4 5 10	MHSL	1109101078	SL	P4	100	7	5P	②-4
			MHSL-J	MHSLS010O5			75			②-6
Carbide taps for hard materials		7	EH-CT	EHCS010O5	HT	P4	75	7	5P	⑤-24
Carbide taps for ultra hard materials		8	UH-CT	UHCS010O5	HT	P4	75	8.5	5P	⑤-28
For stainless steels		2 3 4 9	SU-SP	SUMQ010O	SP	P2	75	7	2.5P	①-103
		1 2 3 4 9	SU-PO	PUMR010O	PO	P3	75	7	5P	③-63
		1 2 9	SU-HT	TUMR010O4	HT	P3	75	7	4P	④-90
				TUMR010O1					1.5P	④-90
	Oversize	2 3 4 9	SU-SP	SUMR010O	SP	P3	75	7	2.5P	①-103
				SUMS010O		P4				①-103
		1 2 3 4 9	SU-PO	PUMS010O	PO	P4	75	7	5P	③-63
				PUMT010O		P5				③-63
	For left hand threads	2 3 4 9	SU-SP LH	SUMQ010O–L	SP	P2	75	7	2.5P	①-117
	For deep hole use	1 2 3 4 9	SU-S-SP	SSMQ010O-SU	SP	P2	75	7	2.5P	①-123
		1 2 3 9	LS-SU-S-SP	SY010OQGEXES	SP	P2	100	7	2.5P	①-124
				SY010OQGEXGS			150			①-124
				SY010OQGEXKS			200			①-124
			LS-SU-S-PO	PY010ORGEXES	PO	P3	100		5P	③-74
				PY010ORGEXGS			150			③-74
	For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MR010O	SP	P3	75	7	3P	①-120
For cast irons		12 13	FC-HT	TY010OSAEN5	HT	P4	75	7	5P	④-94
				TY010OSAENA					1.5P	④-94
	Carbide	12 13 16	N-CT FC	TCNR010O3	HT	P3	75	7	3P	⑤-11
				TCNR010O1					1.5P	⑤-11
				TCNS010O3		P4			3P	⑤-11
				TCNS010O1					1.5P	⑤-11
	Long shank, carbide	12 13 16	LS-N-CT	TY010ORAWB3E	HT	P3	100	7	3P	⑤-18
				TY010ORAWB3G			150			⑤-18
				TY010ORAWBAE			100		1.5P	⑤-18
				TY010ORAWBAG			150			⑤-18
For aluminum		15 16 17 18 19 20 21	AL-SP	ASHMR010O	SP	P3	75	7	2.5P	①-140
			AL-SP 1.5P	SY010ORLENA					1.5P	①-141
		18 19 21	LA-HT	TY010OSLEN5	HT	P4	75	7	5P	④-111
				TY010OSLENA					1.5P	④-111
	AXE	12 19 21	AXE-HT	TAXEMR010O1	HT	P3	75	7	1.5P	④-114
	Carbide	19 21	N-CT LA	TCNR010O3A	HT	P3	75	7	3P	⑤-4
				TCNR010O1A					1.5P	⑤-4
				TCNS010O3A		P4			3P	⑤-4
				TCNS010O1A					1.5P	⑤-4

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For aluminum	Carbide spiral fluted taps	18 19 21	N-CT-SP	SY010ORKWB	SP	P3	75	7	2.5P	⑤-20
	Carbide spiral pointed taps	15 16 17 18 19 20 21	N-CT-PO	PCNS010O	PO	P4	75	7	5P	⑤-21
For aluminum (with coolant hole)	Carbide	18 19 21	MC-AD-CT	(MCADS010O1)	HT	P4	100	7	1.5P	⑤-42
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM7010OP	RO	G7	75	7	4P	⑥-28
				NRSM7010OB					2P	⑥-28
				NRSM8010OP		G8			4P	⑥-28
				NRSM8010OB					2P	⑥-28
	Long	18 19 21	LS-N-RS	NRSM7010OP10	RO	G7	100	7	4P	⑥-37
				NRSM7010OP15			150			⑥-37
				NRSM7010OB10			100		2P	⑥-37
				NRSM7010OB15			150			⑥-37
For high speed		1 2	F-SP	VFSHMR010O	SP	P3	75	7	3P	①-184
			F-SL	VFSHMR010OL	SL				5.5P	②-28
	Long	1 2	LS-F-SP	SY010ORFEVES	SP	P3	100	7	3P	①-188
				SY010ORFEVGS			150			①-188
			LS-F-SL	LY010ORFEVE	SL		100		5.5P	②-32
				LY010ORFEVG			150			②-32
Ultra fast tapping (with coolant hole)	For steels	1 2 3 4	HFIHS	HFIHSS010O	SP	P4	75	10	2.5P	①-192
			HFISP	HFISPS010O						①-196
	Carbide taps for cast irons	12 13 16	HFICT-P	HFICTPR010O	HT	P3	75	10	4P	⑤-36
			HFICT-B	HFICTBR010O					2.5P	⑤-38
	For non-ferrous materials	18 19 20 21	HFAHS	HFAHSS010O	SP	P4	75	10	2.5P	①-200
			HFASP	HFASPS010O						①-204
	Carbide taps for non-ferrous materials	16 19 20 21	HFACT-P	HFACTPR010O	HT	P3	75	10	4P	⑤-32
			HFACT-B	HFACTBR010O					2.5P	⑤-34
For dry tapping (with coolant hole)	For steels	2 3 4	HDISP	HDISPS010O	SP	P4	75	10	2.5P	①-208
	For non-ferrous materials	18 19 20 21	HDASP	HDASPS010O	SP	P4	75	10	2.5P	①-212
Ultra fast tapping (with coolant hole)	For both steels and non ferrous materials	2 3 4	HDISL	HDISLS010O	SL	P4	75	10	5.5P	②-34
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM7010OP	RO	G7	75	7	4P	⑥-49
				HRZM7010OB					2P	⑥-49
				HRZM8010OP		G8			4P	⑥-49
				HRZM8010OB					2P	⑥-49
Thread forming taps for carbon steels of medium hardness		2 3 4 5	MHRZ	1110101078	RO	G8	100	7	4P	⑥-4
				1111101078					2P	⑥-4
			MHRZ-J	RY010O8OCTP			75		4P	⑥-8
				RY010O8OCTB					2P	⑥-8
	Long	2 3 4 5	MHRZ	2110101078	RO	G8	150	7	4P	⑥-5
				2111101078					2P	⑥-5
For deep hole use		2 3 4 13	S-SP	SSMQ010O	SP	P2	75	7	2.5P	①-128
		1 2 3 4	S-PO	PSMR010O	PO	P3	75	7	5P	③-78
	Oversize	2 3 4 13	S-SP	SSMR010O	SP	P3	75	7	2.5P	①-128
		1 2 3 4	S-PO	PSMS010O	PO	P4	75	7	5P	③-78
Low spiral		2 3	LO-SP 15°	LSHMQ010O15	SP	P2	75	7	2.5P	①-148
			LO-SP 20°	LSHMQ010O20						①-148
			LO-SP 8°	LSHMQ010O8						①-148
	Long	2 3	LS-LO-SP	LSHMQ010OL15	SP	P2	150	7	2.5P	①-155
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW010O1LEB5	HT	I b	82	8.5	5P	⑦-4
				TW010O1LEBA					1.5P	⑦-4
		15 16 17 18 19 20 21	AL-SP STI	SW010O1LEN	SP	I b	82	8.5	2.5P	⑦-10
			AL-PO STI	PW010O1LEB	PO				5P	⑦-18
		18 19 21	N-RS STI	RW010O5LENP	RO	G5	82	8.5	4P	⑦-25
				RW010O5LENB					2P	⑦-25

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For helical coil wire screw thread inserts	Oversize	18 19 21	AL-HT STI	TW010O3LEB5	HT	I b+30	82	8.5	5P	⑦-4
				TW010O3LEBA					1.5P	⑦-4
		15 16 17 18 19 20 21	AL-SP STI	SW010O3LEN	SP	I b+30	82	8.5	2.5P	⑦-10
	Carbide	19 21	N-CT LA STI	TW010O1LWB5	HT	I b	82	8.5	5P	⑦-26
				TW010O1LWBA					1.5P	⑦-26
With coolant hole		1 2 3 4	MC-SP	(MSHQ010OL10)	SP	P2	100	7	2.5P	①-215
				(MSHQ010OL15)			150			①-215
			MC-PO	(MPHR010OL10)	PO	P3	100		5P	③-106
				(MPHR010OL15)			150			③-106
		1 2 3	MC-HT	(ML10010O5-Q)	HT	P2	100	7	5P	④-137
				(ML15010O5-Q)			150			④-137
				(ML10010O1-Q)			100		1.5P	④-137
				(ML15010O1-Q)			150			④-137
For tapping aluminum cast holes (with oil hole)	Carbide	19	ACHSP	SY010OSLXT	SP	P4	100	10	2.5P	⑤-40
Nut taps		1 2	NT	NH2010O	HT	II b	160	7.8	25P	⑦-28

Taps ／ M10 × 1.25

Standard		2 3	SP	SPQ010N	SP	P2	75	7	2.5P	①-42
			+SP	SNPQ010N						①-59
			SP 1.5P	SY010NQNEBA					1.5P	①-61
			PO	POR010N	PO	P3			5P	③-16
		1 2 3	HT	TNMR010N5T	HT	P3	75	7	5P	④-9
				TNMR010N1T					1.5P	④-9
				TNMR010N5					5P	④-9
				TNMR010N1					1.5P	④-9
	Oversize	2 3	SP	SPR010N	SP	P3	75	7	2.5P	①-42
				SPS010N		P4				①-42
			PO	POS010N	PO				5P	③-16
		1 2 3	HT	TNMS010N5	HT	P4	75	7	5P	④-9
				TNMS010N1					1.5P	④-9
				TNMT010N5		P5			5P	④-9
				TNMT010N1					1.5P	④-9
For left hand threads		2 3	SP LH	SPQ010N–L	SP	P2	75	7	2.5P	①-81
			PO LH	POR010N–L	PO	P3			5P	③-48
		1 2 3	HT LH	TNMR010N5-L	HT	P3	75	7	5P	④-67
				TNMR010N1-L					1.5P	④-67
Oxidizing		1 2 3	SP OX	SPQ010NX	SP	P2	75	7	2.5P	①-67
			PO OX	POR010NX	PO	P3			5P	③-37
	Oversize	1 2 3	SP OX	SPR010NX	SP	P3	75	7	2.5P	①-67
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101079	SP	P3	100	7	2.5P	①-7
		1 2 3 4 9 19 21	AU+SP	VSAPR010N	SP	P3	75	7	2.5P	①-88
			AU+SL	VSAPR010NL	SL				5P	②-14
		1 2 3 4 9 10 13 18 19	VUPO	1102101079	PO	P3	100	7	5P	③-5
		1 2 3 4	PO V	VPOR010N	PO	P3	75	7	5P	③-50
	Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201079	SP	P4	100	7	2.5P	①-7
				1101301079		P5				①-7
			VUPO	1102201079	PO	P4			5P	③-5
				1102301079		P5				③-5
	Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101079	SP	P3	100	7	1.5P	①-16
	Cool hole	1 2 3 4 9 10 13 18 19	VUSP CH	1201101079	SP	P3	100	7	2.5P	①-22
	Long	1 2 3 4 9 10 13 18 19	VUSP	2101101079	SP	P3	150	7	2.5P	①-8
			VUPO	2102101079	PO				5P	③-6

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Long		2 3	LS-SP	SPQ010NL10	SP	P2	100	7	2.5P	①-92
				SPQ010NL12			120			①-92
				SPQ010NL15			150			①-92
				SPQ010NL20			200			①-92
			LS-PO	POR010NL10	PO	P3	100		5P	③-54
				POR010NL12			120			③-54
				POR010NL15			150			③-54
				POR010NL20			200			③-54
		1 2 3	LS-HT	TNMQ010N510	HT	P2	100	7	5P	④-75
				TNMQ010N512			120			④-75
				TNMQ010N515			150			④-75
				TNMQ010N520			200			④-75
				TNMQ010N110			100		1.5P	④-75
				TNMQ010N112			120			④-75
				TNMQ010N115			150			④-75
				TNMQ010N120			200			④-75
	Oversize	2 3	LS-SP	SPR010NL10	SP	P3	100	7	2.5P	①-92
			LS-PO	POS010NL15	PO	P4	150		5P	③-54
		1 2 3	LS-HT	TNMR010N510	HT	P3	100	7	5P	④-75
				TNMR010N515			150			④-75
				TNMR010N110			100		1.5P	④-75
				TNMR010N115			150			④-75
				TNMS010N510		P4	100		5P	④-75
				TNMS010N515			150			④-75
				TNMS010N110			100		1.5P	④-75
				TNMS010N115			150			④-75
	For left hand threads	2 3	LS-SP LH	SPQ010NL15-L	SP	P2	150	7	2.5P	①-97
		1 2 3	LS-HT LH	TNMQ010N515L	HT	P2	150	7	5P	④-84
				TNMQ010N115L					1.5P	④-84
				TNMQ010N510L			100		5P	④-84
				TNMQ010N110L					1.5P	④-84
	Oxidizing	1 2	LS-SP OX	SPQ010NL10X	SP	P2	100	7	2.5P	①-96
				SPQ010NL12X			120			①-96
	Coating	1 2 3 4	LS-SP V	VSPQ010NL15	SP	P2	150	7	2.5P	①-98
			LS-PO V	VPOR010NL15	PO	P3			5P	③-59
		2 3 4	LS-HT V	TNMQ010N510V	HT	P2	100	7	5P	④-86
				TNMQ010N515V			150			④-86
				TNMQ010N110V			100		1.5P	④-86
				TNMQ010N115V			150			④-86
For soft structural steels		1 2	E-SP	ESHMQ010N	SP	P2	75	7	2.5P	①-134
For steels		1 2 3 4 5 9 11	HVSP	SY010NSEEXJ	SP	P4	100	7	2.5P	①-26
Thread forming taps for steels		1 2	N-RZ	NRZM7010NP	RO	G7	75	7	4P	⑥-16
				NRZM7010NB					2P	⑥-16
				NRZM8010NP		G8			4P	⑥-16
				NRZM8010NB					2P	⑥-16
	Long	1 2	LS-N-RZ	NRZM7010NP15	RO	G7	150	7	4P	⑥-24
				NRZM7010NB15					2P	⑥-24
For high carbon steels		2 3	HC-SP	SCMQ010N	SP	P2	75	7	2.5P	①-136
		2 3 5	HC-PO	PCMR010N	PO	P3	75	7	5P	③-80

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For hard-to-machine materials		3 5 6	EH-PO	EPHMS010N	PO	P4	75	7	4.5P	③-86
		6 10	EH-HT	ETHMS010N5	HT	P4	75	7	5P	④-124
				ETHMS010N1					2.5P	④-124
	Powdered HSS	3 5 6	PM-SP	SY010NRDPB	SP	P3	75	7	2.75P	①-174
			LS-PM-SP	SY010NRDPBG			150			①-181
			PM-PO	PY010NSDPB	PO	P4	75		5.5P	③-98
			LS-PM-PO	PY010NSDPBG			150			③-104
For titanium alloys		22	ZET-B	ZETBMR010N	SP	P3	75	7	3P	①-158
			ZET-P	ZETPMS010N	SL	P4			5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMR010N	SP	P3	75	7	3P	①-166
			ZEN-P	ZENPMS010N	PO	P4			4.5P	③-90
For medium hardness carbon steels		3 4 5	MHSP	SY010NSOCLJ	SP	P4	100	7	2.5P	①-36
		2 3 4 5 10	MHSL	1109101079	SL	P4	100	7	5P	②-4
			MHSL-J	MHSLS010N5			75			②-6
Carbide taps for ultra hard materials		8	UH-CT	UHCS010N5	HT	P4	75	8.5	5P	⑤-28
For stainless steels		2 3 4 9	SU-SP	SUMQ010N	SP	P2	75	7	2.5P	①-103
		1 2 3 4 9	SU-PO	PUMR010N	PO	P3	75	7	5P	③-63
		1 2 9	SU-HT	TUMR010N4	HT	P3	75	7	4P	④-90
				TUMR010N1					1.5P	④-90
	Oversize	2 3 4 9	SU-SP	SUMR010N	SP	P3	75	7	2.5P	①-103
				SUMS010N		P4				①-103
		1 2 3 4 9	SU-PO	PUMS010N	PO	P4	75	7	5P	③-63
	For left hand threads	2 3 4 9	SU-SP LH	SUMQ010N--L	SP	P2	75	7	2.5P	①-117
	For deep hole use	1 2 3 9	LS-SU-S-SP	SY010NQGEXES	SP	P2	100	7	2.5P	①-124
				SY010NQGEXGS			150			①-124
			LS-SU-S-PO	PY010NRGEXGS	PO	P3			5P	③-74
	For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MR010N	SP	P3	75	7	3P	①-120
For cast irons		12 13	FC-HT	TY010NRAEN5	HT	P3	75	7	5P	④-94
				TY010NRAENA					1.5P	④-94
	Carbide	12 13 16	N-CT FC	TCNR010N3	HT	P3	75	7	3P	⑤-11
				TCNR010N1					1.5P	⑤-11
				TCNS010N3		P4			3P	⑤-11
				TCNS010N1					1.5P	⑤-11
	Long shank, carbide	12 13 16	LS-N-CT	TY010NRAWB3E	HT	P3	100	7	3P	⑤-18
				TY010NRAWB3G			150			⑤-19
				TY010NRAWBAE			100		1.5P	⑤-19
				TY010NRAWBAG			150			⑤-19
For aluminum		15 16 17 18 19 20 21	AL-SP	ASHMR010N	SP	P3	75	7	2.5P	①-140
			AL-SP 1.5P	SY010NRLENA					1.5P	①-141
		18 19 21	LA-HT	TY010NRLEN5	HT	P3	75	7	5P	④-111
				TY010NRLENA					1.5P	④-111
	AXE	12 19 21	AXE-HT	TAXEMR010N1	HT	P3	75	7	1.5P	④-114
	Carbide	19 21	N-CT LA	TCNR010N3A	HT	P3	75	7	3P	⑤-4
				TCNR010N1A					1.5P	⑤-4
				TCNS010N3A		P4			3P	⑤-4
				TCNS010N1A					1.5P	⑤-4
	Carbide spiral fluted taps	18 19 21	N-CT-SP	SY010NRKWB	SP	P3	75	7	2.5P	⑤-20
For aluminum (with coolant hole)	Carbide	18 19 21	MC-AD-CT	(MCADS010N1)	HT	P4	100	7	1.5P	⑤-42

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM7010NP	RO	G7	75	7	4P	⑥-28
				NRSM7010NB					2P	⑥-28
				NRSM8010NP		G8			4P	⑥-28
				NRSM8010NB					2P	⑥-28
	Long	18 19 21	LS-N-RS	NRSM7010NB10	RO	G7	100	7	2P	⑥-37
				NRSM7010NB15			150			⑥-37
For high speed		1 2	F-SP	VFSHMR010N	SP	P3	75	7	3P	①-184
			F-SL	VFSHMR010NL	SL				5.5P	②-28
	Long	1 2	LS-F-SP	SY010NRFEVES	SP	P3	100	7	3P	①-188
				SY010NRFEVGS			150			①-188
			LS-F-SL	LY010NRFEVE	SL		100		5.5P	②-32
				LY010NRFEVG			150			②-32
Ultra fast tapping(with coolant hole)	For steels	1 2 3 4	HFIHS	HFIHSS010N	SP	P4	75	10	2.5P	①-192
			HFISP	HFISPS010N						①-196
	Carbide taps for cast irons	12 13 16	HFICT-P	HFICTPR010N	HT	P3	75	10	4P	⑤-36
			HFICT-B	HFICTBR010N					2.5P	⑤-38
	For non-ferrous materials	18 19 20 21	HFAHS	HFAHSS010N	SP	P4	75	10	2.5P	①-200
			HFASP	HFASPS010N						①-204
	Carbide taps for non-ferrous materials	16 19 20 21	HFACT-P	HFACTPR010N	HT	P3	75	10	4P	⑤-32
			HFACT-B	HFACTBR010N					2.5P	⑤-34
For dry tapping (with coolant hole)	For steels	2 3 4	HDISP	HDISPS010N	SP	P4	75	10	2.5P	①-208
	For non-ferrous materials	18 19 20 21	HDASP	HDASPS010N	SP	P4	75	10	2.5P	①-212
Ultra fast tapping(with coolant hole)	For both steels and non ferrous materials	2 3 4	HDISL	HDISLS010N	SL	P4	75	10	5.5P	②-34
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM7010NP	RO	G7	75	7	4P	⑥-49
				HRZM7010NB					2P	⑥-49
				HRZM8010NP		G8			4P	⑥-49
				HRZM8010NB					2P	⑥-49
Thread forming taps for carbon steels of medium hardness		2 3 4 5	MHRZ	1110101079	RO	G8	100	7	4P	⑥-4
				1111101079					2P	⑥-4
			MHRZ-J	RY010N8OCTP			75		4P	⑥-8
				RY010N8OCTB					2P	⑥-8
	Long	2 3 4 5	MHRZ	2110101079	RO	G8	150	7	4P	⑥-5
				2111101079					2P	⑥-5
For deep hole use		2 3 4 13	S-SP	SSMQ010N	SP	P2	75	7	2.5P	①-128
		1 2 3 4	S-PO	PSMR010N	PO	P3	75	7	5P	③-78
	Oversize	2 3 4 13	S-SP	SSMR010N	SP	P3	75	7	2.5P	①-128
		1 2 3 4	S-PO	PSMS010N	PO	P4	75	7	5P	③-78
Low spiral	Long	2 3	LS-LO-SP	LSHMQ010NL15	SP	P2	150	7	2.5P	①-155
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW010N1LEB5	HT	I b	82	8.5	5P	⑦-4
				TW010N1LEBA					1.5P	⑦-4
		15 16 17 18 19 20 21	AL-SP STI	SW010N1LEN	SP	I b	82	8.5	2.5P	⑦-10
		18 19 21	N-RS STI	RW010N5LENP	RO	G5	82	8.5	4P	⑦-25
				RW010N5LENB					2P	⑦-25
With coolant hole		1 2 3 4	MC-SP	(MSHQ010NL10)	SP	P2	100	7	2.5P	①-215
				(MSHQ010NL15)			150			①-215
			MC-PO	(MPHR010NL10)	PO	P3	100		5P	③-106
				(MPHR010NL15)			150			③-106
		1 2 3	MC-HT	(ML10010N5-Q)	HT	P2	100	7	5P	④-137
				(ML15010N5-Q)			150			④-137
				(ML10010N1-Q)			100		1.5P	④-137
				(ML15010N1-Q)			150			④-137

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For tapping aluminum cast holes (with oil hole)	Carbide	19	ACHSP	SY010NSLXT	SP	P4	100	10	2.5P	⑤-40
Nut taps		1 2	NT	NH2010N	HT	II	150	7.8	24P	⑦-28
Taps ／ M10 × 1										
Standard		2 3	SP	SPQ010M	SP	P2	75	7	2.5P	①-42
			SP 1.5P	SY010MQNEBA					1.5P	①-61
			PO	POR010M	PO	P3			5P	③-16
		1 2 3	HT	TNMR010M5	HT	P3	75	7	5P	④-9
				TNMR010M1					1.5P	④-9
	Oversize	2 3	SP	SPR010M	SP	P3	75	7	2.5P	①-42
				SPS010M		P4				①-42
			PO	POS010M	PO				5P	③-16
		1 2 3	HT	TNMS010M5	HT	P4	75	7	5P	④-9
				TNMS010M1					1.5P	④-9
For left hand threads		2 3	SP LH	SPQ010M–L	SP	P2	75	7	2.5P	①-81
			PO LH	POR010M–L	PO	P3			5P	③-48
		1 2 3	HT LH	TNMR010M5-L	HT	P3	75	7	5P	④-67
				TNMR010M1-L					1.5P	④-67
Oxidizing		1 2 3	SP OX	SPQ010MX	SP	P2	75	7	2.5P	①-67
			PO OX	POR010MX	PO	P3			5P	③-37
	Oversize	1 2 3	PO OX	POS010MX	PO	P4	75	7	5P	③-37
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101080	SP	P3	100	7	2.5P	①-7
		1 2 3 4 9 19 21	AU+SP	VSAPR010M	SP	P3	75	7	2.5P	①-88
			AU+SL	VSAPR010ML	SL				5P	②-14
		1 2 3 4 9 10 13 18 19	VUPO	1102101080	PO	P3	100	7	5P	③-5
	Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201080	SP	P4	100	7	2.5P	①-7
				1101301080		P5				①-7
			VUPO	1102201080	PO	P4			5P	③-5
				1102301080		P5				③-5
	Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101080	SP	P3	100	7	1.5P	①-16
	Cool hole	1 2 3 4 9 10 13 18 19	VUSP CH	1201101080	SP	P3	100	7	2.5P	①-22
	Long	1 2 3 4 9 10 13 18 19	VUSP	2101101080	SP	P3	150	7	2.5P	①-8
			VUPO	2102101080	PO				5P	③-6
Long		2 3	LS-SP	SPQ010ML10	SP	P2	100	7	2.5P	①-92
				SPQ010ML12			120			①-92
				SPQ010ML15			150			①-92
			LS-PO	POR010ML10	PO	P3	100		5P	③-54
				POR010ML12			120			③-54
				POR010ML15			150			③-54
		1 2 3	LS-HT	TNMQ010M510	HT	P2	100	7	5P	④-75
				TNMQ010M512			120			④-75
				TNMQ010M515			150			④-76
				TNMQ010M110			100		1.5P	④-76
				TNMQ010M112			120			④-76
				TNMQ010M115			150			④-76
For steels		1 2 3 4 5 9 11	HVSP	SY010MSEEXJ	SP	P4	100	7	2.5P	①-26
Thread forming taps for steels		1 2	N-RZ	NRZM7010MP	RO	G7	75	7	4P	⑥-16
				NRZM7010MB					2P	⑥-16
For high carbon steels		2 3	HC-SP	SCMQ010M	SP	P2	75	7	2.5P	①-136
For medium hardness carbon steels		3 4 5	MHSP	SY010MSOCLJ	SP	P4	100	7	2.5P	①-36

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For stainless steels		2 3 4 9	SU-SP	SUMQ010M	SP	P2	75	7	2.5P	①-103
		1 2 3 4 9	SU-PO	PUMR010M	PO	P3	75	7	5P	③-63
		1 2 9	SU-HT	TUMR010M4	HT	P3	75	7	4P	④-90
				TUMR010M1					1.5P	④-90
	Oversize	2 3 4 9	SU-SP	SUMS010M	SP	P4	75	7	2.5P	①-103
	For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MR010M	SP	P3	75	7	3P	①-120
For cast irons		12 13	FC-HT	TY010MRAEN5	HT	P3	75	7	5P	④-94
				TY010MRAENA					1.5P	④-94
	Carbide	12 13 16	N-CT FC	TCNR010M3	HT	P3	70	7	3P	⑤-11
				TCNR010M1					1.5P	⑤-12
				TCNS010M3		P4			3P	⑤-12
				TCNS010M1					1.5P	⑤-12
For aluminum		15 16 17 18 19 20 21	AL-SP	ASHMR010M	SP	P3	75	7	2.5P	①-140
			AL-SP 1.5P	SY010MRLENA					1.5P	①-141
		18 19 21	LA-HT	TY010MRLEN5	HT	P3	75	7	5P	④-111
				TY010MRLENA					1.5P	④-111
	AXE	12 19 21	AXE-HT	TAXEMR010M1	HT	P3	75	7	1.5P	④-114
	Carbide	19 21	N-CT LA	TCNR010M3A	HT	P3	70	7	3P	⑤-4
				TCNR010M1A					1.5P	⑤-4
				TCNS010M3A		P4			3P	⑤-4
				TCNS010M1A					1.5P	⑤-4
For aluminum (with coolant hole)	Carbide	18 19 21	MC-AD-CT	(MCADS010M1)	HT	P4	100	7	1.5P	⑤-42
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM7010MP	RO	G7	75	7	4P	⑥-28
				NRSM7010MB					2P	⑥-28
For dry tapping (with coolant hole)	For steels	2 3 4	HDISP	HDISPS010M	SP	P4	75	10	2.5P	①-208
For deep hole use		2 3 4 13	S-SP	SSMQ010M	SP	P2	75	7	2.5P	①-128
		1 2 3 4	S-PO	PSMR010M	PO	P3	75	7	5P	③-78
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW010M1LEB5	HT	I b	82	8.5	5P	⑦-4
				TW010M1LEBA					1.5P	⑦-4
Nut taps		1 2	NT	NH2010M	HT	II	140	7.8	25P	⑦-28
Taps ／ M10 × 0.75										
Standard		2 3	SP	SPQ010J	SP	P2	75	7	2.5P	①-42
			PO	POR010J	PO	P3			5P	③-16
		1 2 3	HT	TNMR010J5	HT	P3	75	7	5P	④-9
				TNMR010J1					1.5P	④-9
Long		2 3	LS-SP	SPQ010JL15	SP	P2	150	7	2.5P	①-92
Taps ／ M10 × 0.5										
Standard		2 3	SP	SPQ010G	SP	P2	75	7	2.5P	①-42
			PO	POQ010G	PO				5P	③-16
		1 2 3	HT	TNMQ010G5	HT	P2	75	7	5P	④-9
				TNMQ010G1					1.5P	④-9

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Dies ／ M10 × 1.5

Dies selection		Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies		HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYG010ODNEBC	⑩-4
						38	13		TYJ010ODNEBC	⑩-4
						50	16		TYM010ODNEBC	⑩-4
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYG010ODNEBC	⑩-17
						38	13		GYJ010ODNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S4	25	9	1.5P	PYG010OSNEBA	⑩-36
						38	13		PYJ010OSNEBA	⑩-36
						50	16		PYM010OSNEBA	⑩-36
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	25	9	1.5P	PYG010OQNEBA	⑩-36
						38	13		PYJ010OQNEBA	⑩-36
						50	16		PYM010OQNEBA	⑩-36
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	25	9	2P	HGP010O	⑩-46
					P2				HGQ010O	⑩-46

Dies ／ M10 × 1.25

Dies selection		Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies		HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYG010NDNEBC	⑩-4
						38	13		TYJ010NDNEBC	⑩-4
						50	16		TYM010NDNEBC	⑩-4
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYG010NDNEBC	⑩-17
						38	13		GYJ010NDNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S5	25	9	1.5P	PYG010NTNEBA	⑩-36
						38	13		PYJ010NTNEBA	⑩-36
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	25	9	1.5P	PYG010NQNEBA	⑩-36
						38	13		PYJ010NQNEBA	⑩-36
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	25	9	2P	HGP010N	⑩-46
					P2				HGQ010N	⑩-46

Dies ／ M10 × 1

Dies selection		Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies		HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYG010MDNEBC	⑩-4
						38	13		TYJ010MDNEBC	⑩-4
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYG010MDNEBC	⑩-17
						38	13		GYJ010MDNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S5	25	9	1.5P	PYG010MTNEBA	⑩-36
						38	13		PYJ010MTNEBA	⑩-36
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	25	9	1.5P	PYG010MQNEBA	⑩-36
						38	13		PYJ010MQNEBA	⑩-36
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	25	9	2P	HGP010M	⑩-46
					P2				HGQ010M	⑩-46

Dies ／ M10 × 0.75

Dies selection		Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies		HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYG010JDNEBC	⑩-4
						38	13		TYJ010JDNEBC	⑩-4
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYG010JDNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S4	25	9	1.5P	PYG010JSNEBA	⑩-36
						38	13		PYJ010JSNEBA	⑩-36
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	25	9	1.5P	PYG010JQNEBA	⑩-36
						38	13		PYJ010JQNEBA	⑩-36

Dies ／ M10 × 0.5

Dies selection		Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies		HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYG010GDNEBC	⑩-4
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYG010GDNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S6	25	9	1.5P	PYG010GUNEBA	⑩-36
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	25	9	1.5P	PYG010GQNEBA	⑩-36

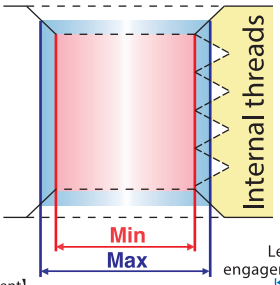
Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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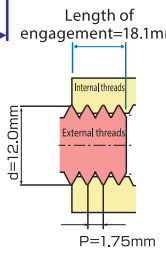
Flowchart : M12 tapping

Boring before tapping — Check 1

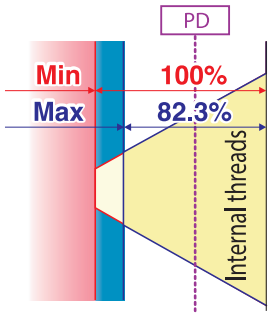


【Length of engagement】
On "middle" engagement class, 7H class can be chosen in case of "L" engagement length.

Symbol	Engagement length classification \ Engagement classification	Fine	Middle	Coarse	Engagement length
S	Short engagement length	4H	5H	–	S≦6(mm)
M	Normal engagement length	5H	6H	7H	6<M≦18(mm)
L	Long engagement length	6H	7H	8H	18<L(mm)



Engagement ratio on cutting taps

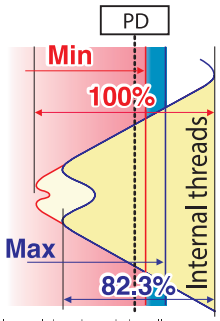


Unit : mm

	Drill size (ref.)	D1 Min	D1 Max
Bored hole size	10.3	10.106	10.441
Engagement ratio	89.7%	100%	82.3%

D1 is minor diameter of JIS 6H(2nd Class) of internal threads

Engagement ratio on roll taps



Internal threads made by roll taps are different from those made by cutting taps on the shape of minor dimameter.

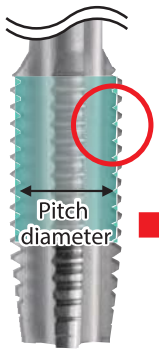
Unit : mm

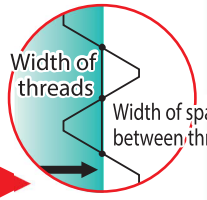
*Hole size for thread forming taps Min	Max
11.09	11.23

Forming condition changes depending on workpiece's Material and shape. Above is for customer's reference.

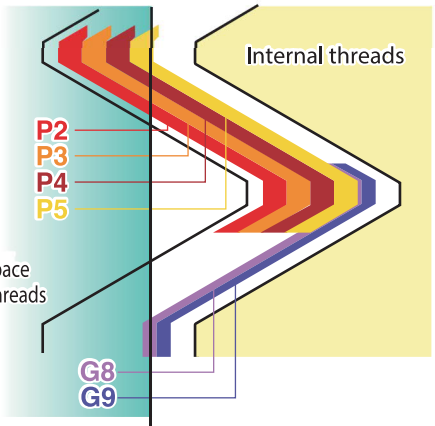
Threading — Check 2

【Pitch diameter】
Diameter of imaginary cylinder or cone which makes equal the width of threads and width of space between the threads





Tolerance area of tap's pitch diameter



【Thread class of cutting taps】

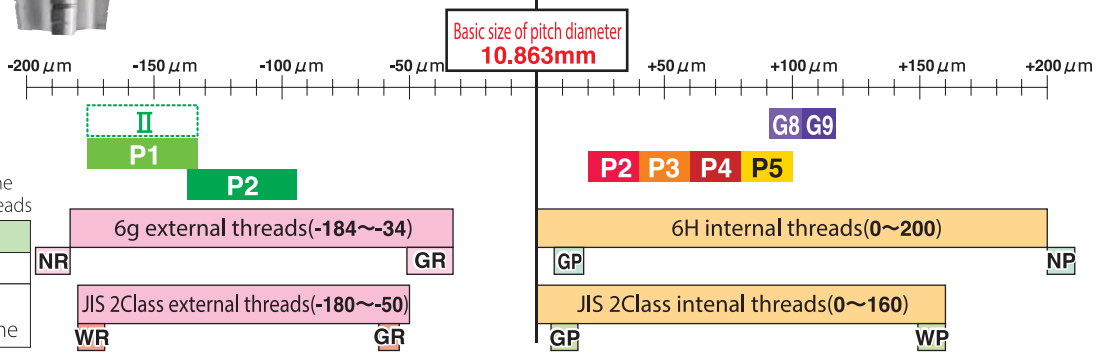
Class	PD tolerance
P2	20μm~40μm
P3	40μm~60μm
P4	60μm~80μm
P5	80μm~100μm

*Above shows the plus tolerance by setting PD basic size as "0".

【Thread class of roll taps】

Class	PD tolerance
G8	89μm~102μm
G9	102μm~114μm

*Above shows the plus tolerance by setting PD basic size as "0".



Tolerance of dies is the target of external threads

Class of dies	
Ⅱ	Solid dies
P1 P2	Solid dies for Auto Lathe

Relative position of PD tolerance area of external threads, internal threads, taps and gages.

Gage check — Check 3

(–) ← Basic size of pitch diameter → (+)
10.863mm

Unit : μm

Ring gage pitch diameter(for external threads inspection)			
NR6g	-202~-184	GR6g	-51~-33
WRⅡ	-180~-172	GRⅡ	-62~-54

NR : NOT GO ring gage GR : GO ring gage
WR : NOT GO working ring gage

Unit : μm

Plug gage pitch diameter(for internal threads inspection)			
GP6H	7~17	NP6H	200~210
GPⅡ	4~12	WPⅡ	152~160

GP : GO plug gage NP : NOT GO plug gage
WP : NOT GO working plug gage

Unit : mm

Accuracy of external threads	Major diameter	Pitch diameter	Minor diameter
6g	11.701~11.966	10.679~10.829	–
JIS 2class	11.760~11.950	10.683~10.813	~9.803



Unit : mm



Accuracy of internal threads	Major diameter	Pitch diameter	Minor diameter
6H	–	10.863~11.063	10.106~10.441
JIS 2class	–	10.863~11.023	10.106~10.441

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Taps / M12 × 1.75

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard		2 3	SP	SPQ012P	SP	P2	82	8.5	2.5P	①-42
			+SP	SNPQ012P						①-59
			SP 1.5P	SY012PQNEBA					1.5P	①-61
			PO	POS012P	PO	P4			5P	③-16
		1 2 3	HT	TNMR012P5T	HT	P3	82	8.5	5P	④-9
				TNMR012P1T					1.5P	④-9
				TNMR012P5					5P	④-9
				TNMR012P1					1.5P	④-9
	Oversize	2 3	SP	SPR012P	SP	P3	82	8.5	2.5P	①-43
				SPS012P		P4				①-43
			PO	POT012P	PO	P5			5P	③-16
				POU012P		P6				③-16
		1 2 3	HT	TNMS012P5	HT	P4	82	8.5	5P	④-9
				TNMS012P1					1.5P	④-9
				TNMT012P5		P5			5P	④-9
				TNMT012P1					1.5P	④-9
For left hand threads		2 3	SP LH	SPQ012P–L	SP	P2	82	8.5	2.5P	①-81
			PO LH	POS012P–L	PO	P4			5P	③-48
		1 2 3	HT LH	TNMR012P5-L	HT	P3	82	8.5	5P	④-67
				TNMR012P1-L					1.5P	④-67
Oxidizing		1 2 3	SP OX	SPQ012PX	SP	P2	82	8.5	2.5P	①-67
			PO OX	POS012PX	PO	P4			5P	③-37
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101088	SP	P4	110	8.5	2.5P	①-7
		1 2 3 4 9 19 21	AU+SP	VSAPR012P	SP	P3	82	8.5	2.5P	①-88
			AU+SL	VSAPS012PL	SL	P4			5P	②-14
		1 2 3 4 9 10 13 18 19	VUPO	1102101088	PO	P4	110	8.5	5P	③-5
		1 2 3 4	PO V	VPOS012P	PO	P4	82	8.5	5P	③-50
	Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201088	SP	P5	110	8.5	2.5P	①-7
				1101301088		P6				①-7
			VUPO	1102201088	PO	P5			5P	③-5
				1102301088		P6				③-5
	Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101088	SP	P4	110	8.5	1.5P	①-16
	Cool hole	1 2 3 4 9 10 13 18 19	VUSP CH	1201101088	SP	P4	110	8.5	2.5P	①-22
	Long	1 2 3 4 9 10 13 18 19	VUSP	2101101088	SP	P4	150	8.5	2.5P	①-8
			VUPO	2102101088	PO				5P	③-6
Long		2 3	LS-SP	SPQ012PL10	SP	P2	100	8.5	2.5P	①-92
				SPQ012PL12			120			①-92
				SPQ012PL15			150			①-92
				SPQ012PL20			200			①-92
			LS-PO	POS012PL10	PO	P4	100		5P	③-54
				POS012PL12			120			③-54
				POS012PL15			150			③-54
				POS012PL20			200			③-54

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Long		1 2 3	LS-HT	TNMQ012P510	HT	P2	100	8.5	5P	④-76
				TNMQ012P512			120			④-76
				TNMQ012P515			150			④-76
				TNMQ012P520			200			④-76
				TNMQ012P525			250			④-76
				TNMQ012P110			100		1.5P	④-76
				TNMQ012P112			120			④-76
				TNMQ012P115			150			④-76
				TNMQ012P120			200			④-76
				TNMQ012P125			250			④-76
	Oversize	2 3	LS-SP	SPR012PL15	SP	P3	150	8.5	2.5P	①-92
			LS-PO	POT012PL15	PO	P5			5P	③-54
		1 2 3	LS-HT	TNMR012P515	HT	P3	150	8.5	5P	④-76
				TNMR012P520			200			④-76
				TNMR012P115			150		1.5P	④-76
				TNMR012P120			200			④-76
				TNMS012P515		P4	150		5P	④-76
				TNMS012P520			200			④-76
				TNMS012P115			150		1.5P	④-76
				TNMS012P120			200			④-76
	For left hand threads	2 3	LS-SP LH	SPQ012PL15-L	SP	P2	150	8.5	2.5P	①-97
		1 2 3	LS-HT LH	TNMQ012P510L	HT	P2	100	8.5	5P	④-84
				TNMQ012P515L			150			④-84
				TNMQ012P110L			100		1.5P	④-85
				TNMQ012P115L			150			④-85
	Oxidizing	1 2	LS-SP OX	SPQ012PL10X	SP	P2	100	8.5	2.5P	①-96
				SPQ012PL15X			150			①-96
	Coating	1 2 3 4	LS-SP V	VSPQ012PL15	SP	P2	150	8.5	2.5P	①-98
			LS-PO V	VPOS012PL15	PO	P4			5P	③-59
		2 3 4	LS-HT V	TNMQ012P510V	HT	P2	100	8.5	5P	④-86
				TNMQ012P515V			150			④-86
				TNMQ012P110V			100		1.5P	④-87
				TNMQ012P115V			150			④-87
For soft structural steels		1 2	E-SP	ESHMQ012P	SP	P2	82	8.5	2.5P	①-134
For steels		1 2 3 4 5 9 11	HVSP	SY012PSEEXJ	SP	P4	110	8.5	2.5P	①-26
Thread forming taps for steels		1 2	N-RZ	NRZM8012PP	RO	G8	82	8.5	4P	⑥-16
				NRZM8012PB					2P	⑥-16
				NRZM9012PP		G9			4P	⑥-16
				NRZM9012PB					2P	⑥-16
For Galvanizing	Oversize	1 2 3 4 5 9 11	HVSP ZP	1112201088	SP	P4+0.1	110	8.5	2.5P	①-34
				1112301088		P4+0.2				①-34
				1112401088		P4+0.3				①-34
For high carbon steels		2 3	HC-SP	SCMQ012P	SP	P2	82	8.5	2.5P	①-136
		2 3 5	HC-PO	PCMS012P	PO	P4	82	8.5	5P	③-80
	Oxidizing	2 3	HC-SP OX	SCMQ012PX	SP	P2	82	8.5	2.5P	①-138
For hard-to-machine materials		3 5 6	EH-PO	EPHMS012P	PO	P4	82	8.5	4.5P	③-86
		6 10	EH-HT	ETHMS012P5	HT	P4	82	8.5	5P	④-124
				ETHMS012P1					2.5P	④-124
	Powdered HSS	3 5 6	PM-SP	SY012PRDPB	SP	P3	82	8.5	2.75P	①-174
			LS-PM-SP	SY012PRDPBG			150			①-181
			PM-PO	PY012PSDPB	PO	P4	82		5.5P	③-98
			LS-PM-PO	PY012PSDPBG			150			③-104

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For titanium alloys		22	ZET-B	ZETBMR012P	SP	P3	82	8.5	3P	①-158
			ZET-P	ZETPMT012P	SL	P5			5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMR012P	SP	P3	82	8.5	3P	①-166
			ZEN-P	ZENPMT012P	PO	P5			4.5P	③-90
For medium hardness carbon steels		3 4 5	MHSP	SY012PSOCLJ	SP	P4	110	8.5	2.5P	①-36
		2 3 4 5 10	MHSL	1109101088	SL	P5	110	8.5	5P	②-4
			MHSL-J	MHSLT012P5			82			②-6
Carbide taps for hard materials		7	EH-CT	EHCS012P5	HT	P4	82	8.5	5P	⑤-24
Carbide taps for ultra hard materials		8	UH-CT	UHCS012P5	HT	P4	82	10.5	5P	⑤-28
For stainless steels		2 3 4 9	SU-SP	SUMQ012P	SP	P2	82	8.5	2.5P	①-103
		1 2 3 4 9	SU-PO	PUMS012P	PO	P4	82	8.5	5P	③-63
		1 2 9	SU-HT	TUMS012P4	HT	P4	82	8.5	4P	④-90
				TUMS012P1					1.5P	④-90
	Oversize	2 3 4 9	SU-SP	SUMR012P	SP	P3	82	8.5	2.5P	①-103
				SUMS012P		P4				①-103
		1 2 3 4 9	SU-PO	PUMT012P	PO	P5	82	8.5	5P	③-63
	For left hand threads	2 3 4 9	SU-SP LH	SUMQ012P--L	SP	P2	82	8.5	2.5P	①-117
	For deep hole use	1 2 3 4 9	SU-S-SP	SSMQ012P-SU	SP	P2	82	8.5	2.5P	①-123
		1 2 3 9	LS-SU-S-SP	SY012PQGEXES	SP	P2	100	8.5	2.5P	①-124
				SY012PQGEXGS			150			①-125
				SY012PQGEXKS			200			①-125
			LS-SU-S-PO	PY012PSGEXES	PO	P4	100		5P	③-74
				PY012PSGEXGS			150			③-74
	For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MR012P	SP	P3	82	8.5	3P	①-120
For cast irons		12 13	FC-HT	TY012PSAEN5	HT	P4	82	8.5	5P	④-94
				TY012PSAENA					1.5P	④-94
	Carbide	12 13 16	N-CT FC	TCNR012P3	HT	P3	82	8.5	3P	⑤-12
				TCNR012P1					1.5P	⑤-12
				TCNS012P3		P4			3P	⑤-12
				TCNS012P1					1.5P	⑤-12
	Long shank, carbide	12 13 16	LS-N-CT	TY012PSAWB3G	HT	P4	150	8.5	3P	⑤-19
				TY012PSAWBAG					1.5P	⑤-19
For aluminum		15 16 17 18 19 20 21	AL-SP	ASHMR012P	SP	P3	82	8.5	2.5P	①-140
			AL-SP 1.5P	SY012PRLENA					1.5P	①-141
		18 19 21	LA-HT	TY012PSLEN5	HT	P4	82	8.5	5P	④-111
				TY012PSLENA					1.5P	④-111
	AXE	12 19 21	AXE-HT	TAXEMR012P1	HT	P3	82	8.5	1.5P	④-114
	Carbide	19 21	N-CT LA	TCNR012P3A	HT	P3	82	8.5	3P	⑤-4
				TCNR012P1A					1.5P	⑤-4
				TCNS012P3A		P4			3P	⑤-4
				TCNS012P1A					1.5P	⑤-4
	Carbide spiral fluted taps	18 19 21	N-CT-SP	SY012PSKWB	SP	P4	82	8.5	2.5P	⑤-20
	Carbide spiral pointed taps	15 16 17 18 19 20 21	N-CT-PO	PCNS012P	PO	P4	82	8.5	5P	⑤-21
For aluminum (with coolant hole)	Carbide	18 19 21	MC-AD-CT	(MCADS012P1)	HT	P4	100	8.5	1.5P	⑤-42
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM8012PP	RO	G8	82	8.5	4P	⑥-29
				NRSM8012PB					2P	⑥-29
				NRSM9012PB		G9				⑥-29
				NRSM9012PP					4P	⑥-29

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For high speed		1 2	F-SP	VFSHMS012P	SP	P4	82	8.5	3P	①-184
			F-SL	VFSHMS012PL	SL				5.5P	②-28
	Long	1 2	LS-F-SP	SY012PSFEVGS	SP	P4	150	8.5	3P	①-188
			LS-F-SL	LY012PSFEVG	SL				5.5P	②-32
Ultra fast tapping(with coolant hole)	For steels	1 2 3 4	HFIHS	HFIHSS012P	SP	P4	82	12	2.5P	①-192
			HFISP	HFISPS012P						①-196
	Carbide taps for cast irons	12 13 16	HFICT-P	HFICTPR012P	HT	P3	82	12	4P	⑤-36
			HFICT-B	HFICTBR012P					2.5P	⑤-38
	For non-ferrous materials	18 19 20 21	HFAHS	HFAHSS012P	SP	P4	82	12	2.5P	①-200
			HFASP	HFASPS012P						①-204
	Carbide taps for non-ferrous materials	16 19 20 21	HFACT-P	HFACTPR012P	HT	P3	82	12	4P	⑤-32
			HFACT-B	HFACTBR012P					2.5P	⑤-34
For dry tapping (with coolant hole)	For steels	2 3 4	HDISP	HDISPS012P	SP	P4	82	12	2.5P	①-208
	For non-ferrous materials	18 19 20 21	HDASP	HDASPS012P	SP	P4	82	12	2.5P	①-212
Ultra fast tapping(with coolant hole)	For both steels and non ferrous materials	2 3 4	HDISL	HDISLS012P	SL	P4	82	12	5.5P	②-34
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM8012PP	RO	G8	82	8.5	4P	⑥-49
				HRZM8012PB					2P	⑥-49
				HRZM9012PP		G9			4P	⑥-49
				HRZM9012PB					2P	⑥-49
Thread forming taps for carbon steels of medium hardness		2 3 4 5	MHRZ	1110101088	RO	G8	110	8.5	4P	⑥-4
				1111101088					2P	⑥-4
			MHRZ-J	RY012P8OCTP			82		4P	⑥-8
				RY012P8OCTB					2P	⑥-8
	Long	2 3 4 5	MHRZ	2110101088	RO	G8	150	8.5	4P	⑥-5
				2111101088					2P	⑥-5
For deep hole use		2 3 4 13	S-SP	SSMQ012P	SP	P2	82	8.5	2.5P	①-128
		1 2 3 4	S-PO	PSMS012P	PO	P4	82	8.5	5P	③-78
	Oversize	2 3 4 13	S-SP	SSMR012P	SP	P3	82	8.5	2.5P	①-128
		1 2 3 4	S-PO	PSMT012P	PO	P5	82	8.5	5P	③-78
Low spiral		2 3	LO-SP 15°	LSHMQ012P15	SP	P2	82	8.5	2.5P	①-148
			LO-SP 20°	LSHMQ012P20						①-148
			LO-SP 8°	LSHMQ012P8						①-148
	Long	2 3	LS-LO-SP	LSHMQ012PL15	SP	P2	150	8.5	2.5P	①-155
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW012P1LEB5	HT	I b	95	12.5	5P	⑦-4
				TW012P1LEBA					1.5P	⑦-4
		15 16 17 18 19 20 21	AL-SP STI	SW012P1LEN	SP	I b	95	12.5	2.5P	⑦-10
			AL-PO STI	PW012P1LEB	PO				5P	⑦-18
		18 19 21	N-RS STI	RW012P6LENP	RO	G6	95	12.5	4P	⑦-25
				RW012P6LENB					2P	⑦-25
With coolant hole		1 2 3 4	MC-SP	(MSHQ012PL10)	SP	P2	100	8.5	2.5P	①-215
				(MSHQ012PL15)			150			①-215
				(MSHQ012PL20)			200			①-215
			MC-PO	(MPHS012PL10)	PO	P4	100		5P	③-106
				(MPHS012PL15)			150			③-106
				(MPHS012PL20)			200			③-106

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
With coolant hole	1 2 3	MC-HT	(ML10012P5-Q)	HT	P2	100	8.5	5P	④-137
			(ML15012P5-Q)			150			④-137
			(ML20012P5-Q)			200			④-137
			(ML10012P1-Q)			100		1.5P	④-138
			(ML15012P1-Q)			150			④-138
			(ML20012P1-Q)			200			④-138
Nut taps	1 2	NT	NH2012P	HT	Ⅱb	170	9	26P	⑦-28
Taps ／ M12 × 1.5									
Standard	2 3	SP	SPQ012O	SP	P2	82	8.5	2.5P	①-43
		SP 1.5P	SY012OQNEBA					1.5P	①-61
		PO	POR012O	PO	P3			5P	③-16
	1 2 3	HT	TNMR012O5	HT	P3	82	8.5	5P	④-10
			TNMR012O1					1.5P	④-10
Oversize	2 3	SP	SPR012O	SP	P3	82	8.5	2.5P	①-43
			SPS012O		P4				①-43
		PO	POS012O	PO				5P	③-16
			POT012O		P5				③-16
	1 2 3	HT	TNMS012O5	HT	P4	82	8.5	5P	④-10
			TNMS012O1					1.5P	④-10
			TNMT012O5		P5			5P	④-10
			TNMT012O1					1.5P	④-10
For left hand threads	2 3	SP LH	SPQ012O–L	SP	P2	82	8.5	2.5P	①-81
		PO LH	POR012O–L	PO	P3			5P	③-48
	1 2 3	HT LH	TNMR012O5-L	HT	P3	82	8.5	5P	④-67
			TNMR012O1-L					1.5P	④-67
Oxidizing	1 2 3	SP OX	SPQ012OX	SP	P2	82	8.5	2.5P	①-67
		PO OX	POR012OX	PO	P3			5P	③-37
Coating	1 2 3 4 9 10 13 18 19	VUSP	1101101089	SP	P3	110	8.5	2.5P	①-7
	1 2 3 4 9 19 21	AU+SP	VSAPR012O	SP	P3	82	8.5	2.5P	①-88
		AU+SL	VSAPR012OL	SL				5P	②-14
	1 2 3 4 9 10 13 18 19	VUPO	1102101089	PO	P3	110	8.5	5P	③-5
	1 2 3 4	PO V	VPOR012O	PO	P3	82	8.5	5P	③-50
Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201089	SP	P4	110	8.5	2.5P	①-7
			1101301089		P5				①-7
		VUPO	1102201089	PO	P4			5P	③-5
			1102301089		P5				③-5
Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101089	SP	P3	110	8.5	1.5P	①-16
Cool hole	1 2 3 4 9 10 13 18 19	VUSP CH	1201101089	SP	P3	110	8.5	2.5P	①-22
Long	1 2 3 4 9 10 13 18 19	VUSP	2101101089	SP	P3	150	8.5	2.5P	①-8
		VUPO	2102101089	PO				5P	③-6

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Long	2 3	LS-SP	SPQ012OL10	SP	P2	100	8.5	2.5P	①-92
			SPQ012OL12			120			①-92
			SPQ012OL15			150			①-92
			SPQ012OL20			200			①-92
		LS-PO	POR012OL10	PO	P3	100		5P	③-54
			POR012OL12			120			③-54
			POR012OL15			150			③-54
			POR012OL20			200			③-54
	1 2 3	LS-HT	TNMQ012O510	HT	P2	100	8.5	5P	④-76
			TNMQ012O512			120			④-76
			TNMQ012O515			150			④-76
			TNMQ012O520			200			④-76
			TNMQ012O110			100		1.5P	④-76
			TNMQ012O112			120			④-76
			TNMQ012O115			150			④-76
			TNMQ012O120			200			④-76
Oversize	2 3	LS-SP	SPR012OL15	SP	P3	150	8.5	2.5P	①-92
		LS-PO	POS012OL15	PO	P4			5P	③-54
	1 2 3	LS-HT	TNMR012O515	HT	P3	150	8.5	5P	④-76
			TNMR012O115					1.5P	④-76
			TNMS012O515		P4			5P	④-76
			TNMS012O520			200			④-76
			TNMS012O115			150		1.5P	④-76
			TNMS012O120			200			④-76
For left hand threads	2 3	LS-SP LH	SPQ012OL15-L	SP	P2	150	8.5	2.5P	①-97
	1 2 3	LS-HT LH	TNMQ012O515L	HT	P2	150	8.5	5P	④-85
			TNMQ012O115L					1.5P	④-85
Coating	1 2 3 4	LS-SP V	VSPQ012OL15	SP	P2	150	8.5	2.5P	①-98
		LS-PO V	VPOR012OL15	PO	P3			5P	③-59
	2 3 4	LS-HT V	TNMQ012O510V	HT	P2	100	8.5	5P	④-87
			TNMQ012O515V			150			④-87
			TNMQ012O110V			100		1.5P	④-87
			TNMQ012O115V			150			④-87
For soft structural steels	1 2	E-SP	ESHMQ012O	SP	P2	82	8.5	2.5P	①-134
For steels	1 2 3 4 5 9 11	HVSP	SY012OSEEXJ	SP	P4	110	8.5	2.5P	①-26
Thread forming taps for steels	1 2	N-RZ	NRZM8012OP	RO	G8	82	8.5	4P	⑥-16
			NRZM8012OB					2P	⑥-16
			NRZM9012OP		G9			4P	⑥-16
			NRZM9012OB					2P	⑥-16
For high carbon steels	2 3	HC-SP	SCMQ012O	SP	P2	82	8.5	2.5P	①-136
	2 3 5	HC-PO	PCMR012O	PO	P3	82	8.5	5P	③-80
For hard-to-machine materials	3 5 6	EH-PO	EPHMS012O	PO	P4	82	8.5	4.5P	③-86
	6 10	EH-HT	ETHMS012O5	HT	P4	82	8.5	5P	④-124
			ETHMS012O1					2.5P	④-124
Powdered HSS	3 5 6	PM-SP	SY012ORDPB	SP	P3	82	8.5	2.75P	①-174
		LS-PM-SP	SY012ORDPBG			150			①-181
		PM-PO	PY012OSDPB	PO	P4	82		5.5P	③-98
		LS-PM-PO	PY012OSDPBG			150			③-104

Think threads with YAMAWA

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*D*s	ℓc

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*D*s	ℓc	Product page
For titanium alloys		22	ZET-B	ZETBMR012O	SP	P3	82	8.5	3P	①-158
			ZET-P	ZETPMS012O	SL	P4			5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMR012O	SP	P3	82	8.5	3P	①-166
			ZEN-P	ZENPMS012O	PO	P4			4.5P	③-90
For medium hardness carbon steels		3 4 5	MHSP	SY012OSOCLJ	SP	P4	110	8.5	2.5P	①-36
		2 3 4 5 10	MHSL	1109101089	SL	P5	110	8.5	5P	②-4
			MHSL-J	MHSLT012O5			82			②-6
Carbide taps for ultra hard materials		8	UH-CT	UHCS012O5	HT	P4	82	10.5	5P	⑤-28
For stainless steels		2 3 4 9	SU-SP	SUMQ012O	SP	P2	82	8.5	2.5P	①-103
		1 2 3 4 9	SU-PO	PUMR012O	PO	P3	82	8.5	5P	③-63
		1 2 9	SU-HT	TUMR012O4	HT	P3	82	8.5	4P	④-90
				TUMR012O1					1.5P	④-90
	Oversize	2 3 4 9	SU-SP	SUMR012O	SP	P3	82	8.5	2.5P	①-103
				SUMS012O		P4				①-103
		1 2 3 4 9	SU-PO	PUMT012O	PO	P5	82	8.5	5P	③-63
	For left hand threads	2 3 4 9	SU-SP LH	SUMQ012O–L	SP	P2	82	8.5	2.5P	①-117
	For deep hole use	1 2 3 9	LS-SU-S-SP	SY012OQGEXGS	SP	P2	150	8.5	2.5P	①-125
				SY012OQGEXKS			200			①-125
			LS-SU-S-PO	PY012ORGEXGS	PO	P3	150		5P	③-74
	For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MR012O	SP	P3	82	8.5	3P	①-120
For cast irons		12 13	FC-HT	TY012OSAEN5	HT	P4	82	8.5	5P	④-94
				TY012OSAENA					1.5P	④-94
	Carbide	12 13 16	N-CT FC	TCNR012O3	HT	P3	82	8.5	3P	⑤-12
				TCNR012O1					1.5P	⑤-12
				TCNS012O3		P4			3P	⑤-12
				TCNS012O1					1.5P	⑤-12
	Long shank, carbide	12 13 16	LS-N-CT	TY012OSAWB3G	HT	P4	150	8.5	3P	⑤-19
				TY012OSAWBAG					1.5P	⑤-19
For aluminum		15 16 17 18 19 20 21	AL-SP	ASHMR012O	SP	P3	82	8.5	2.5P	①-140
			AL-SP 1.5P	SY012ORLENA					1.5P	①-141
		18 19 21	LA-HT	TY012OSLEN5	HT	P4	82	8.5	5P	④-111
				TY012OSLENA					1.5P	④-111
	AXE	12 19 21	AXE-HT	TAXEMR012O1	HT	P3	82	8.5	1.5P	④-114
	Carbide	19 21	N-CT LA	TCNR012O3A	HT	P3	82	8.5	3P	⑤-4
				TCNR012O1A					1.5P	⑤-4
				TCNS012O3A		P4			3P	⑤-4
				TCNS012O1A					1.5P	⑤-5
	Carbide spiral fluted taps	18 19 21	N-CT-SP	SY012OSKWB	SP	P4	82	8.5	2.5P	⑤-20
For aluminum (with coolant hole)	Carbide	18 19 21	MC-AD-CT	(MCADS012O1)	HT	P4	100	8.5	1.5P	⑤-42
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM8012OP	RO	G8	82	8.5	4P	⑥-29
				NRSM8012OB					2P	⑥-29
				NRSM9012OP		G9			4P	⑥-29
				NRSM9012OB					2P	⑥-29

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*D*s	ℓc	Product page
For high speed		1 2	F-SP	VFSHMR012O	SP	P3	82	8.5	3P	①-184
			F-SL	VFSHMR012OL	SL				5.5P	②-28
	Long	1 2	LS-F-SP	SY012ORFEVGS	SP	P3	150	8.5	3P	①-188
			LS-F-SL	LY012ORFEVG	SL				5.5P	②-32
Ultra fast tapping(with coolant hole)	For steels	1 2 3 4	HFIHS	HFIHSS012O	SP	P4	82	12	2.5P	①-192
			HFISP	HFISPS012O						①-196
	Carbide taps for cast irons	12 13 16	HFICT-P	HFICTPR012O	HT	P3	82	12	4P	⑤-36
			HFICT-B	HFICTBR012O					2.5P	⑤-38
	For non-ferrous materials	18 19 20 21	HFAHS	HFAHSS012O	SP	P4	82	12	2.5P	①-200
			HFASP	HFASPS012O						①-204
	Carbide taps for non-ferrous materials	16 19 20 21	HFACT-P	HFACTPR012O	HT	P3	82	12	4P	⑤-32
			HFACT-B	HFACTBR012O					2.5P	⑤-34
For dry tapping (with coolant hole)	For steels	2 3 4	HDISP	HDISPS012O	SP	P4	82	12	2.5P	①-208
	For non-ferrous materials	18 19 20 21	HDASP	HDASPS012O	SP	P4	82	12	2.5P	①-212
Ultra fast tapping(with coolant hole)	For both steels and non ferrous materials	2 3 4	HDISL	HDISLS012O	SL	P4	82	12	5.5P	②-34
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM8012OP	RO	G8	82	8.5	4P	⑥-49
				HRZM8012OB					2P	⑥-49
				HRZM9012OP		G9			4P	⑥-49
				HRZM9012OB					2P	⑥-49
Thread forming taps for carbon steels of medium hardness		2 3 4 5	MHRZ	1110101089	RO	G8	110	8.5	4P	⑥-4
				1111101089					2P	⑥-4
			MHRZ-J	RY012O8OCTP			82		4P	⑥-8
				RY012O8OCTB					2P	⑥-8
	Long	2 3 4 5	MHRZ	2110101089	RO	G8	150	8.5	4P	⑥-5
				2111101089					2P	⑥-5
For deep hole use		2 3 4 13	S-SP	SSMQ012O	SP	P2	82	8.5	2.5P	①-128
		1 2 3 4	S-PO	PSMR012O	PO	P3	82	8.5	5P	③-78
	Oversize	2 3 4 13	S-SP	SSMR012O	SP	P3	82	8.5	2.5P	①-128
		1 2 3 4	S-PO	PSMT012O	PO	P5	82	8.5	5P	③-78
Low spiral	Long	2 3	LS-LO-SP	LSHMQ012OL15	SP	P2	150	8.5	2.5P	①-155
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW012O1LEB5	HT	I b	88	10.5	5P	⑦-4
				TW012O1LEBA					1.5P	⑦-4
		15 16 17 18 19 20 21	AL-SP STI	SW012O1LEN	SP	I b	88	10.5	2.5P	⑦-10
		18 19 21	N-RS STI	RW012O6LENP	RO	G6	88	10.5	4P	⑦-25
				RW012O6LENB					2P	⑦-25
With coolant hole		1 2 3 4	MC-SP	(MSHQ012OL10)	SP	P2	100	8.5	2.5P	①-215
				(MSHQ012OL15)			150			①-215
				(MSHQ012OL20)			200			①-215
			MC-PO	(MPHR012OL10)	PO	P3	100		5P	③-106
				(MPHR012OL15)			150			③-106
				(MPHR012OL20)			200			③-106
		1 2 3	MC-HT	(ML10012O5-Q)	HT	P2	100	8.5	5P	④-138
				(ML15012O5-Q)			150			④-138
				(ML20012O5-Q)			200			④-138
				(ML10012O1-Q)			100		1.5P	④-138

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
With coolant hole	1 2 3	MC-HT	(ML15012O1-Q)	HT	P2	150	8.5	1.5P	④-138
			(ML20012O1-Q)			200			④-138
Nut taps	1 2	NT	NH2012O	HT	II	160	9	25P	⑦-28
Taps ／ M12 × 1.25									
Standard	2 3	SP	SPQ012N	SP	P2	82	8.5	2.5P	①-43
		+SP	SNPQ012N						①-59
		SP 1.5P	SY012NQNEBA					1.5P	①-61
		PO	POS012N	PO	P4			5P	③-16
	1 2 3	HT	TNMS012N5T	HT	P4	82	8.5	5P	④-10
			TNMS012N1T					1.5P	④-10
			TNMS012N5					5P	④-10
			TNMS012N1					1.5P	④-10
Oversize	2 3	SP	SPR012N	SP	P3	82	8.5	2.5P	①-43
			SPS012N		P4				①-43
		PO	POT012N	PO	P5			5P	③-16
	1 2 3	HT	TNMT012N5	HT	P5	82	8.5	5P	④-10
			TNMT012N1					1.5P	④-10
For left hand threads	2 3	SP LH	SPQ012N–L	SP	P2	82	8.5	2.5P	①-81
		PO LH	POS012N–L	PO	P4			5P	③-48
	1 2 3	HT LH	TNMS012N5-L	HT	P4	82	8.5	5P	④-67
			TNMS012N1-L					1.5P	④-67
Oxidizing	1 2 3	SP OX	SPQ012NX	SP	P2	82	8.5	2.5P	①-67
		PO OX	POS012NX	PO	P4			5P	③-37
Coating	1 2 3 4 9 10 13 18 19	VUSP	1101101090	SP	P3	110	8.5	2.5P	①-7
	1 2 3 4 9 19 21	AU+SP	VSAPR012N	SP	P3	82	8.5	2.5P	①-88
		AU+SL	VSAPR012NL	SL				5P	②-14
	1 2 3 4 9 10 13 18 19	VUPO	1102101090	PO	P4	110	8.5	5P	③-5
	1 2 3 4	PO V	VPOS012N	PO	P4	82	8.5	5P	③-50
Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201090	SP	P4	110	8.5	2.5P	①-7
			1101301090		P5				①-7
		VUPO	1102201090	PO				5P	③-5
			1102301090		P6				③-5
Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101090	SP	P3	110	8.5	1.5P	①-16
Cool hole	1 2 3 4 9 10 13 18 19	VUSP CH	1201101090	SP	P3	110	8.5	2.5P	①-22
Long	1 2 3 4 9 10 13 18 19	VUSP	2101101090	SP	P3	150	8.5	2.5P	①-8
		VUPO	2102101090	PO	P4			5P	③-6
Long	2 3	LS-SP	SPQ012NL10	SP	P2	100	8.5	2.5P	①-92
			SPQ012NL12			120			①-93
			SPQ012NL15			150			①-93
			SPQ012NL20			200			①-93
		LS-PO	POS012NL10	PO	P4	100		5P	③-54
			POS012NL12			120			③-54
			POS012NL15			150			③-54
			POS012NL20			200			③-54
	1 2 3	LS-HT	TNMQ012N510	HT	P2	100	8.5	5P	④-76
			TNMQ012N512			120			④-76
			TNMQ012N515			150			④-76
			TNMQ012N520			200			④-76
			TNMQ012N110			100		1.5P	④-76

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Long	1 2 3	LS-HT	TNMQ012N112	HT	P2	120	8.5	1.5P	④-76
			TNMQ012N115			150			④-76
			TNMQ012N120			200			④-76
Oversize	2 3	LS-SP	SPR012NL15	SP	P3	150	8.5	2.5P	①-93
		LS-PO	POT012NL15	PO	P5			5P	③-55
	1 2 3	LS-HT	TNMR012N515	HT	P3	150	8.5	5P	④-76
			TNMR012N115					1.5P	④-76
			TNMS012N515		P4			5P	④-76
			TNMS012N520			200			④-76
			TNMS012N115			150		1.5P	④-76
			TNMS012N120			200			④-76
For left hand threads	2 3	LS-SP LH	SPQ012NL15-L	SP	P2	150	8.5	2.5P	①-97
	1 2 3	LS-HT LH	TNMQ012N515L	HT	P2	150	8.5	5P	④-85
			TNMQ012N115L					1.5P	④-85
Oxidizing	1 2	LS-SP OX	SPQ012NL12X	SP	P2	120	8.5	2.5P	①-96
Coating	1 2 3 4	LS-SP V	VSPQ012NL15	SP	P2	150	8.5	2.5P	①-98
		LS-PO V	VPOS012NL15	PO	P4			5P	③-59
	2 3 4	LS-HT V	TNMQ012N510V	HT	P2	100	8.5	5P	④-87
			TNMQ012N515V			150			④-87
			TNMQ012N110V			100		1.5P	④-87
			TNMQ012N115V			150			④-87
For soft structural steels	1 2	E-SP	ESHMQ012N	SP	P2	82	8.5	2.5P	①-134
For steels	1 2 3 4 5 9 11	HVSP	SY012NSEEXJ	SP	P4	110	8.5	2.5P	①-26
Thread forming taps for steels	1 2	N-RZ	NRZM8012NP	RO	G8	82	8.5	4P	⑥-16
			NRZM8012NB					2P	⑥-17
			NRZM9012NP		G9			4P	⑥-17
			NRZM9012NB					2P	⑥-17
For high carbon steels	2 3	HC-SP	SCMQ012N	SP	P2	82	8.5	2.5P	①-136
	2 3 5	HC-PO	PCMS012N	PO	P4	82	8.5	5P	③-80
For hard-to-machine materials	3 5 6	EH-PO	EPHMS012N	PO	P4	82	8.5	4.5P	③-86
	6 10	EH-HT	ETHMS012N5	HT	P4	82	8.5	5P	④-124
			ETHMS012N1					2.5P	④-124
Powdered HSS	3 5 6	PM-SP	SY012NSDPB	SP	P4	82	8.5	2.75P	①-174
		LS-PM-SP	SY012NSDPBG			150			①-181
		PM-PO	PY012NSDPB	PO		82		5.5P	③-98
		LS-PM-PO	PY012NSDPBG			150			③-104
For titanium alloys	22	ZET-B	ZETBMR012N	SP	P3	82	8.5	3P	①-158
		ZET-P	ZETPMT012N	SL	P5			5P	②-22
For nickel base alloys	1 2 9 23	ZEN-B	ZENBMR012N	SP	P3	82	8.5	3P	①-166
		ZEN-P	ZENPMT012N	PO	P5			4.5P	③-90
For medium hardness carbon steels	3 4 5	MHSP	SY012NSOCLJ	SP	P4	110	8.5	2.5P	①-36

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For medium hardness carbon steels		2 3 4 5 10	MHSL	1109101090	SL	P5	110	8.5	7P	②-4
			MHSL-J	MHSLT012N7			82			②-6
Carbide taps for ultra hard materials		8	UH-CT	UHCS012N5	HT	P4	82	10.5	5P	⑤-28
For stainless steels		2 3 4 9	SU-SP	SUMQ012N	SP	P2	82	8.5	2.5P	①-103
		1 2 3 4 9	SU-PO	PUMS012N	PO	P4	82	8.5	5P	③-63
		1 2 9	SU-HT	TUMS012N4	HT	P4	82	8.5	4P	④-91
				TUMS012N1					1.5P	④-91
	Oversize	2 3 4 9	SU-SP	SUMR012N	SP	P3	82	8.5	2.5P	①-103
				SUMS012N		P4				①-103
		1 2 3 4 9	SU-PO	PUMT012N	PO	P5	82	8.5	5P	③-63
	For left hand threads	2 3 4 9	SU-SP LH	SUMQ012N--L	SP	P2	82	8.5	2.5P	①-117
	For deep hole use	1 2 3 9	LS-SU-S-SP	SY012NQGEXGS	SP	P2	150	8.5	2.5P	①-125
				SY012NQGEXKS			200			①-125
			LS-SU-S-PO	PY012NSGEXGS	PO	P4	150		5P	③-74
	For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MR012N	SP	P3	82	8.5	3P	①-120
For cast irons		12 13	FC-HT	TY012NSAEN5	HT	P4	82	8.5	5P	④-94
				TY012NSAENA					1.5P	④-94
	Carbide	12 13 16	N-CT FC	TCNR012N3	HT	P3	80	8.5	3P	⑤-12
				TCNR012N1					1.5P	⑤-12
				TCNS012N3		P4			3P	⑤-12
				TCNS012N1					1.5P	⑤-12
	Long shank, carbide	12 13 16	LS-N-CT	TY012NSAWB3G	HT	P4	150	8.5	3P	⑤-19
				TY012NSAWBAG					1.5P	⑤-19
For aluminum		15 16 17 18 19 20 21	AL-SP	ASHMR012N	SP	P3	82	8.5	2.5P	①-140
			AL-SP 1.5P	SY012NRLENA					1.5P	①-141
		18 19 21	LA-HT	TY012NSLEN5	HT	P4	82	8.5	5P	④-111
				TY012NSLENA					1.5P	④-111
	AXE	12 19 21	AXE-HT	TAXEMR012N1	HT	P3	82	8.5	1.5P	④-114
	Carbide	19 21	N-CT LA	TCNR012N3A	HT	P3	80	8.5	3P	⑤-5
				TCNR012N1A					1.5P	⑤-5
				TCNS012N3A		P4			3P	⑤-5
				TCNS012N1A					1.5P	⑤-5
	Carbide spiral fluted taps	18 19 21	N-CT-SP	SY012NSKWB	SP	P4	80	8.5	2.5P	⑤-20
For aluminum (with coolant hole)	Carbide	18 19 21	MC-AD-CT	(MCADS012N1)	HT	P4	100	8.5	1.5P	⑤-42
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM8012NP	RO	G8	82	8.5	4P	⑥-29
				NRSM8012NB					2P	⑥-29
				NRSM9012NP		G9			4P	⑥-29
				NRSM9012NB					2P	⑥-29
For high speed		1 2	F-SP	VFSHMS012N	SP	P4	82	8.5	3P	①-184
			F-SL	VFSHMS012NL	SL				5.5P	②-28
	Long	1 2	LS-F-SP	SY012NSFEVGS	SP	P4	150	8.5	3P	①-188
			LS-F-SL	LY012NSFEVG	SL				5.5P	②-32
Ultra fast tapping(with coolant hole)	For steels	1 2 3 4	HFIHS	HFIHSS012N	SP	P4	82	12	2.5P	①-192
			HFISP	HFISPS012N						①-196
	Carbide taps for cast irons	12 13 16	HFICT-P	HFICTPR012N	HT	P3	82	12	4P	⑤-36
			HFICT-B	HFICTBR012N					2.5P	⑤-38
	For non-ferrous materials	18 19 20 21	HFAHS	HFAHSS012N	SP	P4	82	12	2.5P	①-200
			HFASP	HFASPS012N						①-204
	Carbide taps for non-ferrous materials	16 19 20 21	HFACT-P	HFACTPR012N	HT	P3	82	12	4P	⑤-32
			HFACT-B	HFACTBR012N					2.5P	⑤-34

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For dry tapping (with coolant hole)	For steels	2 3 4	HDISP	HDISPS012N	SP	P4	82	12	2.5P	①-208
	For non-ferrous materials	18 19 20 21	HDASP	HDASPS012N	SP	P4	82	12	2.5P	①-212
Ultra fast tapping(with coolant hole)	For both steels and non ferrous materials	2 3 4	HDISL	HDISLS012N	SL	P4	82	12	5.5P	②-34
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM8012NP	RO	G8	82	8.5	4P	⑥-49
				HRZM8012NB					2P	⑥-49
				HRZM9012NP		G9			4P	⑥-49
				HRZM9012NB					2P	⑥-49
Thread forming taps for carbon steels of medium hardness		2 3 4 5	MHRZ	1110101090	RO	G8	110	8.5	4P	⑥-4
				1111101090					2P	⑥-4
			MHRZ-J	RY012N8OCTP			82		4P	⑥-8
				RY012N8OCTB					2P	⑥-8
	Long	2 3 4 5	MHRZ	2110101090	RO	G8	150	8.5	4P	⑥-5
				2111101090					2P	⑥-5
For deep hole use		2 3 4 13	S-SP	SSMQ012N	SP	P2	82	8.5	2.5P	①-128
		1 2 3 4	S-PO	PSMS012N	PO	P4	82	8.5	5P	③-78
	Oversize	2 3 4 13	S-SP	SSMR012N	SP	P3	82	8.5	2.5P	①-128
		1 2 3 4	S-PO	PSMT012N	PO	P5	82	8.5	5P	③-78
Low spiral	Long	2 3	LS-LO-SP	LSHMQ012NL15	SP	P2	150	8.5	2.5P	①-155
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW012N1LEB5	HT	I b	88	10.5	5P	⑦-4
				TW012N1LEBA					1.5P	⑦-4
		15 16 17 18 19 20 21	AL-SP STI	SW012N1LEN	SP	I b	88	10.5	2.5P	⑦-10
		18 19 21	N-RS STI	RW012N6LENP	RO	G6	88	10.5	4P	⑦-25
				RW012N6LENB					2P	⑦-25
With coolant hole		1 2 3 4	MC-SP	(MSHQ012NL10)	SP	P2	100	8.5	2.5P	①-215
				(MSHQ012NL15)			150			①-215
				(MSHQ012NL20)			200			①-215
			MC-PO	(MPHS012NL10)	PO	P4	100		5P	③-106
				(MPHS012NL15)			150			③-106
				(MPHS012NL20)			200			③-106
		1 2 3	MC-HT	(ML10012N5-Q)	HT	P2	100	8.5	5P	④-138
				(ML15012N5-Q)			150			④-138
				(ML20012N5-Q)			200			④-138
				(ML10012N1-Q)			100		1.5P	④-138
				(ML15012N1-Q)			150			④-138
				(ML20012N1-Q)			200			④-138
Nut taps		1 2	NT	NH2012N	HT	II	160	9	24P	⑦-28

Taps ／ M12 × 1

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Standard		2 3	SP	SPQ012M	SP	P2	82	8.5	2.5P	①-43
			SP 1.5P	SY012MQNEBA					1.5P	①-61
			PO	POR012M	PO	P3			5P	③-16
		1 2 3	HT	TNMR012M5	HT	P3	82	8.5	5P	④-10
				TNMR012M1					1.5P	④-10
	Oversize	2 3	SP	SPR012M	SP	P3	82	8.5	2.5P	①-43
				SPS012M		P4				①-43
			PO	POS012M	PO				5P	③-16
		1 2 3	HT	TNMS012M5	HT	P4	82	8.5	5P	④-10
				TNMS012M1					1.5P	④-10

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For left hand threads	2 3	SP LH	SPQ012M–L	SP	P2	82	8.5	2.5P	①-82
		PO LH	POR012M–L	PO	P3			5P	③-48
	1 2 3	HT LH	TNMR012M5-L	HT	P3	82	8.5	5P	④-67
			TNMR012M1-L					1.5P	④-67
Oxidizing	1 2 3	SP OX	SPQ012MX	SP	P2	82	8.5	2.5P	①-67
Long	2 3	LS-SP	SPQ012ML10	SP	P2	100	8.5	2.5P	①-93
			SPQ012ML12			120			①-93
			SPQ012ML15			150			①-93
		LS-PO	POR012ML10	PO	P3	100		5P	③-55
			POR012ML15			150			③-55
	1 2 3	LS-HT	TNMQ012M510	HT	P2	100	8.5	5P	④-77
			TNMQ012M512			120			④-77
			TNMQ012M515			150			④-77
			TNMQ012M110			100		1.5P	④-77
			TNMQ012M112			120			④-77
			TNMQ012M115			150			④-77
Thread forming taps for steels	1 2	N-RZ	NRZM7012MP	RO	G7	82	8.5	4P	⑥-17
			NRZM7012MB					2P	⑥-17
For high carbon steels	2 3	HC-SP	SCMQ012M	SP	P2	82	8.5	2.5P	①-136
For stainless steels	2 3 4 9	SU-SP	SUMQ012M	SP	P2	82	8.5	2.5P	①-103
	1 2 3 4 9	SU-PO	PUMR012M	PO	P3	82	8.5	5P	③-63
	1 2 9	SU-HT	TUMR012M4	HT	P3	82	8.5	4P	④-91
			TUMR012M1					1.5P	④-91
For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MR012M	SP	P3	82	8.5	3P	①-120
For cast irons	12 13	FC-HT	TY012MRAEN5	HT	P3	82	8.5	5P	④-94
			TY012MRAENA					1.5P	④-94
Carbide	12 13 16	N-CT FC	TCNR012M3	HT	P3	70	8.5	3P	⑤-12
			TCNR012M1					1.5P	⑤-12
			TCNS012M3		P4			3P	⑤-12
			TCNS012M1					1.5P	⑤-12
For aluminum	15 16 17 18 19 20 21	AL-SP	ASHMR012M	SP	P3	82	8.5	2.5P	①-140
		AL-SP 1.5P	SY012MRLENA					1.5P	①-141
	18 19 21	LA-HT	TY012MRLEN5	HT	P3	82	8.5	5P	④-111
			TY012MRLENA					1.5P	④-111
Carbide	19 21	N-CT LA	TCNR012M3A	HT	P3	70	8.5	3P	⑤-5
			TCNR012M1A					1.5P	⑤-5
Thread forming taps for non-ferrous materials	18 19 21	N-RS	NRSM7012MP	RO	G7	82	8.5	4P	⑥-29
			NRSM7012MB					2P	⑥-29
For deep hole use	2 3 4 13	S-SP	SSMQ012M	SP	P2	82	8.5	2.5P	①-128
	1 2 3 4	S-PO	PSMR012M	PO	P3	82	8.5	5P	③-78
Nut taps	1 2	NT	NH2012M	HT	II	150	9	25P	⑦-28
Taps ／ M12 × 0.75									
Standard	2 3	SP	SPQ012J	SP	P2	82	8.5	2.5P	①-43
		PO	POR012J	PO	P3			5P	③-16
	1 2 3	HT	TNMR012J5	HT	P3	82	8.5	5P	④-10
			TNMR012J1					1.5P	④-10

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ M12 × 0.5									
Standard	2 3	SP	SPQ012G	SP	P2	82	8.5	2.5P	①-43
		PO	POQ012G	PO				5P	③-16
	1 2 3	HT	TNMQ012G5	HT	P2	82	8.5	5P	④-10
			TNMQ012G1					1.5P	④-10

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*D*s	*ℓ*c

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ M12 × 1.75									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ012PDNEBC	⑩-4
					50	16		TYM012PDNEBC	⑩-4
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJ012PDNEBC	⑩-17
Point solid dies	HSS	1 2 15 16 18 19	DPO	S4	38	13	1.5P	PYJ012PSNEBA	⑩-36
					50	16		PYM012PSNEBA	⑩-36
Oversize	HSS	1 2 15 16 18 19	DPO	S2	38	13	1.5P	PYJ012PQNEBA	⑩-36
					50	16		PYM012PQNEBA	⑩-36
Dies ／ M12 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ012ODNEBC	⑩-4
					50	16		TYM012ODNEBC	⑩-4
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJ012ODNEBC	⑩-17
Point solid dies	HSS	1 2 15 16 18 19	DPO	S4	38	13	1.5P	PYJ012OSNEBA	⑩-36
Oversize	HSS	1 2 15 16 18 19	DPO	S2	38	13	1.5P	PYJ012OQNEBA	⑩-36
Dies ／ M12 × 1.25									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ012NDNEBC	⑩-4
					50	16		TYM012NDNEBC	⑩-4
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJ012NDNEBC	⑩-17
Point solid dies	HSS	1 2 15 16 18 19	DPO	S6	38	13	1.5P	PYJ012NUNEBA	⑩-36
Oversize	HSS	1 2 15 16 18 19	DPO	S2	38	13	1.5P	PYJ012NQNEBA	⑩-36
Dies ／ M12 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ012MDNEBC	⑩-4
					50	16		TYM012MDNEBC	⑩-4
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJ012MDNEBC	⑩-17
Point solid dies	HSS	1 2 15 16 18 19	DPO	S5	38	13	1.5P	PYJ012MTNEBA	⑩-36
Oversize	HSS	1 2 15 16 18 19	DPO	S2	38	13	1.5P	PYJ012MQNEBA	⑩-36
Dies ／ M12 × 0.75									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ012JDNEBC	⑩-4
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJ012JDNEBC	⑩-17
Point solid dies	HSS	1 2 15 16 18 19	DPO	S5	38	13	1.5P	PYJ012JTNEBA	⑩-36
Oversize	HSS	1 2 15 16 18 19	DPO	S2	38	13	1.5P	PYJ012JQNEBA	⑩-36
Dies ／ M12 × 0.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ012GDNEBC	⑩-4
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJ012GDNEBC	⑩-17
Point solid dies	HSS	1 2 15 16 18 19	DPO	S6	38	13	1.5P	PYJ012GUNEBA	⑩-36
Oversize	HSS	1 2 15 16 18 19	DPO	S2	38	13	1.5P	PYJ012GQNEBA	⑩-36

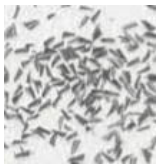
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Explanation of catalogue contents

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For cast irons	Carbide	12 13 16	N-CT FC	TCNR2.0E3	HT	P3	40	3	3P	⑤-8
				TCNR2.0E1					1.5P	⑤-8
For aluminum		15 16 17 18 19 20 21	AL+SP	ASHPQ2.0E	SP	P2	42	3	2.5P	①-122
			AL-SP 1.5P	SY2.0EQLENA					1.5P	①-123
		18 19 21	LA-HT	TY2.0EQLEN5	HT	P2	42	3	5P	④-102
				TY2.0EQLENA					1.5P	④-102

Page shown in line-ups depending on products

Classification of materials

Kind	Chip shape after boring (drilling)		No.	Examples of materials
Ferrous		Chip or powder like	⑫⑬	Cast iron, Ductile cast iron
			⑧	Thermal refined steel (50~63HRC)
			⑦	Thermal refined steel (45~55HRC)
			⑥	Thermal refined steel (35~45HRC)
			⑤	Thermal refined steel (25~35HRC)
			③④⑩	High carbon steel, Alloy steel, Tool steel
			②⑪	Medium carbon steel, Cast steel
			⑨	Stainless steel
		Continuous	①	Low carbon steel
Non-ferrous		Continuous	㉒	Titanium alloy
			㉓	Nickel base alloy
			⑭⑮⑰⑱	Copper, Brass, Bronze, Wrought aluminum
			⑯⑲⑳㉑	Brass casting, Aluminum alloy casting, Magnesium alloy, Zinc alloy
		Chip or powder like	㉔㉕	Thermosetting plastic, Thermoplastic resin

Hardness of materials : Please refer to material composition table shown in technical data.

Flute shape of taps and chip ejection

SP= Spiral	PO= Spiral point	SL= LH spiral	HT= Straight	RO= Forming
				
 Continuous chips	 Chip ejection		 Broken chips stored in flutes	No chips thread forming

Think threads with YAMAWA
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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps / M1 × 0.25										
Standard		1 2 3	HT	TNMP1.0B5	HT	P1	36	3	5P	④-5
				TNMP1.0B1					1.5P	④-5
For left hand threads		1 2 3	HT LH	TNMP1.0B5-L	HT	P1	36	3	5P	④-66
				TNMP1.0B1-L					1.5P	④-66
Coating		1 2 9 14 18 19 21	R+V	RVP41.0BP	RO	G4	36	3	4P	⑥-38
				RVP41.0BB					2P	⑥-38
				RVP51.0BP		G5			4P	⑥-38
				RVP51.0BB					2P	⑥-38
Thread forming taps for steels		1 2	N+RZ	NRZP41.0BP	RO	G4	36	3	4P	⑥-14
				NRZP41.0BB					2P	⑥-14
				NRZP51.0BP		G5			4P	⑥-14
				NRZP51.0BB					2P	⑥-14
Thread forming taps for non-ferrous materials		18 19 21	N+RS	NRSP41.0BP	RO	G4	36	3	4P	⑥-26
				NRSP41.0BB					2P	⑥-26
				NRSP51.0BP		G5			4P	⑥-26
				NRSP51.0BB					2P	⑥-26
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL+RZ	OLRZP41.0BP	RO	G4	36	3	4P	⑥-42
High performance thread forming taps		1 2 3 4 5 9 19	HP+RZ	HRZP41.0BB	RO	G4	36	3	2P	⑥-48
Torqueless thread forming taps	Short chamfer	1 2 3 9 19 21	SC-TL-RZ	SRZM41.0B1	RO	G4	36	3	1P	⑥-58
	Seamless	1 2 9	SURZ	SURZ41.0BB	RO	G4	36	3	2P	⑥-60
Taps / M1 × 0.2										
Standard		1 2 3	HT	TNMP1.0A5	HT	P1	36	3	5P	④-5
				TNMP1.0A1					1.5P	④-5
Taps / M1.1 × 0.25										
Standard		1 2 3	HT	TNMP1.1B5	HT	P1	36	3	5P	④-5
				TNMP1.1B1					1.5P	④-5
Taps / M1.1 × 0.2										
Standard		1 2 3	HT	TNMP1.1A5	HT	P1	36	3	5P	④-5
				TNMP1.1A1					1.5P	④-5
Taps / M1.2 × 0.25										
Standard		2 3	SP	SPP1.2B	SP	P1	36	3	2.5P	①-41
			SP 1.5P	SY1.2BPNEBA					1.5P	①-60
			PO	POP1.2B	PO				5P	③-15
		1 2 3	HT	TNMP1.2B5	HT	P1	36	3	5P	④-5
				TNMP1.2B1					1.5P	④-5
	Oversize	1 2 3	HT	TNMR1.2B5	HT	P3	36	3	5P	④-5
				TNMR1.2B1					1.5P	④-5
For left hand threads		1 2 3	HT LH	TNMP1.2B5-L	HT	P1	36	3	5P	④-66
				TNMP1.2B1-L					1.5P	④-66
Coating		1 2 9 14 18 19 21	R+V	RVP41.2BP	RO	G4	36	3	4P	⑥-38
				RVP41.2BB					2P	⑥-38
				RVP51.2BP		G5			4P	⑥-38
				RVP51.2BB					2P	⑥-38
Thread forming taps for steels		1 2	N+RZ	NRZP41.2BP	RO	G4	36	3	4P	⑥-14
				NRZP41.2BB					2P	⑥-14
				NRZP51.2BP		G5			4P	⑥-14
				NRZP51.2BB					2P	⑥-14
Thread forming taps for non-ferrous materials		18 19 21	N+RS	NRSP41.2BP	RO	G4	36	3	4P	⑥-26
				NRSP41.2BB					2P	⑥-26
				NRSP51.2BP		G5			4P	⑥-26
				NRSP51.2BB					2P	⑥-26
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL+RZ	OLRZP41.2BP	RO	G4	36	3	4P	⑥-42
High performance thread forming taps		1 2 3 4 5 9 19	HP+RZ	HRZP41.2BB	RO	G4	36	3	2P	⑥-48
Torqueless thread forming taps	Short chamfer	1 2 3 9 19 21	SC-TL-RZ	SRZM41.2B1	RO	G4	36	3	1P	⑥-58
	Seamless	1 2 9	SURZ	SURZ41.2BB	RO	G4	36	3	2P	⑥-60
Taps / M1.2 × 0.2										
Standard		1 2 3	HT	TNMP1.2A5	HT	P1	36	3	5P	④-5
				TNMP1.2A1					1.5P	④-5
Taps / M1.4 × 0.3										
Standard		2 3	SP	SPP1.4C	SP	P1	36	3	2.5P	①-41
			SP 1.5P	SY1.4CPNEBA					1.5P	①-60
			PO	POP1.4C	PO				5P	③-15
		1 2 3	HT	TNMP1.4C5	HT	P1	36	3	5P	④-5
				TNMP1.4C1					1.5P	④-5
	Oversize	2 3	PO	POQ1.4C	PO	P2	36	3	5P	③-15
				POR1.4C		P3				③-15
		1 2 3	HT	TNMR1.4C5	HT	P3	36	3	5P	④-5
				TNMR1.4C1					1.5P	④-5
For left hand threads		1 2 3	HT LH	TNMP1.4C5-L	HT	P1	36	3	5P	④-66
				TNMP1.4C1-L					1.5P	④-66
Oxidizing		1 2 3	SP OX	SPP1.4CX	SP	P1	36	3	2.5P	①-67
			PO OX	POP1.4CX	PO				5P	③-36
	Oversize	1 2 3	PO OX	POQ1.4CX	PO	P2	36	3	5P	③-36
Coating		1 2 9 14 18 19 21	R+V	RVP41.4CP	RO	G4	36	3	4P	⑥-38
				RVP41.4CB					2P	⑥-38
				RVP51.4CP		G5			4P	⑥-38
				RVP51.4CB					2P	⑥-38
Thread forming taps for steels		1 2	N+RZ	NRZP41.4CP	RO	G4	36	3	4P	⑥-14
				NRZP41.4CB					2P	⑥-14
				NRZP51.4CP		G5			4P	⑥-14
				NRZP51.4CB					2P	⑥-14
For high carbon steels		2 3 5	HC+PO	PCPP1.4C	PO	P1	36	3	5P	③-80
For stainless steels		2 3 4 9	SU-SP	SUMP1.4C	SP	P1	36	3	2.5P	①-103
		1 2 3 4 9	SU+PO	PUPP1.4C	PO	P1	36	3	5P	③-62
For cast irons	Carbide	12 13 16	N-CT FC	TCNR1.4C3	HT	P3	34	3	3P	⑤-10
				TCNR1.4C1					1.5P	⑤-10
For aluminum		18 19 21	LA-HT	TY1.4CQLEN5	HT	P2	36	3	5P	④-110
				TY1.4CQLENA					1.5P	④-110
	Carbide	19 21	N-CT LA	TCNR1.4C3A	HT	P3	34	3	3P	⑤-3
				TCNR1.4C1A					1.5P	⑤-3

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Thread forming taps for non-ferrous materials		18 19 21	N+RS	NRSP41.4CP	RO	G4	36	3	4P	⑥-26
				NRSP41.4CB					2P	⑥-26
				NRSP51.4CP		G5			4P	⑥-26
				NRSP51.4CB					2P	⑥-26
Short chamfer		19 20 21	MG-HT	TMGMQ1.4C1	HT	P2	36	3	1P	④-118
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL+RZ	OLRZP41.4CP	RO	G4	36	3	4P	⑥-42
High performance thread forming taps		1 2 3 4 5 9 19	HP+RZ	HRZP41.4CB	RO	G4	36	3	2P	⑥-48
Torqueless thread forming taps	Short chamfer	1 2 3 9 19 21	SC-TL-RZ	SRZM41.4C1	RO	G4	36	3	1P	⑥-58
	Seamless	1 2 9	SURZ	SURZ41.4CB	RO	G4	36	3	2P	⑥-60
Taps ／ M1.4 × 0.2										
Standard		1 2 3	HT	TNMP1.4A5	HT	P1	36	3	5P	④-5
				TNMP1.4A1					1.5P	④-5
Torqueless thread forming taps	Short chamfer	1 2 3 9 19 21	SC-TL-RZ	SRZM31.4A1	RO	G3	36	3	1P	⑥-58
Taps ／ M1.6 × 0.35										
Standard		2 3	SP	SPP1.6D	SP	P1	36	3	2.5P	①-41
			SP 1.5P	SY1.6DPNEBA					1.5P	①-60
			PO	POQ1.6D	PO	P2			5P	③-15
		1 2 3	HT	TNMQ1.6D5	HT	P2	36	3	5P	④-5
				TNMQ1.6D1					1.5P	④-5
	Oversize	2 3	PO	POR1.6D	PO	P3	36	3	5P	③-15
For left hand threads		1 2 3	HT LH	TNMQ1.6D5-L	HT	P2	36	3	5P	④-66
				TNMQ1.6D1-L					1.5P	④-66
Oxidizing		1 2 3	SP OX	SPP1.6DX	SP	P1	36	3	2.5P	①-67
			PO OX	POQ1.6DX	PO	P2			5P	③-36
Coating		1 2 9 14 18 19 21	R+V	RVP41.6DP	RO	G4	36	3	4P	⑥-38
				RVP41.6DB					2P	⑥-38
				RVP51.6DP		G5			4P	⑥-38
				RVP51.6DB					2P	⑥-38
				RVP61.6DB		G6				⑥-38
Thread forming taps for steels		1 2	N+RZ	NRZP41.6DP	RO	G4	36	3	4P	⑥-14
				NRZP41.6DB					2P	⑥-14
				NRZP51.6DP		G5			4P	⑥-14
				NRZP51.6DB					2P	⑥-14
For high carbon steels		2 3 5	HC+PO	PCPQ1.6D	PO	P2	36	3	5P	③-80
For stainless steels		2 3 4 9	SU-SP	SUMP1.6D	SP	P1	36	3	2.5P	①-103
		1 2 3 4 9	SU+PO	PUPQ1.6D	PO	P2	36	3	5P	③-62
For cast irons	Carbide	12 13 16	N-CT FC	TCNR1.6D3	HT	P3	36	3	3P	⑤-10
				TCNR1.6D1					1.5P	⑤-10
For aluminum		18 19 21	LA-HT	TY1.6DQLEN5	HT	P2	36	3	5P	④-110
				TY1.6DQLENA					1.5P	④-110
	Carbide	19 21	N-CT LA	TCNR1.6D3A	HT	P3	36	3	3P	⑤-3
				TCNR1.6D1A					1.5P	⑤-3
Thread forming taps for non-ferrous materials		18 19 21	N+RS	NRSP41.6DP	RO	G4	36	3	4P	⑥-26
				NRSP41.6DB					2P	⑥-26
				NRSP51.6DP		G5			4P	⑥-26
				NRSP51.6DB					2P	⑥-26
				NRSP61.6DP		G6			4P	⑥-26
				NRSP61.6DB					2P	⑥-26
Short chamfer		19 20 21	MG-HT	TMGMQ1.6D1	HT	P2	36	3	1P	④-118

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL+RZ	OLRZP41.6DP	RO	G4	36	3	4P	⑥-42
				OLRZP61.6DP		G6				⑥-42
High performance thread forming taps		1 2 3 4 5 9 19	HP+RZ	HRZP41.6DB	RO	G4	36	3	2P	⑥-48
Torqueless thread forming taps	Short chamfer	1 2 3 9 19 21	SC-TL-RZ	SRZM41.6D1	RO	G4	36	3	1P	⑥-58
	Seamless	1 2 9	SURZ	SURZ41.6DB	RO	G4	36	3	2P	⑥-60
Taps ／ M1.6 × 0.2										
Standard		1 2 3	HT	TNMP1.6A5	HT	P1	36	3	5P	④-5
				TNMP1.6A1					1.5P	④-5
Torqueless thread forming taps	Short chamfer	1 2 3 9 19 21	SC-TL-RZ	SRZM31.6A1	RO	G3	36	3	1P	⑥-58
	Seamless	1 2 9	SURZ	SURZ31.6AB	RO	G3	36	3	2P	⑥-60
Taps ／ M1.7 × 0.35										
Standard		2 3	SP	SPP1.7D	SP	P1	36	3	2.5P	①-41
			SP 1.5P	SY1.7DPNEBA					1.5P	①-60
			PO	POQ1.7D	PO	P2			5P	③-15
		1 2 3	HT	TNMP1.7D5	HT	P1	36	3	5P	④-5
				TNMP1.7D1					1.5P	④-5
	Oversize	2 3	SP	SPQ1.7D	SP	P2	36	3	2.5P	①-41
				SPR1.7D		P3				①-41
			PO	POR1.7D	PO				5P	③-15
				POS1.7D		P4				③-15
		1 2 3	HT	TNMR1.7D5	HT	P3	36	3	5P	④-5
				TNMR1.7D1					1.5P	④-5
For left hand threads		1 2 3	HT LH	TNMP1.7D5-L	HT	P1	36	3	5P	④-66
				TNMP1.7D1-L					1.5P	④-66
Oxidizing		1 2 3	SP OX	SPP1.7DX	SP	P1	36	3	2.5P	①-67
			PO OX	POQ1.7DX	PO	P2			5P	③-36
Coating		1 2 9 14 18 19 21	R+V	RVP41.7DP	RO	G4	36	3	4P	⑥-39
				RVP41.7DB					2P	⑥-39
				RVP51.7DP		G5			4P	⑥-39
				RVP51.7DB					2P	⑥-39
				RVP61.7DP		G6			4P	⑥-39
				RVP61.7DB					2P	⑥-39
Thread forming taps for steels		1 2	N+RZ	NRZP41.7DP	RO	G4	36	3	4P	⑥-14
				NRZP41.7DB					2P	⑥-14
				NRZP51.7DP		G5			4P	⑥-14
				NRZP51.7DB					2P	⑥-14
				NRZP61.7DP		G6			4P	⑥-14
				NRZP61.7DB					2P	⑥-14
For high carbon steels		2 3 5	HC+PO	PCPQ1.7D	PO	P2	36	3	5P	③-80
For stainless steels		2 3 4 9	SU-SP	SUMP1.7D	SP	P1	36	3	2.5P	①-103
		1 2 3 4 9	SU+PO	PUPQ1.7D	PO	P2	36	3	5P	③-62
	Oversize	2 3 4 9	SU-SP	SUMQ1.7D	SP	P2	36	3	2.5P	①-103
For cast irons	Carbide	12 13 16	N-CT FC	TCNR1.7D3	HT	P3	36	3	3P	⑤-10
				TCNR1.7D1					1.5P	⑤-10
For aluminum	Carbide	19 21	N-CT LA	TCNR1.7D3A	HT	P3	36	3	3P	⑤-3
				TCNR1.7D1A					1.5P	⑤-3

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Thread forming taps for non-ferrous materials		18 19 21	N+RS	NRSP41.7DP	RO	G4	36	3	4P	⑥-26
				NRSP41.7DB					2P	⑥-26
				NRSP51.7DP		G5			4P	⑥-26
				NRSP51.7DB					2P	⑥-26
				NRSP61.7DP		G6			4P	⑥-26
				NRSP61.7DB					2P	⑥-26
Short chamfer		19 20 21	MG-HT	TMGMQ1.7D1	HT	P2	36	3	1P	④-118
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL+RZ	OLRZP41.7DP	RO	G4	36	3	4P	⑥-42
High performance thread forming taps		1 2 3 4 5 9 19	HP+RZ	HRZP41.7DB	RO	G4	36	3	2P	⑥-48
Torqueless thread forming taps	Short chamfer	1 2 3 9 19 21	SC-TL-RZ	SRZM41.7D1	RO	G4	36	3	1P	⑥-58
	Seamless	1 2 9	SURZ	SURZ41.7DB	RO	G4	36	3	2P	⑥-60
Taps ／ M1.7 × 0.2										
Standard		1 2 3	HT	TNMP1.7A5	HT	P1	36	3	5P	④-5
				TNMP1.7A1					1.5P	④-5
Taps ／ M1.8 × 0.35										
Standard		2 3	SP	SPP1.8D	SP	P1	42	3	2.5P	①-41
			SP 1.5P	SY1.8DPNEBA					1.5P	①-60
			PO	POQ1.8D	PO	P2			5P	③-15
		1 2 3	HT	TNMQ1.8D5	HT	P2	42	3	5P	④-5
				TNMQ1.8D1					1.5P	④-5
Thread forming taps for steels		1 2	N+RZ	NRZP41.8DP	RO	G4	42	3	4P	⑥-14
				NRZP41.8DB					2P	⑥-14
				NRZP51.8DP		G5			4P	⑥-14
				NRZP51.8DB					2P	⑥-14
For medium hardness carbon steels	Long	2 3 4 5 6 10	MHSL	2109101017	SL	P2	70	3	5P	②-4
Thread forming taps for non-ferrous materials		18 19 21	N+RS	NRSP41.8DP	RO	G4	42	3	4P	⑥-26
				NRSP41.8DB					2P	⑥-26
				NRSP51.8DP		G5			4P	⑥-26
				NRSP51.8DB					2P	⑥-26
Taps ／ M1.8 × 0.2										
Standard		1 2 3	HT	TNMP1.8A5	HT	P1	42	3	5P	④-5
				TNMP1.8A1					1.5P	④-5
Taps ／ M2.2 × 0.45										
Standard		2 3	SP	SPP2.2F	SP	P1	42	3	2.5P	①-41
			+SP	SNPP2.2F						①-59
			PO	POQ2.2F	PO	P2			5P	③-15
		1 2 3	HT	TNMQ2.2F5	HT	P2	42	3	5P	④-5
				TNMQ2.2F1					1.5P	④-5
	Oversize	2 3	SP	SPR2.2F	SP	P3	42	3	2.5P	①-41
Coating		1 2 3 4 9 10 13 18 19	VUPO	1102101024	PO	P2	45	3	5P	③-4
Thread forming taps for steels		1 2	N+RZ	NRZP52.2FP	RO	G5	42	3	4P	⑥-14
				NRZP52.2FB					2P	⑥-14
For cast irons	Carbide	12 13 16	N-CT FC	TCNR2.2F3	HT	P3	42	3	3P	⑤-10
				TCNR2.2F1					1.5P	⑤-11
For aluminum	Carbide	19 21	N-CT LA	TCNR2.2F3A	HT	P3	42	3	3P	⑤-3
				TCNR2.2F1A					1.5P	⑤-3

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ M2.2 × 0.25										
Standard		2 3	PO	POQ2.2B	PO	P2	42	3	5P	③-15
		1 2 3	HT	TNMP2.2B5	HT	P1	42	3	5P	④-5
				TNMP2.2B1					1.5P	④-5
Taps ／ M2.3 × 0.4										
Standard		2 3	SP	SPP2.3E	SP	P1	42	3	2.5P	①-41
			+SP	SNPP2.3E						①-59
			SP 1.5P	SY2.3EPNEBA					1.5P	①-60
			PO	POQ2.3E	PO	P2			5P	③-15
		1 2 3	HT	TNMP2.3E5	HT	P1	42	3	5P	④-5
				TNMP2.3E1					1.5P	④-5
	Oversize	2 3	SP	SPQ2.3E	SP	P2	42	3	2.5P	①-41
				SPR2.3E		P3				①-41
				SPS2.3E		P4				①-41
			PO	POR2.3E	PO	P3			5P	③-15
				POS2.3E		P4				③-15
		1 2 3	HT	TNMR2.3E5	HT	P3	42	3	5P	④-6
				TNMR2.3E1					1.5P	④-6
				TNMS2.3E5		P4			5P	④-6
				TNMS2.3E1					1.5P	④-6
For left hand threads		2 3	SP LH	SPP2.3E–L	SP	P1	42	3	2.5P	①-81
		1 2 3	HT LH	TNMP2.3E5-L	HT	P1	42	3	5P	④-66
				TNMP2.3E1-L					1.5P	④-66
Oxidizing		1 2 3	PO OX	POQ2.3EX	PO	P2	42	3	5P	③-36
Coating		1 2 3 4 9 10 13 18 19	VUPO	1102101026	PO	P2	45	3	5P	③-4
		1 2 9 14 18 19 21	R+V	RVP42.3EP	RO	G4	42	3	4P	⑥-39
				RVP42.3EB					2P	⑥-39
				RVP52.3EP		G5			4P	⑥-39
				RVP52.3EB					2P	⑥-39
Long		2 3	LS-SP	SPFP2.3EL07	SP	P1	70	3	2.5P	①-91
			LS-PO	POFQ2.3EL07	PO	P2			5P	③-53
		1 2 3	LS-HT	TNFP2.3E507	HT	P1	70	3	5P	④-73
				TNFP2.3E107					1.5P	④-73
Thread forming taps for steels		1 2	N+RZ	NRZP42.3EP	RO	G4	42	3	4P	⑥-14
				NRZP42.3EB					2P	⑥-14
				NRZP52.3EP		G5			4P	⑥-14
				NRZP52.3EB					2P	⑥-14
				NRZP62.3EP		G6			4P	⑥-14
				NRZP62.3EB					2P	⑥-14
For stainless steels		2 3 4 9	SU+SP	SUPP2.3E	SP	P1	42	3	2.5P	①-102
		1 2 3 4 9	SU+PO	PUPQ2.3E	PO	P2	42	3	5P	③-62
		1 2 9	SU-HT	TUMQ2.3E4	HT	P2	42	3	4P	④-90
				TUMQ2.3E1					1.5P	④-90
	Oversize	2 3 4 9	SU+SP	SUPQ2.3E	SP	P2	42	3	2.5P	①-102
				SUPR2.3E		P3				①-102
		1 2 3 4 9	SU+PO	PUPR2.3E	PO	P3	42	3	5P	③-62
	For left hand threads	2 3 4 9	SU-SP LH	SUMP2.3E--L	SP	P1	42	3	2.5P	①-117
For cast irons	Carbide	12 13 16	N-CT FC	TCNR2.3E3	HT	P3	42	3	3P	⑤-11
				TCNR2.3E1					1.5P	⑤-11

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For aluminum		15 16 17 18 19 20 21	AL+SP	ASHPQ2.3E	SP	P2	42	3	2.5P	①-140
			AL-SP 1.5P	SY2.3EQLENA					1.5P	①-141
		18 19 21	LA-HT	TY2.3EQLEN5	HT	P2	42	3	5P	④-110
				TY2.3EQLENA					1.5P	④-110
	Carbide	19 21	N-CT LA	TCNR2.3E3A	HT	P3	42	3	3P	⑤-3
				TCNR2.3E1A					1.5P	⑤-3
Thread forming taps for non-ferrous materials		18 19 21	N+RS	NRSP42.3EP	RO	G4	42	3	4P	⑥-26
				NRSP42.3EB					2P	⑥-26
				NRSP52.3EP		G5			4P	⑥-26
				NRSP52.3EB					2P	⑥-26
				NRSP62.3EP		G6			4P	⑥-26
				NRSP62.3EB					2P	⑥-26
For Thermoplastic Resins	Thermosetting	24	PL1	TPLM2.3E3	HT	P4	42	3	3P	④-120
	Thermoplastic	24 25	PL2	TY2.3ESMEN3	HT	P4	42	3	3P	④-122
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL+RZ	OLRZP42.3EP	RO	G4	42	3	4P	⑥-42
				OLRZP52.3EP		G5				⑥-42
High performance thread forming taps		1 2 3 4 5 9 19	HP+RZ	HRZP42.3EB	RO	G4	42	3	2P	⑥-48
				HRZP52.3EB		G5				⑥-48
Torqueless thread forming taps	Seamless	1 2 9	SURZ	SURZ42.3EB	RO	G4	42	3	2P	⑥-60
For deep hole use		2 3 4 13	S-SP	SSMP2.3E	SP	P1	42	3	2.5P	①-127
		1 2 3 4	S-PO	PSMQ2.3E	PO	P2	42	3	5P	③-77
	Oversize	2 3 4 13	S-SP	SSMR2.3E	SP	P3	42	3	2.5P	①-127
Nut taps		1 2	NT	NH22.3E	HT	II b	80	1.7	25P	⑦-27
Taps ／ M2.3 × 0.25										
Standard		2 3	SP	SPP2.3B	SP	P1	42	3	2.5P	①-41
		1 2 3	HT	TNMP2.3B5	HT	P1	42	3	5P	④-6
				TNMP2.3B1					1.5P	④-6
Taps ／ M2.5 × 0.45										
General purpose		1	R-Y	RY2.5F3	RO	-	44	3	3P	⑥-63
Standard		2 3	SP	SPP2.5F	SP	P1	46	3	2.5P	①-41
			+SP	SNPP2.5F						①-59
			SP 1.5P	SY2.5FPNEBA					1.5P	①-60
			PO	POQ2.5F	PO	P2			5P	③-15
		1 2 3	HT	TNMQ2.5F5	HT	P2	46	3	5P	④-6
				TNMQ2.5F1					1.5P	④-6
	Oversize	2 3	SP	SPQ2.5F	SP	P2	46	3	2.5P	①-41
				SPR2.5F		P3				①-41
				SPS2.5F		P4				①-41
			PO	POR2.5F	PO	P3			5P	③-15
				POS2.5F		P4				③-15
		1 2 3	HT	TNMR2.5F5	HT	P3	46	3	5P	④-6
				TNMR2.5F1					1.5P	④-6
				TNMS2.5F5		P4			5P	④-6
				TNMS2.5F1					1.5P	④-6
For left hand threads		2 3	SP LH	SPP2.5F--L	SP	P1	46	3	2.5P	①-81
		1 2 3	HT LH	TNMQ2.5F5-L	HT	P2	46	3	5P	④-66
				TNMQ2.5F1-L					1.5P	④-66
Oxidizing		1 2 3	SP OX	SPP2.5FX	SP	P1	46	3	2.5P	①-67
			PO OX	POQ2.5FX	PO	P2			5P	③-36

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Coating		1 2 3 4 9 19 21	AU+SP	VSAPQ2.5F	SP	P2	46	3	2.5P	①-88
		1 2 3 4 9 10 13 18 19	VUPO	1102101029	PO	P2	50	3	5P	③-4
		1 2 3 4	PO V	VPOQ2.5F	PO	P2	46	3	5P	③-50
		1 2 9 14 18 19 21	R+V	RVP52.5FP	RO	G5	46	3	4P	⑥-39
				RVP52.5FB					2P	⑥-39
				RVP62.5FP		G6			4P	⑥-39
				RVP62.5FB					2P	⑥-39
Long		2 3	LS-SP	SPFP2.5FL07	SP	P1	70	3	2.5P	①-91
			LS-PO	POFQ2.5FL07	PO	P2			5P	③-53
		1 2 3	LS-HT	TNFP2.5F507	HT	P1	70	3	5P	④-73
				TNFP2.5F107					1.5P	④-73
Thread forming taps for steels		1 2	N+RZ	NRZP52.5FP	RO	G5	46	3	4P	⑥-14
				NRZP52.5FB					2P	⑥-14
				NRZP62.5FP		G6			4P	⑥-14
				NRZP62.5FB					2P	⑥-14
For high carbon steels		2 3 5	HC+PO	PCPQ2.5F	PO	P2	46	3	5P	③-80
For medium hardness carbon steels		2 3 4 5 6 10	MHSL	1109101029	SL	P3	50	3	5P	②-4
	Long	2 3 4 5 6 10	MHSL	2209101029	SL	P3	100	3	5P	②-4
Carbide taps for ultra hard materials		8	UH-CT	UHCR2.5F5	HT	P3	44	4	5P	⑤-28
For stainless steels		2 3 4 9	SU+SP	SUPP2.5F	SP	P1	46	3	2.5P	①-102
		1 2 3 4 9	SU+PO	PUPQ2.5F	PO	P2	46	3	5P	③-62
		1 2 9	SU-HT	TUMQ2.5F4	HT	P2	46	3	4P	④-90
				TUMQ2.5F1					1.5P	④-90
	Oversize	2 3 4 9	SU+SP	SUPQ2.5F	SP	P2	46	3	2.5P	①-102
				SUPR2.5F		P3				①-102
		1 2 3 4 9	SU+PO	PUPR2.5F	PO	P3	46	3	5P	③-62
	For left hand threads	2 3 4 9	SU-SP LH	SUMP2.5F--L	SP	P1	46	3	2.5P	①-117
For cast irons	Carbide	12 13 16	N-CT FC	TCNR2.5F3	HT	P3	44	3	3P	⑤-11
				TCNR2.5F1					1.5P	⑤-11
For aluminum		15 16 17 18 19 20 21	AL+SP	ASHPQ2.5F	SP	P2	46	3	2.5P	①-140
			AL-SP 1.5P	SY2.5FQLENA					1.5P	①-141
		18 19 21	LA-HT	TY2.5FQLEN5	HT	P2	46	3	5P	④-110
				TY2.5FQLENA					1.5P	④-110
	Carbide	19 21	N-CT LA	TCNR2.5F3A	HT	P3	44	3	3P	⑤-3
				TCNR2.5F1A					1.5P	⑤-3
Thread forming taps for non-ferrous materials		18 19 21	N+RS	NRSP52.5FP	RO	G5	46	3	4P	⑥-26
				NRSP52.5FB					2P	⑥-26
				NRSP62.5FP		G6			4P	⑥-26
				NRSP62.5FB					2P	⑥-26
Short chamfer		19 20 21	MG-HT	TMGMQ2.5F1	HT	P2	46	3	1P	④-118
For Thermoplastic Resins	Thermosetting	24	PL1	TPLM2.5F3	HT	P4	46	3	3P	④-120
	Thermoplastic	24 25	PL2	TY2.5FSMEN3	HT	P4	46	3	3P	④-122
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL+RZ	OLRZP52.5FP	RO	G5	46	3	4P	⑥-42
				OLRZP62.5FP		G6				⑥-42
High performance thread forming taps		1 2 3 4 5 9 19	HP+RZ	HRZP52.5FB	RO	G5	46	3	2P	⑥-48
				HRZP62.5FB		G6				⑥-48
Torqueless thread forming taps	Short chamfer	1 2 3 9 19 21	SC-TL-RZ	SRZM52.5F1	RO	G5	46	3	1P	⑥-58
	Seamless	1 2 9	SURZ	SURZ42.5FB	RO	G4	46	3	2P	⑥-60
For deep hole use		2 3 4 13	S-SP	SSMP2.5F	SP	P1	46	3	2.5P	①-127
		1 2 3 4	S-PO	PSMQ2.5F	PO	P2	46	3	5P	③-77
	Oversize	2 3 4 13	S-SP	SSMQ2.5F	SP	P2	46	3	2.5P	①-127
				SSMR2.5F		P3				①-127

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW2.5F1LEB5	HT	I b	52	5	5P	⑦-3
				TW2.5F1LEBA					1.5P	⑦-3
Nut taps		1 2	NT	NH22.5F	HT	II b	85	2	24P	⑦-27
Taps ／ M2.5 × 0.35										
Standard		2 3	SP	SPP2.5D	SP	P1	46	3	2.5P	①-41
			PO	POQ2.5D	PO	P2			5P	③-15
		1 2 3	HT	TNMQ2.5D5	HT	P2	46	3	5P	④-6
				TNMQ2.5D1					1.5P	④-6
Thread forming taps for steels		1 2	N-RZ	NRZM52.5DP	RO	G5	46	3	4P	⑥-16
				NRZM52.5DB					2P	⑥-16
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM42.5DP	RO	G4	46	3	4P	⑥-27
				NRSM42.5DB					2P	⑥-27
				NRSM52.5DP		G5			4P	⑥-27
				NRSM52.5DB					2P	⑥-27
Taps ／ M2.6 × 0.45										
General purpose		1	R-Y	RY2.6F3	RO	-	44	3	3P	⑥-63
Standard		2 3	SP	SPP2.6F	SP	P1	46	3	2.5P	①-41
			+SP	SNPP2.6F						①-59
			SP 1.5P	SY2.6FPNEBA					1.5P	①-60
			PO	POQ2.6F	PO	P2			5P	③-15
		1 2 3	HT	TNMP2.6F5	HT	P1	46	3	5P	④-6
				TNMP2.6F1					1.5P	④-6
	Oversize	2 3	SP	SPQ2.6F	SP	P2	46	3	2.5P	①-41
				SPR2.6F		P3				①-41
				SPS2.6F		P4				①-41
			PO	POR2.6F	PO	P3			5P	③-15
				POS2.6F		P4				③-15
		1 2 3	HT	TNMR2.6F5	HT	P3	46	3	5P	④-6
				TNMR2.6F1					1.5P	④-6
				TNMS2.6F5		P4			5P	④-6
				TNMS2.6F1					1.5P	④-6
For left hand threads		2 3	SP LH	SPP2.6F--L	SP	P1	46	3	2.5P	①-81
		1 2 3	HT LH	TNMP2.6F5-L	HT	P1	46	3	5P	④-66
				TNMP2.6F1-L					1.5P	④-66
Oxidizing		1 2 3	SP OX	SPP2.6FX	SP	P1	46	3	2.5P	①-67
			PO OX	POQ2.6FX	PO	P2			5P	③-36
	Oversize	1 2 3	PO OX	POR2.6FX	PO	P3	46	3	5P	③-36
Coating		1 2 3 4 9 19 21	AU+SP	VSAPQ2.6F	SP	P2	46	3	2.5P	①-88
		1 2 3 4 9 10 13 18 19	VUPO	1102101032	PO	P2	50	3	5P	③-4
		1 2 3 4	PO V	VPOQ2.6F	PO	P2	46	3	5P	③-50
		1 2 9 14 18 19 21	R+V	RVP52.6FP	RO	G5	46	3	4P	⑥-39
				RVP52.6FB					2P	⑥-39
				RVP62.6FP		G6			4P	⑥-39
				RVP62.6FB					2P	⑥-39
Long		2 3	LS-SP	SPFP2.6FL07	SP	P1	70	3	2.5P	①-91
			LS-PO	POFQ2.6FL07	PO	P2			5P	③-53
		1 2 3	LS-HT	TNFP2.6F507	HT	P1	70	3	5P	④-73
				TNFP2.6F107					1.5P	④-73

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Thread forming taps for steels		1 2	N+RZ	NRZP52.6FP	RO	G5	46	3	4P	⑥-14
				NRZP52.6FB					2P	⑥-14
				NRZP62.6FP		G6			4P	⑥-15
				NRZP62.6FB					2P	⑥-15
For high carbon steels		2 3 5	HC+PO	PCPQ2.6F	PO	P2	46	3	5P	③-80
Carbide taps for ultra hard materials		8	UH-CT	UHCR2.6F5	HT	P3	44	4	5P	⑤-28
For stainless steels		2 3 4 9	SU+SP	SUPP2.6F	SP	P1	46	3	2.5P	①-102
		1 2 3 4 9	SU+PO	PUPQ2.6F	PO	P2	46	3	5P	③-62
		1 2 9	SU-HT	TUMQ2.6F4	HT	P2	46	3	4P	④-90
				TUMQ2.6F1					1.5P	④-90
	Oversize	2 3 4 9	SU+SP	SUPQ2.6F	SP	P2	46	3	2.5P	①-102
				SUPR2.6F		P3				①-102
		1 2 3 4 9	SU+PO	PUPR2.6F	PO	P3	46	3	5P	③-62
	For left hand threads	2 3 4 9	SU-SP LH	SUMP2.6F--L	SP	P1	46	3	2.5P	①-117
For cast irons	Carbide	12 13 16	N-CT FC	TCNR2.6F3	HT	P3	44	3	3P	⑤-11
				TCNR2.6F1					1.5P	⑤-11
For aluminum		15 16 17 18 19 20 21	AL+SP	ASHPQ2.6F	SP	P2	46	3	2.5P	①-140
			AL-SP 1.5P	SY2.6FQLENA					1.5P	①-141
		18 19 21	LA-HT	TY2.6FQLEN5	HT	P2	46	3	5P	④-110
				TY2.6FQLENA					1.5P	④-110
	Carbide	19 21	N-CT LA	TCNR2.6F3A	HT	P3	44	3	3P	⑤-3
				TCNR2.6F1A					1.5P	⑤-4
Thread forming taps for non-ferrous materials		18 19 21	N+RS	NRSP52.6FP	RO	G5	46	3	4P	⑥-26
				NRSP52.6FB					2P	⑥-26
				NRSP62.6FP		G6			4P	⑥-26
				NRSP62.6FB					2P	⑥-26
Short chamfer		19 20 21	MG-HT	TMGMQ2.6F1	HT	P2	46	3	1P	④-118
For Thermoplastic Resins	Thermosetting	24	PL1	TPLM2.6F3	HT	P4	46	3	3P	④-120
	Thermoplastic	24 25	PL2	TY2.6FSMEN3	HT	P4	46	3	3P	④-122
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL+RZ	OLRZP52.6FP	RO	G5	46	3	4P	⑥-42
				OLRZP62.6FP		G6				⑥-42
High performance thread forming taps		1 2 3 4 5 9 19	HP+RZ	HRZP52.6FB	RO	G5	46	3	2P	⑥-48
				HRZP62.6FB		G6				⑥-48
Torqueless thread forming taps	Short chamfer	1 2 3 9 19 21	SC-TL-RZ	SRZM52.6F1	RO	G5	46	3	1P	⑥-58
	Seamless	1 2 9	SURZ	SURZ52.6FB	RO	G5	46	3	2P	⑥-60
For deep hole use		2 3 4 13	S-SP	SSMP2.6F	SP	P1	46	3	2.5P	①-127
		1 2 3 4	S-PO	PSMQ2.6F	PO	P2	46	3	5P	③-77
	Oversize	2 3 4 13	S-SP	SSMR2.6F	SP	P3	46	3	2.5P	①-127
		1 2 3 4	S-PO	PSMR2.6F	PO	P3	46	3	5P	③-77
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW2.6F1LEB5	HT	I b	52	5	5P	⑦-3
				TW2.6F1LEBA					1.5P	⑦-3
Nut taps		1 2	NT	NH22.6F	HT	II b	85	2	24P	⑦-27
Taps ／ M2.6 × 0.35										
Standard		2 3	SP	SPP2.6D	SP	P1	46	3	2.5P	①-41
			PO	POQ2.6D	PO	P2			5P	③-15
		1 2 3	HT	TNMQ2.6D5	HT	P2	46	3	5P	④-6
				TNMQ2.6D1					1.5P	④-6

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Thread forming taps for steels	1 2	N-RZ	NRZM52.6DP	RO	G5	46	3	4P	⑥-16
			NRZM52.6DB					2P	⑥-16
Thread forming taps for non-ferrous materials	18 19 21	N-RS	NRSM52.6DP	RO	G5	46	3	4P	⑥-28
			NRSM52.6DB					2P	⑥-28
			NRSM62.6DP		G6			4P	⑥-28
			NRSM62.6DB					2P	⑥-28
Taps ／ M3.5 × 0.6									
Standard	2 3	SP	SPP3.5H	SP	P1	52	5	2.5P	①-41
		+SP	SNPP3.5H						①-59
		SP 1.5P	SY3.5HPNEBA					1.5P	①-61
		PO	POQ3.5H	PO	P2			5P	③-15
		+PO	PNPQ3.5H						③-32
	1 2 3	HT	TNMQ3.5H5	HT	P2	52	5	5P	④-6
			TNMQ3.5H1					1.5P	④-6
Oversize	2 3	SP	SPQ3.5H	SP	P2	52	5	2.5P	①-41
			SPR3.5H		P3				①-41
			SPS3.5H		P4				①-41
		PO	POR3.5H	PO	P3			5P	③-15
			POS3.5H		P4				③-15
	1 2 3	HT	TNMR3.5H5	HT	P3	52	5	5P	④-6
			TNMR3.5H1					1.5P	④-6
			TNMS3.5H5		P4			5P	④-6
			TNMS3.5H1					1.5P	④-6
For left hand threads	1 2 3	HT LH	TNMQ3.5H5-L	HT	P2	52	5	5P	④-66
			TNMQ3.5H1-L					1.5P	④-66
Oxidizing	1 2 3	SP OX	SPP3.5HX	SP	P1	52	5	2.5P	①-67
		PO OX	POQ3.5HX	PO	P2			5P	③-36
For soft structural steels	1 2	E-SP	ESHMP3.5H	SP	P1	52	5	2.5P	①-134
Thread forming taps for steels	1 2	N+RZ	NRZP53.5HP	RO	G5	52	5	4P	⑥-15
			NRZP53.5HB					2P	⑥-15
			NRZP63.5HP		G6			4P	⑥-15
			NRZP63.5HB					2P	⑥-15
			NRZP73.5HP		G7			4P	⑥-15
			NRZP73.5HB					2P	⑥-15
For medium hardness carbon steels	2 3 4 5 6 10	MHSL	1109101038	SL	P3	63	5	5P	②-4
Long	2 3 4 5 6 10	MHSL	2109101038	SL	P3	100	5	5P	②-4
For stainless steels	2 3 4 9	SU+SP	SUPP3.5H	SP	P1	52	5	2.5P	①-102
	1 2 3 4 9	SU-PO	PUMQ3.5H	PO	P2	52	5	5P	③-62
	1 2 9	SU-HT	TUMQ3.5H4	HT	P2	52	5	4P	④-90
			TUMQ3.5H1					1.5P	④-90
Oversize	2 3 4 9	SU+SP	SUPR3.5H	SP	P3	52	5	2.5P	①-102
For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MQ3.5H	SP	P2	52	5	3P	①-120
For cast irons	12 13	FC-HT	TY3.5HRAEN5	HT	P3	52	5	5P	④-94
			TY3.5HRAENA					1.5P	④-94
Carbide	12 13 16	N-CT FC	TCNR3.5H3	HT	P3	48	4	3P	⑤-11
			TCNR3.5H1					1.5P	⑤-11
For aluminum	15 16 17 18 19 20 21	AL+SP	ASHPQ3.5H	SP	P2	52	5	2.5P	①-140
		AL-SP 1.5P	SY3.5HQLENA					1.5P	①-141
	18 19 21	LA-HT	TY3.5HQLEN5	HT	P2	52	5	5P	④-110
			TY3.5HQLENA					1.5P	④-110

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For aluminum	Carbide	19 21	N-CT LA	TCNR3.5H3A	HT	P3	48	4	3P	⑤-4
				TCNR3.5H1A					1.5P	⑤-4
Thread forming taps for non-ferrous materials		18 19 21	N+RS	NRSP53.5HP	RO	G5	52	5	4P	⑥-27
				NRSP53.5HB					2P	⑥-27
				NRSP63.5HP		G6			4P	⑥-27
				NRSP63.5HB					2P	⑥-27
				NRSP73.5HP		G7			4P	⑥-27
For Thermoplastic Resins	Thermosetting	24	PL1	TPLM3.5H3	HT	P5	52	5	3P	④-120
	Thermoplastic	24 25	PL2	TY3.5HTMEN3	HT	P5	52	5	3P	④-122
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL+RZ	OLRZP53.5HP	RO	G5	52	5	4P	⑥-42
				OLRZP63.5HP		G6				⑥-42
High performance thread forming taps		1 2 3 4 5 9 19	HP+RZ	HRZP53.5HP	RO	G5	52	5	4P	⑥-48
				HRZP53.5HB					2P	⑥-48
				HRZP63.5HP		G6			4P	⑥-48
				HRZP63.5HB					2P	⑥-48
For deep hole use		2 3 4 13	S-SP	SSMP3.5H-3	SP	P1	52	5	2.5P	①-127
		1 2 3 4	S-PO	PSMQ3.5H	PO	P2	52	5	5P	③-77
	Oversize	2 3 4 13	S-SP	SSMQ3.5H	SP	P2	52	5	2.5P	①-127
Nut taps		1 2	NT	NH23.5H	HT	II b	95	2.6	25P	⑦-27
Taps ／ M3.5 × 0.35										
Standard		2 3	SP	SPP3.5D	SP	P1	52	5	2.5P	①-41
			PO	POQ3.5D	PO	P2			5P	③-15
		1 2 3	HT	TNMQ3.5D5	HT	P2	52	5	5P	④-6
				TNMQ3.5D1					1.5P	④-6
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM53.5DP	RO	G5	52	5	4P	⑥-28
				NRSM53.5DB					2P	⑥-28
				NRSM63.5DP		G6			4P	⑥-28
				NRSM63.5DB					2P	⑥-28
Taps ／ M4.5 × 0.75										
Standard		2 3	SP	SPQ4.5J	SP	P2	60	5.5	2.5P	①-41
			PO	POQ4.5J	PO				5P	③-15
		1 2 3	HT	TNMQ4.5J53	HT	P2	60	5.5	5P	④-7
				TNMQ4.5J13					1.5P	④-7
For medium hardness carbon steels		2 3 4 5 6 10	MHSL	1109101045	SL	P3	70	5.5	5P	②-4
	Long	2 3 4 5 6 10	MHSL	2109101045	SL	P3	100	5.5	5P	②-4
Nut taps		1 2	NT	NH24.5J	HT	II b	105	3.3	25P	⑦-27
Taps ／ M4.5 × 0.5										
Standard		2 3	SP	SPP4.5G	SP	P1	60	5.5	2.5P	①-41
			PO	POQ4.5G	PO	P2			5P	③-15
		1 2 3	HT	TNMQ4.5G5	HT	P2	60	5.5	5P	④-7
				TNMQ4.5G1					1.5P	④-7
Oxidizing		1 2 3	SP OX	SPP4.5GX	SP	P1	60	5.5	2.5P	①-67
Taps ／ M5.5 × 0.9										
Standard		2 3	SP	SPQ5.5L	SP	P2	62	6	2.5P	①-42
			PO	POQ5.5L	PO				5P	③-16
		1 2 3	HT	TNMQ5.5L5	HT	P2	62	6	5P	④-7
				TNMQ5.5L1					1.5P	④-7
Nut taps		1 2	NT	NH25.5L	HT	II b	115	4.1	24P	⑦-27

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*D*s	ℓc

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*D*s	ℓc	Product page
Taps ／ M5.5 × 0.75										
Standard		1 2 3	HT	TNMQ5.5J5	HT	P2	62	6	5P	④-7
				TNMQ5.5J1					1.5P	④-7
Taps ／ M5.5 × 0.5										
Standard		2 3	SP	SPP5.5G	SP	P1	62	6	2.5P	①-42
			PO	POQ5.5G	PO	P2			5P	③-16
		1 2 3	HT	TNMQ5.5G5	HT	P2	62	6	5P	④-7
				TNMQ5.5G1					1.5P	④-7
Taps ／ M6.5 × 0.5										
Standard		1 2 3	HT	TNMQ6.5G5	HT	P2	70	6.2	5P	④-8
				TNMQ6.5G1					1.5P	④-8
Taps ／ M7 × 1										
Standard		2 3	SP	SPQ7.0M	SP	P2	70	6.2	2.5P	①-42
			PO	POQ7.0M	PO				5P	③-16
		1 2 3	HT	TNMQ7.0M5T	HT	P2	70	6.2	5P	④-8
				TNMQ7.0M1T					1.5P	④-8
				TNMQ7.0M5					5P	④-8
				TNMQ7.0M1					1.5P	④-8
	Oversize	2 3	SP	SPR7.0M	SP	P3	70	6.2	2.5P	①-42
				SPS7.0M		P4				①-42
			PO	POR7.0M	PO	P3			5P	③-16
		1 2 3	HT	TNMR7.0M5	HT	P3	70	6.2	5P	④-8
				TNMR7.0M1					1.5P	④-8
				TNMS7.0M5		P4			5P	④-8
				TNMS7.0M1					1.5P	④-8
For left hand threads		2 3	SP LH	SPQ7.0M–L	SP	P2	70	6.2	2.5P	①-81
		1 2 3	HT LH	TNMQ7.0M5-L	HT	P2	70	6.2	5P	④-66
				TNMQ7.0M1-L					1.5P	④-66
Oxidizing		1 2 3	SP OX	SPQ7.0MX	SP	P2	70	6.2	2.5P	①-67
			PO OX	POQ7.0MX	PO				5P	③-37
Thread forming taps for steels		1 2	N-RZ	NRZM77.0MP	RO	G7	70	6.2	4P	⑥-16
				NRZM77.0MB					2P	⑥-16
For stainless steels		2 3 4 9	SU-SP	SUMQ7.0M	SP	P2	70	6.2	2.5P	①-103
		1 2 3 4 9	SU-PO	PUMQ7.0M	PO	P2	70	6.2	5P	③-63
For cast irons	Carbide	12 13 16	N-CT FC	TCNR7.0M3	HT	P3	65	6.2	3P	⑤-11
				TCNR7.0M1					1.5P	⑤-11
For aluminum	Carbide	19 21	N-CT LA	TCNR7.0M3A	HT	P3	65	6.2	3P	⑤-4
				TCNR7.0M1A					1.5P	⑤-4
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM67.0MP	RO	G6	70	6.2	4P	⑥-28
				NRSM67.0MB					2P	⑥-28
				NRSM77.0MP		G7			4P	⑥-28
				NRSM77.0MB					2P	⑥-28
Nut taps		1 2	NT	NH27.0M	HT	II b	130	5.5	26P	⑦-28

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*D*s	ℓc	Product page
Taps ／ M7 × 0.75										
Standard		2 3	SP	SPQ7.0J	SP	P2	70	6.2	2.5P	①-42
			PO	POQ7.0J	PO				5P	③-16
		1 2 3	HT	TNMQ7.0J5	HT	P2	70	6.2	5P	④-8
				TNMQ7.0J1					1.5P	④-8
	Oversize	2 3	PO	POR7.0J	PO	P3	70	6.2	5P	③-16
For left hand threads		1 2 3	HT LH	TNMQ7.0J5-L	HT	P2	70	6.2	5P	④-67
				TNMQ7.0J1-L					1.5P	④-67
Thread forming taps for steels		1 2	N-RZ	NRZM77.0JP	RO	G7	70	6.2	4P	⑥-16
				NRZM77.0JB					2P	⑥-16
For cast irons	Carbide	12 13 16	N-CT FC	TCNR7.0J3	HT	P3	62	6.2	3P	⑤-11
				TCNR7.0J1					1.5P	⑤-11
For aluminum	Carbide	19 21	N-CT LA	TCNR7.0J3A	HT	P3	62	6.2	3P	⑤-4
				TCNR7.0J1A					1.5P	⑤-4
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM77.0JP	RO	G7	70	6.2	4P	⑥-28
				NRSM77.0JB					2P	⑥-28
Taps ／ M7 × 0.5										
Standard		2 3	SP	SPQ7.0G	SP	P2	70	6.2	2.5P	①-42
			PO	POQ7.0G	PO				5P	③-16
		1 2 3	HT	TNMQ7.0G5	HT	P2	70	6.2	5P	④-8
				TNMQ7.0G1					1.5P	④-8
Taps ／ M7.5 × 0.5										
Standard		1 2 3	HT	TNMQ7.5G5	HT	P2	70	6.2	5P	④-8
				TNMQ7.5G1					1.5P	④-8
Taps ／ M8.5 × 1										
Standard		1 2 3	HT	TNMQ8.5M5	HT	P2	75	7	5P	④-8
				TNMQ8.5M1					1.5P	④-8
Taps ／ M8.5 × 0.75										
Standard		1 2 3	HT	TNMQ8.5J5	HT	P2	75	7	5P	④-8
				TNMQ8.5J1					1.5P	④-8
Taps ／ M8.5 × 0.5										
Standard		1 2 3	HT	TNMQ8.5G5	HT	P2	75	7	5P	④-8
				TNMQ8.5G1					1.5P	④-8

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Dies selection		Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ M1 × 0.25										
Solid dies		HSS	1 2 15 16 18 19	D	II	16	5	2.5P	TYD1.0BDNEBC	⑩-2
						20	7		TYE1.0BDNEBC	⑩-2
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYE1.0BDNEBC	⑩-16
Rolling dies		HSS	1 2 9 15	RS-D	R2	10	3.5	-	RBQ1.0B	⑩-47
					R3				RBR1.0B	⑩-47
					R4				RBS1.0B	⑩-47
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	10	3	2P	HBP1.0B	⑩-44
						16	5		HDP1.0B	⑩-44
					P2	10	3		HBQ1.0B	⑩-44
						16	5		HDQ1.0B	⑩-44
Dies ／ M1 × 0.2										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE1.0ADNEBC	⑩-2
Dies ／ M1.1 × 0.25										
Rolling dies		HSS	1 2 9 15	RS-D	R1	10	3.5	-	RBP1.1B	⑩-47
					R2				RBQ1.1B	⑩-47
					R3				RBR1.1B	⑩-47
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	10	3	2P	HBP1.1B	⑩-44
						16	5		HDP1.1B	⑩-44
					P2	10	3		HBQ1.1B	⑩-44
						16	5		HDQ1.1B	⑩-44
Dies ／ M1.2 × 0.25										
Solid dies		HSS	1 2 15 16 18 19	D	II	16	5	2.5P	TYD1.2BDNEBC	⑩-2
						20	7		TYE1.2BDNEBC	⑩-2
Rolling dies		HSS	1 2 9 15	RS-D	R2	10	3.5	-	RBQ1.2B	⑩-47
					R3				RBR1.2B	⑩-47
					R4				RBS1.2B	⑩-47
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	10	3	2P	HBP1.2B	⑩-44
						16	5		HDP1.2B	⑩-44
					P2	10	3		HBQ1.2B	⑩-44
						16	5		HDQ1.2B	⑩-44
Dies ／ M1.2 × 0.2										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE1.2ADNEBC	⑩-2
Dies ／ M1.4 × 0.3										
Solid dies		HSS	1 2 15 16 18 19	D	II	16	5	2.5P	TYD1.4CDNEBC	⑩-2
						20	7		TYE1.4CDNEBC	⑩-2
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYE1.4CDNEBC	⑩-16
Rolling dies		HSS	1 2 9 15	RS-D	R2	10	3.5	-	RBQ1.4C	⑩-47
						16	5		RDQ1.4C	⑩-47
					R3	10	3.5		RBR1.4C	⑩-48
						16	5		RDR1.4C	⑩-48
					R4	10	3.5		RBS1.4C	⑩-48
						16	5		RDS1.4C	⑩-48
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	10	3	2P	HBP1.4C	⑩-44
						16	5		HDP1.4C	⑩-44
					P2	10	3		HBQ1.4C	⑩-44
						16	5		HDQ1.4C	⑩-44
Dies ／ M1.4 × 0.2										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE1.4ADNEBC	⑩-2
Dies ／ M1.6 × 0.35										
Solid dies		HSS	1 2 15 16 18 19	D	II	16	5	2.5P	TYD1.6DDNEBC	⑩-2
						20	7		TYE1.6DDNEBC	⑩-2
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYE1.6DDNEBC	⑩-16
Rolling dies		HSS	1 2 9 15	RS-D	R2	12x10	4.5	-	RQQ1.6D	⑩-48
						16	5		RDQ1.6D	⑩-48
					R3	12x10	4.5		RQR1.6D	⑩-48
						16	5		RDR1.6D	⑩-48
					R4	12x10	4.5		RQS1.6D	⑩-48
						16	5		RDS1.6D	⑩-48
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	10	3	2P	HBP1.6D	⑩-44
						16	5		HDP1.6D	⑩-44
					P2	10	3		HBQ1.6D	⑩-44
						16	5		HDQ1.6D	⑩-44
Dies ／ M1.6 × 0.2										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE1.6ADNEBC	⑩-2
Dies ／ M1.7 × 0.35										
Solid dies		HSS	1 2 15 16 18 19	D	II	16	5	2.5P	TYD1.7DDNEBC	⑩-2
						20	7		TYE1.7DDNEBC	⑩-2
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYE1.7DDNEBC	⑩-16
Rolling dies		HSS	1 2 9 15	RS-D	R2	12x10	4.5	-	RQQ1.7D	⑩-48
						16	5		RDQ1.7D	⑩-48
					R3	12x10	4.5		RQR1.7D	⑩-48
						16	5		RDR1.7D	⑩-48
					R4	12x10	4.5		RQS1.7D	⑩-48
						16	5		RDS1.7D	⑩-48
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	10	3	2P	HBP1.7D	⑩-44
						16	5		HDP1.7D	⑩-44
					P2	10	3		HBQ1.7D	⑩-44
						16	5		HDQ1.7D	⑩-44
Dies ／ M1.7 × 0.2										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE1.7ADNEBC	⑩-2
Dies ／ M1.8 × 0.35										
Solid dies		HSS	1 2 15 16 18 19	D	II	16	5	2.5P	TYD1.8DDNEBC	⑩-2
						20	7		TYE1.8DDNEBC	⑩-2
Rolling dies		HSS	1 2 9 15	RS-D	R2	16	5	-	RDQ1.8D	⑩-48
					R3				RDR1.8D	⑩-48
					R4				RDS1.8D	⑩-48

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Dies selection		Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	10	3	2P	HBP1.8D	⑩-44
						16	5		HDP1.8D	⑩-44
					P2	10	3		HBQ1.8D	⑩-44
						16	5		HDQ1.8D	⑩-44
Dies ／ M1.8 × 0.2										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE1.8ADNEBC	⑩-2
Dies ／ M2.2 × 0.45										
Solid dies		HSS	1 2 15 16 18 19	D	II	16	5	2.5P	TYD2.2FDNEBC	⑩-2
						20	7		TYE2.2FDNEBC	⑩-2
Point solid dies		HSS	1 2 15 16 18 19	DPO	S6	20	7	1.5P	PYE2.2FUNEBA	⑩-34
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE2.2FQNEBA	⑩-34
Rolling dies		HSS	1 2 9 15	RS-D	R2	16	5	-	RDQ2.2F	⑩-48
					R3				RDR2.2F	⑩-48
					R4				RDS2.2F	⑩-48
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	10	3	2P	HBP2.2F	⑩-45
						16	5		HDP2.2F	⑩-45
					P2	10	3		HBQ2.2F	⑩-45
						16	5		HDQ2.2F	⑩-45
Dies ／ M2.2 × 0.25										
Solid dies		HSS	1 2 15 16 18 19	D	II	16	5	2.5P	TYD2.2BDNEBC	⑩-2
Dies ／ M2.3 × 0.4										
Solid dies		HSS	1 2 15 16 18 19	D	II	16	5	2.5P	TYD2.3EDNEBC	⑩-2
						20	7		TYE2.3EDNEBC	⑩-2
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYE2.3EDNEBC	⑩-16
Point solid dies		HSS	1 2 15 16 18 19	DPO	S5	20	7	1.5P	PYE2.3ETNEBA	⑩-34
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE2.3EQNEBA	⑩-34
Rolling dies		HSS	1 2 9 15	RS-D	R2	16	5	-	RDQ2.3E	⑩-48
					R3				RDR2.3E	⑩-48
					R4				RDS2.3E	⑩-48
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	10	3	2P	HBP2.3E	⑩-45
						16	5		HDP2.3E	⑩-45
					P2	10	3		HBQ2.3E	⑩-45
						16	5		HDQ2.3E	⑩-45
Dies ／ M2.3 × 0.25										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE2.3BDNEBC	⑩-2
Rolling dies		HSS	1 2 9 15	RS-D	R2	16	5	-	RDQ2.3B	⑩-48
					R3				RDR2.3B	⑩-48
					R4				RDS2.3B	⑩-48
Dies ／ M2.5 × 0.45										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE2.5FDNEBC	⑩-2
						25	9		TYG2.5FDNEBC	⑩-2
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYE2.5FDNEBC	⑩-16
Point solid dies		HSS	1 2 15 16 18 19	DPO	S5	20	7	1.5P	PYE2.5FUNEBA	⑩-34
						25	9		PYG2.5FUNEBA	⑩-34
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE2.5FQNEBA	⑩-34
						25	9		PYG2.5FQNEBA	⑩-34
Rolling dies		HSS	1 2 9 15	RS-D	R2	16	5	-	RDQ2.5F	⑩-48
						20	7		REQ2.5F	⑩-48
					R4	16	5		RDS2.5F	⑩-48
						20	7		RES2.5F	⑩-48
					R5	16	5		RDT2.5F	⑩-48
						20	7		RET2.5F	⑩-48
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	10	3	2P	HBP2.5F	⑩-45
						16	5		HDP2.5F	⑩-45
						20	7		HEP2.5F	⑩-45
					P2	10	3		HBQ2.5F	⑩-45
						16	5		HDQ2.5F	⑩-45
						20	7		HEQ2.5F	⑩-45
Dies ／ M2.5 × 0.35										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE2.5DDNEBC	⑩-2
Point solid dies		HSS	1 2 15 16 18 19	DPO	S5	20	7	1.5P	PYE2.5DTNEBA	⑩-34
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE2.5DQNEBA	⑩-34
Rolling dies		HSS	1 2 9 15	RS-D	R2	16	5	-	RDQ2.5D	⑩-48
					R3				RDR2.5D	⑩-48
					R4				RDS2.5D	⑩-48
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	10	3	2P	HBP2.5D	⑩-45
						16	5		HDP2.5D	⑩-45
					P2	10	3		HBQ2.5D	⑩-45
						16	5		HDQ2.5D	⑩-45
Dies ／ M2.6 × 0.45										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE2.6FDNEBC	⑩-2
						25	9		TYG2.6FDNEBC	⑩-2
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYE2.6FDNEBC	⑩-16
Point solid dies		HSS	1 2 15 16 18 19	DPO	S6	20	7	1.5P	PYE2.6FUNEBA	⑩-34
						25	9		PYG2.6FUNEBA	⑩-34
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE2.6FQNEBA	⑩-34
						25	9		PYG2.6FQNEBA	⑩-34
Rolling dies		HSS	1 2 9 15	RS-D	R2	16	5	-	RDQ2.6F	⑩-48
						20	7		REQ2.6F	⑩-48
					R4	16	5		RDS2.6F	⑩-48
						20	7		RES2.6F	⑩-48
					R5	16	5		RDT2.6F	⑩-48
						20	7		RET2.6F	⑩-48
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	10	3	2P	HBP2.6F	⑩-45
						16	5		HDP2.6F	⑩-45
						20	7		HEP2.6F	⑩-45
					P2	10	3		HBQ2.6F	⑩-45
						16	5		HDQ2.6F	⑩-45
						20	7		HEQ2.6F	⑩-45

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Dies selection		Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ M2.6 × 0.35										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE2.6DDNEBC	⑩-2
Rolling dies		HSS	1 2 9 15	RS-D	R2	16	5	-	RDQ2.6D	⑩-48
					R4				RDS2.6D	⑩-49
					R5				RDT2.6D	⑩-49
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	10	3	2P	HBP2.6D	⑩-45
						16	5		HDP2.6D	⑩-45
					P2	10	3		HBQ2.6D	⑩-45
						16	5		HDQ2.6D	⑩-45
Dies ／ M3.5 × 0.6										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE3.5HDNEBC	⑩-3
						25	9		TYG3.5HDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYE3.5HDNEBC	⑩-16
Point solid dies		HSS	1 2 15 16 18 19	DPO	S4	20	7	1.5P	PYE3.5HSNEBA	⑩-34
						25	9		PYG3.5HSNEBA	⑩-34
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE3.5HQNEBA	⑩-34
						25	9		PYG3.5HQNEBA	⑩-34
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	16	5	2P	HDP3.5H	⑩-45
						20	7		HEP3.5H	⑩-45
					P2	16	5		HDQ3.5H	⑩-45
						20	7		HEQ3.5H	⑩-46
Dies ／ M3.5 × 0.5										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE3.5GDNEBC	⑩-3
Dies ／ M3.5 × 0.35										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE3.5DDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYE3.5DDNEBC	⑩-16
Point solid dies		HSS	1 2 15 16 18 19	DPO	S5	20	7	1.5P	PYE3.5DTNEBA	⑩-34
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE3.5DQNEBA	⑩-34
Rolling dies		HSS	1 2 9 15	RS-D	R2	20	7	-	REQ3.5D	⑩-49
					R4				RES3.5D	⑩-49
					R5				RET3.5D	⑩-49
Dies ／ M4.5 × 0.75										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE4.5JDNEBC	⑩-3
Point solid dies		HSS	1 2 15 16 18 19	DPO	S4	20	7	1.5P	PYE4.5JSNEBA	⑩-35
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE4.5JQNEBA	⑩-35
Dies ／ M4.5 × 0.5										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE4.5GDNEBC	⑩-3
Point solid dies		HSS	1 2 15 16 18 19	DPO	S6	20	7	1.5P	PYE4.5GUNEBA	⑩-35
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE4.5GQNEBA	⑩-35
Dies ／ M5.5 × 0.9										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE5.5LDNEBC	⑩-3

Dies selection		Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ M5.5 × 0.5										
Solid dies		HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYE5.5GDNEBC	⑩-3
Point solid dies		HSS	1 2 15 16 18 19	DPO	S6	20	7	1.5P	PYE5.5GUNEBA	⑩-35
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	20	7	1.5P	PYE5.5GQNEBA	⑩-35
Dies ／ M7 × 1										
Solid dies		HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYG7.0MDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYG7.0MDNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S5	25	9	1.5P	PYG7.0MTNEBA	⑩-35
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	25	9	1.5P	PYG7.0MQNEBA	⑩-35
Dies ／ M7 × 0.75										
Solid dies		HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYG7.0JDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYG7.0JDNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S4	25	9	1.5P	PYG7.0JSNEBA	⑩-35
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	25	9	1.5P	PYG7.0JQNEBA	⑩-35
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	20	7	2P	HEP7.0J	⑩-46
					P2				HEQ7.0J	⑩-46
Dies ／ M7 × 0.5										
Solid dies		HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYG7.0GDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYG7.0GDNEBC	⑩-17
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	20	7	2P	HEP7.0G	⑩-46
					P2				HEQ7.0G	⑩-46

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	D_s	ℓ_c

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Taps ／ M9 × 1.25

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	D_s	ℓ_c	Product page
Standard	2 3	SP	SPQ9.0N	SP	P2	75	7	2.5P	①-42
		PO	POR9.0N	PO	P3			5P	③-16
	1 2 3	HT	TNMR9.0N5	HT	P3	75	7	5P	④-8
			TNMR9.0N1					1.5P	④-8
For left hand threads	1 2 3	HT LH	TNMR9.0N5-L	HT	P3	75	7	5P	④-67
			TNMR9.0N1-L					1.5P	④-67
Nut taps	1 2	NT	NH29.0N	HT	II b	150	7.2	27P	⑦-28

Taps ／ M9 × 1

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	D_s	ℓ_c	Product page
Standard	2 3	SP	SPQ9.0M	SP	P2	75	7	2.5P	①-42
		PO	POR9.0M	PO	P3			5P	③-16
	1 2 3	HT	TNMQ9.0M5	HT	P2	75	7	5P	④-8
			TNMQ9.0M1					1.5P	④-8
For left hand threads	1 2 3	HT LH	TNMQ9.0M5-L	HT	P2	75	7	5P	④-67
			TNMQ9.0M1-L					1.5P	④-67
Nut taps	1 2	NT	NH29.0M	HT	II	140	7.2	25P	⑦-28

Taps ／ M9 × 0.75

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	D_s	ℓ_c	Product page
Standard	2 3	SP	SPQ9.0J	SP	P2	75	7	2.5P	①-42
		PO	POR9.0J	PO	P3			5P	③-16
	1 2 3	HT	TNMQ9.0J5	HT	P2	75	7	5P	④-8
			TNMQ9.0J1					1.5P	④-8
For left hand threads	1 2 3	HT LH	TNMQ9.0J5-L	HT	P2	75	7	5P	④-67
			TNMQ9.0J1-L					1.5P	④-67

Taps ／ M9 × 0.5

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	D_s	ℓ_c	Product page
Standard	2 3	SP	SPQ9.0G	SP	P2	75	7	2.5P	①-42
		PO	POQ9.0G	PO				5P	③-16
	1 2 3	HT	TNMQ9.0G5	HT	P2	75	7	5P	④-8
			TNMQ9.0G1					1.5P	④-8

Taps ／ M9.5 × 1

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	D_s	ℓ_c	Product page
Standard	1 2 3	HT	TNMQ9.5M5	HT	P2	75	7	5P	④-9
			TNMQ9.5M1					1.5P	④-9

Taps ／ M9.5 × 0.75

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	D_s	ℓ_c	Product page
Standard	1 2 3	HT	TNMQ9.5J5	HT	P2	75	7	5P	④-9
			TNMQ9.5J1					1.5P	④-9

Taps ／ M9.5 × 0.5

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	D_s	ℓ_c	Product page
Standard	1 2 3	HT	TNMQ9.5G5	HT	P2	75	7	5P	④-9
			TNMQ9.5G1					1.5P	④-9

Taps ／ M11 × 1.5

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	D_s	ℓ_c	Product page
Standard	2 3	SP	SPQ011O	SP	P2	82	8.5	2.5P	①-42
		PO	POS011O	PO	P4			5P	③-16
	1 2 3	HT	TNMS011O5	HT	P4	82	8.5	5P	④-9
			TNMS011O1					1.5P	④-9
For left hand threads	1 2 3	HT LH	TNMS011O5-L	HT	P4	82	8.5	5P	④-67
			TNMS011O1-L					1.5P	④-67

Taps ／ M11 × 1.25

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	D_s	ℓ_c	Product page
Standard	2 3	SP	SPQ011N	SP	P2	82	8.5	2.5P	①-42
		PO	POR011N	PO	P3			5P	③-16
	1 2 3	HT	TNMR011N5	HT	P3	82	8.5	5P	④-9
			TNMR011N1					1.5P	④-9
For left hand threads	1 2 3	HT LH	TNMR011N5-L	HT	P3	82	8.5	5P	④-67
			TNMR011N1-L					1.5P	④-67

Taps ／ M11 × 1

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	D_s	ℓ_c	Product page
Standard	2 3	SP	SPQ011M	SP	P2	82	8.5	2.5P	①-42
		PO	POR011M	PO	P3			5P	③-16
	1 2 3	HT	TNMR011M5	HT	P3	82	8.5	5P	④-9
			TNMR011M1					1.5P	④-9
For left hand threads	1 2 3	HT LH	TNMR011M5-L	HT	P3	82	8.5	5P	④-67
			TNMR011M1-L					1.5P	④-67

Taps ／ M11 × 0.75

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	D_s	ℓ_c	Product page
Standard	2 3	SP	SPQ011J	SP	P2	82	8.5	2.5P	①-42
		PO	POR011J	PO	P3			5P	③-16
	1 2 3	HT	TNMR011J5	HT	P3	82	8.5	5P	④-9
			TNMR011J1					1.5P	④-9

Taps ／ M11 × 0.5

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	D_s	ℓ_c	Product page
Standard	2 3	PO	POQ011G	PO	P2	82	8.5	5P	③-16
	1 2 3	HT	TNMQ011G5	HT	P2	82	8.5	5P	④-9
			TNMQ011G1					1.5P	④-9

Taps ／ M13 × 1.75

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	D_s	ℓ_c	Product page
Standard	2 3	SP	SPQ013P	SP	P2	88	10.5	2.5P	①-43
		PO	POS013P	PO	P4			5P	③-17
	1 2 3	HT	TNMR013P5	HT	P3	88	10.5	5P	④-10
			TNMR013P1					1.5P	④-10

Taps ／ M13 × 1.5

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	D_s	ℓ_c	Product page
Standard	2 3	SP	SPQ013O	SP	P2	88	10.5	2.5P	①-43
		PO	POR013O	PO	P3			5P	③-17
	1 2 3	HT	TNMR013O5	HT	P3	88	10.5	5P	④-10
			TNMR013O1					1.5P	④-10
For left hand threads	1 2 3	HT LH	TNMR013O5-L	HT	P3	88	10.5	5P	④-67
			TNMR013O1-L					1.5P	④-67

Taps ／ M13 × 1.25

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	D_s	ℓ_c	Product page
Standard	2 3	SP	SPQ013N	SP	P2	88	10.5	2.5P	①-43
	1 2 3	HT	TNMS013N5	HT	P4	88	10.5	5P	④-10
			TNMS013N1					1.5P	④-10
For left hand threads	1 2 3	HT LH	TNMS013N5-L	HT	P4	88	10.5	5P	④-67
			TNMS013N1-L					1.5P	④-67

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ M13 × 1									
Standard	2 3	SP	SPQ013M	SP	P2	88	10.5	2.5P	①-43
		PO	POR013M	PO	P3			5P	③-17
	1 2 3	HT	TNMR013M5	HT	P3	88	10.5	5P	④-10
			TNMR013M1					1.5P	④-10
For left hand threads	1 2 3	HT LH	TNMR013M5-L	HT	P3	88	10.5	5P	④-67
			TNMR013M1-L					1.5P	④-67
Taps ／ M13 × 0.75									
Standard	2 3	PO	POR013J	PO	P3	88	10.5	5P	③-17
	1 2 3	HT	TNMR013J5	HT	P3	88	10.5	5P	④-10
			TNMR013J1					1.5P	④-10
Taps ／ M13 × 0.5									
Standard	2 3	PO	POQ013G	PO	P2	88	10.5	5P	③-17
	1 2 3	HT	TNMQ013G5	HT	P2	88	10.5	5P	④-10
			TNMQ013G1					1.5P	④-10
Taps ／ M14 × 2									
Standard	2 3	SP	SPQ014Q	SP	P2	88	10.5	2.5P	①-43
		SP 1.5P	SY014QQNEBA					1.5P	①-61
		PO	POS014Q	PO	P4			5P	③-17
	1 2 3	HT	TNMR014Q5	HT	P3	88	10.5	5P	④-10
			TNMR014Q1					1.5P	④-10
Oversize	2 3	SP	SPR014Q	SP	P3	88	10.5	2.5P	①-43
			SPS014Q		P4				①-43
		PO	POT014Q	PO	P5			5P	③-17
	1 2 3	HT	TNMS014Q5	HT	P4	88	10.5	5P	④-10
			TNMS014Q1					1.5P	④-10
			TNMT014Q5		P5			5P	④-10
			TNMT014Q1					1.5P	④-10
For left hand threads	2 3	SP LH	SPQ014Q–L	SP	P2	88	10.5	2.5P	①-82
		PO LH	POS014Q–L	PO	P4			5P	③-48
	1 2 3	HT LH	TNMR014Q5-L	HT	P3	88	10.5	5P	④-67
			TNMR014Q1-L					1.5P	④-67
Oxidizing	1 2 3	SP OX	SPQ014QX	SP	P2	88	10.5	2.5P	①-67
		PO OX	POS014QX	PO	P4			5P	③-37
Coating	1 2 3 4 9 10 13 18 19	VUSP	1101101100	SP	P4	110	10.5	2.5P	①-7
	1 2 3 4 9 19 21	AU+SP	VSAPR014Q	SP	P3	88	10.5	2.5P	①-88
		AU+SL	VSAPS014QL	SL	P4			5P	②-14
	1 2 3 4 9 10 13 18 19	VUPO	1102101100	PO	P4	110	10.5	5P	③-5
	1 2 3 4	PO V	VPOS014Q	PO	P4	88	10.5	5P	③-50
Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201100	SP	P5	110	10.5	2.5P	①-7
			1101301100		P6				①-7
		VUPO	1102201100	PO	P5			5P	③-5
			1102301100		P6				③-5
Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101100	SP	P4	110	10.5	1.5P	①-16
Cool hole	1 2 3 4 9 10 13 18 19	VUSP CH	1201101100	SP	P4	110	10.5	2.5P	①-22
Long	1 2 3 4 9 10 13 18 19	VUSP	2101101100	SP	P4	150	10.5	2.5P	①-8
		VUPO	2102101100	PO				5P	③-6

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Long	2 3	LS-SP	SPQ014QL12	SP	P2	120	10.5	2.5P	①-93
			SPQ014QL15			150			①-93
			SPQ014QL20			200			①-93
		LS-PO	POS014QL12	PO	P4	120		5P	③-55
			POS014QL15			150			③-55
			POS014QL20			200			③-55
	1 2 3	LS-HT	TNMQ014Q512	HT	P2	120	10.5	5P	④-77
			TNMQ014Q515			150			④-77
			TNMQ014Q520			200			④-77
			TNMQ014Q525			250			④-77
			TNMQ014Q112			120		1.5P	④-77
			TNMQ014Q115			150			④-77
			TNMQ014Q120			200			④-77
			TNMQ014Q125			250			④-77
Oversize	2 3	LS-SP	SPR014QL15	SP	P3	150	10.5	2.5P	①-93
		LS-PO	POT014QL15	PO	P5			5P	③-55
	1 2 3	LS-HT	TNMR014Q515	HT	P3	150	10.5	5P	④-77
			TNMR014Q520			200			④-77
			TNMR014Q115			150		1.5P	④-77
			TNMR014Q120			200			④-77
			TNMS014Q515		P4	150		5P	④-77
			TNMS014Q115					1.5P	④-77
For left hand threads	2 3	LS-SP LH	SPQ014QL15-L	SP	P2	150	10.5	2.5P	①-97
	1 2 3	LS-HT LH	TNMQ014Q515L	HT	P2	150	10.5	5P	④-85
			TNMQ014Q115L					1.5P	④-85
For soft structural steels	1 2	E-SP	ESHMQ014Q	SP	P2	88	10.5	2.5P	①-134
For steels	1 2 3 4 5 9 11	HVSP	SY014QSEEXJ	SP	P4	110	10.5	2.5P	①-26
Thread forming taps for steels	1 2	N-RZ	NRZM9014QP	RO	G9	88	10.5	4P	⑥-17
			NRZM9014QB					2P	⑥-17
			NRZM0014QP		G10			4P	⑥-17
			NRZM0014QB					2P	⑥-17
For Galvanizing Oversize	1 2 3 4 5 9 11	HVSP ZP	1112201100	SP	P4+0.1	110	10.5	2.5P	①-34
			1112301100		P4+0.2				①-34
			1112401100		P4+0.3				①-34
For high carbon steels	2 3	HC-SP	SCMQ014Q	SP	P2	88	10.5	2.5P	①-136
	2 3 5	HC-PO	PCMS014Q	PO	P4	88	10.5	5P	③-80
For hard-to-machine materials	3 5 6	EH-PO	EPHMT014Q	PO	P5	88	10.5	4.5P	③-86
	6 10	EH-HT	ETHMT014Q5	HT	P5	88	10.5	5P	④-124
			ETHMT014Q1					2.5P	④-124
Powdered HSS	3 5 6	PM-SP	SY014QSDPB	SP	P4	88	10.5	2.75P	①-174
		LS-PM-SP	SY014QSDPBG			150			①-181
		PM-PO	PY014QTDPB	PO	P5	88		5.5P	③-98
		LS-PM-PO	PY014QTDPBG			150			③-104
For titanium alloys	22	ZET-B	ZETBMR014Q	SP	P3	88	10.5	3P	①-158
		ZET-P	ZETPMT014Q	SL	P5			5P	②-22
For nickel base alloys	1 2 9 23	ZEN-B	ZENBMR014Q	SP	P3	88	10.5	3P	①-166
		ZEN-P	ZENPMT014Q	PO	P5			4.5P	③-90
For medium hardness carbon steels	3 4 5	MHSP	SY014QTOCLJ	SP	P5	110	10.5	2.5P	①-36
Carbide taps for ultra hard materials	8	UH-CT	UHCS014Q5	HT	P4	88	12.5	5P	⑤-28

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For stainless steels		2 3 4 9	SU-SP	SUMQ014Q	SP	P2	88	10.5	2.5P	①-103
		1 2 3 4 9	SU-PO	PUMS014Q	PO	P4	88	10.5	5P	③-63
		1 2 9	SU-HT	TUMS014Q4	HT	P4	88	10.5	4P	④-91
				TUMS014Q1					1.5P	④-91
	Oversize	2 3 4 9	SU-SP	SUMR014Q	SP	P3	88	10.5	2.5P	①-103
				SUMS014Q		P4				①-103
		1 2 3 4 9	SU-PO	PUMT014Q	PO	P5	88	10.5	5P	③-63
	For left hand threads	2 3 4 9	SU-SP LH	SUMQ014Q-L	SP	P2	88	10.5	2.5P	①-117
	For deep hole use	1 2 3 4 9	SU-S-SP	SSMQ014Q-SU	SP	P2	88	10.5	2.5P	①-123
		1 2 3 9	LS-SU-S-SP	SY014QQGEXGS	SP	P2	150	10.5	2.5P	①-125
			LS-SU-S-PO	PY014QSGEXGS	PO	P4			5P	③-74
	For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MR014Q	SP	P3	88	10.5	3P	①-120
For cast irons		12 13	FC-HT	TY014QSAEN5	HT	P4	88	10.5	5P	④-94
				TY014QSAENA					1.5P	④-94
	Carbide	12 13 16	N-CT FC	TCNR014Q3	HT	P3	88	10.5	3P	⑤-12
				TCNR014Q1					1.5P	⑤-12
				TCNS014Q3		P4			3P	⑤-12
				TCNS014Q1					1.5P	⑤-12
	Long shank, carbide	12 13 16	LS-N-CT	TY014QSAWB3G	HT	P4	150	10.5	3P	⑤-19
				TY014QSAWBAG					1.5P	⑤-19
For aluminum		15 16 17 18 19 20 21	AL-SP	ASHMR014Q	SP	P3	88	10.5	2.5P	①-140
			AL-SP 1.5P	SY014QRLENA					1.5P	①-141
		18 19 21	LA-HT	TY014QSLEN5	HT	P4	88	10.5	5P	④-111
				TY014QSLENA					1.5P	④-111
	Carbide	19 21	N-CT LA	TCNR014Q3A	HT	P3	88	10.5	3P	⑤-5
				TCNR014Q1A					1.5P	⑤-5
				TCNS014Q3A		P4			3P	⑤-5
				TCNS014Q1A					1.5P	⑤-5
	Carbide spiral fluted taps	18 19 21	N-CT-SP	SY014QSKWB	SP	P4	88	10.5	2.5P	⑤-20
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM9014QP	RO	G9	88	10.5	4P	⑥-29
				NRSM9014QB					2P	⑥-29
				NRSM0014QP		G10			4P	⑥-29
				NRSM0014QB					2P	⑥-29
For high speed		1 2	F-SP	VFSHMS014Q	SP	P4	88	10.5	3P	①-184
			F-SL	VFSHMS014QL	SL				5.5P	②-28
	Long	1 2	LS-F-SP	SY014QSFEVGS	SP	P4	150	10.5	3P	①-188
			LS-F-SL	LY014QSFEVG	SL				5.5P	②-32
For deep hole use		2 3 4 13	S-SP	SSMQ014Q	SP	P2	88	10.5	2.5P	①-128
		1 2 3 4	S-PO	PSMS014Q	PO	P4	88	10.5	5P	③-78
	Oversize	2 3 4 13	S-SP	SSMS014Q	SP	P4	88	10.5	2.5P	①-128
		1 2 3 4	S-PO	PSMT014Q	PO	P5	88	10.5	5P	③-78
Low spiral	Long	2 3	LS-LO-SP	LSHMQ014QL15	SP	P2	150	10.5	2.5P	①-155
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW014Q1LEB5	HT	I b	100	14	5P	⑦-4
				TW014Q1LEBA					1.5P	⑦-4
		15 16 17 18 19 20 21	AL-SP STI	SW014Q1LEN	SP	I b	100	14	2.5P	⑦-11
With coolant hole		1 2 3 4	MC-SP	(MSHQ014QL15)	SP	P2	150	10.5	2.5P	①-215
				(MSHQ014QL20)			200			①-215
			MC-PO	(MPHS014QL15)	PO	P4	150		5P	③-106
				(MPHS014QL20)			200			③-106
With coolant hole		1 2 3	MC-HT	(ML15014Q5-Q)	HT	P2	150	10.5	5P	④-138
				(ML20014Q5-Q)			200			④-138
				(ML15014Q1-Q)			150		1.5P	④-138
				(ML20014Q1-Q)			200			④-138
Nut taps		1 2	NT	NH2014Q	HT	II b	190	11	25P	⑦-28
Taps / M14 × 1.75										
Standard		1 2 3	HT	TNMR014P5	HT	P3	88	10.5	5P	④-10
				TNMR014P1					1.5P	④-10
Taps / M14 × 1.5										
Standard		2 3	SP	SPQ014O	SP	P2	88	10.5	2.5P	①-43
			SP 1.5P	SY014OQNEBA					1.5P	①-61
			PO	POR014O	PO	P3			5P	③-17
		1 2 3	HT	TNMR014O5	HT	P3	88	10.5	5P	④-10
				TNMR014O1					1.5P	④-10
	Oversize	2 3	SP	SPR014O	SP	P3	88	10.5	2.5P	①-43
				SPS014O		P4				①-43
			PO	POS014O	PO				5P	③-17
				POT014O		P5				③-17
		1 2 3	HT	TNMS014O5	HT	P4	88	10.5	5P	④-10
				TNMS014O1					1.5P	④-10
				TNMT014O5		P5			5P	④-10
				TNMT014O1					1.5P	④-10
For left hand threads		2 3	SP LH	SPQ014O–L	SP	P2	88	10.5	2.5P	①-82
			PO LH	POR014O–L	PO	P3			5P	③-48
		1 2 3	HT LH	TNMR014O5-L	HT	P3	88	10.5	5P	④-67
				TNMR014O1-L					1.5P	④-67
Oxidizing		1 2 3	SP OX	SPQ014OX	SP	P2	88	10.5	2.5P	①-67
			PO OX	POR014OX	PO	P3			5P	③-37
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101102	SP	P3	110	10.5	2.5P	①-7
		1 2 3 4 9 19 21	AU+SP	VSAPR014O	SP	P3	88	10.5	2.5P	①-88
			AU+SL	VSAPR014OL	SL				5P	②-14
		1 2 3 4 9 10 13 18 19	VUPO	1102101102	PO	P3	110	10.5	5P	③-5
	Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201102	SP	P4	110	10.5	2.5P	①-7
				1101301102		P5				①-7
			VUPO	1102201102	PO	P4			5P	③-5
				1102301102		P5				③-5
	Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101102	SP	P3	110	10.5	1.5P	①-16
	Cool hole	1 2 3 4 9 10 13 18 19	VUSP CH	1201101102	SP	P3	110	10.5	2.5P	①-22
	Long	1 2 3 4 9 10 13 18 19	VUSP	2101101102	SP	P3	150	10.5	2.5P	①-8
			VUPO	2102101102	PO				5P	③-6
Long		2 3	LS-SP	SPQ014OL12	SP	P2	120	10.5	2.5P	①-93
				SPQ014OL15			150			①-93
				SPQ014OL20			200			①-93
			LS-PO	POR014OL12	PO	P3	120		5P	③-55
				POR014OL15			150			③-55
				POR014OL20			200			③-55

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Long		1 2 3	LS-HT	TNMQ014O512	HT	P2	120	10.5	5P	④-77
				TNMQ014O515			150			④-77
				TNMQ014O520			200			④-77
				TNMQ014O112			120		1.5P	④-77
				TNMQ014O115			150			④-77
				TNMQ014O120			200			④-77
	Oversize	2 3	LS-SP	SPR014OL15	SP	P3	150	10.5	2.5P	①-93
			LS-PO	POS014OL15	PO	P4			5P	③-55
		1 2 3	LS-HT	TNMR014O515	HT	P3	150	10.5	5P	④-77
				TNMR014O115					1.5P	④-77
				TNMS014O515		P4			5P	④-77
				TNMS014O115					1.5P	④-77
	For left hand threads	2 3	LS-SP LH	SPQ014OL15-L	SP	P2	150	10.5	2.5P	①-97
		1 2 3	LS-HT LH	TNMQ014O515L	HT	P2	150	10.5	5P	④-85
				TNMQ014O115L					1.5P	④-85
For soft structural steels		1 2	E-SP	ESHMQ014O	SP	P2	88	10.5	2.5P	①-134
For steels		1 2 3 4 5 9 11	HVSP	SY014OSEEXJ	SP	P4	110	10.5	2.5P	①-26
Thread forming taps for steels		1 2	N-RZ	NRZM9014OP	RO	G9	88	10.5	4P	⑥-17
				NRZM9014OB					2P	⑥-17
For high carbon steels		2 3	HC-SP	SCMQ014O	SP	P2	88	10.5	2.5P	①-136
		2 3 5	HC-PO	PCMR014O	PO	P3	88	10.5	5P	③-80
For hard-to-machine materials		3 5 6	EH-PO	EPHMS014O	PO	P4	88	10.5	4.5P	③-86
		6 10	EH-HT	ETHMS014O5	HT	P4	88	10.5	5P	④-124
				ETHMS014O1					2.5P	④-124
	Powdered HSS	3 5 6	PM-SP	SY014ORDPB	SP	P3	88	10.5	2.75P	①-174
			LS-PM-SP	SY014ORDPBG			150			①-181
			PM-PO	PY014OSDPB	PO	P4	88		5.5P	③-98
			LS-PM-PO	PY014OSDPBG			150			③-104
For titanium alloys		22	ZET-B	ZETBMR014O	SP	P3	88	10.5	3P	①-158
			ZET-P	ZETPMS014O	SL	P4			5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMR014O	SP	P3	88	10.5	3P	①-166
			ZEN-P	ZENPMS014O	PO	P4			4.5P	③-90
For medium hardness carbon steels		3 4 5	MHSP	SY014OSOCLJ	SP	P4	110	10.5	2.5P	①-36
		2 3 4 5 10	MHSL	1109101102	SL	P5	110	10.5	7P	②-4
			MHSL-J	MHSLT014O7			88			②-6
Carbide taps for ultra hard materials		8	UH-CT	UHCS014O5	HT	P4	88	12.5	5P	⑤-28
For stainless steels		2 3 4 9	SU-SP	SUMQ014O	SP	P2	88	10.5	2.5P	①-103
		1 2 3 4 9	SU-PO	PUMR014O	PO	P3	88	10.5	5P	③-63
		1 2 9	SU-HT	TUMR014O4	HT	P3	88	10.5	4P	④-91
				TUMR014O1					1.5P	④-91
	Oversize	2 3 4 9	SU-SP	SUMS014O	SP	P4	88	10.5	2.5P	①-103
		1 2 3 4 9	SU-PO	PUMT014O	PO	P5	88	10.5	5P	③-63
	For deep hole use	1 2 3 9	LS-SU-S-SP	SY014OQGEXGS	SP	P2	150	10.5	2.5P	①-125
			LS-SU-S-PO	PY014ORGEXGS	PO	P3			5P	③-74
	For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MR014O	SP	P3	88	10.5	3P	①-120
For cast irons		12 13	FC-HT	TY014OSAEN5	HT	P4	88	10.5	5P	④-94
				TY014OSAENA					1.5P	④-94
	Carbide	12 13 16	N-CT FC	TCNR014O3	HT	P3	88	10.5	3P	⑤-12
				TCNR014O1					1.5P	⑤-12
				TCNS014O3		P4			3P	⑤-12
				TCNS014O1					1.5P	⑤-12

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For cast irons	Long shank, carbide	12 13 16	LS-N-CT	TY014OSAWB3G	HT	P4	150	10.5	3P	⑤-19
				TY014OSAWBAG					1.5P	⑤-19
For aluminum		15 16 17 18 19 20 21	AL-SP	ASHMR014O	SP	P3	88	10.5	2.5P	①-140
			AL-SP 1.5P	SY014ORLENA					1.5P	①-141
		18 19 21	LA-HT	TY014OSLEN5	HT	P4	88	10.5	5P	④-111
				TY014OSLENA					1.5P	④-111
	Carbide	19 21	N-CT LA	TCNR014O3A	HT	P3	88	10.5	3P	⑤-5
				TCNR014O1A					1.5P	⑤-5
				TCNS014O3A		P4			3P	⑤-5
				TCNS014O1A					1.5P	⑤-5
	Carbide spiral fluted taps	18 19 21	N-CT-SP	SY014OSKWB	SP	P4	88	10.5	2.5P	⑤-20
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM9014OP	RO	G9	88	10.5	4P	⑥-29
				NRSM9014OB					2P	⑥-29
For high speed		1 2	F-SP	VFSHMR014O	SP	P3	88	10.5	3P	①-184
			F-SL	VFSHMR014OL	SL				5.5P	②-28
	Long	1 2	LS-F-SP	SY014ORFEVGS	SP	P3	150	10.5	3P	①-188
			LS-F-SL	LY014ORFEVG	SL				5.5P	②-32
Ultra fast tapping (with coolant hole)	For steels	1 2 3 4	HFIHS	HFIHSS014O	SP	P4	88	12	2.5P	①-192
			HFISP	HFISPS014O						①-196
	For non-ferrous materials	18 19 20 21	HFAHS	HFAHSS014O	SP	P4	88	12	2.5P	①-200
			HFASP	HFASPS014O						①-204
For dry tapping (with coolant hole)	For steels	2 3 4	HDISP	HDISPS014O	SP	P4	88	12	2.5P	①-208
	For non-ferrous materials	18 19 20 21	HDASP	HDASPS014O	SP	P4	88	12	2.5P	①-212
Ultra fast tapping (with coolant hole)	For both steels and non ferrous materials	2 3 4	HDISL	HDISLS014O	SL	P4	88	12	5.5P	②-34
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM9014OP	RO	G9	88	10.5	4P	⑥-49
				HRZM9014OB					2P	⑥-49
Thread forming taps for carbon steels of medium hardness		2 3 4 5	MHRZ	1110101102	RO	G9	110	10.5	4P	⑥-4
				1111101102					2P	⑥-4
			MHRZ-J	RY014O9OCTP			88		4P	⑥-8
				RY014O9OCTB					2P	⑥-8
	Long	2 3 4 5	MHRZ	2110101102	RO	G9	150	10.5	4P	⑥-5
				2111101102					2P	⑥-5
For deep hole use		2 3 4 13	S-SP	SSMQ014O	SP	P2	88	10.5	2.5P	①-128
		1 2 3 4	S-PO	PSMR014O	PO	P3	88	10.5	5P	③-78
	Oversize	2 3 4 13	S-SP	SSMS014O	SP	P4	88	10.5	2.5P	①-128
		1 2 3 4	S-PO	PSMT014O	PO	P5	88	10.5	5P	③-78
Low spiral	Long	2 3	LS-LO-SP	LSHMQ014OL15	SP	P2	150	10.5	2.5P	①-155
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW014O1LEB5	HT	I b	95	12.5	5P	⑦-4
				TW014O1LEBA					1.5P	⑦-4
		15 16 17 18 19 20 21	AL-SP STI	SW014O1LEN	SP	I b	95	12.5	2.5P	⑦-11
With coolant hole		1 2 3 4	MC-SP	(MSHQ014OL15)	SP	P2	150	10.5	2.5P	①-215
				(MSHQ014OL20)			200			①-215
			MC-PO	(MPHR014OL15)	PO	P3	150		5P	③-106
				(MPHR014OL20)			200			③-106
		1 2 3	MC-HT	(ML15014O5-Q)	HT	P2	150	10.5	5P	④-138
				(ML20014O5-Q)			200			④-138
				(ML15014O1-Q)			150		1.5P	④-138
				(ML20014O1-Q)			200			④-138
Nut taps		1 2	NT	NH2014O	HT	II	170	11	25P	⑦-28

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ M14 × 1.25										
Standard		2 3	SP	SPQ014N	SP	P2	88	10.5	2.5P	①-43
			PO	POR014N	PO	P3			5P	③-17
		1 2 3	HT	TNMS014N5	HT	P4	88	10.5	5P	④-10
				TNMS014N1					1.5P	④-10
For left hand threads		1 2 3	HT LH	TNMS014N5-L	HT	P4	88	10.5	5P	④-67
				TNMS014N1-L					1.5P	④-67
Oxidizing		1 2 3	SP OX	SPQ014NX	SP	P2	88	10.5	2.5P	①-67
			PO OX	POR014NX	PO	P3			5P	③-37
For high carbon steels		2 3	HC-SP	SCMQ014N	SP	P2	88	10.5	2.5P	①-136
For stainless steels		1 2 9	SU-HT	TUMR014N4	HT	P3	88	10.5	4P	④-91
				TUMR014N1					1.5P	④-91
For cast irons	Carbide	12 13 16	N-CT FC	TCNR014N3	HT	P3	88	10.5	3P	⑤-12
				TCNR014N1					1.5P	⑤-12
				TCNS014N3		P4			3P	⑤-12
				TCNS014N1					1.5P	⑤-12
For aluminum	Carbide	19 21	N-CT LA	TCNR014N3A	HT	P3	88	10.5	3P	⑤-5
				TCNR014N1A					1.5P	⑤-5
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW014N1LEB5	HT	I b	95	12.5	5P	⑦-4
				TW014N1LEBA					1.5P	⑦-4
Nut taps		1 2	NT	NH2014N	HT	II	170	11	24P	⑦-28
Taps ／ M14 × 1										
Standard		2 3	SP	SPQ014M	SP	P2	88	10.5	2.5P	①-43
			PO	POR014M	PO	P3			5P	③-17
		1 2 3	HT	TNMR014M5	HT	P3	88	10.5	5P	④-11
				TNMR014M1					1.5P	④-11
	Oversize	2 3	PO	POS014M	PO	P4	88	10.5	5P	③-17
		1 2 3	HT	TNMS014M5	HT	P4	88	10.5	5P	④-11
				TNMS014M1					1.5P	④-11
For left hand threads		2 3	SP LH	SPQ014M–L	SP	P2	88	10.5	2.5P	①-82
		1 2 3	HT LH	TNMR014M5-L	HT	P3	88	10.5	5P	④-68
				TNMR014M1-L					1.5P	④-68
Oxidizing		1 2 3	SP OX	SPQ014MX	SP	P2	88	10.5	2.5P	①-67
			PO OX	POR014MX	PO	P3			5P	③-37
Long		1 2 3	LS-HT	TNMQ014M515	HT	P2	150	10.5	5P	④-77
				TNMQ014M115					1.5P	④-77
Thread forming taps for steels		1 2	N-RZ	NRZM8014MP	RO	G8	88	10.5	4P	⑥-17
				NRZM8014MB					2P	⑥-17
For high carbon steels		2 3	HC-SP	SCMQ014M	SP	P2	88	10.5	2.5P	①-136
For stainless steels		2 3 4 9	SU-SP	SUMQ014M	SP	P2	88	10.5	2.5P	①-103
		1 2 3 4 9	SU-PO	PUMR014M	PO	P3	88	10.5	5P	③-63
		1 2 9	SU-HT	TUMR014M4	HT	P3	88	10.5	4P	④-91
				TUMR014M1					1.5P	④-91
For cast irons	Carbide	12 13 16	N-CT FC	TCNR014M3	HT	P3	70	10.5	3P	⑤-12
				TCNR014M1					1.5P	⑤-12
				TCNS014M3		P4			3P	⑤-12
				TCNS014M1					1.5P	⑤-12

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For aluminum	Carbide	19 21	N-CT LA	TCNR014M3A	HT	P3	70	10.5	3P	⑤-5
				TCNR014M1A					1.5P	⑤-5
				TCNS014M3A		P4			3P	⑤-5
				TCNS014M1A					1.5P	⑤-5
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM8014MP	RO	G8	88	10.5	4P	⑥-29
				NRSM8014MB					2P	⑥-29
For deep hole use		2 3 4 13	S-SP	SSMQ014M	SP	P2	88	10.5	2.5P	①-128
Nut taps		1 2	NT	NH2014M	HT	II	160	11	25P	⑦-28
Taps ／ M14 × 0.75										
Standard		2 3	PO	POR014J	PO	P3	88	10.5	5P	③-17
		1 2 3	HT	TNMR014J5	HT	P3	88	10.5	5P	④-11
				TNMR014J1					1.5P	④-11
Taps ／ M14 × 0.5										
Standard		2 3	PO	POQ014G	PO	P2	88	10.5	5P	③-17
		1 2 3	HT	TNMQ014G5	HT	P2	88	10.5	5P	④-11
				TNMQ014G1					1.5P	④-11
Taps ／ M15 × 2										
Standard		2 3	SP	SPQ015Q	SP	P2	95	12.5	2.5P	①-43
			PO	POS015Q	PO	P4			5P	③-17
		1 2 3	HT	TNMR015Q5	HT	P3	95	12.5	5P	④-11
				TNMR015Q1					1.5P	④-11
Taps ／ M15 × 1.5										
Standard		2 3	SP	SPQ015O	SP	P2	95	12.5	2.5P	①-43
			PO	POR015O	PO	P3			5P	③-17
		1 2 3	HT	TNMR015O5	HT	P3	95	12.5	5P	④-11
				TNMR015O1					1.5P	④-11
For left hand threads		1 2 3	HT LH	TNMR015O5-L	HT	P3	95	12.5	5P	④-68
				TNMR015O1-L					1.5P	④-68
For stainless steels		1 2 3 4 9	SU-PO	PUMR015O	PO	P3	95	12.5	5P	③-63
Taps ／ M15 × 1.25										
Standard		1 2 3	HT	TNMS015N5	HT	P4	95	12.5	5P	④-11
				TNMS015N1					1.5P	④-11
For left hand threads		1 2 3	HT LH	TNMS015N5-L	HT	P4	95	12.5	5P	④-68
				TNMS015N1-L					1.5P	④-68
Taps ／ M15 × 1										
Standard		2 3	SP	SPQ015M	SP	P2	95	12.5	2.5P	①-43
			PO	POR015M	PO	P3			5P	③-17
		1 2 3	HT	TNMR015M5	HT	P3	95	12.5	5P	④-11
				TNMR015M1					1.5P	④-11
For left hand threads		1 2 3	HT LH	TNMR015M5-L	HT	P3	95	12.5	5P	④-68
				TNMR015M1-L					1.5P	④-68
For stainless steels		1 2 3 4 9	SU-PO	PUMR015M	PO	P3	95	12.5	5P	③-63
Taps ／ M15 × 0.75										
Standard		1 2 3	HT	TNMR015J5	HT	P3	95	12.5	5P	④-11
				TNMR015J1					1.5P	④-11

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ M15 × 0.5										
Standard		1 2 3	HT	TNMQ015G5	HT	P2	95	12.5	5P	④-11
				TNMQ015G1					1.5P	④-11
Taps ／ M16 × 2										
Standard		2 3	SP	SPQ016Q	SP	P2	95	12.5	2.5P	①-43
			SP 1.5P	SY016QQNEBA					1.5P	①-61
			PO	POS016Q	PO	P4			5P	③-17
		1 2 3	HT	TNMR016Q5	HT	P3	95	12.5	5P	④-11
				TNMR016Q1					1.5P	④-11
	Oversize	2 3	SP	SPR016Q	SP	P3	95	12.5	2.5P	①-43
				SPS016Q		P4				①-43
				SPT016Q		P5				①-43
			PO	POT016Q	PO				5P	③-17
				POU016Q		P6				③-17
		1 2 3	HT	TNMS016Q5	HT	P4	95	12.5	5P	④-11
				TNMS016Q1					1.5P	④-11
				TNMT016Q5		P5			5P	④-11
				TNMT016Q1					1.5P	④-11
For left hand threads		2 3	SP LH	SPQ016Q--L	SP	P2	95	12.5	2.5P	①-82
			PO LH	POS016Q--L	PO	P4			5P	③-48
		1 2 3	HT LH	TNMR016Q5-L	HT	P3	95	12.5	5P	④-68
				TNMR016Q1-L					1.5P	④-68
Oxidizing		1 2 3	SP OX	SPQ016QX	SP	P2	95	12.5	2.5P	①-67
			PO OX	POS016QX	PO	P4			5P	③-37
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101114	SP	P4	110	12.5	2.5P	①-7
		1 2 3 4 9 19 21	AU+SP	VSAPR016Q	SP	P3	95	12.5	2.5P	①-88
			AU+SL	VSAPS016QL	SL	P4			5P	②-14
		1 2 3 4 9 10 13 18 19	VUPO	1102101114	PO	P4	110	12.5	5P	③-5
	Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201114	SP	P5	110	12.5	2.5P	①-7
				1101301114		P6				①-7
			VUPO	1102201114	PO	P5			5P	③-5
				1102301114		P6				③-5
	Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101114	SP	P4	110	12.5	1.5P	①-16
	Cool hole	1 2 3 4 9 10 13 18 19	VUSP CH	1201101114	SP	P4	110	12.5	2.5P	①-22
	Long	1 2 3 4 9 10 13 18 19	VUSP	2101101114	SP	P4	150	12.5	2.5P	①-8
			VUPO	2102101114	PO				5P	③-6
Long		2 3	LS-SP	SPQ016QL15	SP	P2	150	12.5	2.5P	①-93
				SPQ016QL20			200			①-93
				SPQ016QL25			250			①-93
			LS-PO	POS016QL15	PO	P4	150		5P	③-55
				POS016QL20			200			③-55
				POS016QL25			250			③-55
		1 2 3	LS-HT	TNMQ016Q515	HT	P2	150	12.5	5P	④-77
				TNMQ016Q520			200			④-77
				TNMQ016Q525			250			④-77
				TNMQ016Q115			150		1.5P	④-77
				TNMQ016Q120			200			④-77
				TNMQ016Q125			250			④-77

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Long	Oversize	2 3	LS-SP	SPR016QL15	SP	P3	150	12.5	2.5P	①-93
			LS-PO	POT016QL15	PO	P5			5P	③-55
		1 2 3	LS-HT	TNMR016Q515	HT	P3	150	12.5	5P	④-77
				TNMR016Q520			200			④-77
				TNMR016Q115			150		1.5P	④-77
				TNMR016Q120			200			④-77
				TNMS016Q515		P4	150		5P	④-77
				TNMS016Q115					1.5P	④-77
	For left hand threads	2 3	LS-SP LH	SPQ016QL15-L	SP	P2	150	12.5	2.5P	①-97
		1 2 3	LS-HT LH	TNMQ016Q515L	HT	P2	150	12.5	5P	④-85
				TNMQ016Q520L			200			④-85
				TNMQ016Q115L			150		1.5P	④-85
				TNMQ016Q120L			200			④-85
	Oxidizing	1 2	LS-SP OX	SPQ016QL15X	SP	P2	150	12.5	2.5P	①-96
For soft structural steels		1 2	E-SP	ESHMQ016Q	SP	P2	95	12.5	2.5P	①-134
For steels		1 2 3 4 5 9 11	HVSP	SY016QSEEXJ	SP	P4	110	12.5	2.5P	①-26
Thread forming taps for steels		1 2	N-RZ	NRZM9016QP	RO	G9	95	12.5	4P	⑥-17
				NRZM9016QB					2P	⑥-17
				NRZM0016QP		G10			4P	⑥-17
				NRZM0016QB					2P	⑥-17
For Galvanizing	Oversize	1 2 3 4 5 9 11	HVSP ZP	1112201114	SP	P4+0.1	110	12.5	2.5P	①-34
				1112301114		P4+0.2				①-34
				1112401114		P4+0.3				①-34
For high carbon steels		2 3	HC-SP	SCMQ016Q	SP	P2	95	12.5	2.5P	①-136
		2 3 5	HC-PO	PCMS016Q	PO	P4	95	12.5	5P	③-81
	Oxidizing	2 3	HC-SP OX	SCMQ016QX	SP	P2	95	12.5	2.5P	①-138
For hard-to-machine materials		3 5 6	EH-PO	EPHMT016Q	PO	P5	95	12.5	4.5P	③-86
		6 10	EH-HT	ETHMT016Q5	HT	P5	95	12.5	5P	④-124
				ETHMT016Q1					2.5P	④-124
	Powdered HSS	3 5 6	PM-SP	SY016QSDPB	SP	P4	95	12.5	2.75P	①-174
			LS-PM-SP	SY016QSDPBG			150			①-181
			PM-PO	PY016QTDPB	PO	P5	95		5.5P	③-98
			LS-PM-PO	PY016QTDPBG			150			③-104
For titanium alloys		22	ZET-B	ZETBMR016Q	SP	P3	95	12.5	3P	①-158
			ZET-P	ZETPMT016Q	SL	P5			5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMR016Q	SP	P3	95	12.5	3P	①-166
			ZEN-P	ZENPMT016Q	PO	P5			4.5P	③-90
For medium hardness carbon steels		3 4 5	MHSP	SY016QTOCLJ	SP	P5	110	12.5	2.5P	①-36
Carbide taps for ultra hard materials		8	UH-CT	UHCS016Q5	HT	P4	95	14	5P	⑤-28
For stainless steels		2 3 4 9	SU-SP	SUMQ016Q	SP	P2	95	12.5	2.5P	①-103
		1 2 3 4 9	SU-PO	PUMS016Q	PO	P4	95	12.5	5P	③-63
		1 2 9	SU-HT	TUMS016Q4	HT	P4	95	12.5	4P	④-91
				TUMS016Q1					1.5P	④-91
	Oversize	2 3 4 9	SU-SP	SUMR016Q	SP	P3	95	12.5	2.5P	①-103
				SUMS016Q		P4				①-103
		1 2 3 4 9	SU-PO	PUMT016Q	PO	P5	95	12.5	5P	③-63
				PUMU016Q		P6				③-63
	For left hand threads	2 3 4 9	SU-SP LH	SUMQ016Q--L	SP	P2	95	12.5	2.5P	①-117

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For stainless steels	For deep hole use	1 2 3 4 9	SU-S-SP	SSMQ016Q-SU	SP	P2	95	12.5	2.5P	①-123
		1 2 3 9	LS-SU-S-SP	SY016QQGEXGS	SP	P2	150	12.5	2.5P	①-125
				SY016QQGEXKS			200			①-125
			LS-SU-S-PO	PY016QSGEXGS	PO	P4	150		5P	③-75
				PY016QSGEXKS			200			③-75
	For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MR016Q	SP	P3	95	12.5	3P	①-120
For cast irons		12 13	FC-HT	TY016QSAEN5	HT	P4	95	12.5	5P	④-94
				TY016QSAENA					1.5P	④-95
	Carbide	12 13 16	N-CT FC	TCNS016Q3	HT	P4	95	12.5	3P	⑤-12
				TCNS016Q1					1.5P	⑤-12
	Long shank, carbide	12 13 16	LS-N-CT	TY016QSAWB3G	HT	P4	150	12.5	3P	⑤-19
				TY016QSAWBAG					1.5P	⑤-19
For aluminum		15 16 17 18 19 20 21	AL-SP	ASHMR016Q	SP	P3	95	12.5	2.5P	①-140
			AL-SP 1.5P	SY016QRLENA					1.5P	①-141
		18 19 21	LA-HT	TY016QSLEN5	HT	P4	95	12.5	5P	④-111
				TY016QSLENA					1.5P	④-111
	Carbide	19 21	N-CT LA	TCNS016Q3A	HT	P4	95	12.5	3P	⑤-5
				TCNS016Q1A					1.5P	⑤-5
	Carbide spiral fluted taps	18 19 21	N-CT-SP	SY016QSKWB	SP	P4	95	12.5	2.5P	⑤-20
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM9016QP	RO	G9	95	12.5	4P	⑥-29
				NRSM9016QB					2P	⑥-29
				NRSM0016QP		G10			4P	⑥-29
				NRSM0016QB					2P	⑥-29
For high speed		1 2	F-SP	VFSHMS016Q	SP	P4	95	12.5	3P	①-184
			F-SL	VFSHMS016QL	SL				5.5P	②-28
	Long	1 2	LS-F-SP	SY016QSFEVGS	SP	P4	150	12.5	3P	①-188
			LS-F-SL	LY016QSFEVG	SL				5.5P	②-32
For deep hole use		2 3 4 13	S-SP	SSMQ016Q	SP	P2	95	12.5	2.5P	①-128
		1 2 3 4	S-PO	PSMS016Q	PO	P4	95	12.5	5P	③-78
	Oversize	2 3 4 13	S-SP	SSMR016Q	SP	P3	95	12.5	2.5P	①-128
				SSMS016Q		P4				①-128
		1 2 3 4	S-PO	PSMT016Q	PO	P5	95	12.5	5P	③-78
Low spiral	Long	2 3	LS-LO-SP	LSHMQ016QL15	SP	P2	150	12.5	2.5P	①-155
				LSHMQ016QL20			200			①-155
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW016Q1LEB5	HT	I b	105	15	5P	⑦-4
				TW016Q1LEBA					1.5P	⑦-4
		15 16 17 18 19 20 21	AL-SP STI	SW016Q1LEN	SP	I b	105	15	2.5P	⑦-11
With coolant hole		1 2 3 4	MC-SP	(MSHQ016QL15)	SP	P2	150	12.5	2.5P	①-215
				(MSHQ016QL20)			200			①-215
			MC-PO	(MPHS016QL15)	PO	P4	150		5P	③-106
				(MPHS016QL20)			200			③-106
		1 2 3	MC-HT	(ML15016Q5-Q)	HT	P2	150	12.5	5P	④-138
				(ML20016Q5-Q)			200			④-138
				(ML15016Q1-Q)			150		1.5P	④-138
				(ML20016Q1-Q)			200			④-138
Nut taps		1 2	NT	NH2016Q	HT	II b	200	13	26P	⑦-28

Tap selection		Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ M16 × 1.5										
Standard		2 3	SP	SPQ016O	SP	P2	95	12.5	2.5P	①-43
			SP 1.5P	SY016OQNEBA					1.5P	①-61
			PO	POR016O	PO	P3			5P	③-17
		1 2 3	HT	TNMR016O5	HT	P3	95	12.5	5P	④-11
				TNMR016O1					1.5P	④-11
	Oversize	2 3	SP	SPR016O	SP	P3	95	12.5	2.5P	①-43
				SPS016O		P4				①-43
				SPT016O		P5				①-43
			PO	POS016O	PO	P4			5P	③-17
				POT016O		P5				③-17
		1 2 3	HT	TNMS016O5	HT	P4	95	12.5	5P	④-11
				TNMS016O1					1.5P	④-11
				TNMT016O5		P5			5P	④-11
				TNMT016O1					1.5P	④-11
For left hand threads		2 3	SP LH	SPQ016O–L	SP	P2	95	12.5	2.5P	①-82
			PO LH	POR016O–L	PO	P3			5P	③-49
		1 2 3	HT LH	TNMR016O5-L	HT	P3	95	12.5	5P	④-68
				TNMR016O1-L					1.5P	④-68
Oxidizing		1 2 3	SP OX	SPQ016OX	SP	P2	95	12.5	2.5P	①-67
			PO OX	POR016OX	PO	P3			5P	③-37
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101116	SP	P3	110	12.5	2.5P	①-7
		1 2 3 4 9 19 21	AU+SP	VSAPR016O	SP	P3	95	12.5	2.5P	①-88
			AU+SL	VSAPR016OL	SL				5P	②-14
		1 2 3 4 9 10 13 18 19	VUPO	1102101116	PO	P3	110	12.5	5P	③-5
	Oversize	1 2 3 4 9 10 13 18 19	VUSP	1101201116	SP	P4	110	12.5	2.5P	①-7
				1101301116		P5				①-7
			VUPO	1102201116	PO	P4			5P	③-6
				1102301116		P5				③-6
	Short chamfer	1 2 3 4 9 10 13 18 19	VUSP 1.5P	1103101116	SP	P3	110	12.5	1.5P	①-16
	Cool hole	1 2 3 4 9 10 13 18 19	VUSP CH	1201101116	SP	P3	110	12.5	2.5P	①-22
	Long	1 2 3 4 9 10 13 18 19	VUSP	2101101116	SP	P3	150	12.5	2.5P	①-8
			VUPO	2102101116	PO				5P	③-6
Long		2 3	LS-SP	SPQ016OL15	SP	P2	150	12.5	2.5P	①-93
				SPQ016OL20			200			①-93
			LS-PO	POR016OL15	PO	P3	150		5P	③-55
				POR016OL20			200			③-55
		1 2 3	LS-HT	TNMQ016O512	HT	P2	120	12.5	5P	④-77
				TNMQ016O515			150			④-77
				TNMQ016O520			200			④-77
				TNMQ016O112			120		1.5P	④-77
				TNMQ016O115			150			④-77
				TNMQ016O120			200			④-77
	Oversize	2 3	LS-SP	SPR016OL15	SP	P3	150	12.5	2.5P	①-93
		1 2 3	LS-HT	TNMR016O515	HT	P3	150	12.5	5P	④-78
				TNMR016O115					1.5P	④-78
				TNMS016O515		P4			5P	④-78
				TNMS016O115					1.5P	④-78
	For left hand threads	2 3	LS-SP LH	SPQ016OL15-L	SP	P2	150	12.5	2.5P	①-97
		1 2 3	LS-HT LH	TNMQ016O515L	HT	P2	150	12.5	5P	④-85
				TNMQ016O115L					1.5P	④-85

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For soft structural steels	1 2	E-SP	ESHMQ016O	SP	P2	95	12.5	2.5P	①-134
For steels	1 2 3 4 5 9 11	HVSP	SY016OSEEXJ	SP	P4	110	12.5	2.5P	①-26
Thread forming taps for steels	1 2	N-RZ	NRZM9016OP	RO	G9	95	12.5	4P	⑥-17
			NRZM9016OB					2P	⑥-17
For high carbon steels	2 3	HC-SP	SCMQ016O	SP	P2	95	12.5	2.5P	①-137
	2 3 5	HC-PO	PCMR016O	PO	P3	95	12.5	5P	③-81
For hard-to-machine materials	3 5 6	EH-PO	EPHMS016O	PO	P4	95	12.5	4.5P	③-86
	6 10	EH-HT	ETHMS016O5	HT	P4	95	12.5	5P	④-124
			ETHMS016O1					2.5P	④-124
Powdered HSS	3 5 6	PM-SP	SY016ORDPB	SP	P3	95	12.5	2.75P	①-174
		LS-PM-SP	SY016ORDPBG			150			①-181
		PM-PO	PY016OSDPB	PO	P4	95		5.5P	③-98
		LS-PM-PO	PY016OSDPBG			150			③-104
For titanium alloys	22	ZET-B	ZETBMR016O	SP	P3	95	12.5	3P	①-158
		ZET-P	ZETPMS016O	SL	P4			5P	②-22
For nickel base alloys	1 2 9 23	ZEN-B	ZENBMR016O	SP	P3	95	12.5	3P	①-166
		ZEN-P	ZENPMS016O	PO	P4			4.5P	③-90
For medium hardness carbon steels	3 4 5	MHSP	SY016OSOCLJ	SP	P4	110	12.5	2.5P	①-36
	2 3 4 5 6 10	MHSL	1109101116	SL	P5	110	12.5	7P	②-4
	2 3 4 5 10	MHSL-J	MHSLT016O7	SL	P5	95	12.5	7P	②-6
Carbide taps for ultra hard materials	8	UH-CT	UHCS016O5	HT	P4	95	14	5P	⑤-28
For stainless steels	2 3 4 9	SU-SP	SUMQ016O	SP	P2	95	12.5	2.5P	①-104
	1 2 3 4 9	SU-PO	PUMR016O	PO	P3	95	12.5	5P	③-63
	1 2 9	SU-HT	TUMR016O4	HT	P3	95	12.5	4P	④-91
			TUMR016O1					1.5P	④-91
Oversize	2 3 4 9	SU-SP	SUMS016O	SP	P4	95	12.5	2.5P	①-104
	1 2 3 4 9	SU-PO	PUMT016O	PO	P5	95	12.5	5P	③-63
For deep hole use	1 2 3 9	LS-SU-S-SP	SY016OQGEXGS	SP	P2	150	12.5	2.5P	①-125
			SY016OQGEXKS			200			①-125
		LS-SU-S-PO	PY016ORGEXGS	PO	P3	150		5P	③-75
			PY016ORGEXKS			200			③-75
For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MR016O	SP	P3	95	12.5	3P	①-120
For cast irons	12 13	FC-HT	TY016OSAEN5	HT	P4	95	12.5	5P	④-95
			TY016OSAENA					1.5P	④-95
Carbide	12 13 16	N-CT FC	TCNR016O3	HT	P3	95	12.5	3P	⑤-12
			TCNR016O1					1.5P	⑤-12
			TCNS016O3		P4			3P	⑤-12
			TCNS016O1					1.5P	⑤-12
Long shank, carbide	12 13 16	LS-N-CT	TY016OSAWB3G	HT	P4	150	12.5	3P	⑤-19
			TY016OSAWBAG					1.5P	⑤-19
For aluminum	15 16 17 18 19 20 21	AL-SP	ASHMR016O	SP	P3	95	12.5	2.5P	①-140
		AL-SP 1.5P	SY016ORLENA					1.5P	①-141
	18 19 21	LA-HT	TY016OSLEN5	HT	P4	95	12.5	5P	④-111
			TY016OSLENA					1.5P	④-111
Carbide	19 21	N-CT LA	TCNR016O3A	HT	P3	95	12.5	3P	⑤-5
			TCNR016O1A					1.5P	⑤-5
			TCNS016O3A		P4			3P	⑤-5
			TCNS016O1A					1.5P	⑤-5
Carbide spiral fluted taps	18 19 21	N-CT-SP	SY016OSKWB	SP	P4	95	12.5	2.5P	⑤-20
Thread forming taps for non-ferrous materials	18 19 21	N-RS	NRSM9016OP	RO	G9	95	12.5	4P	⑥-29
			NRSM9016OB					2P	⑥-29

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For high speed	1 2	F-SP	VFSHMR016O	SP	P3	95	12.5	3P	①-184
		F-SL	VFSHMR016OL	SL				5.5P	②-28
Long	1 2	LS-F-SP	SY016ORFEVGS	SP	P3	150	12.5	3P	①-188
		LS-F-SL	LY016ORFEVG	SL				5.5P	②-32
Ultra fast tapping(with coolant hole) For steels	1 2 3 4	HFIHS	HFIHSS016O	SP	P4	95	16	2.5P	①-192
		HFISP	HFISPS016O						①-196
For non-ferrous materials	18 19 20 21	HFAHS	HFAHSS016O	SP	P4	95	16	2.5P	①-200
		HFASP	HFASPS016O						①-204
For dry tapping (with coolant hole) For steels	2 3 4	HDISP	HDISPS016O	SP	P4	95	16	2.5P	①-208
For non-ferrous materials	18 19 20 21	HDASP	HDASPS016O	SP	P4	95	16	2.5P	①-212
Ultra fast tapping(with coolant hole) For both steels and non ferrous materials	2 3 4	HDISL	HDISLS016O	SL	P4	95	16	5.5P	②-34
High performance thread forming taps	1 2 3 4 5 9 19	HP-RZ	HRZM9016OP	RO	G9	95	12.5	4P	⑥-49
			HRZM9016OB					2P	⑥-49
Thread forming taps for carbon steels of medium hardness	2 3 4 5	MHRZ	1110101116	RO	G9	110	12.5	4P	⑥-4
			1111101116					2P	⑥-4
		MHRZ-J	RY016O9OCTP			95		4P	⑥-8
			RY016O9OCTB					2P	⑥-8
Long	2 3 4 5	MHRZ	2110101116	RO	G9	150	12.5	4P	⑥-5
			2111101116					2P	⑥-5
For deep hole use	2 3 4 13	S-SP	SSMQ016O	SP	P2	95	12.5	2.5P	①-128
	1 2 3 4	S-PO	PSMR016O	PO	P3	95	12.5	5P	③-78
Oversize	2 3 4 13	S-SP	SSMS016O	SP	P4	95	12.5	2.5P	①-128
	1 2 3 4	S-PO	PSMT016O	PO	P5	95	12.5	5P	③-78
Low spiral Long	2 3	LS-LO-SP	LSHMQ016OL15	SP	P2	150	12.5	2.5P	①-155
			LSHMQ016OL20			200			①-155
For helical coil wire screw thread inserts	18 19 21	AL-HT STI	TW016O1LEB5	HT	I b	100	14	5P	⑦-4
			TW016O1LEBA					1.5P	⑦-4
	15 16 17 18 19 20 21	AL-SP STI	SW016O1LEN	SP	I b	100	14	2.5P	⑦-11
With coolant hole	1 2 3 4	MC-SP	(MSHQ016OL15)	SP	P2	150	12.5	2.5P	①-215
			(MSHQ016OL20)			200			①-215
		MC-PO	(MPHR016OL15)	PO	P3	150		5P	③-106
			(MPHR016OL20)			200			③-107
	1 2 3	MC-HT	(ML15016O5-Q)	HT	P2	150	12.5	5P	④-138
			(ML20016O5-Q)			200			④-138
			(ML15016O1-Q)			150		1.5P	④-138
			(ML20016O1-Q)			200			④-138
Nut taps	1 2	NT	NH2016O	HT	II	180	13	25P	⑦-28

Taps ／ M16 × 1.25

Standard	2 3	SP	SPQ016N	SP	P2	95	12.5	2.5P	①-43
		PO	POR016N	PO	P3			5P	③-17
	1 2 3	HT	TNMS016N5	HT	P4	95	12.5	5P	④-11
			TNMS016N1					1.5P	④-11
For left hand threads	1 2 3	HT LH	TNMS016N5-L	HT	P4	95	12.5	5P	④-68
			TNMS016N1-L					1.5P	④-68
Oxidizing	1 2 3	SP OX	SPQ016NX	SP	P2	95	12.5	2.5P	①-67

Taps ／ M16 × 1

Standard	2 3	SP	SPQ016M	SP	P2	95	12.5	2.5P	①-43
		PO	POR016M	PO	P3			5P	③-17
	1 2 3	HT	TNMR016M5	HT	P3	95	12.5	5P	④-11
			TNMR016M1					1.5P	④-11

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Standard	Oversize	1 2 3	HT	TNMS016M5	HT	P4	95	12.5	5P	④-11
				TNMS016M1					1.5P	④-11
For left hand threads		2 3	SP LH	SPQ016M–L	SP	P2	95	12.5	2.5P	①-82
		1 2 3	HT LH	TNMR016M5-L	HT	P3	95	12.5	5P	④-68
				TNMR016M1-L					1.5P	④-68
Oxidizing		1 2 3	SP OX	SPQ016MX	SP	P2	95	12.5	2.5P	①-67
Long		1 2 3	LS-HT	TNMQ016M515	HT	P2	150	12.5	5P	④-78
				TNMQ016M115					1.5P	④-78
Thread forming taps for steels		1 2	N-RZ	NRZM8016MP	RO	G8	95	12.5	4P	⑥-17
				NRZM8016MB					2P	⑥-17
For high carbon steels		2 3	HC-SP	SCMQ016M	SP	P2	95	12.5	2.5P	①-137
For stainless steels		1 2 3 4 9	SU-PO	PUMR016M	PO	P3	95	12.5	5P	③-63
		1 2 9	SU-HT	TUMR016M4	HT	P3	95	12.5	4P	④-91
				TUMR016M1					1.5P	④-91
For cast irons	Carbide	12 13 16	N-CT FC	TCNS016M3	HT	P4	75	12.5	3P	⑤-12
				TCNS016M1					1.5P	⑤-12
For aluminum	Carbide	19 21	N-CT LA	TCNR016M3A	HT	P3	75	12.5	3P	⑤-5
				TCNR016M1A					1.5P	⑤-5
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM8016MP	RO	G8	95	12.5	4P	⑥-29
				NRSM8016MB					2P	⑥-29
For deep hole use		2 3 4 13	S-SP	SSMQ016M	SP	P2	95	12.5	2.5P	①-128
Nut taps		1 2	NT	NH2016M	HT	II	170	13	25P	⑦-28
Taps ／ M16 × 0.75										
Standard		1 2 3	HT	TNMR016J5	HT	P3	95	12.5	5P	④-11
				TNMR016J1					1.5P	④-11
Taps ／ M16 × 0.5										
Standard		1 2 3	HT	TNMQ016G5	HT	P2	95	12.5	5P	④-11
				TNMQ016G1					1.5P	④-11
Taps ／ M17 × 2										
Standard		2 3	SP	SPQ017Q	SP	P2	100	14	2.5P	①-43
		1 2 3	HT	TNMR017Q5	HT	P3	100	14	5P	④-11
				TNMR017Q1					1.5P	④-11
For left hand threads		1 2 3	HT LH	TNMR017Q5-L	HT	P3	100	14	5P	④-68
				TNMR017Q1-L					1.5P	④-68
Taps ／ M17 × 1.5										
Standard		2 3	SP	SPQ017O	SP	P2	100	14	2.5P	①-43
			PO	POS017O	PO	P4			5P	③-17
		1 2 3	HT	TNMS017O5	HT	P4	100	14	5P	④-11
				TNMS017O1					1.5P	④-11
For left hand threads		1 2 3	HT LH	TNMS017O5-L	HT	P4	100	14	5P	④-68
				TNMS017O1-L					1.5P	④-68
Taps ／ M17 × 1.25										
Standard		1 2 3	HT	TNMS017N5	HT	P4	100	14	5P	④-11
				TNMS017N1					1.5P	④-11

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ M17 × 1										
Standard		2 3	SP	SPQ017M	SP	P2	100	14	2.5P	①-43
			PO	POS017M	PO	P4			5P	③-17
		1 2 3	HT	TNMR017M5	HT	P3	100	14	5P	④-11
				TNMR017M1					1.5P	④-11
For left hand threads		1 2 3	HT LH	TNMR017M5-L	HT	P3	100	14	5P	④-68
				TNMR017M1-L					1.5P	④-68
Taps ／ M17 × 0.75										
Standard		1 2 3	HT	TNMR017J5	HT	P3	100	14	5P	④-12
				TNMR017J1					1.5P	④-12
Taps ／ M17 × 0.5										
Standard		1 2 3	HT	TNMQ017G5	HT	P2	100	14	5P	④-12
				TNMQ017G1					1.5P	④-12
Taps ／ M18 × 2.5										
Standard		2 3	SP	SPR018R	SP	P3	100	14	2.5P	①-43
			SP 1.5P	SY018RRNEBA					1.5P	①-61
			PO	POS018R	PO	P4			5P	③-17
		1 2 3	HT	TNMS018R5	HT	P4	100	14	5P	④-12
				TNMS018R1					1.5P	④-12
	Oversize	2 3	SP	SPS018R	SP	P4	100	14	2.5P	①-43
			PO	POT018R	PO	P5			5P	③-17
		1 2 3	HT	TNMT018R5	HT	P5	100	14	5P	④-12
				TNMT018R1					1.5P	④-12
For left hand threads		2 3	SP LH	SPR018R--L	SP	P3	100	14	2.5P	①-82
			PO LH	POS018R--L	PO	P4			5P	③-49
		1 2 3	HT LH	TNMS018R5-L	HT	P4	100	14	5P	④-68
				TNMS018R1-L					1.5P	④-68
Oxidizing		1 2 3	SP OX	SPR018RX	SP	P3	100	14	2.5P	①-67
			PO OX	POS018RX	PO	P4			5P	③-37
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101128	SP	P5	125	14	2.5P	①-7
		1 2 3 4 9 19 21	AU+SP	VSAPS018R	SP	P4	100	14	2.5P	①-88
			AU+SL	VSAPS018RL	SL				5P	②-14
		1 2 3 4 9 10 13 18 19	VUPO	1102101128	PO	P5	125	14	5P	③-6
		1 2 3 4	PO V	VPOS018R	PO	P4	100	14	5P	③-50
Long		2 3	LS-SP	SPR018RL15	SP	P3	150	14	2.5P	①-93
				SPR018RL20			200			①-93
				SPR018RL25			250			①-93
			LS-PO	POS018RL15	PO	P4	150		5P	③-55
				POS018RL20			200			③-55
		1 2 3	LS-HT	TNMR018R515	HT	P3	150	14	5P	④-78
				TNMR018R520			200			④-78
				TNMR018R525			250			④-78
				TNMR018R115			150		1.5P	④-78
				TNMR018R120			200			④-78
				TNMR018R125			250			④-78

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Long	Oversize	2 3	LS-SP	SPS018RL15	SP	P4	150	14	2.5P	①-93
			LS-PO	POT018RL15	PO	P5			5P	③-55
		1 2 3	LS-HT	TNMS018R515	HT	P4	150	14	5P	④-78
				TNMS018R520			200			④-78
				TNMS018R115			150		1.5P	④-78
				TNMS018R120			200			④-78
	For left hand threads	1 2 3	LS-HT LH	TNMR018R515L	HT	P3	150	14	5P	④-85
				TNMR018R115L					1.5P	④-85
For soft structural steels		1 2	E-SP	ESHMR018R	SP	P3	100	14	2.5P	①-134
For steels		1 2 3 4 5 9 11	HVSP	SY018RTEEXJ	SP	P5	125	14	2.5P	①-26
For Galvanizing	Oversize	1 2 3 4 5 9 11	HVSP ZP	1112201128	SP	P5+0.1	125	14	2.5P	①-34
				1112301128		P5+0.2				①-34
				1112401128		P5+0.3				①-34
For high carbon steels		2 3	HC-SP	SCMR018R	SP	P3	100	14	2.5P	①-137
		2 3 5	HC-PO	PCMS018R	PO	P4	100	14	5P	③-81
For hard-to-machine materials		3 5 6	EH-PO	EPHMT018R	PO	P5	100	14	4.5P	③-86
		6 10	EH-HT	ETHMT018R5	HT	P5	100	14	5P	④-124
				ETHMT018R1					2.5P	④-124
	Powdered HSS	3 5 6	PM-SP	SY018RSDPB	SP	P4	100	14	2.75P	①-174
			LS-PM-SP	SY018RSDPBG			150			①-181
			PM-PO	PY018RTDPB	PO	P5	100		5.5P	③-98
			LS-PM-PO	PY018RTDPBG			150			③-104
For titanium alloys		22	ZET-B	ZETBMS018R	SP	P4	100	14	3P	①-158
			ZET-P	ZETPMT018R	SL	P5			5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMS018R	SP	P4	100	14	3P	①-166
			ZEN-P	ZENPMT018R	PO	P5			4.5P	③-90
Carbide taps for ultra hard materials		8	UH-CT	UHCS018R5	HT	P4	100	15	5P	⑤-28
For stainless steels		2 3 4 9	SU-SP	SUMR018R	SP	P3	100	14	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMS018R	PO	P4	100	14	5P	③-63
		1 2 9	SU-HT	TUMS018R4	HT	P4	100	14	4P	④-91
				TUMS018R1					1.5P	④-91
	Oversize	2 3 4 9	SU-SP	SUMS018R	SP	P4	100	14	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMT018R	PO	P5	100	14	5P	③-63
				PUMU018R		P6				③-63
	For left hand threads	2 3 4 9	SU-SP LH	SUMR018R--L	SP	P3	100	14	2.5P	①-117
	For deep hole use	1 2 3 4 9	SU-S-SP	SSMR018R-SU	SP	P3	100	14	2.5P	①-123
		1 2 3 9	LS-SU-S-SP	SY018RRGEXGS	SP	P3	150	14	2.5P	①-125
				SY018RRGEXKS			200			①-125
			LS-SU-S-PO	PY018RSGEXKS	PO	P4			5P	③-75
	For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MS018R	SP	P4	100	14	3P	①-120
For cast irons		12 13	FC-HT	TY018RTAEN5	HT	P5	100	14	5P	④-95
				TY018RTAENA					1.5P	④-95
	Carbide	12 13 16	N-CT FC	TCNS018R3	HT	P4	100	14	3P	⑤-12
				TCNS018R1					1.5P	⑤-12
	Long shank, carbide	12 13 16	LS-N-CT	TY018RSAWB3G	HT	P4	150	14	3P	⑤-19
				TY018RSAWBAG					1.5P	⑤-19
For aluminum		18 19 21	LA-HT	TY018RTLEN5	HT	P5	100	14	5P	④-111
				TY018RTLENA					1.5P	④-111
	Carbide	19 21	N-CT LA	TCNS018R3A	HT	P4	100	14	3P	⑤-5
				TCNS018R1A					1.5P	⑤-5
	Carbide spiral fluted taps	18 19 21	N-CT-SP	SY018RSKWB	SP	P4	100	14	2.5P	⑤-20

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For high speed		1 2	F-SP	VFSHMS018R	SP	P4	100	14	3P	①-184
			F-SL	VFSHMS018RL	SL				5.5P	②-28
	Long	1 2	LS-F-SP	SY018RSFEVGS	SP	P4	150	14	3P	①-188
			LS-F-SL	LY018RSFEVG	SL				5.5P	②-32
For deep hole use		2 3 4 13	S-SP	SSMR018R	SP	P3	100	14	2.5P	①-128
		1 2 3 4	S-PO	PSMS018R	PO	P4	100	14	5P	③-78
	Oversize	2 3 4 13	S-SP	SSMS018R	SP	P4	100	14	2.5P	①-128
		1 2 3 4	S-PO	PSMT018R	PO	P5	100	14	5P	③-78
Low spiral	Long	2 3	LS-LO-SP	LSHMR018RL20	SP	P3	200	14	2.5P	①-155
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW018R1LEB5	HT	Ⅰb	115	17	5P	⑦-4
				TW018R1LEBA					1.5P	⑦-4
		15 16 17 18 19 20 21	AL-SP STI	SW018R1LEN	SP	Ⅰb	115	17	2.5P	⑦-11
With coolant hole		1 2 3 4	MC-SP	(MSHR018RL15)	SP	P3	150	14	2.5P	①-216
				(MSHR018RL20)			200			①-216
			MC-PO	(MPHS018RL15)	PO	P4	150		5P	③-107
				(MPHS018RL20)			200			③-107
		1 2 3	MC-HT	(ML15018R5-R)	HT	P3	150	14	5P	④-138
				(ML20018R5-R)			200			④-138
				(ML15018R1-R)			150		1.5P	④-138
				(ML20018R1-R)			200			④-138
Nut taps		1 2	NT	NH2018R	HT	Ⅱb	220	14	24P	⑦-28

Taps ／ M18 × 2

Standard		2 3	SP	SPR018Q	SP	P3	100	14	2.5P	①-43
			PO	POS018Q	PO	P4			5P	③-17
		1 2 3	HT	TNMS018Q5	HT	P4	100	14	5P	④-12
				TNMS018Q1					1.5P	④-12
For left hand threads		2 3	SP LH	SPR018Q--L	SP	P3	100	14	2.5P	①-82
		1 2 3	HT LH	TNMS018Q5-L	HT	P4	100	14	5P	④-68
				TNMS018Q1-L					1.5P	④-68
Oxidizing		1 2 3	PO OX	POS018QX	PO	P4	100	14	5P	③-37
Long		2 3	LS-SP	SPR018QL20	SP	P3	200	14	2.5P	①-93
			LS-PO	POS018QL20	PO	P4			5P	③-55
		1 2 3	LS-HT	TNMR018Q520	HT	P3	200	14	5P	④-78
				TNMR018Q120					1.5P	④-78
For high carbon steels		2 3	HC-SP	SCMR018Q	SP	P3	100	14	2.5P	①-137
For deep hole use		2 3 4 13	S-SP	SSMR018Q	SP	P3	100	14	2.5P	①-128
Nut taps		1 2	NT	NH2018Q	HT	Ⅱ	210	14	25P	⑦-28

Taps ／ M18 × 1.5

Standard		2 3	SP	SPQ018O	SP	P2	100	14	2.5P	①-43
			PO	POS018O	PO	P4			5P	③-17
		1 2 3	HT	TNMR018O5	HT	P3	100	14	5P	④-12
				TNMR018O1					1.5P	④-12
	Oversize	2 3	SP	SPR018O	SP	P3	100	14	2.5P	①-43
				SPS018O		P4				①-43
			PO	POT018O	PO	P5			5P	③-17
		1 2 3	HT	TNMS018O5	HT	P4	100	14	5P	④-12
				TNMS018O1					1.5P	④-12
				TNMT018O5		P5			5P	④-12
				TNMT018O1					1.5P	④-12

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For left hand threads	2 3	SP LH	SPQ018O--L	SP	P2	100	14	2.5P	①-82
		PO LH	POS018O--L	PO	P4			5P	③-49
	1 2 3	HT LH	TNMR018O5-L	HT	P3	100	14	5P	④-68
			TNMR018O1-L					1.5P	④-68
Oxidizing	1 2 3	SP OX	SPQ018OX	SP	P2	100	14	2.5P	①-67
		PO OX	POS018OX	PO	P4			5P	③-37
Coating	1 2 3 4 9 10 13 18 19	VUSP	1101101130	SP	P4	125	14	2.5P	①-7
	1 2 3 4 9 19 21	AU+SP	VSAPS018O	SP	P4	100	14	2.5P	①-88
		AU+SL	VSAPS018OL	SL				5P	②-14
	1 2 3 4 9 10 13 18 19	VUPO	1102101130	PO	P4	125	14	5P	③-6
Long	2 3	LS-SP	SPQ018OL15	SP	P2	150	14	2.5P	①-93
			SPQ018OL20			200			①-93
		LS-PO	POS018OL15	PO	P4	150		5P	③-55
			POS018OL20			200			③-55
	1 2 3	LS-HT	TNMQ018O515	HT	P2	150	14	5P	④-78
			TNMQ018O520			200			④-78
			TNMQ018O115			150		1.5P	④-78
			TNMQ018O120			200			④-78
Oversize	1 2 3	LS-HT	TNMR018O515	HT	P3	150	14	5P	④-78
			TNMR018O115					1.5P	④-78
For left hand threads	1 2 3	LS-HT LH	TNMQ018O515L	HT	P2	150	14	5P	④-85
			TNMQ018O115L					1.5P	④-85
For soft structural steels	1 2	E-SP	ESHMQ018O	SP	P2	100	14	2.5P	①-134
For steels	1 2 3 4 5 9 11	HVSP	SY018OTEEXJ	SP	P5	125	14	2.5P	①-26
Thread forming taps for steels	1 2	N-RZ	NRZM0018OP	RO	G10	100	14	4P	⑥-17
For high carbon steels	2 3	HC-SP	SCMQ018O	SP	P2	100	14	2.5P	①-137
	2 3 5	HC-PO	PCMS018O	PO	P4	100	14	5P	③-81
For hard-to-machine materials	3 5 6	EH-PO	EPHMS018O	PO	P4	100	14	4.5P	③-86
	6 10	EH-HT	ETHMS018O5	HT	P4	100	14	5P	④-124
			ETHMS018O1					2.5P	④-124
Powdered HSS	3 5 6	PM-SP	SY018OSDPB	SP	P4	100	14	2.75P	①-174
		LS-PM-SP	SY018OSDPBG			150			①-182
		PM-PO	PY018OSDPB	PO		100		5.5P	③-98
		LS-PM-PO	PY018OSDPBG			150			③-105
For titanium alloys	22	ZET-B	ZETBMR018O	SP	P3	100	14	3P	①-158
		ZET-P	ZETPMT018O	SL	P5			5P	②-22
For nickel base alloys	1 2 9 23	ZEN-B	ZENBMR018O	SP	P3	100	14	3P	①-166
		ZEN-P	ZENPMT018O	PO	P5			4.5P	③-90
Carbide taps for ultra hard materials	8	UH-CT	UHCS018O5	HT	P4	100	15	5P	⑤-28
For stainless steels	2 3 4 9	SU-SP	SUMQ018O	SP	P2	100	14	2.5P	①-104
	1 2 3 4 9	SU-PO	PUMS018O	PO	P4	100	14	5P	③-63
	1 2 9	SU-HT	TUMS018O4	HT	P4	100	14	4P	④-91
			TUMS018O1					1.5P	④-91
Oversize	2 3 4 9	SU-SP	SUMS018O	SP	P4	100	14	2.5P	①-104
	1 2 3 4 9	SU-PO	PUMT018O	PO	P5	100	14	5P	③-63
For deep hole use	1 2 3 9	LS-SU-S-SP	SY018OQGEXGS	SP	P2	150	14	2.5P	①-125
			SY018OQGEXKS			200			①-125
		LS-SU-S-PO	PY018OSGEXKS	PO	P4			5P	③-75
For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MR018O	SP	P3	100	14	3P	①-120

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For cast irons	12 13	FC-HT	TY018OSAEN5	HT	P4	100	14	5P	④-95
			TY018OSAENA					1.5P	④-95
Carbide	12 13 16	N-CT FC	TCNS018O3	HT	P4	95	14	3P	⑤-12
			TCNS018O1					1.5P	⑤-12
Long shank, carbide	12 13 16	LS-N-CT	TY018OSAWB3G	HT	P4	150	14	3P	⑤-19
			TY018OSAWBAG					1.5P	⑤-19
For aluminum	18 19 21	LA-HT	TY018OSLEN5	HT	P4	100	14	5P	④-111
			TY018OSLENA					1.5P	④-111
Carbide	19 21	N-CT LA	TCNS018O3A	HT	P4	95	14	3P	⑤-5
			TCNS018O1A					1.5P	⑤-5
Carbide spiral fluted taps	18 19 21	N-CT-SP	SY018OSKWB	SP	P4	95	14	2.5P	⑤-20
Thread forming taps for non-ferrous materials	18 19 21	N-RS	NRSM9018OP	RO	G9	100	14	4P	⑥-29
			NRSM9018OB					2P	⑥-29
For high speed	1 2	F-SP	VFSHMS018O	SP	P4	100	14	3P	①-184
		F-SL	VFSHMS018OL	SL				5.5P	②-28
Long	1 2	LS-F-SP	SY018OSFEVGS	SP	P4	150	14	3P	①-189
		LS-F-SL	LY018OSFEVG	SL				5.5P	②-32
Ultra fast tapping(with coolant hole) For steels	1 2 3 4	HFIHS	HFIHSS018O	SP	P4	100	16	2.5P	①-192
		HFISP	HFISPS018O						①-196
For non-ferrous materials	18 19 20 21	HFAHS	HFAHSS018O	SP	P4	100	16	2.5P	①-200
		HFASP	HFASPS018O						①-204
For dry tapping (with coolant hole) For steels	2 3 4	HDISP	HDISPS018O	SP	P4	100	16	2.5P	①-208
For non-ferrous materials	18 19 20 21	HDASP	HDASPS018O	SP	P4	100	16	2.5P	①-212
Ultra fast tapping(with coolant hole) For both steels and non ferrous materials	2 3 4	HDISL	HDISLS018O	SL	P4	100	16	5.5P	②-34
High performance thread forming taps	1 2 3 4 5 9 19	HP-RZ	HRZM9018OP	RO	G9	100	14	4P	⑥-49
			HRZM9018OB					2P	⑥-49
Thread forming taps for carbon steels of medium hardness	2 3 4 5	MHRZ	1110101130	RO	G10	125	14	4P	⑥-4
			1111101130					2P	⑥-4
		MHRZ-J	RY018OOOCTP			100		4P	⑥-8
			RY018OOOCTB					2P	⑥-8
For deep hole use	2 3 4 13	S-SP	SSMQ018O	SP	P2	100	14	2.5P	①-128
	1 2 3 4	S-PO	PSMS018O	PO	P4	100	14	5P	③-78
Oversize	2 3 4 13	S-SP	SSMS018O	SP	P4	100	14	2.5P	①-128
	1 2 3 4	S-PO	PSMT018O	PO	P5	100	14	5P	③-78
Low spiral Long	2 3	LS-LO-SP	LSHMQ018OL20	SP	P2	200	14	2.5P	①-155
For helical coil wire screw thread inserts	18 19 21	AL-HT STI	TW018O1LEB5	HT	I b	105	15	5P	⑦-4
			TW018O1LEBA					1.5P	⑦-4
	15 16 17 18 19 20 21	AL-SP STI	SW018O1LEN	SP	I b	105	15	2.5P	⑦-11
With coolant hole	1 2 3 4	MC-SP	(MSHQ018OL15)	SP	P2	150	14	2.5P	①-216
			(MSHQ018OL20)			200			①-216
		MC-PO	(MPHS018OL15)	PO	P4	150		5P	③-107
			(MPHS018OL20)			200			③-107
	1 2 3	MC-HT	(ML15018O5-Q)	HT	P2	150	14	5P	④-138
			(ML20018O5-Q)			200			④-138
			(ML15018O1-Q)			150		1.5P	④-138
			(ML20018O1-Q)			200			④-138
Nut taps	1 2	NT	NH2018O	HT	II	190	14	25P	⑦-28

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ M18 × 1.25									
Standard	2 3	SP	SPQ018N	SP	P2	100	14	2.5P	①-43
		PO	POR018N	PO	P3			5P	③-17
	1 2 3	HT	TNMS018N5	HT	P4	100	14	5P	④-12
			TNMS018N1					1.5P	④-12
Taps ／ M18 × 1									
Standard	2 3	SP	SPQ018M	SP	P2	100	14	2.5P	①-43
		PO	POR018M	PO	P3			5P	③-17
	1 2 3	HT	TNMR018M5	HT	P3	100	14	5P	④-12
			TNMR018M1					1.5P	④-12
For left hand threads	2 3	SP LH	SPQ018M–L	SP	P2	100	14	2.5P	①-82
	1 2 3	HT LH	TNMR018M5-L	HT	P3	100	14	5P	④-68
			TNMR018M1-L					1.5P	④-68
For high carbon steels	2 3	HC-SP	SCMQ018M	SP	P2	100	14	2.5P	①-137
For deep hole use	2 3 4 13	S-SP	SSMQ018M	SP	P2	100	14	2.5P	①-128
Nut taps	1 2	NT	NH2018M	HT	II	180	14	25P	⑦-28
Taps ／ M18 × 0.75									
Standard	1 2 3	HT	TNMR018J5	HT	P3	100	14	5P	④-12
			TNMR018J1					1.5P	④-12
Taps ／ M18 × 0.5									
Standard	1 2 3	HT	TNMQ018G5	HT	P2	100	14	5P	④-12
			TNMQ018G1					1.5P	④-12
Taps ／ M19 × 2.5									
Standard	1 2 3	HT	TNMS019R5	HT	P4	105	15	5P	④-12
			TNMS019R1					1.5P	④-12
Taps ／ M19 × 2									
Standard	1 2 3	HT	TNMS019Q5	HT	P4	105	15	5P	④-12
			TNMS019Q1					1.5P	④-12
For left hand threads	1 2 3	HT LH	TNMS019Q5-L	HT	P4	105	15	5P	④-68
			TNMS019Q1-L					1.5P	④-68
Taps ／ M19 × 1.5									
Standard	2 3	SP	SPR019O	SP	P3	105	15	2.5P	①-43
		PO	POS019O	PO	P4			5P	③-17
	1 2 3	HT	TNMR019O5	HT	P3	105	15	5P	④-12
			TNMR019O1					1.5P	④-12
For left hand threads	1 2 3	HT LH	TNMR019O5-L	HT	P3	105	15	5P	④-68
			TNMR019O1-L					1.5P	④-68
Taps ／ M19 × 1									
Standard	2 3	SP	SPQ019M	SP	P2	105	15	2.5P	①-44
		PO	POR019M	PO	P3			5P	③-17
	1 2 3	HT	TNMR019M5	HT	P3	105	15	5P	④-12
			TNMR019M1					1.5P	④-12
For left hand threads	1 2 3	HT LH	TNMR019M5-L	HT	P3	105	15	5P	④-68
			TNMR019M1-L					1.5P	④-68

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ M19 × 0.75										
Standard		1 2 3	HT	TNMR019J5	HT	P3	105	15	5P	④-12
				TNMR019J1					1.5P	④-12
Taps ／ M19 × 0.5										
Standard		1 2 3	HT	TNMQ019G5	HT	P2	105	15	5P	④-12
				TNMQ019G1					1.5P	④-12
Taps ／ M20 × 2.5										
Standard		2 3	SP	SPR020R	SP	P3	105	15	2.5P	①-44
			SP 1.5P	SY020RRNEBA					1.5P	①-61
			PO	POS020R	PO	P4			5P	③-17
		1 2 3	HT	TNMS020R5	HT	P4	105	15	5P	④-12
				TNMS020R1					1.5P	④-12
	Oversize	2 3	SP	SPS020R	SP	P4	105	15	2.5P	①-44
				SPT020R		P5				①-44
			PO	POT020R	PO				5P	③-17
				POU020R		P6				③-17
		1 2 3	HT	TNMT020R5	HT	P5	105	15	5P	④-12
				TNMT020R1					1.5P	④-12
For left hand threads		2 3	SP LH	SPR020R--L	SP	P3	105	15	2.5P	①-82
			PO LH	POS020R--L	PO	P4			5P	③-49
		1 2 3	HT LH	TNMS020R5-L	HT	P4	105	15	5P	④-68
				TNMS020R1-L					1.5P	④-68
Oxidizing		1 2 3	SP OX	SPR020RX	SP	P3	105	15	2.5P	①-67
			PO OX	POS020RX	PO	P4			5P	③-37
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101141	SP	P5	140	15	2.5P	①-7
		1 2 3 4 9 19 21	AU+SP	VSAPS020R	SP	P4	105	15	2.5P	①-88
			AU+SL	VSAPS020RL	SL				5P	②-14
		1 2 3 4 9 10 13 18 19	VUPO	1102101141	PO	P5	140	15	5P	③-6
		1 2 3 4	PO V	VPOS020R	PO	P4	105	15	5P	③-50
Long		2 3	LS-SP	SPR020RL15	SP	P3	150	15	2.5P	①-93
				SPR020RL20			200			①-93
				SPR020RL25			250			①-93
			LS-PO	POS020RL15	PO	P4	150		5P	③-55
				POS020RL20			200			③-55
				POS020RL25			250			③-55
		1 2 3	LS-HT	TNMR020R515	HT	P3	150	15	5P	④-78
				TNMR020R520			200			④-78
				TNMR020R525			250			④-78
				TNMR020R115			150		1.5P	④-78
				TNMR020R120			200			④-78
				TNMR020R125			250			④-78
	Oversize	2 3	LS-SP	SPS020RL15	SP	P4	150	15	2.5P	①-93
			LS-PO	POT020RL15	PO	P5			5P	③-55
		1 2 3	LS-HT	TNMS020R515	HT	P4	150	15	5P	④-78
				TNMS020R520			200			④-78
				TNMS020R115			150		1.5P	④-78
				TNMS020R120			200			④-78

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Long	For left hand threads	1 2 3	LS-HT LH	TNMR020R515L	HT	P3	150	15	5P	④-85
				TNMR020R520L			200			④-85
				TNMR020R115L			150		1.5P	④-85
				TNMR020R120L			200			④-85
For soft structural steels		1 2	E-SP	ESHMR020R	SP	P3	105	15	2.5P	①-134
For steels		1 2 3 4 5 9 11	HVSP	SY020RTEEXJ	SP	P5	140	15	2.5P	①-26
For Galvanizing	Oversize	1 2 3 4 5 9 11	HVSP ZP	1112201141	SP	P5+0.1	140	15	2.5P	①-34
				1112301141		P5+0.2				①-34
				1112401141		P5+0.3				①-34
For high carbon steels		2 3	HC-SP	SCMR020R	SP	P3	105	15	2.5P	①-137
		2 3 5	HC-PO	PCMS020R	PO	P4	105	15	5P	③-81
For hard-to-machine materials		3 5 6	EH-PO	EPHMT020R	PO	P5	105	15	4.5P	③-86
		6 10	EH-HT	ETHMT020R5	HT	P5	105	15	5P	④-124
				ETHMT020R1					2.5P	④-124
	Powdered HSS	3 5 6	PM-SP	SY020RSDPB	SP	P4	105	15	2.75P	①-175
			LS-PM-SP	SY020RSDPBG			150			①-182
			PM-PO	PY020RTDPB	PO	P5	105		5.5P	③-98
			LS-PM-PO	PY020RTDPBG			150			③-105
For titanium alloys		22	ZET-B	ZETBMS020R	SP	P4	105	15	3P	①-158
			ZET-P	ZETPMT020R	SL	P5			5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMS020R	SP	P4	105	15	3P	①-166
			ZEN-P	ZENPMT020R	PO	P5			4.5P	③-90
Carbide taps for ultra hard materials		8	UH-CT	UHCS020R5	HT	P4	105	17	5P	⑤-28
For stainless steels		2 3 4 9	SU-SP	SUMR020R	SP	P3	105	15	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMS020R	PO	P4	105	15	5P	③-63
		1 2 9	SU-HT	TUMS020R4	HT	P4	105	15	4P	④-91
				TUMS020R1					1.5P	④-91
	Oversize	2 3 4 9	SU-SP	SUMS020R	SP	P4	105	15	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMT020R	PO	P5	105	15	5P	③-63
				PUMU020R		P6				③-63
	For left hand threads	2 3 4 9	SU-SP LH	SUMR020R--L	SP	P3	105	15	2.5P	①-117
	For deep hole use	1 2 3 4 9	SU-S-SP	SSMR020R-SU	SP	P3	105	15	2.5P	①-123
		1 2 3 9	LS-SU-S-SP	SY020RRGEXGS	SP	P3	150	15	2.5P	①-125
				SY020RRGEXKS			200			①-125
			LS-SU-S-PO	PY020RSGEXGS	PO	P4	150		5P	③-75
				PY020RSGEXKS			200			③-75
	For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MS020R	SP	P4	105	15	3P	①-120
For cast irons		12 13	FC-HT	TY020RTAEN5	HT	P5	105	15	5P	④-95
				TY020RTAENA					1.5P	④-95
	Carbide	12 13 16	N-CT FC	TCNS020R3	HT	P4	105	15	3P	⑤-12
				TCNS020R1					1.5P	⑤-12
	Long shank, carbide	12 13 16	LS-N-CT	TY020RSAWB3G	HT	P4	150	15	3P	⑤-19
				TY020RSAWBAG					1.5P	⑤-19
For aluminum		18 19 21	LA-HT	TY020RTLEN5	HT	P5	105	15	5P	④-111
				TY020RTLENA					1.5P	④-111
	Carbide	19 21	N-CT LA	TCNS020R3A	HT	P4	105	15	3P	⑤-5
				TCNS020R1A					1.5P	⑤-5
	Carbide spiral fluted taps	18 19 21	N-CT-SP	SY020RSKWB	SP	P4	105	15	2.5P	⑤-20
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM1020RP	RO	G11	105	15	4P	⑥-29
				NRSM1020RB					2P	⑥-29

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For high speed		1 2	F-SP	VFSHMS020R	SP	P4	105	15	3P	①-184
			F-SL	VFSHMS020RL	SL				5.5P	②-28
	Long	1 2	LS-F-SP	SY020RSFEVGS	SP	P4	150	15	3P	①-189
			LS-F-SL	LY020RSFEVG	SL				5.5P	②-32
For deep hole use		2 3 4 13	S-SP	SSMR020R	SP	P3	105	15	2.5P	①-128
		1 2 3 4	S-PO	PSMS020R	PO	P4	105	15	5P	③-78
	Oversize	2 3 4 13	S-SP	SSMS020R	SP	P4	105	15	2.5P	①-128
		1 2 3 4	S-PO	PSMT020R	PO	P5	105	15	5P	③-78
Low spiral	Long	2 3	LS-LO-SP	LSHMR020RL20	SP	P3	200	15	2.5P	①-155
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW020R1LEB5	HT	I b	120	19	5P	⑦-4
				TW020R1LEBA					1.5P	⑦-4
		15 16 17 18 19 20 21	AL-SP STI	SW020R1LEN	SP	I b	120	19	2.5P	⑦-11
With coolant hole		1 2 3 4	MC-SP	(MSHR020RL15)	SP	P3	150	15	2.5P	①-216
				(MSHR020RL20)			200			①-216
			MC-PO	(MPHS020RL15)	PO	P4	150		5P	③-107
				(MPHS020RL20)			200			③-107
		1 2 3	MC-HT	(ML15020R5-R)	HT	P3	150	15	5P	④-138
				(ML20020R5-R)			200			④-138
				(ML15020R1-R)			150		1.5P	④-138
				(ML20020R1-R)			200			④-138
Nut taps		1 2	NT	NH2020R	HT	II b	230	16	26P	⑦-28

Taps / M20 × 2

Standard		2 3	SP	SPR020Q	SP	P3	105	15	2.5P	①-44
			PO	POS020Q	PO	P4			5P	③-17
		1 2 3	HT	TNMS020Q5	HT	P4	105	15	5P	④-12
				TNMS020Q1					1.5P	④-12
For left hand threads		1 2 3	HT LH	TNMS020Q5-L	HT	P4	105	15	5P	④-68
				TNMS020Q1-L					1.5P	④-68
Long		2 3	LS-SP	SPR020QL20	SP	P3	200	15	2.5P	①-93
			LS-PO	POS020QL20	PO	P4			5P	③-55
		1 2 3	LS-HT	TNMR020Q520	HT	P3	200	15	5P	④-78
				TNMR020Q120					1.5P	④-78
For high carbon steels		2 3	HC-SP	SCMR020Q	SP	P3	105	15	2.5P	①-137
For deep hole use		2 3 4 13	S-SP	SSMR020Q	SP	P3	105	15	2.5P	①-128
Nut taps		1 2	NT	NH2020Q	HT	II	220	16	25P	⑦-28

Taps / M20 × 1.5

Standard		2 3	SP	SPR020O	SP	P3	105	15	2.5P	①-44
			PO	POS020O	PO	P4			5P	③-17
		1 2 3	HT	TNMR020O5	HT	P3	105	15	5P	④-12
				TNMR020O1					1.5P	④-12
	Oversize	2 3	SP	SPS020O	SP	P4	105	15	2.5P	①-44
				SPT020O		P5				①-44
			PO	POT020O	PO				5P	③-17
		1 2 3	HT	TNMS020O5	HT	P4	105	15	5P	④-12
				TNMS020O1					1.5P	④-12
				TNMT020O5		P5			5P	④-12
				TNMT020O1					1.5P	④-12

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For left hand threads	2 3	SP LH	SPR020O–L	SP	P3	105	15	2.5P	①-82
		PO LH	POS020O--L	PO	P4			5P	③-49
	1 2 3	HT LH	TNMR020O5-L	HT	P3	105	15	5P	④-68
			TNMR020O1-L					1.5P	④-68
Oxidizing	1 2 3	SP OX	SPR020OX	SP	P3	105	15	2.5P	①-67
		PO OX	POS020OX	PO	P4			5P	③-37
Coating	1 2 3 4 9 10 13 18 19	VUSP	1101101144	SP	P4	140	15	2.5P	①-7
	1 2 3 4 9 19 21	AU+SP	VSAPS020O	SP	P4	105	15	2.5P	①-88
		AU+SL	VSAPS020OL	SL				5P	②-14
	1 2 3 4 9 10 13 18 19	VUPO	1102101144	PO	P4	140	15	5P	③-6
Long	2 3	LS-SP	SPR020OL15	SP	P3	150	15	2.5P	①-93
			SPR020OL20			200			①-93
		LS-PO	POS020OL15	PO	P4	150		5P	③-55
			POS020OL20			200			③-55
	1 2 3	LS-HT	TNMR020O515	HT	P3	150	15	5P	④-78
			TNMR020O520			200			④-78
			TNMR020O115			150		1.5P	④-78
			TNMR020O120			200			④-78
Oversize	1 2 3	LS-HT	TNMS020O515	HT	P4	150	15	5P	④-78
			TNMS020O115					1.5P	④-78
For left hand threads	1 2 3	LS-HT LH	TNMR020O515L	HT	P3	150	15	5P	④-85
			TNMR020O520L			200			④-85
			TNMR020O115L			150		1.5P	④-85
			TNMR020O120L			200			④-85
For soft structural steels	1 2	E-SP	ESHMR020O	SP	P3	105	15	2.5P	①-134
For steels	1 2 3 4 5 9 11	HVSP	SY020OTEEXJ	SP	P5	140	15	2.5P	①-26
Thread forming taps for steels	1 2	N-RZ	NRZM9020OP	RO	G9	105	15	4P	⑥-17
			NRZM9020OB					2P	⑥-17
			NRZM0020OP		G10			4P	⑥-17
			NRZM0020OB					2P	⑥-17
For high carbon steels	2 3	HC-SP	SCMR020O	SP	P3	105	15	2.5P	①-137
	2 3 5	HC-PO	PCMS020O	PO	P4	105	15	5P	③-81
For hard-to-machine materials	3 5 6	EH-PO	EPHMS020O	PO	P4	105	15	4.5P	③-86
	6 10	EH-HT	ETHMS020O5	HT	P4	105	15	5P	④-125
			ETHMS020O1					2.5P	④-125
Powdered HSS	3 5 6	PM-SP	SY020OSDPB	SP	P4	105	15	2.75P	①-175
		LS-PM-SP	SY020OSDPBG			150			①-182
		PM-PO	PY020OSDPB	PO		105		5.5P	③-99
		LS-PM-PO	PY020OSDPBG			150			③-105
For titanium alloys	22	ZET-B	ZETBMS020O	SP	P4	105	15	3P	①-158
		ZET-P	ZETPMT020O	SL	P5			5P	②-22
For nickel base alloys	1 2 9 23	ZEN-B	ZENBMS020O	SP	P4	105	15	3P	①-166
		ZEN-P	ZENPMT020O	PO	P5			4.5P	③-90
Carbide taps for ultra hard materials	8	UH-CT	UHCS020O5	HT	P4	105	17	5P	⑤-28
For stainless steels	2 3 4 9	SU-SP	SUMR020O	SP	P3	105	15	2.5P	①-104
	1 2 3 4 9	SU-PO	PUMS020O	PO	P4	105	15	5P	③-63
	1 2 9	SU-HT	TUMS020O4	HT	P4	105	15	4P	④-91
			TUMS020O1					1.5P	④-91
Oversize	2 3 4 9	SU-SP	SUMS020O	SP	P4	105	15	2.5P	①-104
	1 2 3 4 9	SU-PO	PUMT020O	PO	P5	105	15	5P	③-63

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For stainless steels — For deep hole use	1 2 3 9	LS-SU-S-SP	SY020ORGEXGS	SP	P3	150	15	2.5P	①-125
			SY020ORGEXKS			200			①-125
		LS-SU-S-PO	PY020OSGEXGS	PO	P4	150		5P	③-75
			PY020OSGEXKS			200			③-75
For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MS020O	SP	P4	105	15	3P	①-120
For cast irons	12 13	FC-HT	TY020OSAEN5	HT	P4	105	15	5P	④-95
			TY020OSAENA					1.5P	④-95
Carbide	12 13 16	N-CT FC	TCNS020O3	HT	P4	95	15	3P	⑤-12
			TCNS020O1					1.5P	⑤-13
Long shank, carbide	12 13 16	LS-N-CT	TY020OSAWB3G	HT	P4	150	15	3P	⑤-19
			TY020OSAWBAG					1.5P	⑤-19
For aluminum	18 19 21	LA-HT	TY020OSLEN5	HT	P4	105	15	5P	④-111
			TY020OSLENA					1.5P	④-111
Carbide	19 21	N-CT LA	TCNS020O3A	HT	P4	95	15	3P	⑤-5
			TCNS020O1A					1.5P	⑤-5
Carbide spiral fluted taps	18 19 21	N-CT-SP	SY020OSKWB	SP	P4	95	15	2.5P	⑤-20
Thread forming taps for non-ferrous materials	18 19 21	N-RS	NRSM9020OP	RO	G9	105	15	4P	⑥-29
			NRSM9020OB					2P	⑥-29
			NRSM0020OP		G10			4P	⑥-29
			NRSM0020OB					2P	⑥-29
For high speed	1 2	F-SP	VFSHMS020O	SP	P4	105	15	3P	①-184
		F-SL	VFSHMS020OL	SL				5.5P	②-28
Long	1 2	LS-F-SP	SY020OSFEVGS	SP	P4	150	15	3P	①-189
		LS-F-SL	LY020OSFEVG	SL				5.5P	②-32
Ultra fast tapping(with coolant hole) — For steels	1 2 3 4	HFIHS	HFIHST020O	SP	P5	105	16	2.5P	①-192
		HFISP	HFISPT020O						①-196
For non-ferrous materials	18 19 20 21	HFAHS	HFAHST020O	SP	P5	105	16	2.5P	①-200
		HFASP	HFASPT020O						①-204
For dry tapping (with coolant hole) — For steels	2 3 4	HDISP	HDISPT020O	SP	P5	105	16	2.5P	①-208
For non-ferrous materials	18 19 20 21	HDASP	HDASPT020O	SP	P5	105	16	2.5P	①-212
Ultra fast tapping(with coolant hole) — For both steels and non ferrous materials	2 3 4	HDISL	HDISLT020O	SL	P5	105	16	5.5P	②-34
High performance thread forming taps	1 2 3 4 5 9 19	HP-RZ	HRZM9020OP	RO	G9	105	15	4P	⑥-49
			HRZM9020OB					2P	⑥-49
Thread forming taps for carbon steels of medium hardness	2 3 4 5	MHRZ	1110101144	RO	G10	140	15	4P	⑥-4
			1111101144					2P	⑥-4
		MHRZ-J	RY020OOOCTP			105		4P	⑥-8
			RY020OOOCTB					2P	⑥-8
For deep hole use	2 3 4 13	S-SP	SSMR020O	SP	P3	105	15	2.5P	①-128
	1 2 3 4	S-PO	PSMS020O	PO	P4	105	15	5P	③-78
Oversize	2 3 4 13	S-SP	SSMS020O	SP	P4	105	15	2.5P	①-128
	1 2 3 4	S-PO	PSMT020O	PO	P5	105	15	5P	③-78
Low spiral — Long	2 3	LS-LO-SP	LSHMR020OL20	SP	P3	200	15	2.5P	①-155
For helical coil wire screw thread inserts	18 19 21	AL-HT STI	TW020O1LEB5	HT	I b	115	17	5P	⑦-4
			TW020O1LEBA					1.5P	⑦-4
	15 16 17 18 19 20 21	AL-SP STI	SW020O1LEN	SP	I b	115	17	2.5P	⑦-11
With coolant hole	1 2 3 4	MC-SP	(MSHR020OL15)	SP	P3	150	15	2.5P	①-216
			(MSHR020OL20)			200			①-216
		MC-PO	(MPHS020OL15)	PO	P4	150		5P	③-107
			(MPHS020OL20)			200			③-107

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection	Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
With coolant hole	1 2 3	MC-HT	(ML15020O5-R)	HT	P3	150	15	5P	④-138
			(ML20020O5-R)			200			④-138
			(ML15020O1-R)			150		1.5P	④-138
			(ML20020O1-R)			200			④-138
Nut taps	1 2	NT	NH2020O	HT	II	200	16	25P	⑦-28
Taps ／ M20 × 1.25									
Standard	2 3	SP	SPQ020N	SP	P2	105	15	2.5P	①-44
	1 2 3	HT	TNMS020N5	HT	P4	105	15	5P	④-12
			TNMS020N1					1.5P	④-12
Taps ／ M20 × 1									
Standard	2 3	SP	SPQ020M	SP	P2	105	15	2.5P	①-44
		PO	POR020M	PO	P3			5P	③-17
	1 2 3	HT	TNMR020M5	HT	P3	105	15	5P	④-13
			TNMR020M1					1.5P	④-13
For left hand threads	2 3	SP LH	SPQ020M–L	SP	P2	105	15	2.5P	①-82
		PO LH	POR020M-–L	PO	P3			5P	③-49
	1 2 3	HT LH	TNMR020M5-L	HT	P3	105	15	5P	④-68
			TNMR020M1-L					1.5P	④-68
Oxidizing	1 2 3	SP OX	SPQ020MX	SP	P2	105	15	2.5P	①-67
For high carbon steels	2 3	HC-SP	SCMQ020M	SP	P2	105	15	2.5P	①-137
For deep hole use	2 3 4 13	S-SP	SSMQ020M	SP	P2	105	15	2.5P	①-128
Nut taps	1 2	NT	NH2020M	HT	II	190	16	25P	⑦-28
Taps ／ M20 × 0.75									
Standard	1 2 3	HT	TNMR020J5	HT	P3	105	15	5P	④-13
			TNMR020J1					1.5P	④-13
Taps ／ M20 × 0.5									
Standard	1 2 3	HT	TNMQ020G5	HT	P2	105	15	5P	④-13
			TNMQ020G1					1.5P	④-13
Taps ／ M21 × 2									
Standard	1 2 3	HT	TNMS021Q5	HT	P4	115	17	5P	④-13
			TNMS021Q1					1.5P	④-13
For left hand threads	1 2 3	HT LH	TNMS021Q5-L	HT	P4	115	17	5P	④-68
			TNMS021Q1-L					1.5P	④-68
Taps ／ M21 × 1.5									
Standard	1 2 3	HT	TNMR021O5	HT	P3	115	17	5P	④-13
			TNMR021O1					1.5P	④-13
For left hand threads	1 2 3	HT LH	TNMR021O5-L	HT	P3	115	17	5P	④-68
			TNMR021O1-L					1.5P	④-68
Taps ／ M21 × 1									
Standard	1 2 3	HT	TNMR021M5	HT	P3	115	17	5P	④-13
			TNMR021M1					1.5P	④-13
For left hand threads	1 2 3	HT LH	TNMR021M5-L	HT	P3	115	17	5P	④-68
			TNMR021M1-L					1.5P	④-68

Tap selection		Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ M22 × 2.5										
Standard		2 3	SP	SPR022R	SP	P3	115	17	2.5P	①-44
			PO	POS022R	PO	P4			5P	③-17
		1 2 3	HT	TNMS022R5	HT	P4	115	17	5P	④-13
				TNMS022R1					1.5P	④-13
	Oversize	2 3	SP	SPS022R	SP	P4	115	17	2.5P	①-44
				SPT022R		P5				①-44
			PO	POT022R	PO				5P	③-17
		1 2 3	HT	TNMT022R5	HT	P5	115	17	5P	④-13
				TNMT022R1					1.5P	④-13
For left hand threads		2 3	SP LH	SPR022R--L	SP	P3	115	17	2.5P	①-82
			PO LH	POS022R--L	PO	P4			5P	③-49
		1 2 3	HT LH	TNMS022R5-L	HT	P4	115	17	5P	④-69
				TNMS022R1-L					1.5P	④-69
Oxidizing		1 2 3	SP OX	SPR022RX	SP	P3	115	17	2.5P	①-67
			PO OX	POS022RX	PO	P4			5P	③-37
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101156	SP	P5	140	17	2.5P	①-7
			VUPO	1102101156	PO				5P	③-6
Long		2 3	LS-SP	SPR022RL15	SP	P3	150	17	2.5P	①-93
				SPR022RL20			200			①-93
				SPR022RL25			250			①-93
			LS-PO	POS022RL15	PO	P4	150		5P	③-55
				POS022RL20			200			③-55
				POS022RL25			250			③-55
		1 2 3	LS-HT	TNMR022R515	HT	P3	150	17	5P	④-78
				TNMR022R520			200			④-78
				TNMR022R525			250			④-78
				TNMR022R115			150		1.5P	④-78
				TNMR022R120			200			④-78
				TNMR022R125			250			④-78
	Oversize	2 3	LS-SP	SPS022RL15	SP	P4	150	17	2.5P	①-93
		1 2 3	LS-HT	TNMS022R515	HT	P4	150	17	5P	④-78
				TNMS022R520			200			④-78
				TNMS022R115			150		1.5P	④-79
				TNMS022R120			200			④-79
	For left hand threads	1 2 3	LS-HT LH	TNMR022R515L	HT	P3	150	17	5P	④-85
				TNMR022R520L			200			④-85
				TNMR022R115L			150		1.5P	④-85
				TNMR022R120L			200			④-85
For soft structural steels		1 2	E-SP	ESHMR022R	SP	P3	115	17	2.5P	①-134
For steels		1 2 3 4 5 9 11	HVSP	SY022RTEEXJ	SP	P5	140	17	2.5P	①-26
For Galvanizing	Oversize	1 2 3 4 5 9 11	HVSP ZP	1112201156	SP	P5+0.1	140	17	2.5P	①-34
				1112301156		P5+0.2				①-34
				1112401156		P5+0.3				①-34
For high carbon steels		2 3	HC-SP	SCMR022R	SP	P3	115	17	2.5P	①-137
		2 3 5	HC-PO	PCMS022R	PO	P4	115	17	5P	③-81

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For hard-to-machine materials		3 5 6	EH-PO	EPHMT022R	PO	P5	115	17	4.5P	③-86
		6 10	EH-HT	ETHMT022R5	HT	P5	115	17	5P	④-125
				ETHMT022R1					2.5P	④-125
	Powdered HSS	3 5 6	PM-SP	SY022RSDPB	SP	P4	115	17	2.75P	①-175
			LS-PM-SP	SY022RSDPBK			200			①-182
			PM-PO	PY022RTDPB	PO	P5	115		5.5P	③-99
			LS-PM-PO	PY022RTDPBK			200			③-105
For stainless steels		2 3 4 9	SU-SP	SUMR022R	SP	P3	115	17	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMS022R	PO	P4	115	17	5P	③-64
		1 2 9	SU-HT	TUMS022R4	HT	P4	115	17	4P	④-91
				TUMS022R1					1.5P	④-91
	Oversize	2 3 4 9	SU-SP	SUMS022R	SP	P4	115	17	2.5P	①-104
				SUMT022R		P5				①-104
		1 2 3 4 9	SU-PO	PUMT022R	PO	P5	115	17	5P	③-64
				PUMU022R		P6				③-64
	For deep hole use	1 2 3 4 9	SU-S-SP	SSMR022R-SU	SP	P3	115	17	2.5P	①-123
		1 2 3 9	LS-SU-S-SP	SY022RRGEXGS	SP	P3	150	17	2.5P	①-125
				SY022RRGEXKS			200			①-125
			LS-SU-S-PO	PY022RSGEXKS	PO	P4			5P	③-75
	For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MS022R	SP	P4	115	17	3P	①-120
For cast irons		12 13	FC-HT	TY022RTAEN5	HT	P5	115	17	5P	④-95
				TY022RTAENA					1.5P	④-95
	Carbide	12 13 16	N-CT FC	TCNS022R3	HT	P4	115	17	3P	⑤-13
				TCNS022R1					1.5P	⑤-13
	Long shank, carbide	12 13 16	LS-N-CT	TY022RSAWB3G	HT	P4	150	17	3P	⑤-19
				TY022RSAWBAG					1.5P	⑤-19
For aluminum		18 19 21	LA-HT	TY022RTLENA	HT	P5	115	17	1.5P	④-111
For high speed		1 2	F-SP	VFSHMS022R	SP	P4	115	17	3P	①-184
			F-SL	VFSHMS022RL	SL				5.5P	②-28
	Long	1 2	LS-F-SP	SY022RSFEVGS	SP	P4	150	17	3P	①-189
			LS-F-SL	LY022RSFEVG	SL				5.5P	②-32
For deep hole use		2 3 4 13	S-SP	SSMR022R	SP	P3	115	17	2.5P	①-128
		1 2 3 4	S-PO	PSMS022R	PO	P4	115	17	5P	③-78
Low spiral	Long	2 3	LS-LO-SP	LSHMR022RL20	SP	P3	200	17	2.5P	①-155
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW022R1LEB5	HT	I b	125	19	5P	⑦-4
				TW022R1LEBA					1.5P	⑦-4
		15 16 17 18 19 20 21	AL-SP STI	SW022R1LEN	SP	I b	125	19	2.5P	⑦-11
With coolant hole		1 2 3 4	MC-SP	(MSHR022RL15)	SP	P3	150	17	2.5P	①-216
				(MSHR022RL20)			200			①-216
			MC-PO	(MPHS022RL15)	PO	P4	150		5P	③-107
				(MPHS022RL20)			200			③-107
		1 2 3	MC-HT	(ML15022R5-R)	HT	P3	150	17	5P	④-138
				(ML20022R5-R)			200			④-138
				(ML15022R1-R)			150		1.5P	④-138
				(ML20022R1-R)			200			④-139
Nut taps		1 2	NT	NH2022R	HT	II b	250	18	27P	⑦-28

Taps ／ M22 × 2

Standard		2 3	SP	SPR022Q	SP	P3	115	17	2.5P	①-44
			PO	POS022Q	PO	P4			5P	③-17
		1 2 3	HT	TNMS022Q5	HT	P4	115	17	5P	④-13
				TNMS022Q1					1.5P	④-13
For left hand threads		1 2 3	HT LH	TNMS022Q5-L	HT	P4	115	17	5P	④-13
				TNMS022Q1-L					1.5P	④-13
Long		2 3	LS-SP	SPR022QL20	SP	P3	200	17	2.5P	①-93
			LS-PO	POS022QL20	PO	P4			5P	③-55
		1 2 3	LS-HT	TNMR022Q520	HT	P3	200	17	5P	④-79
				TNMR022Q120					1.5P	④-79
For high carbon steels		2 3	HC-SP	SCMR022Q	SP	P3	115	17	2.5P	①-137
For deep hole use		2 3 4 13	S-SP	SSMR022Q	SP	P3	115	17	2.5P	①-128

Taps ／ M22 × 1.5

Standard		2 3	SP	SPR022O	SP	P3	115	17	2.5P	①-44
			PO	POS022O	PO	P4			5P	③-17
		1 2 3	HT	TNMR022O5	HT	P3	115	17	5P	④-13
				TNMR022O1					1.5P	④-13
	Oversize	2 3	SP	SPS022O	SP	P4	115	17	2.5P	①-44
				SPT022O		P5				①-44
			PO	POT022O	PO				5P	③-17
		1 2 3	HT	TNMS022O5	HT	P4	115	17	5P	④-13
				TNMS022O1					1.5P	④-13
				TNMT022O5		P5			5P	④-13
				TNMT022O1					1.5P	④-13
For left hand threads		2 3	SP LH	SPR022O--L	SP	P3	115	17	2.5P	①-82
			PO LH	POS022O--L	PO	P4			5P	③-49
		1 2 3	HT LH	TNMR022O5-L	HT	P3	115	17	5P	④-69
				TNMR022O1-L					1.5P	④-69
Oxidizing		1 2 3	SP OX	SPR022OX	SP	P3	115	17	2.5P	①-67
			PO OX	POS022OX	PO	P4			5P	③-37
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101158	SP	P4	140	17	2.5P	①-7
			VUPO	1102101158	PO				5P	③-6
Long		2 3	LS-SP	SPR022OL15	SP	P3	150	17	2.5P	①-93
				SPR022OL20			200			①-93
			LS-PO	POS022OL15	PO	P4	150		5P	③-55
				POS022OL20			200			③-55
		1 2 3	LS-HT	TNMR022O515	HT	P3	150	17	5P	④-79
				TNMR022O520			200			④-79
				TNMR022O115			150		1.5P	④-79
				TNMR022O120			200			④-79
	For left hand threads	1 2 3	LS-HT LH	TNMR022O520L	HT	P3	200	17	5P	④-85
				TNMR022O120L					1.5P	④-85
For soft structural steels		1 2	E-SP	ESHMR022O	SP	P3	115	17	2.5P	①-134
For steels		1 2 3 4 5 9 11	HVSP	SY022OTEEXJ	SP	P5	140	17	2.5P	①-26
For high carbon steels		2 3	HC-SP	SCMR022O	SP	P3	115	17	2.5P	①-137
For hard-to-machine materials		3 5 6	EH-PO	EPHMS022O	PO	P4	115	17	4.5P	③-86
		6 10	EH-HT	ETHMS022O5	HT	P4	115	17	5P	④-125
				ETHMS022O1					2.5P	④-125
	Powdered HSS	3 5 6	PM-SP	SY022OSDPB	SP	P4	115	17	2.75P	①-175
			LS-PM-SP	SY022OSDPBK			200			①-182
			PM-PO	PY022OSDPB	PO		115		5.5P	③-99
			LS-PM-PO	PY022OSDPBK			200			③-105

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For stainless steels		2 3 4 9	SU-SP	SUMR022O	SP	P3	115	17	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMS022O	PO	P4	115	17	5P	③-64
		1 2 9	SU-HT	TUMS022O4	HT	P4	115	17	4P	④-91
				TUMS022O1					1.5P	④-91
	Oversize	2 3 4 9	SU-SP	SUMS022O	SP	P4	115	17	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMT022O	PO	P5	115	17	5P	③-64
	For deep hole use	1 2 3 9	LS-SU-S-SP	SY022ORGEXGS	SP	P3	150	17	2.5P	①-125
				SY022ORGEXKS			200			①-125
			LS-SU-S-PO	PY022OSGEXKS	PO	P4			5P	③-75
	For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MS022O	SP	P4	115	17	3P	①-120
For cast irons		12 13	FC-HT	TY022OSAEN5	HT	P4	115	17	5P	④-95
				TY022OSAENA					1.5P	④-95
	Carbide	12 13 16	N-CT FC	TCNS022O3	HT	P4	95	17	3P	⑤-13
				TCNS022O1					1.5P	⑤-13
	Long shank, carbide	12 13 16	LS-N-CT	TY022OSAWB3G	HT	P4	150	17	3P	⑤-19
				TY022OSAWBAG					1.5P	⑤-19
For aluminum		18 19 21	LA-HT	TY022OSLENA	HT	P4	115	17	1.5P	④-111
For high speed		1 2	F-SP	VFSHMS022O	SP	P4	115	17	3P	①-184
			F-SL	VFSHMS022OL	SL				5.5P	②-28
	Long	1 2	LS-F-SP	SY022OSFEVGS	SP	P4	150	17	3P	①-189
			LS-F-SL	LY022OSFEVG	SL				5.5P	②-32
For deep hole use		2 3 4 13	S-SP	SSMR022O	SP	P3	115	17	2.5P	①-128
		1 2 3 4	S-PO	PSMS022O	PO	P4	115	17	5P	③-78
	Oversize	2 3 4 13	S-SP	SSMS022O	SP	P4	115	17	2.5P	①-128
Low spiral	Long	2 3	LS-LO-SP	LSHMR022OL20	SP	P3	200	17	2.5P	①-155
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW022O1LEB5	HT	I b	120	19	5P	⑦-4
				TW022O1LEBA					1.5P	⑦-4
With coolant hole		1 2 3 4	MC-SP	(MSHR022OL15)	SP	P3	150	17	2.5P	①-216
				(MSHR022OL20)			200			①-216
			MC-PO	(MPHS022OL15)	PO	P4	150		5P	③-107
				(MPHS022OL20)			200			③-107
		1 2 3	MC-HT	(ML15022O5-R)	HT	P3	150	17	5P	④-139
				(ML20022O5-R)			200			④-139
				(ML15022O1-R)			150		1.5P	④-139
				(ML20022O1-R)			200			④-139
Nut taps		1 2	NT	NH2022O	HT	II	210	18	25P	⑦-28
Taps ／ M22 × 1.25										
Standard		1 2 3	HT	TNMS022N5	HT	P4	115	17	5P	④-13
				TNMS022N1					1.5P	④-13
Taps ／ M22 × 1										
Standard		2 3	SP	SPQ022M	SP	P2	115	17	2.5P	①-44
			PO	POR022M	PO	P3			5P	③-17
		1 2 3	HT	TNMR022M5	HT	P3	115	17	5P	④-13
				TNMR022M1					1.5P	④-13
For left hand threads		1 2 3	HT LH	TNMR022M5-L	HT	P3	115	17	5P	④-69
				TNMR022M1-L					1.5P	④-69

Tap selection		Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ M22 × 0.75										
Standard		1 2 3	HT	TNMR022J5	HT	P3	115	17	5P	④-13
				TNMR022J1					1.5P	④-13
Taps ／ M22 × 0.5										
Standard		1 2 3	HT	TNMQ022G5	HT	P2	115	17	5P	④-13
				TNMQ022G1					1.5P	④-13
Taps ／ M23 × 2										
Standard		1 2 3	HT	TNMS023Q5	HT	P4	120	19	5P	④-13
				TNMS023Q1					1.5P	④-13
Taps ／ M23 × 1.5										
Standard		2 3	SP	SPR023O	SP	P3	120	19	2.5P	①-44
		1 2 3	HT	TNMR023O5	HT	P3	120	19	5P	④-13
				TNMR023O1					1.5P	④-13
For left hand threads		1 2 3	HT LH	TNMR023O5-L	HT	P3	120	19	5P	④-69
				TNMR023O1-L					1.5P	④-69
Taps ／ M23 × 1										
Standard		1 2 3	HT	TNMR023M5	HT	P3	120	19	5P	④-13
				TNMR023M1					1.5P	④-13
For left hand threads		1 2 3	HT LH	TNMR023M5-L	HT	P3	120	19	5P	④-69
				TNMR023M1-L					1.5P	④-69
Taps ／ M24 × 3										
Standard		2 3	SP	SPR024S	SP	P3	120	19	2.5P	①-44
			PO	POS024S	PO	P4			5P	③-18
		1 2 3	HT	TNMS024S5	HT	P4	120	19	5P	④-13
				TNMS024S1					1.5P	④-13
	Oversize	2 3	SP	SPS024S	SP	P4	120	19	2.5P	①-44
				SPT024S		P5				①-44
			PO	POT024S	PO				5P	③-18
				POU024S		P6				③-18
		1 2 3	HT	TNMT024S5	HT	P5	120	19	5P	④-13
				TNMT024S1					1.5P	④-13
For left hand threads		2 3	SP LH	SPR024S--L	SP	P3	120	19	2.5P	①-82
			PO LH	POS024S--L	PO	P4			5P	③-49
		1 2 3	HT LH	TNMS024S5-L	HT	P4	120	19	5P	④-69
				TNMS024S1-L					1.5P	④-69
Oxidizing		1 2 3	SP OX	SPR024SX	SP	P3	120	19	2.5P	①-67
			PO OX	POS024SX	PO	P4			5P	③-37
Coating		1 2 3 4 9 10 13 18 19	VUSP	1101101167	SP	P5	160	19	2.5P	①-7
			VUPO	1102101167	PO				5P	③-6
Long		2 3	LS-SP	SPR024SL15	SP	P3	150	19	2.5P	①-93
				SPR024SL20			200			①-93
				SPR024SL25			250			①-93
			LS-PO	POS024SL15	PO	P4	150		5P	③-55
				POS024SL20			200			③-55
				POS024SL25			250			③-55

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Long	1 2 3	LS-HT	TNMR024S515	HT	P3	150	19	5P	④-79
			TNMR024S520			200			④-79
			TNMR024S525			250			④-79
			TNMR024S115			150		1.5P	④-79
			TNMR024S120			200			④-79
			TNMR024S125			250			④-79
Oversize	2 3	LS-SP	SPS024SL15	SP	P4	150	19	2.5P	①-93
	1 2 3	LS-HT	TNMS024S515	HT	P4	150	19	5P	④-79
			TNMS024S520			200			④-79
			TNMS024S115			150		1.5P	④-79
			TNMS024S120			200			④-79
For left hand threads	1 2 3	LS-HT LH	TNMR024S515L	HT	P3	150	19	5P	④-85
			TNMR024S520L			200			④-85
			TNMR024S115L			150		1.5P	④-85
			TNMR024S120L			200			④-85
For soft structural steels	1 2	E-SP	ESHMR024S	SP	P3	120	19	2.5P	①-134
For steels	1 2 3 4 5 9 11	HVSP	SY024STEEXJ	SP	P5	160	19	2.5P	①-26
For Galvanizing Oversize	1 2 3 4 5 9 11	HVSP ZP	1112201167	SP	P5+0.1	160	19	2.5P	①-34
			1112301167		P5+0.2				①-34
			1112401167		P5+0.3				①-34
For high carbon steels	2 3	HC-SP	SCMR024S	SP	P3	120	19	2.5P	①-137
	2 3 5	HC-PO	PCMS024S	PO	P4	120	19	5P	③-81
For hard-to-machine materials	3 5 6	EH-PO	EPHMT024S	PO	P5	120	19	4.5P	③-86
	6 10	EH-HT	ETHMT024S5	HT	P5	120	19	5P	④-125
			ETHMT024S1					2.5P	④-125
Powdered HSS	3 5 6	PM-SP	SY024SSDPB	SP	P4	120	19	2.75P	①-175
		LS-PM-SP	SY024SSDPBK			200			①-182
		PM-PO	PY024STDPB	PO	P5	120		5.5P	③-99
		LS-PM-PO	PY024STDPBK			200			③-105
For stainless steels	2 3 4 9	SU-SP	SUMR024S	SP	P3	120	19	2.5P	①-104
	1 2 3 4 9	SU-PO	PUMS024S	PO	P4	120	19	5P	③-64
	1 2 9	SU-HT	TUMS024S4	HT	P4	120	19	4P	④-91
			TUMS024S1					1.5P	④-91
Oversize	2 3 4 9	SU-SP	SUMS024S	SP	P4	120	19	2.5P	①-104
			SUMT024S		P5				①-104
	1 2 3 4 9	SU-PO	PUMT024S	PO	P5	120	19	5P	③-64
			PUMU024S		P6				③-64
For deep hole use	1 2 3 4 9	SU-S-SP	SSMR024S-SU	SP	P3	120	19	2.5P	①-123
	1 2 3 9	LS-SU-S-SP	SY024SRGEXGS	SP	P3	150	19	2.5P	①-125
			SY024SRGEXKS			200			①-125
		LS-SU-S-PO	PY024SSGEXKS	PO	P4			5P	③-75
For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MS024S	SP	P4	120	19	3P	①-120
For cast irons	12 13	FC-HT	TY024STAEN5	HT	P5	120	19	5P	④-95
			TY024STAENA					1.5P	④-95
Carbide	12 13 16	N-CT FC	TCNS024S3	HT	P4	120	19	3P	⑤-13
			TCNS024S1					1.5P	⑤-13
Long shank, carbide	12 13 16	LS-N-CT	TY024SSAWB3G	HT	P4	150	19	3P	⑤-19
			TY024SSAWBAG					1.5P	⑤-19
For aluminum	18 19 21	LA-HT	TY024STLENA	HT	P5	120	19	1.5P	④-111

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For high speed	1 2	F-SP	VFSHMS024S	SP	P4	120	19	3P	①-184
		F-SL	VFSHMS024SL	SL				5.5P	②-28
Long	1 2	LS-F-SP	SY024SSFEVGS	SP	P4	150	19	3P	①-189
		LS-F-SL	LY024SSFEVG	SL				5.5P	②-32
For deep hole use	2 3 4 13	S-SP	SSMR024S	SP	P3	120	19	2.5P	①-128
	1 2 3 4	S-PO	PSMS024S	PO	P4	120	19	5P	③-78
Oversize	2 3 4 13	S-SP	SSMS024S	SP	P4	120	19	2.5P	①-128
Low spiral Long	2 3	LS-LO-SP	LSHMR024SL20	SP	P3	200	19	2.5P	①-155
For helical coil wire screw thread inserts	18 19 21	AL-HT STI	TW024S1LEB5	HT	I b	135	23	5P	⑦-4
			TW024S1LEBA					1.5P	⑦-4
	15 16 17 18 19 20 21	AL-SP STI	SW024S1LEN	SP	I b	135	23	2.5P	⑦-11
With coolant hole	1 2 3 4	MC-SP	(MSHR024SL15)	SP	P3	150	19	2.5P	①-216
			(MSHR024SL20)			200			①-216
		MC-PO	(MPHS024SL15)	PO	P4	150		5P	③-107
			(MPHS024SL20)			200			③-107
	1 2 3	MC-HT	(ML15024S5-R)	HT	P3	150	19	5P	④-139
			(ML20024S5-R)			200			④-139
			(ML15024S1-R)			150		1.5P	④-139
			(ML20024S1-R)			200			④-139
Nut taps	1 2	NT	NH2024S	HT	II b	260	19	25P	⑦-28

Taps ／ M24 × 2

Standard	2 3	SP	SPR024Q	SP	P3	120	19	2.5P	①-44
		PO	POS024Q	PO	P4			5P	③-18
	1 2 3	HT	TNMS024Q5	HT	P4	120	19	5P	④-13
			TNMS024Q1					1.5P	④-13
For left hand threads	2 3	SP LH	SPR024Q--L	SP	P3	120	19	2.5P	①-82
		PO LH	POS024Q--L	PO	P4			5P	③-49
	1 2 3	HT LH	TNMS024Q5-L	HT	P4	120	19	5P	④-69
			TNMS024Q1-L					1.5P	④-69
Long	2 3	LS-SP	SPR024QL20	SP	P3	200	19	2.5P	①-93
		LS-PO	POS024QL20	PO	P4			5P	③-55
	1 2 3	LS-HT	TNMR024Q520	HT	P3	200	19	5P	④-79
			TNMR024Q120					1.5P	④-79
For high carbon steels	2 3	HC-SP	SCMR024Q	SP	P3	120	19	2.5P	①-137
For stainless steels	2 3 4 9	SU-SP	SUMR024Q	SP	P3	120	19	2.5P	①-104
For deep hole use	2 3 4 13	S-SP	SSMR024Q	SP	P3	120	19	2.5P	①-128
For helical coil wire screw thread inserts	18 19 21	AL-HT STI	TW024Q1LEB5	HT	I b	130	20	5P	⑦-4
Nut taps	1 2	NT	NH2024Q	HT	II	240	19	25P	⑦-28

Taps ／ M24 × 1.5

Standard	2 3	SP	SPR024O	SP	P3	120	19	2.5P	①-44
		PO	POS024O	PO	P4			5P	③-18
	1 2 3	HT	TNMR024O5	HT	P3	120	19	5P	④-13
			TNMR024O1					1.5P	④-13
Oversize	2 3	SP	SPS024O	SP	P4	120	19	2.5P	①-44
		PO	POT024O	PO	P5			5P	③-18
	1 2 3	HT	TNMS024O5	HT	P4	120	19	5P	④-13
			TNMS024O1					1.5P	④-13
			TNMT024O5		P5			5P	④-13
			TNMT024O1					1.5P	④-13

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

Symbol of flute design	Spiral	Straight	Spiral point	Left hand spiral	Roll
	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection	Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For left hand threads	2 3	SP LH	SPR024O–L	SP	P3	120	19	2.5P	①-82
		PO LH	POS024O–L	PO	P4			5P	③-49
	1 2 3	HT LH	TNMR024O5-L	HT	P3	120	19	5P	④-69
			TNMR024O1-L					1.5P	④-69
Oxidizing	1 2 3	SP OX	SPR024OX	SP	P3	120	19	2.5P	①-68
Coating	1 2 3 4 9 10 13 18 19	VUSP	1101101170	SP	P4	160	19	2.5P	①-7
		VUPO	1102101170	PO				5P	③-6
Long	2 3	LS-SP	SPR024OL15	SP	P3	150	19	2.5P	①-93
			SPR024OL20			200			①-93
		LS-PO	POS024OL15	PO	P4	150		5P	③-55
			POS024OL20			200			③-55
	1 2 3	LS-HT	TNMR024O515	HT	P3	150	19	5P	④-79
			TNMR024O520			200			④-79
			TNMR024O115			150		1.5P	④-79
			TNMR024O120			200			④-79
For left hand threads	1 2 3	LS-HT LH	TNMR024O520L	HT	P3	200	19	5P	④-85
For soft structural steels	1 2	E-SP	ESHMR024O	SP	P3	120	19	2.5P	①-134
For steels	1 2 3 4 5 9 11	HVSP	SY024OTEEXJ	SP	P5	160	19	2.5P	①-26
For high carbon steels	2 3	HC-SP	SCMR024O	SP	P3	120	19	2.5P	①-137
For hard-to-machine materials	3 5 6	EH-PO	EPHMS024O	PO	P4	120	19	4.5P	③-86
	6 10	EH-HT	ETHMS024O5	HT	P4	120	19	5P	④-125
			ETHMS024O1					2.5P	④-125
Powdered HSS	3 5 6	PM-SP	SY024OSDPB	SP	P4	120	19	2.75P	①-175
		LS-PM-SP	SY024OSDPBK			200			①-182
		PM-PO	PY024OSDPB	PO		120		5.5P	③-99
		LS-PM-PO	PY024OSDPBK			200			③-105
For stainless steels	2 3 4 9	SU-SP	SUMR024O	SP	P3	120	19	2.5P	①-104
	1 2 3 4 9	SU-PO	PUMS024O	PO	P4	120	19	5P	③-64
	1 2 9	SU-HT	TUMS024O4	HT	P4	120	19	4P	④-91
			TUMS024O1					1.5P	④-91
Oversize	2 3 4 9	SU-SP	SUMS024O	SP	P4	120	19	2.5P	①-104
For deep hole use	1 2 3 9	LS-SU-S-SP	SY024ORGEXGS	SP	P3	150	19	2.5P	①-125
			SY024ORGEXKS			200			①-125
		LS-SU-S-PO	PY024OSGEXKS	PO	P4			5P	③-75
For hard-to-machine materials	1 2 3 4 9	SU2-SP	SU2MS024O	SP	P4	120	19	3P	①-120
For cast irons	12 13	FC-HT	TY024OSAEN5	HT	P4	120	19	5P	④-95
			TY024OSAENA					1.5P	④-95
Carbide	12 13 16	N-CT FC	TCNS024O3	HT	P4	95	19	3P	⑤-13
			TCNS024O1					1.5P	⑤-13
Long shank, carbide	12 13 16	LS-N-CT	TY024OSAWB3G	HT	P4	150	19	3P	⑤-19
			TY024OSAWBAG					1.5P	⑤-19
For aluminum	18 19 21	LA-HT	TY024OSLENA	HT	P4	120	19	1.5P	④-111
For high speed	1 2	F-SP	VFSHMS024O	SP	P4	120	19	3P	①-184
		F-SL	VFSHMS024OL	SL				5.5P	②-28
Long	1 2	LS-F-SP	SY024OSFEVGS	SP	P4	150	19	3P	①-189
		LS-F-SL	LY024OSFEVG	SL				5.5P	②-32

Tap selection		Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For deep hole use		2 3 4 13	S-SP	SSMR024O	SP	P3	120	19	2.5P	①-128
		1 2 3 4	S-PO	PSMS024O	PO	P4	120	19	5P	③-78
	Oversize	2 3 4 13	S-SP	SSMS024O	SP	P4	120	19	2.5P	①-129
Low spiral	Long	2 3	LS-LO-SP	LSHMR024OL20	SP	P3	200	19	2.5P	①-155
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TW024O1LEB5	HT	I b	130	20	5P	⑦-4
				TW024O1LEBA					1.5P	⑦-5
With coolant hole		1 2 3 4	MC-SP	(MSHR024OL15)	SP	P3	150	19	2.5P	①-216
				(MSHR024OL20)			200			①-216
			MC-PO	(MPHS024OL15)	PO	P4	150		5P	③-107
				(MPHS024OL20)			200			③-107
		1 2 3	MC-HT	(ML15024O5-R)	HT	P3	150	19	5P	④-139
				(ML20024O5-R)			200			④-139
				(ML15024O1-R)			150		1.5P	④-139
				(ML20024O1-R)			200			④-139
Nut taps		1 2	NT	NH2024O	HT	II	220	19	25P	⑦-28
Taps ／ M24 × 1.25										
Standard		1 2 3	HT	TNMS024N5	HT	P4	120	19	5P	④-14
				TNMS024N1					1.5P	④-14
Taps ／ M24 × 1										
Standard		2 3	SP	SPQ024M	SP	P2	120	19	2.5P	①-44
			PO	POR024M	PO	P3			5P	③-18
		1 2 3	HT	TNMR024M5	HT	P3	120	19	5P	④-14
				TNMR024M1					1.5P	④-14
For left hand threads		1 2 3	HT LH	TNMR024M5-L	HT	P3	120	19	5P	④-69
				TNMR024M1-L					1.5P	④-69
Taps ／ M24 × 0.75										
Standard		1 2 3	HT	TNMR024J5	HT	P3	120	19	5P	④-14
				TNMR024J1					1.5P	④-14
Taps ／ M24 × 0.5										
Standard		1 2 3	HT	TNMQ024G5	HT	P2	120	19	5P	④-14
				TNMQ024G1					1.5P	④-14

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Dies selection		Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies / M9 × 1.25										
Solid dies		HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYG9.0NDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYG9.0NDNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S5	25	9	1.5P	PYG9.0NTNEBA	⑩-36
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	25	9	1.5P	PYG9.0NQNEBA	⑩-36
Dies / M9 × 1										
Solid dies		HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYG9.0MDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYG9.0MDNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S5	25	9	1.5P	PYG9.0MTNEBA	⑩-36
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	25	9	1.5P	PYG9.0MQNEBA	⑩-36
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	20	7	2P	HEP9.0M	⑩-46
					P2				HEQ9.0M	⑩-46
Dies / M9 × 0.75										
Solid dies		HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYG9.0JDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYG9.0JDNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S4	25	9	1.5P	PYG9.0JSNEBA	⑩-36
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	25	9	1.5P	PYG9.0JQNEBA	⑩-36
Auto dies for automatic lathe	For stainless steels	HSS	1 2 9	HS-D	P1	20	7	2P	HEP9.0J	⑩-46
					P2				HEQ9.0J	⑩-46
Dies / M9 × 0.5										
Solid dies		HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYG9.0GDNEBC	⑩-3
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYG9.0GDNEBC	⑩-17
Dies / M11 × 1.5										
Solid dies		HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ011ODNEBC	⑩-4
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJ011ODNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S4	38	13	1.5P	PYJ011OSNEBA	⑩-36
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	38	13	1.5P	PYJ011OQNEBA	⑩-36
Dies / M11 × 1.25										
Solid dies		HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ011NDNEBC	⑩-4
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJ011NDNEBC	⑩-17
Dies / M11 × 1										
Solid dies		HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ011MDNEBC	⑩-4
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJ011MDNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S5	38	13	1.5P	PYJ011MTNEBA	⑩-36
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	38	13	1.5P	PYJ011MQNEBA	⑩-36
Dies / M11 × 0.75										
Solid dies		HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ011JDNEBC	⑩-4
Point solid dies		HSS	1 2 15 16 18 19	DPO	S4	38	13	1.5P	PYJ011JSNEBA	⑩-36
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	38	13	1.5P	PYJ011JQNEBA	⑩-36
Dies / M11 × 0.5										
Solid dies		HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ011GDNEBC	⑩-4
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJ011GDNEBC	⑩-17

Dies selection		Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies / M13 × 1.5										
Solid dies		HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ013ODNEBC	⑩-4
Dies / M13 × 1.25										
Solid dies		HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ013NDNEBC	⑩-4
Dies / M13 × 1										
Solid dies		HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ013MDNEBC	⑩-4
Dies / M13 × 0.75										
Solid dies		HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ013JDNEBC	⑩-4
Dies / M13 × 0.5										
Solid dies		HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ013GDNEBC	⑩-4
Dies / M14 × 2										
Solid dies		HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ014QDNEBC	⑩-4
						50	16		TYM014QDNEBC	⑩-4
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJ014QDNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S4	38	13	1.5P	PYJ014QSNEBA	⑩-37
						50	16		PYM014QSNEBA	⑩-37
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	38	13	1.5P	PYJ014QQNEBA	⑩-37
						50	16		PYM014QQNEBA	⑩-37
Dies / M14 × 1.5										
Solid dies		HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ014ODNEBC	⑩-4
						50	16		TYM014ODNEBC	⑩-4
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJ014ODNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S4	38	13	1.5P	PYJ014OSNEBA	⑩-37
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	38	13	1.5P	PYJ014OQNEBA	⑩-37
Dies / M14 × 1.25										
Solid dies		HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ014NDNEBC	⑩-4
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJ014NDNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S6	38	13	1.5P	PYJ014NUNEBA	⑩-37
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	38	13	1.5P	PYJ014NQNEBA	⑩-37
Dies / M14 × 1										
Solid dies		HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ014MDNEBC	⑩-4
	For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJ014MDNEBC	⑩-17
Point solid dies		HSS	1 2 15 16 18 19	DPO	S5	38	13	1.5P	PYJ014MTNEBA	⑩-37
	Oversize	HSS	1 2 15 16 18 19	DPO	S2	38	13	1.5P	PYJ014MQNEBA	⑩-37
Dies / M14 × 0.75										
Solid dies		HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ014JDNEBC	⑩-4
Dies / M14 × 0.5										
Solid dies		HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ014GDNEBC	⑩-4

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ M15 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ015QDNEBC	⑩-4
Dies ／ M15 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ015ODNEBC	⑩-4
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJ015ODNEBC	⑩-17
Point solid dies	HSS	1 2 15 16 18 19	DPO	S4	38	13	1.5P	PYJ015OSNEBA	⑩-37
Oversize	HSS	1 2 15 16 18 19	DPO	S2	38	13	1.5P	PYJ015OQNEBA	⑩-37
Dies ／ M15 × 1.25									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ015NDNEBC	⑩-4
Dies ／ M15 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ015MDNEBC	⑩-4
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJ015MDNEBC	⑩-17
Point solid dies	HSS	1 2 15 16 18 19	DPO	S5	38	13	1.5P	PYJ015MTNEBA	⑩-37
Oversize	HSS	1 2 15 16 18 19	DPO	S2	38	13	1.5P	PYJ015MQNEBA	⑩-37
Dies ／ M15 × 0.75									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ015JDNEBC	⑩-4
Dies ／ M15 × 0.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ015GDNEBC	⑩-4
Dies ／ M16 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ016QDNEBC	⑩-4
					50	16		TYM016QDNEBC	⑩-4
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJ016QDNEBC	⑩-17
					50	16		GYM016QDNEBC	⑩-17
Point solid dies	HSS	1 2 15 16 18 19	DPO	S4	38	13	1.5P	PYJ016QSNEBA	⑩-37
					50	16		PYM016QSNEBA	⑩-37
Oversize	HSS	1 2 15 16 18 19	DPO	S2	38	13	1.5P	PYJ016QQNEBA	⑩-37
					50	16		PYM016QQNEBA	⑩-37
Dies ／ M16 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ016ODNEBC	⑩-4
					50	16		TYM016ODNEBC	⑩-4
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJ016ODNEBC	⑩-17
					50	16		GYM016ODNEBC	⑩-17
Point solid dies	HSS	1 2 15 16 18 19	DPO	S4	38	13	1.5P	PYJ016OSNEBA	⑩-37
					50	16		PYM016OSNEBA	⑩-37
Oversize	HSS	1 2 15 16 18 19	DPO	S2	38	13	1.5P	PYJ016OQNEBA	⑩-37
					50	16		PYM016OQNEBA	⑩-37

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ M16 × 1.25									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ016NDNEBC	⑩-5
Dies ／ M16 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ016MDNEBC	⑩-5
					50	16		TYM016MDNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJ016MDNEBC	⑩-17
					50	16		GYM016MDNEBC	⑩-17
Point solid dies	HSS	1 2 15 16 18 19	DPO	S5	38	13	1.5P	PYJ016MTNEBA	⑩-37
					50	16		PYM016MTNEBA	⑩-37
Oversize	HSS	1 2 15 16 18 19	DPO	S2	38	13	1.5P	PYJ016MQNEBA	⑩-37
					50	16		PYM016MQNEBA	⑩-37
Dies ／ M16 × 0.75									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ016JDNEBC	⑩-5
Dies ／ M16 × 0.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJ016GDNEBC	⑩-5
Dies ／ M17 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM017QDNEBC	⑩-5
Dies ／ M17 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM017ODNEBC	⑩-5
Point solid dies	HSS	1 2 15 16 18 19	DPO	S4	50	16	1.5P	PYM017OSNEBA	⑩-37
Oversize	HSS	1 2 15 16 18 19	DPO	S2	50	16	1.5P	PYM017OQNEBA	⑩-37
Dies ／ M17 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM017MDNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYM017MDNEBC	⑩-17
Point solid dies	HSS	1 2 15 16 18 19	DPO	S5	50	16	1.5P	PYM017MTNEBA	⑩-37
Oversize	HSS	1 2 15 16 18 19	DPO	S2	50	16	1.5P	PYM017MQNEBA	⑩-37
Dies ／ M17 × 0.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM017GDNEBC	⑩-5
Dies ／ M18 × 2.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM018RDNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYM018RDNEBC	⑩-17
Point solid dies	HSS	1 2 15 16 18 19	DPO	S5	50	16	1.5P	PYM018RTNEBA	⑩-37
Oversize	HSS	1 2 15 16 18 19	DPO	S2	50	16	1.5P	PYM018RQNEBA	⑩-37
Dies ／ M18 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM018QDNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYM018QDNEBC	⑩-17
Point solid dies	HSS	1 2 15 16 18 19	DPO	S4	50	16	1.5P	PYM018QSNEBA	⑩-37
Oversize	HSS	1 2 15 16 18 19	DPO	S2	50	16	1.5P	PYM018QQNEBA	⑩-37

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies / M18 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM018ODNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYM018ODNEBC	⑩-17
Point solid dies	HSS	1 2 15 16 18 19	DPO	S4	50	16	1.5P	PYM018OSNEBA	⑩-37
Oversize	HSS	1 2 15 16 18 19	DPO	S2	50	16	1.5P	PYM018OQNEBA	⑩-37
Dies / M18 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM018MDNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYM018MDNEBC	⑩-17
Point solid dies	HSS	1 2 15 16 18 19	DPO	S5	50	16	1.5P	PYM018MTNEBA	⑩-37
Oversize	HSS	1 2 15 16 18 19	DPO	S2	50	16	1.5P	PYM018MQNEBA	⑩-37
Dies / M18 × 0.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM018GDNEBC	⑩-5
Dies / M19 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM019ODNEBC	⑩-5
Dies / M19 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM019MDNEBC	⑩-5
Dies / M20 × 2.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM020RDNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYM020RDNEBC	⑩-17
Point solid dies	HSS	1 2 15 16 18 19	DPO	S5	50	16	1.5P	PYM020RTNEBA	⑩-37
Oversize	HSS	1 2 15 16 18 19	DPO	S2	50	16	1.5P	PYM020RQNEBA	⑩-37
Dies / M20 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM020QDNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYM020QDNEBC	⑩-17
Point solid dies	HSS	1 2 15 16 18 19	DPO	S4	50	16	1.5P	PYM020QSNEBA	⑩-37
Oversize	HSS	1 2 15 16 18 19	DPO	S2	50	16	1.5P	PYM020QQNEBA	⑩-37
Dies / M20 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM020ODNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYM020ODNEBC	⑩-18
Point solid dies	HSS	1 2 15 16 18 19	DPO	S4	50	16	1.5P	PYM020OSNEBA	⑩-37
Oversize	HSS	1 2 15 16 18 19	DPO	S2	50	16	1.5P	PYM020OQNEBA	⑩-37
Dies / M20 × 1.25									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM020NDNEBC	⑩-5
Dies / M20 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM020MDNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYM020MDNEBC	⑩-18
Point solid dies	HSS	1 2 15 16 18 19	DPO	S5	50	16	1.5P	PYM020MTNEBA	⑩-37
Oversize	HSS	1 2 15 16 18 19	DPO	S2	50	16	1.5P	PYM020MQNEBA	⑩-37
Dies / M20 × 0.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM020GDNEBC	⑩-5

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies / M21 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM021ODNEBC	⑩-5
Dies / M21 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM021MDNEBC	⑩-5
Dies / M22 × 2.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM022RDNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYM022RDNEBC	⑩-18
Point solid dies	HSS	1 2 15 16 18 19	DPO	S5	50	16	1.5P	PYM022RTNEBA	⑩-37
Oversize	HSS	1 2 15 16 18 19	DPO	S2	50	16	1.5P	PYM022RQNEBA	⑩-37
Dies / M22 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM022QDNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYM022QDNEBC	⑩-18
Point solid dies	HSS	1 2 15 16 18 19	DPO	S4	50	16	1.5P	PYM022QSNEBA	⑩-37
Oversize	HSS	1 2 15 16 18 19	DPO	S2	50	16	1.5P	PYM022QQNEBA	⑩-37
Dies / M22 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM022ODNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYM022ODNEBC	⑩-18
Point solid dies	HSS	1 2 15 16 18 19	DPO	S4	50	16	1.5P	PYM022OSNEBA	⑩-38
Oversize	HSS	1 2 15 16 18 19	DPO	S2	50	16	1.5P	PYM022OQNEBA	⑩-38
Dies / M22 × 1.25									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM022NDNEBC	⑩-5
Point solid dies	HSS	1 2 15 16 18 19	DPO	S4	50	16	1.5P	PYM022NSNEBA	⑩-38
Oversize	HSS	1 2 15 16 18 19	DPO	S2	50	16	1.5P	PYM022NQNEBA	⑩-38
Dies / M22 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM022MDNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYM022MDNEBC	⑩-18
Point solid dies	HSS	1 2 15 16 18 19	DPO	S5	50	16	1.5P	PYM022MTNEBA	⑩-38
Oversize	HSS	1 2 15 16 18 19	DPO	S2	50	16	1.5P	PYM022MQNEBA	⑩-38
Dies / M22 × 0.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM022GDNEBC	⑩-5
Dies / M23 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM023ODNEBC	⑩-5
Dies / M23 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM023MDNEBC	⑩-5
Dies / M24 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM024SDNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYM024SDNEBC	⑩-18
Point solid dies	HSS	1 2 15 16 18 19	DPO	S5	50	16	1.5P	PYM024STNEBA	⑩-38
Oversize	HSS	1 2 15 16 18 19	DPO	S2	50	16	1.5P	PYM024SQNEBA	⑩-38

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*D*s	ℓc

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ M24 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM024QDNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYM024QDNEBC	⑩-18
Point solid dies	HSS	1 2 15 16 18 19	DPO	S5	50	16	1.5P	PYM024QTNEBA	⑩-38
Oversize	HSS	1 2 15 16 18 19	DPO	S2	50	16	1.5P	PYM024QQNEBA	⑩-38
Dies ／ M24 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM024ODNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYM024ODNEBC	⑩-18
Point solid dies	HSS	1 2 15 16 18 19	DPO	S4	50	16	1.5P	PYM024OSNEBA	⑩-38
Oversize	HSS	1 2 15 16 18 19	DPO	S2	50	16	1.5P	PYM024OQNEBA	⑩-38
Dies ／ M24 × 1.25									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM024NDNEBC	⑩-5
Dies ／ M24 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM024MDNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYM024MDNEBC	⑩-18
Point solid dies	HSS	1 2 15 16 18 19	DPO	S6	50	16	1.5P	PYM024MUNEBA	⑩-38
Oversize	HSS	1 2 15 16 18 19	DPO	S2	50	16	1.5P	PYM024MQNEBA	⑩-38

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ M25 × 3									
Standard	1 2 3	HT	TNMS025S5	HT	P4	125	19	5P	④-14
			TNMS025S1					1.5P	④-14
For left hand threads	1 2 3	HT LH	TNMS025S5-L	HT	P4	125	19	5P	④-69
			TNMS025S1-L					1.5P	④-69
Taps ／ M25 × 2									
Standard	2 3	SP	SPR025Q	SP	P3	125	19	2.5P	①-44
		PO	POS025Q	PO	P4			5P	③-18
	1 2 3	HT	TNMS025Q5	HT	P4	125	19	5P	④-14
			TNMS025Q1					1.5P	④-14
For left hand threads	1 2 3	HT LH	TNMS025Q5-L	HT	P4	125	19	5P	④-69
			TNMS025Q1-L					1.5P	④-69
Nut taps	1 2	NT	NH2025Q	HT	II	240	20	25P	⑦-28
Taps ／ M25 × 1.5									
Standard	2 3	SP	SPR025O	SP	P3	125	19	2.5P	①-44
		PO	POS025O	PO	P4			5P	③-18
	1 2 3	HT	TNMR025O5	HT	P3	125	19	5P	④-14
			TNMR025O1					1.5P	④-14
For left hand threads	1 2 3	HT LH	TNMR025O5-L	HT	P3	125	19	5P	④-69
			TNMR025O1-L					1.5P	④-69
Oxidizing	1 2 3	PO OX	POS025OX	PO	P4	125	19	5P	③-37
For high carbon steels	2 3	HC-SP	SCMR025O	SP	P3	125	19	2.5P	①-137
Nut taps	1 2	NT	NH2025O	HT	II	220	20	25P	⑦-28
Taps ／ M25 × 1									
Standard	2 3	SP	SPQ025M	SP	P2	125	19	2.5P	①-44
		PO	POR025M	PO	P3			5P	③-18
	1 2 3	HT	TNMR025M5	HT	P3	125	19	5P	④-14
			TNMR025M1					1.5P	④-14
For left hand threads	1 2 3	HT LH	TNMR025M5-L	HT	P3	125	19	5P	④-69
			TNMR025M1-L					1.5P	④-69
Taps ／ M25 × 0.75									
Standard	1 2 3	HT	TNMR025J5	HT	P3	125	19	5P	④-14
			TNMR025J1					1.5P	④-14
Taps ／ M26 × 3									
Standard	2 3	SP	SPR026S	SP	P3	130	20	2.5P	①-44
		PO	POS026S	PO	P4			5P	③-18
	1 2 3	HT	TNMS026S5	HT	P4	130	20	5P	④-14
			TNMS026S1					1.5P	④-14
Oxidizing	1 2 3	PO OX	POS026SX	PO	P4	130	20	5P	③-37

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ M26 × 2									
Standard	2 3	SP	SPR026Q	SP	P3	130	20	2.5P	①-44
		PO	POS026Q	PO	P4			5P	③-18
	1 2 3	HT	TNMS026Q5	HT	P4	130	20	5P	④-14
			TNMS026Q1					1.5P	④-14
For left hand threads	1 2 3	HT LH	TNMS026Q5-L	HT	P4	130	20	5P	④-69
			TNMS026Q1-L					1.5P	④-69
Taps ／ M26 × 1.5									
Standard	2 3	SP	SPR026O	SP	P3	130	20	2.5P	①-44
		PO	POS026O	PO	P4			5P	③-18
	1 2 3	HT	TNMR026O5	HT	P3	130	20	5P	④-14
			TNMR026O1					1.5P	④-14
For left hand threads	1 2 3	HT LH	TNMR026O5-L	HT	P3	130	20	5P	④-69
			TNMR026O1-L					1.5P	④-69
For high carbon steels	2 3	HC-SP	SCMR026O	SP	P3	130	20	2.5P	①-137
Nut taps	1 2	NT	NH2026O	HT	II	230	20	25P	⑦-28
Taps ／ M26 × 1									
Standard	2 3	SP	SPQ026M	SP	P2	130	20	2.5P	①-44
		PO	POR026M	PO	P3			5P	③-18
	1 2 3	HT	TNMR026M5	HT	P3	130	20	5P	④-14
			TNMR026M1					1.5P	④-14
For left hand threads	1 2 3	HT LH	TNMR026M5-L	HT	P3	130	20	5P	④-69
			TNMR026M1-L					1.5P	④-69
Taps ／ M27 × 3									
Standard	2 3	SP	SPR027S	SP	P3	130	20	2.5P	①-44
		PO	POS027S	PO	P4			5P	③-18
	1 2 3	HT	TNMS027S5	HT	P4	130	20	5P	④-14
			TNMS027S1					1.5P	④-14
For left hand threads	2 3	SP LH	SPR027S–L	SP	P3	130	20	2.5P	①-82
		PO LH	POS027S–L	PO	P4			5P	③-49
	1 2 3	HT LH	TNMS027S5-L	HT	P4	130	20	5P	④-69
			TNMS027S1-L					1.5P	④-69
Oxidizing	1 2 3	SP OX	SPR027SX	SP	P3	130	20	2.5P	①-68
		PO OX	POS027SX	PO	P4			5P	③-37
Long	2 3	LS-SP	SPR027SL20	SP	P3	200	20	2.5P	①-94
			SPR027SL25			250			①-94
		LS-PO	POS027SL20	PO	P4	200		5P	③-55
			POS027SL25			250			③-55
	1 2 3	LS-HT	TNMR027S520	HT	P3	200	20	5P	④-79
			TNMR027S525			250			④-79
			TNMR027S120			200		1.5P	④-79
			TNMR027S125			250			④-79
For left hand threads	1 2 3	LS-HT LH	TNMR027S520L	HT	P3	200	20	5P	④-85
			TNMR027S120L					1.5P	④-85
For steels	1 2 3 4 5 9 11	HVSP	SY027STEEXJ	SP	P5	160	20	2.5P	①-26
For high carbon steels	2 3	HC-SP	SCMR027S	SP	P3	130	20	2.5P	①-137
For hard-to-machine materials	6 10	EH-HT	ETHMT027S5	HT	P5	130	20	5P	④-125
			ETHMT027S1					2.5P	④-125

Think threads with YAMAWA

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Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For hard-to-machine materials	Powdered HSS	3 5 6	PM-SP	SY027SSDPB	SP	P4	130	20	2.75P	①-175
			LS-PM-SP	SY027SSDPBK			200			①-182
			PM-PO	PY027STDPB	PO	P5	130		5.5P	③-99
			LS-PM-PO	PY027STDPBK			200			③-105
For titanium alloys		22	ZET-B	ZETBMS027S	SP	P4	130	20	3P	①-158
For stainless steels		2 3 4 9	SU-SP	SUMR027S	SP	P3	130	20	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMS027S	PO	P4	130	20	5P	③-64
		1 2 9	SU-HT	TUMS027S4	HT	P4	130	20	4P	④-91
				TUMS027S1					1.5P	④-91
	For deep hole use	1 2 3 4 9	SU-S-SP	SSMR027S-SU	SP	P3	130	20	2.5P	①-123
For high speed	Long	1 2	LS-F-SP	SY027SSFEVKS	SP	P4	200	20	3P	①-189
			LS-F-SL	LY027SSFEVK	SL				5.5P	②-32
For deep hole use		2 3 4 13	S-SP	SSMR027S	SP	P3	130	20	2.5P	①-129
		1 2 3 4	S-PO	PSMS027S	PO	P4	130	20	5P	③-78
With coolant hole		1 2 3 4	MC-SP	(MSHR027SL20)	SP	P3	200	20	2.5P	①-216
				(MSHR027SL25)			250			①-216
			MC-PO	(MPHS027SL20)	PO	P4	200		5P	③-107
				(MPHS027SL25)			250			③-107
		1 2 3	MC-HT	(ML20027S5-R)	HT	P3	200	20	5P	④-139
				(ML25027S5-R)			250			④-139
				(ML20027S1-R)			200		1.5P	④-139
				(ML25027S1-R)			250			④-139
Nut taps		1 2	NT	NH2027S	HT	II b	280	22	27P	⑦-28
Taps ／ M27 × 2										
Standard		2 3	SP	SPR027Q	SP	P3	130	20	2.5P	①-44
			PO	POS027Q	PO	P4			5P	③-18
		1 2 3	HT	TNMT027Q5	HT	P5	130	20	5P	④-14
				TNMT027Q1					1.5P	④-14
For left hand threads		1 2 3	HT LH	TNMT027Q5-L	HT	P5	130	20	5P	④-69
				TNMT027Q1-L					1.5P	④-69
Oxidizing		1 2 3	SP OX	SPR027QX	SP	P3	130	20	2.5P	①-68
Long		2 3	LS-SP	SPR027QL20	SP	P3	200	20	2.5P	①-94
				SPR027QL25			250			①-94
			LS-PO	POS027QL25	PO	P4			5P	③-55
		1 2 3	LS-HT	TNMR027Q520	HT	P3	200	20	5P	④-79
				TNMR027Q525			250			④-79
				TNMR027Q120			200		1.5P	④-79
				TNMR027Q125			250			④-79
For deep hole use		2 3 4 13	S-SP	SSMR027Q	SP	P3	130	20	2.5P	①-129
Nut taps		1 2	NT	NH2027Q	HT	II	250	22	25P	⑦-28
Taps ／ M27 × 1.5										
Standard		2 3	SP	SPR027O	SP	P3	130	20	2.5P	①-44
			PO	POS027O	PO	P4			5P	③-18
		1 2 3	HT	TNMR027O5	HT	P3	130	20	5P	④-14
				TNMR027O1					1.5P	④-14
For left hand threads		2 3	SP LH	SPR027O–L	SP	P3	130	20	2.5P	①-82
			PO LH	POS027O--L	PO	P4			5P	③-49
		1 2 3	HT LH	TNMR027O5-L	HT	P3	130	20	5P	④-69
				TNMR027O1-L					1.5P	④-69

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Long		2 3	LS-SP	SPR027OL20	SP	P3	200	20	2.5P	①-94
				SPR027OL25			250			①-94
			LS-PO	POS027OL20	PO	P4	200		5P	③-55
				POS027OL25			250			③-55
		1 2 3	LS-HT	TNMR027O520	HT	P3	200	20	5P	④-79
				TNMR027O525			250			④-79
				TNMR027O120			200		1.5P	④-79
				TNMR027O125			250			④-79
	For left hand threads	1 2 3	LS-HT LH	TNMR027O520L	HT	P3	200	20	5P	④-85
				TNMR027O120L					1.5P	④-85
For steels		1 2 3 4 5 9 11	HVSP	SY027OTEEXJ	SP	P5	160	20	2.5P	①-26
For high carbon steels		2 3	HC-SP	SCMR027O	SP	P3	130	20	2.5P	①-137
For hard-to-machine materials	Powdered HSS	3 5 6	PM-SP	SY027OSDPB	SP	P4	130	20	2.75P	①-175
			LS-PM-SP	SY027OSDPBK			200			①-182
			PM-PO	PY027OSDPB	PO		130		5.5P	③-99
			LS-PM-PO	PY027OSDPBK			200			③-105
For stainless steels		2 3 4 9	SU-SP	SUMR027O	SP	P3	130	20	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMS027O	PO	P4	130	20	5P	③-64
		1 2 9	SU-HT	TUMS027O4	HT	P4	130	20	4P	④-91
				TUMS027O1					1.5P	④-91
For deep hole use		2 3 4 13	S-SP	SSMR027O	SP	P3	130	20	2.5P	①-129
		1 2 3 4	S-PO	PSMS027O	PO	P4	130	20	5P	③-78
With coolant hole		1 2 3 4	MC-SP	(MSHR027OL20)	SP	P3	200	20	2.5P	①-216
				(MSHR027OL25)			250			①-216
			MC-PO	(MPHS027OL20)	PO	P4	200		5P	③-107
				(MPHS027OL25)			250			③-107
		1 2 3	MC-HT	(ML20027O5-R)	HT	P3	200	20	5P	④-139
				(ML25027O5-R)			250			④-139
				(ML20027O1-R)			200		1.5P	④-139
				(ML25027O1-R)			250			④-139
Nut taps		1 2	NT	NH2027O	HT	II	230	22	25P	⑦-28
Taps ／ M27 × 1										
Standard		2 3	SP	SPQ027M	SP	P2	130	20	2.5P	①-44
			PO	POR027M	PO	P3			5P	③-18
		1 2 3	HT	TNMR027M5	HT	P3	130	20	5P	④-14
				TNMR027M1					1.5P	④-14
For left hand threads		1 2 3	HT LH	TNMR027M5-L	HT	P3	130	20	5P	④-69
				TNMR027M1-L					1.5P	④-69
Taps ／ M27 × 0.75										
Standard		1 2 3	HT	TNMR027J5	HT	P3	130	20	5P	④-14
				TNMR027J1					1.5P	④-14
Taps ／ M28 × 3										
Standard		1 2 3	HT	TNMS028S5	HT	P4	135	23	5P	④-14
				TNMS028S1					1.5P	④-14

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ M28 × 2										
Standard		2 3	SP	SPR028Q	SP	P3	135	23	2.5P	①-44
			PO	POS028Q	PO	P4			5P	③-18
		1 2 3	HT	TNMS028Q5	HT	P4	135	23	5P	④-14
				TNMS028Q1					1.5P	④-14
For left hand threads		1 2 3	HT LH	TNMS028Q5-L	HT	P4	135	23	5P	④-69
				TNMS028Q1-L					1.5P	④-69
Taps ／ M28 × 1.5										
Standard		2 3	SP	SPR028O	SP	P3	135	23	2.5P	①-44
			PO	POS028O	PO	P4			5P	③-18
		1 2 3	HT	TNMR028O5	HT	P3	135	23	5P	④-14
				TNMR028O1					1.5P	④-14
For left hand threads		1 2 3	HT LH	TNMR028O5-L	HT	P3	135	23	5P	④-69
				TNMR028O1-L					1.5P	④-69
Oxidizing		1 2 3	SP OX	SPR028OX	SP	P3	135	23	2.5P	①-68
For high carbon steels		2 3	HC-SP	SCMR028O	SP	P3	135	23	2.5P	①-137
Nut taps		1 2	NT	NH2028O	HT	II	240	22	25P	⑦-28
Taps ／ M28 × 1										
Standard		2 3	SP	SPQ028M	SP	P2	135	23	2.5P	①-44
			PO	POR028M	PO	P3			5P	③-18
		1 2 3	HT	TNMR028M5	HT	P3	135	23	5P	④-14
				TNMR028M1					1.5P	④-14
For left hand threads		1 2 3	HT LH	TNMR028M5-L	HT	P3	135	23	5P	④-69
				TNMR028M1-L					1.5P	④-69
Taps ／ M29 × 1.5										
Standard		1 2 3	HT	TNMR029O5	HT	P3	135	23	5P	④-14
				TNMR029O1					1.5P	④-14
Taps ／ M30 × 3.5										
Standard		2 3	SP	SPS030T	SP	P4	135	23	2.5P	①-44
			PO	POT030T	PO	P5			5P	③-18
		1 2 3	HT	TNMS030T5	HT	P4	135	23	5P	④-14
				TNMS030T1					1.5P	④-14
For left hand threads		2 3	SP LH	SPS030T–L	SP	P4	135	23	2.5P	①-82
			PO LH	POT030T–L	PO	P5			5P	③-49
		1 2 3	HT LH	TNMS030T5-L	HT	P4	135	23	5P	④-69
				TNMS030T1-L					1.5P	④-69
Oxidizing		1 2 3	SP OX	SPS030TX	SP	P4	135	23	2.5P	①-68
			PO OX	POT030TX	PO	P5			5P	③-37
Long		2 3	LS-SP	SPS030TL20	SP	P4	200	23	2.5P	①-94
				SPS030TL25			250			①-94
				SPS030TL30			300			①-94
			LS-PO	POT030TL20	PO	P5	200		5P	③-55
				POT030TL25			250			③-55
				POT030TL30			300			③-55
Long		1 2 3	LS-HT	TNMS030T520	HT	P4	200	23	5P	④-79
				TNMS030T525			250			④-79
				TNMS030T530			300			④-79
				TNMS030T120			200		1.5P	④-79
				TNMS030T125			250			④-79
				TNMS030T130			300			④-79
	For left hand threads	1 2 3	LS-HT LH	TNMS030T520L	HT	P4	200	23	5P	④-85
				TNMS030T525L			250			④-85
				TNMS030T120L			200		1.5P	④-85
				TNMS030T125L			250			④-85
For steels		1 2 3 4 5 9 11	HVSP	SY030TUEEXJ	SP	P6	180	23	2.5P	①-26
For high carbon steels		2 3	HC-SP	SCMS030T	SP	P4	135	23	2.5P	①-137
For hard-to-machine materials		6 10	EH-HT	ETHMT030T5	HT	P5	135	23	5P	④-125
				ETHMT030T1					2.5P	④-125
	Powdered HSS	3 5 6	PM-SP	SY030TSDPB	SP	P4	135	23	2.75P	①-175
			LS-PM-SP	SY030TSDPBK			200			①-182
			PM-PO	PY030TTDPB	PO	P5	135		5.5P	③-99
			LS-PM-PO	PY030TTDPBK			200			③-105
For titanium alloys		22	ZET-B	ZETBMT030T	SP	P5	135	23	3P	①-158
For stainless steels		2 3 4 9	SU-SP	SUMS030T	SP	P4	135	23	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMT030T	PO	P5	135	23	5P	③-64
		1 2 9	SU-HT	TUMT030T4	HT	P5	135	23	4P	④-91
				TUMT030T1					1.5P	④-91
	For deep hole use	1 2 3 4 9	SU-S-SP	SSMS030T-SU	SP	P4	135	23	2.5P	①-123
For cast irons	Carbide	12 13 16	N-CT FC	TCNT030T3	HT	P5	135	23	3P	⑤-13
				TCNT030T1					1.5P	⑤-13
For high speed	Long	1 2	LS-F-SP	SY030TTFEVKS	SP	P5	200	23	3P	①-189
			LS-F-SL	LY030TTFEVK	SL				5.5P	②-32
For deep hole use		2 3 4 13	S-SP	SSMS030T	SP	P4	135	23	2.5P	①-129
		1 2 3 4	S-PO	PSMT030T	PO	P5	135	23	5P	③-78
With coolant hole		1 2 3 4	MC-SP	(MSHS030TL20)	SP	P4	200	23	2.5P	①-216
				(MSHS030TL25)			250			①-216
			MC-PO	(MPHT030TL20)	PO	P5	200		5P	③-107
				(MPHT030TL25)			250			③-107
		1 2 3	MC-HT	(ML20030T5-S)	HT	P4	200	23	5P	④-139
				(ML25030T5-S)			250			④-139
				(ML20030T1-S)			200		1.5P	④-139
				(ML25030T1-S)			250			④-139
Nut taps		1 2	NT	NH2030T	HT	II b	300	24	26P	⑦-28
Taps ／ M30 × 3										
Standard		2 3	SP	SPR030S	SP	P3	135	23	2.5P	①-44
			PO	POS030S	PO	P4			5P	③-18
		1 2 3	HT	TNMT030S5	HT	P5	135	23	5P	④-14
				TNMT030S1					1.5P	④-14
For left hand threads		1 2 3	HT LH	TNMT030S5-L	HT	P5	135	23	5P	④-70
				TNMT030S1-L					1.5P	④-70
Oxidizing		1 2 3	SP OX	SPR030SX	SP	P3	135	23	2.5P	①-68
			PO OX	POS030SX	PO	P4			5P	③-37

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Long		2 3	LS-SP	SPR030SL25	SP	P3	250	23	2.5P	①-94
				SPR030SL20			200			①-94
			LS-PO	POS030SL25	PO	P4	250		5P	③-56
		1 2 3	LS-HT	TNMR030S520	HT	P3	200	23	5P	④-79
				TNMR030S525			250			④-79
				TNMR030S120			200		1.5P	④-79
				TNMR030S125			250			④-79
	For left hand threads	1 2 3	LS-HT LH	TNMR030S520L	HT	P3	200	23	5P	④-85
For steels		1 2 3 4 5 9 11	HVSP	SY030SUEEXJ	SP	P6	180	23	2.5P	①-26
For deep hole use		2 3 4 13	S-SP	SSMR030S	SP	P3	135	23	2.5P	①-129
Taps ／ M30 × 2										
Standard		2 3	SP	SPR030Q	SP	P3	135	23	2.5P	①-44
			PO	POS030Q	PO	P4			5P	③-18
		1 2 3	HT	TNMS030Q5	HT	P4	135	23	5P	④-15
				TNMS030Q1					1.5P	④-15
For left hand threads		2 3	SP LH	SPR030Q–L	SP	P3	135	23	2.5P	①-82
		1 2 3	HT LH	TNMS030Q5-L	HT	P4	135	23	5P	④-70
				TNMS030Q1-L					1.5P	④-70
Oxidizing		1 2 3	SP OX	SPR030QX	SP	P3	135	23	2.5P	①-68
Long		2 3	LS-SP	SPR030QL20	SP	P3	200	23	2.5P	①-94
				SPR030QL25			250			①-94
			LS-PO	POS030QL25	PO	P4			5P	③-56
		1 2 3	LS-HT	TNMR030Q520	HT	P3	200	23	5P	④-79
				TNMR030Q525			250			④-79
				TNMR030Q120			200		1.5P	④-79
				TNMR030Q125			250			④-79
	For left hand threads	1 2 3	LS-HT LH	TNMR030Q520L	HT	P3	200	23	5P	④-85
For deep hole use		2 3 4 13	S-SP	SSMR030Q	SP	P3	135	23	2.5P	①-129
Nut taps		1 2	NT	NH2030Q	HT	II	260	24	25P	⑦-28
Taps ／ M30 × 1.5										
Standard		2 3	SP	SPR030O	SP	P3	135	23	2.5P	①-44
			PO	POS030O	PO	P4			5P	③-18
		1 2 3	HT	TNMR030O5	HT	P3	135	23	5P	④-15
				TNMR030O1					1.5P	④-15
For left hand threads		2 3	SP LH	SPR030O–L	SP	P3	135	23	2.5P	①-82
			PO LH	POS030O–L	PO	P4			5P	③-49
		1 2 3	HT LH	TNMR030O5-L	HT	P3	135	23	5P	④-70
				TNMR030O1-L					1.5P	④-70
Oxidizing		1 2 3	SP OX	SPR030OX	SP	P3	135	23	2.5P	①-68
Long		2 3	LS-SP	SPR030OL20	SP	P3	200	23	2.5P	①-94
				SPR030OL25			250			①-94
				SPR030OL30			300			①-94
			LS-PO	POS030OL20	PO	P4	200		5P	③-56
				POS030OL25			250			③-56
		1 2 3	LS-HT	TNMR030O520	HT	P3	200	23	5P	④-80
				TNMR030O525			250			④-80
				TNMR030O120			200		1.5P	④-80
				TNMR030O125			250			④-80
	For left hand threads	1 2 3	LS-HT LH	TNMR030O520L	HT	P3	200	23	5P	④-85
				TNMR030O120L					1.5P	④-85

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
For steels		1 2 3 4 5 9 11	HVSP	SY030OUEEXJ	SP	P6	180	23	2.5P	①-26
For high carbon steels		2 3	HC-SP	SCMR030O	SP	P3	135	23	2.5P	①-137
For hard-to-machine materials	Powdered HSS	3 5 6	PM-SP	SY030OSDPB	SP	P4	135	23	2.75P	①-175
			LS-PM-SP	SY030OSDPBK			200			①-182
			PM-PO	PY030OSDPB	PO		135		5.5P	③-99
			LS-PM-PO	PY030OSDPBK			200			③-105
For stainless steels		2 3 4 9	SU-SP	SUMR030O	SP	P3	135	23	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMS030O	PO	P4	135	23	5P	③-64
		1 2 9	SU-HT	TUMS030O4	HT	P4	135	23	4P	④-91
				TUMS030O1					1.5P	④-91
For deep hole use		2 3 4 13	S-SP	SSMR030O	SP	P3	135	23	2.5P	①-129
		1 2 3 4	S-PO	PSMS030O	PO	P4	135	23	5P	③-78
With coolant hole		1 2 3 4	MC-SP	(MSHR030OL20)	SP	P3	200	23	2.5P	①-216
				(MSHR030OL25)			250			①-216
			MC-PO	(MPHS030OL20)	PO	P4	200		5P	③-107
				(MPHS030OL25)			250			③-107
		1 2 3	MC-HT	(ML20030O5-R)	HT	P3	200	23	5P	④-139
				(ML25030O5-R)			250			④-139
				(ML20030O1-R)			200		1.5P	④-139
				(ML25030O1-R)			250			④-139
Nut taps		1 2	NT	NH2030O	HT	II	240	24	25P	⑦-28
Taps ／ M30 × 1										
Standard		2 3	SP	SPQ030M	SP	P2	135	23	2.5P	①-44
			PO	POR030M	PO	P3			5P	③-18
		1 2 3	HT	TNMR030M5	HT	P3	135	23	5P	④-15
				TNMR030M1					1.5P	④-15
For left hand threads		1 2 3	HT LH	TNMR030M5-L	HT	P3	135	23	5P	④-70
				TNMR030M1-L					1.5P	④-70
Taps ／ M32 × 3.5										
Standard		1 2 3	HT	TNMS032T5	HT	P4	145	24	5P	④-15
				TNMS032T1					1.5P	④-15
Taps ／ M32 × 3										
Standard		2 3	SP	SPMR032S	SP	P3	145	24	2.5P	①-44
			PO	POMS032S	PO	P4			5P	③-18
		1 2 3	HT	TNMT032S5	HT	P5	145	24	5P	④-15
				TNMT032S1					1.5P	④-15
Taps ／ M32 × 2										
Standard		2 3	SP	SPMR032Q	SP	P3	145	24	2.5P	①-44
			PO	POMS032Q	PO	P4			5P	③-18
		1 2 3	HT	TNMS032Q5	HT	P4	145	24	5P	④-15
				TNMS032Q1					1.5P	④-15
For left hand threads		1 2 3	HT LH	TNMS032Q5-L	HT	P4	145	24	5P	④-70
				TNMS032Q1-L					1.5P	④-70
Oxidizing		1 2 3	SP OX	SPMR032QX	SP	P3	145	24	2.5P	①-68
			PO OX	POMS032QX	PO	P4			5P	③-37
For deep hole use		2 3 4 13	S-SP	SSMR032Q	SP	P3	145	24	2.5P	①-129

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ M32 × 1.5									
Standard	2 3	SP	SPMR032O	SP	P3	145	24	2.5P	①-44
		PO	POMS032O	PO	P4			5P	③-18
	1 2 3	HT	TNMS032O5	HT	P4	145	24	5P	④-15
			TNMS032O1					1.5P	④-15
For left hand threads	1 2 3	HT LH	TNMS032O5-L	HT	P4	145	24	5P	④-70
			TNMS032O1-L					1.5P	④-70
Oxidizing	1 2 3	PO OX	POMS032OX	PO	P4	145	24	5P	③-37
For deep hole use	2 3 4 13	S-SP	SSMR032O	SP	P3	145	24	2.5P	①-129
Taps ／ M32 × 1									
Standard	2 3	SP	SPMQ032M	SP	P2	145	24	2.5P	①-44
	1 2 3	HT	TNMR032M5	HT	P3	145	24	5P	④-15
			TNMR032M1					1.5P	④-15
Taps ／ M32 × 0.75									
Standard	1 2 3	HT	TNMR032J5	HT	P3	145	24	5P	④-15
			TNMR032J1					1.5P	④-15
Taps ／ M33 × 3.5									
Standard	2 3	SP	SPMS033T	SP	P4	145	25	2.5P	①-44
		PO	POMT033T	PO	P5			5P	③-18
	1 2 3	HT	TNMS033T5	HT	P4	145	25	5P	④-15
			TNMS033T1					1.5P	④-15
For left hand threads	1 2 3	HT LH	TNMS033T5-L	HT	P4	145	25	5P	④-70
			TNMS033T1-L					1.5P	④-70
Oxidizing	1 2 3	SP OX	SPMS033TX	SP	P4	145	25	2.5P	①-68
		PO OX	POMT033TX	PO	P5			5P	③-37
Long	2 3	LS-SP	SPS033TL25	SP	P4	250	25	2.5P	①-94
			SPS033TL30			300			①-94
	1 2 3	LS-HT	L25033T5-S	HT	P4	250	25	5P	④-80
			L25033T1-S					1.5P	④-80
			L30033T5-S			300		5P	④-80
			L30033T1-S					1.5P	④-80
For steels	1 2 3 4 5 9 11	HVSP	SY033TUEEXJ	SP	P6	180	25	2.5P	①-27
For stainless steels	2 3 4 9	SU-SP	SUMS033T	SP	P4	145	25	2.5P	①-104
	1 2 3 4 9	SU-PO	PUMT033T	PO	P5	145	25	5P	③-64
For deep hole use	1 2 3 4 9	SU-S-SP	SSMS033T-SU	SP	P4	145	25	2.5P	①-123
For deep hole use	2 3 4 13	S-SP	SSMS033T	SP	P4	145	25	2.5P	①-129
	1 2 3 4	S-PO	PSMT033T	PO	P5	145	25	5P	③-78
Nut taps	1 2	NT	NH2033T	HT	II b	310	25	26P	⑦-28
Taps ／ M33 × 3									
Standard	2 3	SP	SPMR033S	SP	P3	145	25	2.5P	①-45
		PO	POMS033S	PO	P4			5P	③-18
	1 2 3	HT	TNMT033S5	HT	P5	145	25	5P	④-15
			TNMT033S1					1.5P	④-15
For left hand threads	1 2 3	HT LH	TNMT033S5-L	HT	P5	145	25	5P	④-70
			TNMT033S1-L					1.5P	④-70
Oxidizing	1 2 3	PO OX	POMS033SX	PO	P4	145	25	5P	③-37

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Long	1 2 3	LS-HT	L25033S5-R	HT	P3	250	25	5P	④-80
			L25033S1-R					1.5P	④-80
For steels	1 2 3 4 5 9 11	HVSP	SY033SUEEXJ	SP	P6	180	25	2.5P	①-27
For deep hole use	2 3 4 13	S-SP	SSMR033S	SP	P3	145	25	2.5P	①-129
Taps ／ M33 × 2									
Standard	2 3	SP	SPMR033Q	SP	P3	145	25	2.5P	①-45
		PO	POMS033Q	PO	P4			5P	③-18
	1 2 3	HT	TNMS033Q5	HT	P4	145	25	5P	④-15
			TNMS033Q1					1.5P	④-15
For left hand threads	1 2 3	HT LH	TNMS033Q5-L	HT	P4	145	25	5P	④-70
			TNMS033Q1-L					1.5P	④-70
Long	1 2 3	LS-HT	L25033Q5-R	HT	P3	250	25	5P	④-80
			L25033Q1-R					1.5P	④-80
For deep hole use	2 3 4 13	S-SP	SSMR033Q	SP	P3	145	25	2.5P	①-129
Taps ／ M33 × 1.5									
Standard	2 3	SP	SPMR033O	SP	P3	145	25	2.5P	①-45
		PO	POMS033O	PO	P4			5P	③-18
	1 2 3	HT	TNMS033O5	HT	P4	145	25	5P	④-15
			TNMS033O1					1.5P	④-15
For left hand threads	1 2 3	HT LH	TNMS033O5-L	HT	P4	145	25	5P	④-70
			TNMS033O1-L					1.5P	④-70
Long	1 2 3	LS-HT	L25033O5-R	HT	P3	250	25	5P	④-80
			L25033O1-R					1.5P	④-80
For deep hole use	2 3 4 13	S-SP	SSMR033O	SP	P3	145	25	2.5P	①-129
Taps ／ M33 × 1									
Standard	2 3	SP	SPMQ033M	SP	P2	145	25	2.5P	①-45
	1 2 3	HT	TNMR033M5	HT	P3	145	25	5P	④-15
			TNMR033M1					1.5P	④-15
Taps ／ M34 × 3									
Standard	2 3	SP	SPMR034S	SP	P3	155	28	2.5P	①-45
	1 2 3	HT	TNMT034S5	HT	P5	155	28	5P	④-15
			TNMT034S1					1.5P	④-15
Taps ／ M34 × 2									
Standard	2 3	SP	SPMR034Q	SP	P3	155	28	2.5P	①-45
		PO	POMS034Q	PO	P4			5P	③-18
	1 2 3	HT	TNMS034Q5	HT	P4	155	28	5P	④-15
			TNMS034Q1					1.5P	④-15
For left hand threads	1 2 3	HT LH	TNMS034Q5-L	HT	P4	155	28	5P	④-70
			TNMS034Q1-L					1.5P	④-70
Taps ／ M34 × 1.5									
Standard	2 3	SP	SPMR034O	SP	P3	155	28	2.5P	①-45
		PO	POMS034O	PO	P4			5P	③-18
	1 2 3	HT	TNMS034O5	HT	P4	155	28	5P	④-15
			TNMS034O1					1.5P	④-15
For left hand threads	1 2 3	HT LH	TNMS034O5-L	HT	P4	155	28	5P	④-70
			TNMS034O1-L					1.5P	④-70

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ M34 × 1									
Standard	2 3	SP	SPMQ034M	SP	P2	155	28	2.5P	①-45
	1 2 3	HT	TNMR034M5	HT	P3	155	28	5P	④-15
			TNMR034M1					1.5P	④-15
Taps ／ M35 × 3									
Standard	2 3	SP	SPMR035S	SP	P3	155	28	2.5P	①-45
	1 2 3	HT	TNMT035S5	HT	P5	155	28	5P	④-15
			TNMT035S1					1.5P	④-15
Taps ／ M35 × 2									
Standard	2 3	SP	SPMR035Q	SP	P3	155	28	2.5P	①-45
		PO	POMS035Q	PO	P4			5P	③-18
	1 2 3	HT	TNMT035Q5	HT	P5	155	28	5P	④-15
			TNMT035Q1					1.5P	④-15
For left hand threads	1 2 3	HT LH	TNMT035Q5-L	HT	P5	155	28	5P	④-70
			TNMT035Q1-L					1.5P	④-70
For deep hole use	2 3 4 13	S-SP	SSMR035Q	SP	P3	155	28	2.5P	①-129
Taps ／ M35 × 1.5									
Standard	2 3	SP	SPMR035O	SP	P3	155	28	2.5P	①-45
		PO	POMS035O	PO	P4			5P	③-18
	1 2 3	HT	TNMS035O5	HT	P4	155	28	5P	④-15
			TNMS035O1					1.5P	④-15
For left hand threads	1 2 3	HT LH	TNMS035O5-L	HT	P4	155	28	5P	④-70
			TNMS035O1-L					1.5P	④-70
For deep hole use	2 3 4 13	S-SP	SSMR035O	SP	P3	155	28	2.5P	①-129
Taps ／ M35 × 1									
Standard	2 3	SP	SPMQ035M	SP	P2	155	28	2.5P	①-45
	1 2 3	HT	TNMR035M5	HT	P3	155	28	5P	④-15
			TNMR035M1					1.5P	④-15
Taps ／ M36 × 4									
Standard	2 3	SP	SPMS036U	SP	P4	155	28	2.5P	①-45
		PO	POMT036U	PO	P5			5P	③-18
	1 2 3	HT	TNMT036U5	HT	P5	155	28	5P	④-15
			TNMT036U1					1.5P	④-15
For left hand threads	1 2 3	HT LH	TNMT036U5-L	HT	P5	155	28	5P	④-70
			TNMT036U1-L					1.5P	④-70
Oxidizing	1 2 3	SP OX	SPMS036UX	SP	P4	155	28	2.5P	①-68
		PO OX	POMT036UX	PO	P5			5P	③-37
Long	2 3	LS-SP	SPS036UL25	SP	P4	250	28	2.5P	①-94
			SPS036UL30			300			①-94
	1 2 3	LS-HT	L25036U5-S	HT	P4	250	28	5P	④-80
			L30036U5-S			300			④-80
			L25036U1-S			250		1.5P	④-80
			L30036U1-S			300			④-80
For steels	1 2 3 4 5 9 11	HVSP	SY036UUEEXJ	SP	P6	200	28	2.5P	①-27
For stainless steels	2 3 4 9	SU-SP	SUMS036U	SP	P4	155	28	2.5P	①-104
	1 2 3 4 9	SU-PO	PUMT036U	PO	P5	155	28	5P	③-64
For deep hole use	1 2 3 4 9	SU-S-SP	SSMS036U-SU	SP	P4	155	28	2.5P	①-123
For deep hole use	2 3 4 13	S-SP	SSMS036U	SP	P4	155	28	2.5P	①-129
	1 2 3 4	S-PO	PSMT036U	PO	P5	155	28	5P	③-78
Nut taps	1 2	NT	NH2036U	HT	II b	330	28	26P	⑦-28
Taps ／ M36 × 3									
Standard	2 3	SP	SPMR036S	SP	P3	155	28	2.5P	①-45
		PO	POMS036S	PO	P4			5P	③-18
	1 2 3	HT	TNMT036S5	HT	P5	155	28	5P	④-15
			TNMT036S1					1.5P	④-15
For left hand threads	1 2 3	HT LH	TNMT036S5-L	HT	P5	155	28	5P	④-70
			TNMT036S1-L					1.5P	④-70
Oxidizing	1 2 3	PO OX	POMS036SX	PO	P4	155	28	5P	③-37
Long	1 2 3	LS-HT	L25036S5-R	HT	P3	250	28	5P	④-80
			L25036S1-R					1.5P	④-80
For steels	1 2 3 4 5 9 11	HVSP	SY036SUEEXJ	SP	P6	200	28	2.5P	①-27
For deep hole use	2 3 4 13	S-SP	SSMR036S	SP	P3	155	28	2.5P	①-129
Taps ／ M36 × 2									
Standard	2 3	SP	SPMR036Q	SP	P3	155	28	2.5P	①-45
		PO	POMS036Q	PO	P4			5P	③-18
	1 2 3	HT	TNMS036Q5	HT	P4	155	28	5P	④-15
			TNMS036Q1					1.5P	④-15
For left hand threads	1 2 3	HT LH	TNMS036Q5-L	HT	P4	155	28	5P	④-70
			TNMS036Q1-L					1.5P	④-70
Long	1 2 3	LS-HT	L25036Q5-R	HT	P3	250	28	5P	④-80
			L25036Q1-R					1.5P	④-80
For deep hole use	2 3 4 13	S-SP	SSMR036Q	SP	P3	155	28	2.5P	①-129
Taps ／ M36 × 1.5									
Standard	2 3	SP	SPMR036O	SP	P3	155	28	2.5P	①-45
		PO	POMS036O	PO	P4			5P	③-18
	1 2 3	HT	TNMS036O5	HT	P4	155	28	5P	④-16
			TNMS036O1					1.5P	④-16
For left hand threads	1 2 3	HT LH	TNMS036O5-L	HT	P4	155	28	5P	④-70
			TNMS036O1-L					1.5P	④-70
Long	1 2 3	LS-HT	L25036O5-R	HT	P3	250	28	5P	④-80
			L25036O1-R					1.5P	④-80
For deep hole use	2 3 4 13	S-SP	SSMR036O	SP	P3	155	28	2.5P	①-129
Taps ／ M36 × 1									
Standard	2 3	SP	SPMQ036M	SP	P2	155	28	2.5P	①-45
	1 2 3	HT	TNMR036M5	HT	P3	155	28	5P	④-16
			TNMR036M1					1.5P	④-16
Taps ／ M37 × 1.5									
Standard	1 2 3	HT	TNMS037O5	HT	P4	165	30	5P	④-16
			TNMS037O1					1.5P	④-16

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ M38 × 3									
Standard	2 3	SP	SPMR038S	SP	P3	165	30	2.5P	①-45
	1 2 3	HT	TNMT038S5	HT	P5	165	30	5P	④-16
			TNMT038S1					1.5P	④-16
Taps ／ M38 × 2									
Standard	2 3	SP	SPMR038Q	SP	P3	165	30	2.5P	①-45
		PO	POMS038Q	PO	P4			5P	③-18
	1 2 3	HT	TNMS038Q5	HT	P4	165	30	5P	④-16
			TNMS038Q1					1.5P	④-16
For left hand threads	1 2 3	HT LH	TNMS038Q5-L	HT	P4	165	30	5P	④-70
			TNMS038Q1-L					1.5P	④-70
Taps ／ M38 × 1.5									
Standard	2 3	SP	SPMR038O	SP	P3	165	30	2.5P	①-45
		PO	POMS038O	PO	P4			5P	③-18
	1 2 3	HT	TNMS038O5	HT	P4	165	30	5P	④-16
			TNMS038O1					1.5P	④-16
For left hand threads	1 2 3	HT LH	TNMS038O5-L	HT	P4	165	30	5P	④-70
			TNMS038O1-L					1.5P	④-70
Taps ／ M38 × 1									
Standard	1 2 3	HT	TNMR038M5	HT	P3	165	30	5P	④-16
			TNMR038M1					1.5P	④-16
Taps ／ M39 × 4									
Standard	2 3	SP	SPMS039U	SP	P4	165	30	2.5P	①-45
		PO	POMT039U	PO	P5			5P	③-18
	1 2 3	HT	TNMT039U5	HT	P5	165	30	5P	④-16
			TNMT039U1					1.5P	④-16
For left hand threads	1 2 3	HT LH	TNMT039U5-L	HT	P5	165	30	5P	④-70
			TNMT039U1-L					1.5P	④-70
Long	1 2 3	LS-HT	L30039U5-S	HT	P4	300	30	5P	④-80
			L30039U1-S					1.5P	④-80
			L25039U5-S			250		5P	④-80
			L25039U1-S					1.5P	④-80
For steels	1 2 3 4 5 9 11	HVSP	SY039UUEEXJ	SP	P6	200	30	2.5P	①-27
For stainless steels	2 3 4 9	SU-SP	SUMS039U	SP	P4	165	30	2.5P	①-104
	1 2 3 4 9	SU-PO	PUMT039U	PO	P5	165	30	5P	③-64
For deep hole use	2 3 4 13	S-SP	SSMS039U	SP	P4	165	30	2.5P	①-129
	1 2 3 4	S-PO	PSMT039U	PO	P5	165	30	5P	③-78
Nut taps	1 2	NT	NH2039U	HT	II b	340	30	26P	⑦-28

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ M39 × 3									
Standard	2 3	SP	SPMR039S	SP	P3	165	30	2.5P	①-45
		PO	POMS039S	PO	P4			5P	③-18
	1 2 3	HT	TNMT039S5	HT	P5	165	30	5P	④-16
			TNMT039S1					1.5P	④-16
For left hand threads	1 2 3	HT LH	TNMT039S5-L	HT	P5	165	30	5P	④-70
			TNMT039S1-L					1.5P	④-70
Long	1 2 3	LS-HT	L25039S5-R	HT	P3	250	30	5P	④-80
			L25039S1-R					1.5P	④-80
For steels	1 2 3 4 5 9 11	HVSP	SY039SUEEXJ	SP	P6	200	30	2.5P	①-27
Taps ／ M39 × 2									
Standard	2 3	SP	SPMR039Q	SP	P3	165	30	2.5P	①-45
		PO	POMS039Q	PO	P4			5P	③-18
	1 2 3	HT	TNMT039Q5	HT	P5	165	30	5P	④-16
			TNMT039Q1					1.5P	④-16
For left hand threads	1 2 3	HT LH	TNMT039Q5-L	HT	P5	165	30	5P	④-70
			TNMT039Q1-L					1.5P	④-70
Long	1 2 3	LS-HT	L25039Q5-R	HT	P3	250	30	5P	④-80
			L25039Q1-R					1.5P	④-80
Taps ／ M39 × 1.5									
Standard	2 3	SP	SPMR039O	SP	P3	165	30	2.5P	①-45
		PO	POMS039O	PO	P4			5P	③-18
	1 2 3	HT	TNMS039O5	HT	P4	165	30	5P	④-16
			TNMS039O1					1.5P	④-16
For left hand threads	1 2 3	HT LH	TNMS039O5-L	HT	P4	165	30	5P	④-70
			TNMS039O1-L					1.5P	④-70
Long	1 2 3	LS-HT	L25039O5-R	HT	P3	250	30	5P	④-80
			L25039O1-R					1.5P	④-80
Taps ／ M39 × 1									
Standard	1 2 3	HT	TNMR039M5	HT	P3	165	30	5P	④-16
			TNMR039M1					1.5P	④-16
Taps ／ M40 × 4									
Standard	1 2 3	HT	TNMT040U5	HT	P5	175	32	5P	④-16
			TNMT040U1					1.5P	④-16
Taps ／ M40 × 3									
Standard	2 3	SP	SPMR040S	SP	P3	175	32	2.5P	①-45
		PO	POMS040S	PO	P4			5P	③-18
	1 2 3	HT	TNMT040S5	HT	P5	175	32	5P	④-16
			TNMT040S1					1.5P	④-16
For left hand threads	1 2 3	HT LH	TNMT040S5-L	HT	P5	175	32	5P	④-70
			TNMT040S1-L					1.5P	④-70
Long	1 2 3	LS-HT	L25040S5-R	HT	P3	250	30	5P	④-80
			L30040S5-R			300			④-80
			L25040S1-R			250		1.5P	④-80
			L30040S1-R			300			④-80

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ M40 × 2									
Standard	2 3	SP	SPMR040Q	SP	P3	175	32	2.5P	①-45
		PO	POMS040Q	PO	P4			5P	③-18
	1 2 3	HT	TNMS040Q5	HT	P4	175	32	5P	④-16
			TNMS040Q1					1.5P	④-16
For left hand threads	1 2 3	HT LH	TNMS040Q5-L	HT	P4	175	32	5P	④-70
			TNMS040Q1-L					1.5P	④-70
Long	1 2 3	LS-HT	L25040Q5-R	HT	P3	250	30	5P	④-80
			L30040Q5-R			300			④-80
			L25040Q1-R			250		1.5P	④-80
			L30040Q1-R			300			④-80
Taps ／ M40 × 1.5									
Standard	2 3	SP	SPMR040O	SP	P3	175	32	2.5P	①-45
		PO	POMS040O	PO	P4			5P	③-18
	1 2 3	HT	TNMS040O5	HT	P4	175	32	5P	④-16
			TNMS040O1					1.5P	④-16
For left hand threads	1 2 3	HT LH	TNMS040O5-L	HT	P4	175	32	5P	④-71
			TNMS040O1-L					1.5P	④-71
Long	1 2 3	LS-HT	L25040O5-R	HT	P3	250	30	5P	④-80
			L30040O5-R			300			④-80
			L25040O1-R			250		1.5P	④-80
			L30040O1-R			300			④-80
Taps ／ M40 × 1									
Standard	1 2 3	HT	TNMR040M5	HT	P3	175	32	5P	④-16
			TNMR040M1					1.5P	④-16
Taps ／ M42 × 4.5									
Standard	2 3	SP	SPMS042V	SP	P4	175	32	2.5P	①-45
		PO	POMT042V	PO	P5			5P	③-19
	1 2 3	HT	TNMT042V5	HT	P5	175	32	5P	④-16
			TNMT042V1					1.5P	④-16
For left hand threads	1 2 3	HT LH	TNMT042V5-L	HT	P5	175	32	5P	④-71
			TNMT042V1-L					1.5P	④-71
Oxidizing	1 2 3	PO OX	POMT042VX	PO	P5	175	32	5P	③-37
Long	1 2 3	LS-HT	L25042V5-S	HT	P4	250	32	5P	④-80
			L30042V5-S			300			④-80
			L25042V1-S			250		1.5P	④-80
			L30042V1-S			300			④-80
For steels	1 2 3 4 5 9 11	HVSP	SY042VUEEXJ	SP	P6	200	32	2.5P	①-27
For stainless steels	2 3 4 9	SU-SP	SUMS042V	SP	P4	175	32	2.5P	①-104
	1 2 3 4 9	SU-PO	PUMT042V	PO	P5	175	32	5P	③-64
For deep hole use	1 2 3 4 9	SU-S-SP	SSMS042V-SU	SP	P4	175	32	2.5P	①-123
For deep hole use	2 3 4 13	S-SP	SSMS042V	SP	P4	175	32	2.5P	①-129
	1 2 3 4	S-PO	PSMT042V	PO	P5	175	32	5P	③-78
Nut taps	1 2	NT	NH2042V	HT	IIb	360	32	25P	⑦-28

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ M42 × 4									
Standard	1 2 3	HT	TNMU042U5	HT	P6	175	32	5P	④-16
			TNMU042U1					1.5P	④-16
Taps ／ M42 × 3									
Standard	2 3	SP	SPMR042S	SP	P3	175	32	2.5P	①-45
		PO	POMS042S	PO	P4			5P	③-19
	1 2 3	HT	TNMT042S5	HT	P5	175	32	5P	④-16
			TNMT042S1					1.5P	④-16
For left hand threads	1 2 3	HT LH	TNMT042S5-L	HT	P5	175	32	5P	④-71
			TNMT042S1-L					1.5P	④-71
Long	1 2 3	LS-HT	L25042S5-R	HT	P3	250	32	5P	④-81
			L30042S5-R			300			④-81
			L25042S1-R			250		1.5P	④-81
			L30042S1-R			300			④-81
For steels	1 2 3 4 5 9 11	HVSP	SY042SUEEXJ	SP	P6	200	32	2.5P	①-27
Taps ／ M42 × 2									
Standard	2 3	SP	SPMR042Q	SP	P3	175	32	2.5P	①-45
		PO	POMS042Q	PO	P4			5P	③-19
	1 2 3	HT	TNMS042Q5	HT	P4	175	32	5P	④-16
			TNMS042Q1					1.5P	④-16
For left hand threads	1 2 3	HT LH	TNMS042Q5-L	HT	P4	175	32	5P	④-71
			TNMS042Q1-L					1.5P	④-71
Long	1 2 3	LS-HT	L25042Q5-R	HT	P3	250	32	5P	④-81
			L30042Q5-R			300			④-81
			L25042Q1-R			250		1.5P	④-81
			L30042Q1-R			300			④-81
Taps ／ M42 × 1.5									
Standard	2 3	SP	SPMR042O	SP	P3	175	32	2.5P	①-45
		PO	POMS042O	PO	P4			5P	③-19
	1 2 3	HT	TNMS042O5	HT	P4	175	32	5P	④-16
			TNMS042O1					1.5P	④-16
For left hand threads	1 2 3	HT LH	TNMS042O5-L	HT	P4	175	32	5P	④-71
			TNMS042O1-L					1.5P	④-71
Long	1 2 3	LS-HT	L25042O5-R	HT	P3	250	32	5P	④-81
			L30042O5-R			300			④-81
			L25042O1-R			250		1.5P	④-81
			L30042O1-R			300			④-81
For stainless steels	2 3 4 9	SU-SP	SUMR042O	SP	P3	175	32	2.5P	①-104
Taps ／ M42 × 1									
Standard	1 2 3	HT	TNMR042M5	HT	P3	175	32	5P	④-16
			TNMR042M1					1.5P	④-16

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ M44 × 4									
Standard	1 2 3	HT	TNMU044U5	HT	P6	180	35	5P	④-16
			TNMU044U1					1.5P	④-16
Taps ／ M44 × 3									
Standard	1 2 3	HT	TNMT044S5	HT	P5	180	35	5P	④-16
			TNMT044S1					1.5P	④-16
Taps ／ M44 × 2									
Standard	1 2 3	HT	TNMS044Q5	HT	P4	180	35	5P	④-17
			TNMS044Q1					1.5P	④-17
Taps ／ M44 × 1.5									
Standard	1 2 3	HT	TNMS044O5	HT	P4	180	35	5P	④-17
			TNMS044O1					1.5P	④-17
Taps ／ M44 × 1									
Standard	1 2 3	HT	TNMR044M5	HT	P3	180	35	5P	④-17
			TNMR044M1					1.5P	④-17
Taps ／ M45 × 4.5									
Standard	2 3	SP	SPMS045V	SP	P4	180	35	2.5P	①-45
		PO	POMT045V	PO	P5			5P	③-19
	1 2 3	HT	TNMT045V5	HT	P5	180	35	5P	④-17
			TNMT045V1					1.5P	④-17
For left hand threads	1 2 3	HT LH	TNMT045V5-L	HT	P5	180	35	5P	④-71
			TNMT045V1-L					1.5P	④-71
Long	1 2 3	LS-HT	L30045V5-S	HT	P4	300	35	5P	④-81
			L30045V1-S					1.5P	④-81
For stainless steels	2 3 4 9	SU-SP	SUMS045V	SP	P4	180	35	2.5P	①-104
For deep hole use	2 3 4 13	S-SP	SSMS045V	SP	P4	180	35	2.5P	①-129
Taps ／ M45 × 4									
Standard	1 2 3	HT	TNMU045U5	HT	P6	180	35	5P	④-17
			TNMU045U1					1.5P	④-17
Taps ／ M45 × 3									
Standard	2 3	SP	SPMR045S	SP	P3	180	35	2.5P	①-45
		PO	POMS045S	PO	P4			5P	③-19
	1 2 3	HT	TNMT045S5	HT	P5	180	35	5P	④-17
			TNMT045S1					1.5P	④-17
For left hand threads	1 2 3	HT LH	TNMT045S5-L	HT	P5	180	35	5P	④-71
			TNMT045S1-L					1.5P	④-71
Long	1 2 3	LS-HT	L30045S5-R	HT	P3	300	35	5P	④-81
			L30045S1-R					1.5P	④-81

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ M45 × 2									
Standard	2 3	SP	SPMR045Q	SP	P3	180	35	2.5P	①-45
		PO	POMS045Q	PO	P4			5P	③-19
	1 2 3	HT	TNMS045Q5	HT	P4	180	35	5P	④-17
			TNMS045Q1					1.5P	④-17
For left hand threads	1 2 3	HT LH	TNMS045Q5-L	HT	P4	180	35	5P	④-71
			TNMS045Q1-L					1.5P	④-71
Long	1 2 3	LS-HT	L30045Q5-R	HT	P3	300	35	5P	④-81
			L30045Q1-R					1.5P	④-81
Taps ／ M45 × 1.5									
Standard	2 3	SP	SPMR045O	SP	P3	180	35	2.5P	①-45
		PO	POMS045O	PO	P4			5P	③-19
	1 2 3	HT	TNMS045O5	HT	P4	180	35	5P	④-17
			TNMS045O1					1.5P	④-17
For left hand threads	1 2 3	HT LH	TNMS045O5-L	HT	P4	180	35	5P	④-71
			TNMS045O1-L					1.5P	④-71
Long	1 2 3	LS-HT	L30045O5-R	HT	P3	300	35	5P	④-81
			L30045O1-R					1.5P	④-81
Taps ／ M45 × 1									
Standard	1 2 3	HT	TNMR045M5	HT	P3	180	35	5P	④-17
			TNMR045M1					1.5P	④-17
Taps ／ M46 × 4									
Standard	1 2 3	HT	TNMU046U5	HT	P6	185	38	5P	④-17
			TNMU046U1					1.5P	④-17
Taps ／ M46 × 3									
Standard	1 2 3	HT	TNMU046S5	HT	P6	185	38	5P	④-17
			TNMU046S1					1.5P	④-17
Taps ／ M46 × 2									
Standard	1 2 3	HT	TNMS046Q5	HT	P4	185	38	5P	④-17
			TNMS046Q1					1.5P	④-17
Taps ／ M46 × 1.5									
Standard	1 2 3	HT	TNMS046O5	HT	P4	185	38	5P	④-17
			TNMS046O1					1.5P	④-17
Taps ／ M48 × 5									
Standard	2 3	SP	SPMS048W	SP	P4	185	38	2.5P	①-45
		PO	POMT048W	PO	P5			5P	③-19
	1 2 3	HT	TNMT048W5	HT	P5	185	38	5P	④-17
			TNMT048W1					1.5P	④-17
For left hand threads	1 2 3	HT LH	TNMT048W5-L	HT	P5	185	38	5P	④-71
			TNMT048W1-L					1.5P	④-71

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection	Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Long	1 2 3	LS-HT	L30048W5-S	HT	P4	300	38	5P	④-81
			L30048W1-S					1.5P	④-81
For steels	1 2 3 4 5 9 11	HVSP	SY048WUEEXJ	SP	P6	250	38	2.5P	①-27
For stainless steels	2 3 4 9	SU-SP	SUMS048W	SP	P4	185	38	2.5P	①-104
For deep hole use	2 3 4 13	S-SP	SSMS048W	SP	P4	185	38	2.5P	①-129
Taps ／ M48 × 4									
Standard	2 3	SP	SPMS048U	SP	P4	185	38	2.5P	①-45
		PO	POMT048U	PO	P5			5P	③-19
	1 2 3	HT	TNMU048U5	HT	P6	185	38	5P	④-17
			TNMU048U1					1.5P	④-17
Taps ／ M48 × 3									
Standard	2 3	SP	SPMR048S	SP	P3	185	38	2.5P	①-45
		PO	POMS048S	PO	P4			5P	③-19
	1 2 3	HT	TNMU048S5	HT	P6	185	38	5P	④-17
			TNMU048S1					1.5P	④-17
For left hand threads	1 2 3	HT LH	TNMU048S5-L	HT	P6	185	38	5P	④-71
			TNMU048S1-L					1.5P	④-71
Long	1 2 3	LS-HT	L30048S5-R	HT	P3	300	38	5P	④-81
			L30048S1-R					1.5P	④-81
For steels	1 2 3 4 5 9 11	HVSP	SY048SUEEXJ	SP	P6	250	38	2.5P	①-27
Taps ／ M48 × 2									
Standard	2 3	SP	SPMR048Q	SP	P3	185	38	2.5P	①-45
		PO	POMS048Q	PO	P4			5P	③-19
	1 2 3	HT	TNMS048Q5	HT	P4	185	38	5P	④-17
			TNMS048Q1					1.5P	④-17
For left hand threads	1 2 3	HT LH	TNMS048Q5-L	HT	P4	185	38	5P	④-71
			TNMS048Q1-L					1.5P	④-71
Long	1 2 3	LS-HT	L30048Q5-R	HT	P3	300	38	5P	④-81
			L30048Q1-R					1.5P	④-81
Taps ／ M48 × 1.5									
Standard	2 3	SP	SPMR048O	SP	P3	185	38	2.5P	①-45
		PO	POMS048O	PO	P4			5P	③-19
	1 2 3	HT	TNMS048O5	HT	P4	185	38	5P	④-17
			TNMS048O1					1.5P	④-17
For left hand threads	1 2 3	HT LH	TNMS048O5-L	HT	P4	185	38	5P	④-71
			TNMS048O1-L					1.5P	④-71
Long	1 2 3	LS-HT	L30048O5-R	HT	P3	300	38	5P	④-81
			L30048O1-R					1.5P	④-81
Taps ／ M48 × 1									
Standard	1 2 3	HT	TNMR048M5	HT	P3	185	38	5P	④-17
			TNMR048M1					1.5P	④-17

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies / M25 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM025SDNEBC	⑩-5
Dies / M25 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM025QDNEBC	⑩-5
Dies / M25 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM025ODNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYM025ODNEBC	⑩-18
Dies / M25 × 1.25									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM025NDNEBC	⑩-5
Dies / M25 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYM025MDNEBC	⑩-5
Dies / M26 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR026QDNEBC	⑩-5
Dies / M26 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR026ODNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	63	20	2.5P	GYR026ODNEBC	⑩-18
Dies / M26 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR026MDNEBC	⑩-5
Dies / M27 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR027SDNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	63	20	2.5P	GYR027SDNEBC	⑩-18
Dies / M27 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR027QDNEBC	⑩-5
Dies / M27 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR027ODNEBC	⑩-5
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	63	20	2.5P	GYR027ODNEBC	⑩-18
Dies / M27 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR027MDNEBC	⑩-5
Dies / M28 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR028QDNEBC	⑩-6
Dies / M28 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR028ODNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	63	20	2.5P	GYR028ODNEBC	⑩-18
Dies / M28 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR028MDNEBC	⑩-6

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies / M30 × 3.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR030TDNEBC	⑩-6
					75	25		TYU030TDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	63	20	2.5P	GYR030TDNEBC	⑩-18
					75	25		GYU030TDNEBC	⑩-18
Dies / M30 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR030SDNEBC	⑩-6
					75	25		TYU030SDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	63	20	2.5P	GYR030SDNEBC	⑩-18
					75	25		GYU030SDNEBC	⑩-18
Dies / M30 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR030QDNEBC	⑩-6
					75	25		TYU030QDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	63	20	2.5P	GYR030QDNEBC	⑩-18
					75	25		GYU030QDNEBC	⑩-18
Dies / M30 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR030ODNEBC	⑩-6
					75	25		TYU030ODNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	63	20	2.5P	GYR030ODNEBC	⑩-18
					75	25		GYU030ODNEBC	⑩-18
Dies / M30 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR030MDNEBC	⑩-6
					75	25		TYU030MDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU030MDNEBC	⑩-18
Dies / M30 × 0.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU030GDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU030GDNEBC	⑩-18
Dies / M32 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR032SDNEBC	⑩-6
					75	25		TYU032SDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU032SDNEBC	⑩-18
Dies / M32 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR032QDNEBC	⑩-6
					75	25		TYU032QDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU032QDNEBC	⑩-18
Dies / M32 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR032ODNEBC	⑩-6
					75	25		TYU032ODNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU032ODNEBC	⑩-18

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ M32 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR032MDNEBC	⑩-6
					75	25		TYU032MDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU032MDNEBC	⑩-18
Dies ／ M32 × 0.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU032GDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU032GDNEBC	⑩-18
Dies ／ M33 × 3.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR033TDNEBC	⑩-6
					75	25		TYU033TDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU033TDNEBC	⑩-18
Dies ／ M33 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR033SDNEBC	⑩-6
					75	25		TYU033SDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU033SDNEBC	⑩-18
Dies ／ M33 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR033QDNEBC	⑩-6
					75	25		TYU033QDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU033QDNEBC	⑩-18
Dies ／ M33 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR033ODNEBC	⑩-6
					75	25		TYU033ODNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU033ODNEBC	⑩-18
Dies ／ M33 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYR033MDNEBC	⑩-6
					75	25		TYU033MDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU033MDNEBC	⑩-18
Dies ／ M34 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU034SDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU034SDNEBC	⑩-18
Dies ／ M34 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU034QDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU034QDNEBC	⑩-18
Dies ／ M34 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU034ODNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU034ODNEBC	⑩-18
Dies ／ M34 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU034MDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU034MDNEBC	⑩-18

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ M35 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU035SDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU035SDNEBC	⑩-18
Dies ／ M35 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU035QDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU035QDNEBC	⑩-18
Dies ／ M35 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU035ODNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU035ODNEBC	⑩-18
Dies ／ M35 × 1.25									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU035NDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU035NDNEBC	⑩-18
Dies ／ M35 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU035MDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU035MDNEBC	⑩-18
Dies ／ M36 × 4									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU036UDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU036UDNEBC	⑩-18
Dies ／ M36 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU036SDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU036SDNEBC	⑩-18
Dies ／ M36 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU036QDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU036QDNEBC	⑩-18
Dies ／ M36 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU036ODNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU036ODNEBC	⑩-18
Dies ／ M36 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU036MDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU036MDNEBC	⑩-18
Dies ／ M36 × 0.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU036GDNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU036GDNEBC	⑩-18
Dies ／ M37 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU037ODNEBC	⑩-6
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU037ODNEBC	⑩-19

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies / M37 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU037MDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU037MDNEBC	⑩-19
Dies / M38 × 4									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU038UDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU038UDNEBC	⑩-19
Dies / M38 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU038SDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU038SDNEBC	⑩-19
Dies / M38 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU038QDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU038QDNEBC	⑩-19
Dies / M38 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU038ODNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU038ODNEBC	⑩-19
Dies / M38 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU038MDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU038MDNEBC	⑩-19
Dies / M39 × 4									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU039UDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU039UDNEBC	⑩-19
Dies / M39 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU039SDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU039SDNEBC	⑩-19
Dies / M39 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU039QDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU039QDNEBC	⑩-19
Dies / M39 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU039ODNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU039ODNEBC	⑩-19
Dies / M39 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU039MDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU039MDNEBC	⑩-19
Dies / M40 × 4									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU040UDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU040UDNEBC	⑩-19
Dies / M40 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU040SDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU040SDNEBC	⑩-19
Dies / M40 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU040QDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU040QDNEBC	⑩-19
Dies / M40 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU040ODNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU040ODNEBC	⑩-19
Dies / M40 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU040MDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU040MDNEBC	⑩-19
Dies / M42 × 4.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU042VDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU042VDNEBC	⑩-19
Dies / M42 × 4									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU042UDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU042UDNEBC	⑩-19
Dies / M42 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU042SDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU042SDNEBC	⑩-19
Dies / M42 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU042QDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU042QDNEBC	⑩-19
Dies / M42 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU042ODNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU042ODNEBC	⑩-19
Dies / M42 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU042MDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU042MDNEBC	⑩-19
Dies / M44 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU044QDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU044QDNEBC	⑩-19
Dies / M44 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU044ODNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU044ODNEBC	⑩-19
Dies / M45 × 4.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU045VDNEBC	⑩-7
					100	30		TYW045VDNEBC	⑩-7
					105			TYY045VDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU045VDNEBC	⑩-19
					100	30		GYW045VDNEBC	⑩-19
					105			GYY045VDNEBC	⑩-19

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*D*s	ℓc

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ M45 × 4									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU045UDNEBC	⑩-7
					100	30		TYW045UDNEBC	⑩-7
					105			TYY045UDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU045UDNEBC	⑩-19
					100	30		GYW045UDNEBC	⑩-19
					105			GYY045UDNEBC	⑩-19
Dies ／ M45 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU045SDNEBC	⑩-7
					100	30		TYW045SDNEBC	⑩-7
					105			TYY045SDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU045SDNEBC	⑩-19
					100	30		GYW045SDNEBC	⑩-19
					105			GYY045SDNEBC	⑩-19
Dies ／ M45 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU045QDNEBC	⑩-7
					100	30		TYW045QDNEBC	⑩-7
					105			TYY045QDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU045QDNEBC	⑩-19
					100	30		GYW045QDNEBC	⑩-19
					105			GYY045QDNEBC	⑩-19
Dies ／ M45 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU045ODNEBC	⑩-7
					100	30		TYW045ODNEBC	⑩-7
					105			TYY045ODNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU045ODNEBC	⑩-19
					100	30		GYW045ODNEBC	⑩-19
					105			GYY045ODNEBC	⑩-19
Dies ／ M45 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU045MDNEBC	⑩-7
					100	30		TYW045MDNEBC	⑩-7
					105			TYY045MDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU045MDNEBC	⑩-19
					100	30		GYW045MDNEBC	⑩-19
					105			GYY045MDNEBC	⑩-19
Dies ／ M46 × 4									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU046UDNEBC	⑩-7
					100	30		TYW046UDNEBC	⑩-7
					105			TYY046UDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU046UDNEBC	⑩-19
					100	30		GYW046UDNEBC	⑩-19
					105			GYY046UDNEBC	⑩-19

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ M46 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU046SDNEBC	⑩-7
					100	30		TYW046SDNEBC	⑩-7
					105			TYY046SDNEBC	⑩-7
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU046SDNEBC	⑩-19
					100	30		GYW046SDNEBC	⑩-19
					105			GYY046SDNEBC	⑩-19
Dies ／ M46 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU046QDNEBC	⑩-7
					100	30		TYW046QDNEBC	⑩-8
					105			TYY046QDNEBC	⑩-8
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU046QDNEBC	⑩-19
					100	30		GYW046QDNEBC	⑩-20
					105			GYY046QDNEBC	⑩-20
Dies ／ M46 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU046ODNEBC	⑩-8
					100	30		TYW046ODNEBC	⑩-8
					105			TYY046ODNEBC	⑩-8
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU046ODNEBC	⑩-20
					100	30		GYW046ODNEBC	⑩-20
					105			GYY046ODNEBC	⑩-20
Dies ／ M48 × 5									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU048WDNEBC	⑩-8
					100	36		TYW048WDNEBC	⑩-8
					105			TYY048WDNEBC	⑩-8
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU048WDNEBC	⑩-20
					100	36		GYW048WDNEBC	⑩-20
					105			GYY048WDNEBC	⑩-20
Dies ／ M48 × 4									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU048UDNEBC	⑩-8
					100	30		TYW048UDNEBC	⑩-8
					105			TYY048UDNEBC	⑩-8
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU048UDNEBC	⑩-20
					100	30		GYW048UDNEBC	⑩-20
					105			GYY048UDNEBC	⑩-20
Dies ／ M48 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU048SDNEBC	⑩-8
					100	30		TYW048SDNEBC	⑩-8
					105			TYY048SDNEBC	⑩-8
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU048SDNEBC	⑩-20
					100	30		GYW048SDNEBC	⑩-20
					105			GYY048SDNEBC	⑩-20

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ M48 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU048QDNEBC	⑩-8
					100	30		TYW048QDNEBC	⑩-8
					105			TYY048QDNEBC	⑩-8
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU048QDNEBC	⑩-20
					100	30		GYW048QDNEBC	⑩-20
					105			GYY048QDNEBC	⑩-20
Dies ／ M48 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU048ODNEBC	⑩-8
					100	30		TYW048ODNEBC	⑩-8
					105			TYY048ODNEBC	⑩-8
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU048ODNEBC	⑩-20
					100	30		GYW048ODNEBC	⑩-20
					105			GYY048ODNEBC	⑩-20
Dies ／ M48 × 1.25									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU048NDNEBC	⑩-8
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU048NDNEBC	⑩-20
Dies ／ M48 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU048MDNEBC	⑩-8
					100	30		TYW048MDNEBC	⑩-8
					105			TYY048MDNEBC	⑩-8
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU048MDNEBC	⑩-20
					100	30		GYW048MDNEBC	⑩-20
					105			GYY048MDNEBC	⑩-20

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ M50 × 5									
Standard	1 2 3	HT	TH2050W5	HT	II	195	40	5P	④-17
			TH2050W1					1.5P	④-17
Taps ／ M50 × 4									
Standard	1 2 3	HT	TH2050U5	HT	II	180	40	5P	④-17
			TH2050U1					1.5P	④-17
Taps ／ M50 × 3									
Standard	1 2 3	HT	TH2050S5	HT	II	180	40	5P	④-17
			TH2050S1					1.5P	④-17
For left hand threads	1 2 3	HT LH	TH2050S5-L	HT	II	180	40	5P	④-71
			TH2050S1-L					1.5P	④-71
Taps ／ M50 × 2									
Standard	1 2 3	HT	TH2050Q5	HT	II	130	40	5P	④-17
			TH2050Q1					1.5P	④-17
For left hand threads	1 2 3	HT LH	TH2050Q5-L	HT	II	130	40	5P	④-71
			TH2050Q1-L					1.5P	④-71
Taps ／ M50 × 1.5									
Standard	2 3	PO	POS050O	PO	P4	145	40	5P	③-19
	1 2 3	HT	TH2050O5	HT	II	130	40	5P	④-17
			TH2050O1					1.5P	④-17
For left hand threads	1 2 3	HT LH	TH2050O5-L	HT	II	130	40	5P	④-71
			TH2050O1-L					1.5P	④-71
Taps ／ M50 × 1									
Standard	1 2 3	HT	TH2050M5	HT	II	130	40	5P	④-17
			TH2050M1					1.5P	④-17
Taps ／ M52 × 5									
Standard	2 3	SP	SPS052W	SP	P4	195	42	2.5P	①-45
	1 2 3	HT	TH2052W5	HT	II	195	42	5P	④-18
			TH2052W1					1.5P	④-18
Taps ／ M52 × 4									
Standard	1 2 3	HT	TH2052U5	HT	II	180	42	5P	④-18
			TH2052U1					1.5P	④-18
Taps ／ M52 × 3									
Standard	1 2 3	HT	TH2052S5	HT	II	180	42	5P	④-18
			TH2052S1					1.5P	④-18
Taps ／ M52 × 2									
Standard	1 2 3	HT	TH2052Q5	HT	II	130	42	5P	④-18
			TH2052Q1					1.5P	④-18
Taps ／ M52 × 1.5									
Standard	1 2 3	HT	TH2052O5	HT	II	130	42	5P	④-18
			TH2052O1					1.5P	④-18

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ M55 × 4									
Standard	1 2 3	HT	TH2055U5	HT	II	180	44	5P	④-18
			TH2055U1					1.5P	④-18
Taps ／ M55 × 3									
Standard	1 2 3	HT	TH2055S5	HT	II	180	44	5P	④-18
			TH2055S1					1.5P	④-18
Taps ／ M55 × 2									
Standard	1 2 3	HT	TH2055Q5	HT	II	135	44	5P	④-18
			TH2055Q1					1.5P	④-18
Taps ／ M55 × 1.5									
Standard	1 2 3	HT	TH2055O5	HT	II	135	44	5P	④-18
			TH2055O1					1.5P	④-18
Taps ／ M56 × 5.5									
Standard	2 3	SP	SPS056X	SP	P4	205	44	2.5P	①-45
	1 2 3	HT	TH2056X5	HT	II	205	44	5P	④-18
			TH2056X1					1.5P	④-18
Taps ／ M56 × 4									
Standard	1 2 3	HT	TH2056U5	HT	II	180	44	5P	④-18
			TH2056U1					1.5P	④-18
Taps ／ M56 × 3									
Standard	1 2 3	HT	TH2056S5	HT	II	180	44	5P	④-18
			TH2056S1					1.5P	④-18
Taps ／ M56 × 2									
Standard	1 2 3	HT	TH2056Q5	HT	II	135	44	5P	④-18
			TH2056Q1					1.5P	④-18
Taps ／ M56 × 1.5									
Standard	1 2 3	HT	TH2056O5	HT	II	135	44	5P	④-18
			TH2056O1					1.5P	④-18
Taps ／ M58 × 4									
Standard	1 2 3	HT	TH2058U5	HT	II	180	46	5P	④-18
			TH2058U1					1.5P	④-18
Taps ／ M58 × 3									
Standard	1 2 3	HT	TH2058S5	HT	II	180	46	5P	④-18
			TH2058S1					1.5P	④-18
Taps ／ M58 × 2									
Standard	1 2 3	HT	TH2058Q5	HT	II	135	46	5P	④-18
			TH2058Q1					1.5P	④-18

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Icons of main materials

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7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
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Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps / M58 × 1.5									
Standard	1 2 3	HT	TH2058O5	HT	II	135	46	5P	④-18
			TH2058O1					1.5P	④-18
Taps / M60 × 5.5									
Standard	2 3	SP	SPS060X	SP	P4	215	46	2.5P	①-45
	1 2 3	HT	TH2060X5	HT	II	215	46	5P	④-18
			TH2060X1					1.5P	④-18
Taps / M60 × 4									
Standard	1 2 3	HT	TH2060U5	HT	II	185	46	5P	④-18
			TH2060U1					1.5P	④-18
Taps / M60 × 3									
Standard	1 2 3	HT	TH2060S5	HT	II	185	46	5P	④-18
			TH2060S1					1.5P	④-18
Taps / M60 × 2									
Standard	1 2 3	HT	TH2060Q5	HT	II	140	46	5P	④-18
			TH2060Q1					1.5P	④-18
Taps / M60 × 1.5									
Standard	1 2 3	HT	TH2060O5	HT	II	140	46	5P	④-18
			TH2060O1					1.5P	④-18
Taps / M62 × 4									
Standard	1 2 3	HT	TH2062U5	HT	II	185	48	5P	④-18
			TH2062U1					1.5P	④-18
Taps / M62 × 3									
Standard	1 2 3	HT	TH2062S5	HT	II	185	48	5P	④-18
			TH2062S1					1.5P	④-18
Taps / M62 × 2									
Standard	1 2 3	HT	TH2062Q5	HT	II	140	48	5P	④-19
			TH2062Q1					1.5P	④-19
Taps / M62 × 1.5									
Standard	1 2 3	HT	TH2062O5	HT	II	140	48	5P	④-19
			TH2062O1					1.5P	④-19
Taps / M64 × 6									
Standard	2 3	SP	SPS064Y	SP	P4	225	48	2.5P	①-45
	1 2 3	HT	TH2064Y5	HT	II	225	48	5P	④-19
			TH2064Y1					1.5P	④-19
Taps / M64 × 4									
Standard	1 2 3	HT	TH2064U5	HT	II	185	48	5P	④-19
			TH2064U1					1.5P	④-19

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps / M64 × 3									
Standard	1 2 3	HT	TH2064S5	HT	II	185	48	5P	④-19
			TH2064S1					1.5P	④-19
Taps / M64 × 2									
Standard	1 2 3	HT	TH2064Q5	HT	II	140	48	5P	④-19
			TH2064Q1					1.5P	④-19
Taps / M64 × 1.5									
Standard	1 2 3	HT	TH2064O5	HT	II	140	48	5P	④-19
			TH2064O1					1.5P	④-19
Taps / M65 × 6									
Standard	1 2 3	HT	TH2065Y5	HT	II	225	50	5P	④-19
			TH2065Y1					1.5P	④-19
Taps / M65 × 4									
Standard	1 2 3	HT	TH2065U5	HT	II	185	50	5P	④-19
			TH2065U1					1.5P	④-19
Taps / M65 × 3									
Standard	1 2 3	HT	TH2065S5	HT	II	185	50	5P	④-19
			TH2065S1					1.5P	④-19
Taps / M65 × 2									
Standard	1 2 3	HT	TH2065Q5	HT	II	140	50	5P	④-19
			TH2065Q1					1.5P	④-19
Taps / M65 × 1.5									
Standard	1 2 3	HT	TH2065O5	HT	II	140	50	5P	④-19
			TH2065O1					1.5P	④-19
Taps / M68 × 6									
Standard	1 2 3	HT	TH2068Y5	HT	II	235	52	5P	④-19
			TH2068Y1					1.5P	④-19
Taps / M68 × 4									
Standard	1 2 3	HT	TH2068U5	HT	II	190	52	5P	④-19
			TH2068U1					1.5P	④-19
Taps / M68 × 3									
Standard	1 2 3	HT	TH2068S5	HT	II	190	52	5P	④-19
			TH2068S1					1.5P	④-19
Taps / M68 × 2									
Standard	1 2 3	HT	TH2068Q5	HT	II	140	52	5P	④-19
			TH2068Q1					1.5P	④-19
Taps / M68 × 1.5									
Standard	1 2 3	HT	TH2068O5	HT	II	140	52	5P	④-19
			TH2068O1					1.5P	④-19

Think threads with YAMAWA

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ M70 × 6									
Standard	1 2 3	HT	TH2070Y5	HT	II	240	55	5P	④-19
			TH2070Y1					1.5P	④-19
Taps ／ M70 × 4									
Standard	1 2 3	HT	TH2070U5	HT	II	190	55	5P	④-19
			TH2070U1					1.5P	④-19
Taps ／ M70 × 3									
Standard	1 2 3	HT	TH2070S5	HT	II	190	55	5P	④-19
			TH2070S1					1.5P	④-19
Taps ／ M70 × 2									
Standard	1 2 3	HT	TH2070Q5	HT	II	140	55	5P	④-19
			TH2070Q1					1.5P	④-19
Taps ／ M70 × 1.5									
Standard	1 2 3	HT	TH2070O5	HT	II	140	55	5P	④-19
			TH2070O1					1.5P	④-19
Taps ／ M72 × 6									
Standard	1 2 3	HT	TH2072Y5	HT	II	240	55	5P	④-19
			TH2072Y1					1.5P	④-19
Taps ／ M72 × 4									
Standard	1 2 3	HT	TH2072U5	HT	II	190	55	5P	④-19
			TH2072U1					1.5P	④-19
Taps ／ M72 × 3									
Standard	1 2 3	HT	TH2072S5	HT	II	190	55	5P	④-19
			TH2072S1					1.5P	④-19
Taps ／ M72 × 2									
Standard	1 2 3	HT	TH2072Q5	HT	II	140	55	5P	④-20
			TH2072Q1					1.5P	④-20
Taps ／ M72 × 1.5									
Standard	1 2 3	HT	TH2072O5	HT	II	140	55	5P	④-20
			TH2072O1					1.5P	④-20
Taps ／ M75 × 6									
Standard	1 2 3	HT	TH2075Y5	HT	II	240	58	5P	④-20
			TH2075Y1					1.5P	④-20
Taps ／ M75 × 4									
Standard	1 2 3	HT	TH2075U5	HT	II	190	58	5P	④-20
			TH2075U1					1.5P	④-20
Taps ／ M75 × 3									
Standard	1 2 3	HT	TH2075S5	HT	II	190	58	5P	④-20
			TH2075S1					1.5P	④-20

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ M75 × 2									
Standard	1 2 3	HT	TH2075Q5	HT	II	145	58	5P	④-20
			TH2075Q1					1.5P	④-20
Taps ／ M75 × 1.5									
Standard	1 2 3	HT	TH2075O5	HT	II	145	58	5P	④-20
			TH2075O1					1.5P	④-20
Taps ／ M76 × 6									
Standard	1 2 3	HT	TH2076Y5	HT	II	240	58	5P	④-20
			TH2076Y1					1.5P	④-20
Taps ／ M76 × 4									
Standard	1 2 3	HT	TH2076U5	HT	II	190	58	5P	④-20
			TH2076U1					1.5P	④-20
Taps ／ M76 × 3									
Standard	1 2 3	HT	TH2076S5	HT	II	190	58	5P	④-20
			TH2076S1					1.5P	④-20
Taps ／ M76 × 2									
Standard	1 2 3	HT	TH2076Q5	HT	II	145	58	5P	④-20
			TH2076Q1					1.5P	④-20
Taps ／ M76 × 1.5									
Standard	1 2 3	HT	TH2076O5	HT	II	145	58	5P	④-20
			TH2076O1					1.5P	④-20
Taps ／ M78 × 3									
Standard	1 2 3	HT	TH2078S5	HT	II	190	58	5P	④-20
			TH2078S1					1.5P	④-20
Taps ／ M78 × 2									
Standard	1 2 3	HT	TH2078Q5	HT	II	150	58	5P	④-20
			TH2078Q1					1.5P	④-20
Taps ／ M80 × 6									
Standard	1 2 3	HT	TH2080Y5	HT	II	245	58	5P	④-20
			TH2080Y1					1.5P	④-20
Taps ／ M80 × 4									
Standard	1 2 3	HT	TH2080U5	HT	II	190	58	5P	④-20
			TH2080U1					1.5P	④-20
Taps ／ M80 × 3									
Standard	1 2 3	HT	TH2080S5	HT	II	190	58	5P	④-20
			TH2080S1					1.5P	④-20
Taps ／ M80 × 2									
Standard	1 2 3	HT	TH2080Q5	HT	II	145	58	5P	④-20
			TH2080Q1					1.5P	④-20

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps / M80 × 1.5									
Standard	1 2 3	HT	TH2080O5	HT	II	145	58	5P	④-20
			TH2080O1					1.5P	④-20
Taps / M82 × 2									
Standard	1 2 3	HT	TH2082Q5	HT	II	145	58	5P	④-20
			TH2082Q1					1.5P	④-20
Taps / M85 × 6									
Standard	1 2 3	HT	TH2085Y5	HT	II	245	60	5P	④-20
			TH2085Y1					1.5P	④-20
Taps / M85 × 4									
Standard	1 2 3	HT	TH2085U5	HT	II	190	60	5P	④-20
			TH2085U1					1.5P	④-20
Taps / M85 × 3									
Standard	1 2 3	HT	TH2085S5	HT	II	190	60	5P	④-20
			TH2085S1					1.5P	④-20
Taps / M85 × 2									
Standard	1 2 3	HT	TH2085Q5	HT	II	150	60	5P	④-20
			TH2085Q1					1.5P	④-20
Taps / M90 × 6									
Standard	1 2 3	HT	TH2090Y5	HT	II	250	60	5P	④-20
			TH2090Y1					1.5P	④-20
Taps / M90 × 4									
Standard	1 2 3	HT	TH2090U5	HT	II	195	60	5P	④-21
			TH2090U1					1.5P	④-21
Taps / M90 × 3									
Standard	1 2 3	HT	TH2090S5	HT	II	195	60	5P	④-21
			TH2090S1					1.5P	④-21
Taps / M90 × 2									
Standard	1 2 3	HT	TH2090Q5	HT	II	155	60	5P	④-21
			TH2090Q1					1.5P	④-21
Taps / M95 × 6									
Standard	1 2 3	HT	TH2095Y5	HT	II	250	65	5P	④-21
			TH2095Y1					1.5P	④-21
Taps / M95 × 4									
Standard	1 2 3	HT	TH2095U5	HT	II	200	65	5P	④-21
			TH2095U1					1.5P	④-21
Taps / M95 × 3									
Standard	1 2 3	HT	TH2095S5	HT	II	200	65	5P	④-21
			TH2095S1					1.5P	④-21

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps / M95 × 2									
Standard	1 2 3	HT	TH2095Q5	HT	II	155	65	5P	④-21
			TH2095Q1					1.5P	④-21
Taps / M100 × 6									
Standard	1 2 3	HT	TH2100Y5	HT	II	250	65	5P	④-21
			TH2100Y1					1.5P	④-21
Taps / M100 × 4									
Standard	1 2 3	HT	TH2100U5	HT	II	200	65	5P	④-21
			TH2100U1					1.5P	④-21
Taps / M100 × 3									
Standard	1 2 3	HT	TH2100S5	HT	II	200	65	5P	④-21
			TH2100S1					1.5P	④-21
Taps / M100 × 2									
Standard	1 2 3	HT	TH2100Q5	HT	II	155	65	5P	④-21
			TH2100Q1					1.5P	④-21

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	D_s	ℓ_c

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ M50 × 4									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU050UDNEBC	⑩-8
					100	30		TYW050UDNEBC	⑩-8
					105			TYY050UDNEBC	⑩-8
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU050UDNEBC	⑩-20
					100	30		GYW050UDNEBC	⑩-20
					105			GYY050UDNEBC	⑩-20
Dies ／ M50 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU050SDNEBC	⑩-8
					100	30		TYW050SDNEBC	⑩-8
					105			TYY050SDNEBC	⑩-8
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU050SDNEBC	⑩-20
					100	30		GYW050SDNEBC	⑩-20
					105			GYY050SDNEBC	⑩-20
Dies ／ M50 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU050QDNEBC	⑩-8
					100	30		TYW050QDNEBC	⑩-8
					105			TYY050QDNEBC	⑩-8
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU050QDNEBC	⑩-20
					100	30		GYW050QDNEBC	⑩-20
					105			GYY050QDNEBC	⑩-20
Dies ／ M50 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU050ODNEBC	⑩-8
					100	30		TYW050ODNEBC	⑩-8
					105			TYY050ODNEBC	⑩-8
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU050ODNEBC	⑩-20
					100	30		GYW050ODNEBC	⑩-20
					105			GYY050ODNEBC	⑩-20
Dies ／ M50 × 1									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYU050MDNEBC	⑩-8
					100	30		TYW050MDNEBC	⑩-8
					105			TYY050MDNEBC	⑩-8
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	75	25	2.5P	GYU050MDNEBC	⑩-20
					100	30		GYW050MDNEBC	⑩-20
					105			GYY050MDNEBC	⑩-20
Dies ／ M52 × 5									
Solid dies	HSS	1 2 15 16 18 19	D	II	100	36	2.5P	TYW052WDNEBC	⑩-8
					105			TYY052WDNEBC	⑩-8
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	36	2.5P	GYW052WDNEBC	⑩-20
					105			GYY052WDNEBC	⑩-20
Dies ／ M52 × 4									
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW052UDNEBC	⑩-8
					105			TYY052UDNEBC	⑩-8
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW052UDNEBC	⑩-20
					105			GYY052UDNEBC	⑩-20

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ M52 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW052SDNEBC	⑩-8
					105			TYY052SDNEBC	⑩-8
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW052SDNEBC	⑩-20
					105			GYY052SDNEBC	⑩-20
Dies ／ M52 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW052QDNEBC	⑩-8
					105			TYY052QDNEBC	⑩-8
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW052QDNEBC	⑩-20
					105			GYY052QDNEBC	⑩-20
Dies ／ M52 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW052ODNEBC	⑩-8
					105			TYY052ODNEBC	⑩-8
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW052ODNEBC	⑩-20
					105			GYY052ODNEBC	⑩-20
Dies ／ M55 × 4									
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW055UDNEBC	⑩-9
					105			TYY055UDNEBC	⑩-9
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW055UDNEBC	⑩-20
					105			GYY055UDNEBC	⑩-21
Dies ／ M55 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW055SDNEBC	⑩-9
					105			TYY055SDNEBC	⑩-9
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW055SDNEBC	⑩-21
					105			GYY055SDNEBC	⑩-21
Dies ／ M55 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW055QDNEBC	⑩-9
					105			TYY055QDNEBC	⑩-9
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW055QDNEBC	⑩-21
					105			GYY055QDNEBC	⑩-21
Dies ／ M55 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW055ODNEBC	⑩-9
					105			TYY055ODNEBC	⑩-9
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW055ODNEBC	⑩-21
					105			GYY055ODNEBC	⑩-21
Dies ／ M56 × 5.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	100	36	2.5P	TYW056XDNEBC	⑩-9
					105			TYY056XDNEBC	⑩-9
					120			TYC056XDNEBC	⑩-9
					125			TYF056XDNEBC	⑩-9
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	36	2.5P	GYW056XDNEBC	⑩-21
					105			GYY056XDNEBC	⑩-21
					120			GYC056XDNEBC	⑩-21
					125			GYF056XDNEBC	⑩-21

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Dies / M56 × 4

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW056UDNEBC	⑩-9
					105			TYY056UDNEBC	⑩-9
					120			TYC056UDNEBC	⑩-9
					125			TYF056UDNEBC	⑩-9
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW056UDNEBC	⑩-21
					105			GYY056UDNEBC	⑩-21
					120			GYC056UDNEBC	⑩-21
					125			GYF056UDNEBC	⑩-21

Dies / M56 × 3

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW056SDNEBC	⑩-9
					105			TYY056SDNEBC	⑩-9
					120			TYC056SDNEBC	⑩-9
					125			TYF056SDNEBC	⑩-9
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW056SDNEBC	⑩-21
					105			GYY056SDNEBC	⑩-21
					120			GYC056SDNEBC	⑩-21
					125			GYF056SDNEBC	⑩-21

Dies / M56 × 2

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW056QDNEBC	⑩-9
					105			TYY056QDNEBC	⑩-9
					120			TYC056QDNEBC	⑩-9
					125			TYF056QDNEBC	⑩-9
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW056QDNEBC	⑩-21
					105			GYY056QDNEBC	⑩-21
					120			GYC056QDNEBC	⑩-21
					125			GYF056QDNEBC	⑩-21

Dies / M56 × 1.5

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW056ODNEBC	⑩-9
					105			TYY056ODNEBC	⑩-9
					120			TYC056ODNEBC	⑩-9
					125			TYF056ODNEBC	⑩-9
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW056ODNEBC	⑩-21
					105			GYY056ODNEBC	⑩-21
					120			GYC056ODNEBC	⑩-21
					125			GYF056ODNEBC	⑩-21

Dies / M58 × 4

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW058UDNEBC	⑩-9
					105			TYY058UDNEBC	⑩-9
					120			TYC058UDNEBC	⑩-9
					125			TYF058UDNEBC	⑩-9
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW058UDNEBC	⑩-21
					105			GYY058UDNEBC	⑩-21
					120			GYC058UDNEBC	⑩-21
					125			GYF058UDNEBC	⑩-21

Dies / M58 × 3

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW058SDNEBC	⑩-9
					105			TYY058SDNEBC	⑩-9
					120			TYC058SDNEBC	⑩-9
					125			TYF058SDNEBC	⑩-9
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW058SDNEBC	⑩-21
					105			GYY058SDNEBC	⑩-21
					120			GYC058SDNEBC	⑩-21
					125			GYF058SDNEBC	⑩-21

Dies / M58 × 2

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW058QDNEBC	⑩-9
					105			TYY058QDNEBC	⑩-9
					120			TYC058QDNEBC	⑩-9
					125			TYF058QDNEBC	⑩-9
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW058QDNEBC	⑩-21
					105			GYY058QDNEBC	⑩-21
					120			GYC058QDNEBC	⑩-21
					125			GYF058QDNEBC	⑩-21

Dies / M58 × 1.5

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW058ODNEBC	⑩-9
					105			TYY058ODNEBC	⑩-9
					120			TYC058ODNEBC	⑩-9
					125			TYF058ODNEBC	⑩-9
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW058ODNEBC	⑩-21
					105			GYY058ODNEBC	⑩-21
					120			GYC058ODNEBC	⑩-21
					125			GYF058ODNEBC	⑩-21

Dies / M60 × 5.5

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	36	2.5P	TYW060XDNEBC	⑩-9
					105			TYY060XDNEBC	⑩-9
					120			TYC060XDNEBC	⑩-9
					125			TYF060XDNEBC	⑩-9
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	36	2.5P	GYW060XDNEBC	⑩-21
					105			GYY060XDNEBC	⑩-21
					120			GYC060XDNEBC	⑩-21
					125			GYF060XDNEBC	⑩-21

Dies / M60 × 4

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW060UDNEBC	⑩-9
					105			TYY060UDNEBC	⑩-10
					120			TYC060UDNEBC	⑩-10
					125			TYF060UDNEBC	⑩-10
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW060UDNEBC	⑩-21
					105			GYY060UDNEBC	⑩-21
					120			GYC060UDNEBC	⑩-21
					125			GYF060UDNEBC	⑩-22

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Dies ／ M60 × 3

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW060SDNEBC	⑩-10
					105			TYY060SDNEBC	⑩-10
					120			TYC060SDNEBC	⑩-10
					125			TYF060SDNEBC	⑩-10
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW060SDNEBC	⑩-22
					105			GYY060SDNEBC	⑩-22
					120			GYC060SDNEBC	⑩-22
					125			GYF060SDNEBC	⑩-22

Dies ／ M60 × 2

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW060QDNEBC	⑩-10
					105			TYY060QDNEBC	⑩-10
					120			TYC060QDNEBC	⑩-10
					125			TYF060QDNEBC	⑩-10
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW060QDNEBC	⑩-22
					105			GYY060QDNEBC	⑩-22
					120			GYC060QDNEBC	⑩-22
					125			GYF060QDNEBC	⑩-22

Dies ／ M60 × 1.5

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW060ODNEBC	⑩-10
					105			TYY060ODNEBC	⑩-10
					120			TYC060ODNEBC	⑩-10
					125			TYF060ODNEBC	⑩-10
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW060ODNEBC	⑩-22
					105			GYY060ODNEBC	⑩-22
					120			GYC060ODNEBC	⑩-22
					125			GYF060ODNEBC	⑩-22

Dies ／ M62 × 4

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW062UDNEBC	⑩-10
					105			TYY062UDNEBC	⑩-10
					120			TYC062UDNEBC	⑩-10
					125			TYF062UDNEBC	⑩-10
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW062UDNEBC	⑩-22
					105			GYY062UDNEBC	⑩-22
					120			GYC062UDNEBC	⑩-22
					125			GYF062UDNEBC	⑩-22

Dies ／ M62 × 3

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW062SDNEBC	⑩-10
					105			TYY062SDNEBC	⑩-10
					120			TYC062SDNEBC	⑩-10
					125			TYF062SDNEBC	⑩-10
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW062SDNEBC	⑩-22
					105			GYY062SDNEBC	⑩-22
					120			GYC062SDNEBC	⑩-22
					125			GYF062SDNEBC	⑩-22

Dies ／ M62 × 2

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW062QDNEBC	⑩-10
					105			TYY062QDNEBC	⑩-10
					120			TYC062QDNEBC	⑩-10
					125			TYF062QDNEBC	⑩-10
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW062QDNEBC	⑩-22
					105			GYY062QDNEBC	⑩-22
					120			GYC062QDNEBC	⑩-22
					125			GYF062QDNEBC	⑩-22

Dies ／ M62 × 1.5

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW062ODNEBC	⑩-10
					105			TYY062ODNEBC	⑩-10
					120			TYC062ODNEBC	⑩-10
					125			TYF062ODNEBC	⑩-10
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW062ODNEBC	⑩-22
					105			GYY062ODNEBC	⑩-22
					120			GYC062ODNEBC	⑩-22
					125			GYF062ODNEBC	⑩-22

Dies ／ M64 × 6

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	36	2.5P	TYW064YDNEBC	⑩-10
					105			TYY064YDNEBC	⑩-10
					120			TYC064YDNEBC	⑩-10
					125			TYF064YDNEBC	⑩-10
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	36	2.5P	GYW064YDNEBC	⑩-22
					105			GYY064YDNEBC	⑩-22
					120			GYC064YDNEBC	⑩-22
					125			GYF064YDNEBC	⑩-22

Dies ／ M64 × 4

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW064UDNEBC	⑩-10
					105			TYY064UDNEBC	⑩-10
					120			TYC064UDNEBC	⑩-10
					125			TYF064UDNEBC	⑩-10
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW064UDNEBC	⑩-22
					105			GYY064UDNEBC	⑩-22
					120			GYC064UDNEBC	⑩-22
					125			GYF064UDNEBC	⑩-22

Dies ／ M64 × 3

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW064SDNEBC	⑩-10
					105			TYY064SDNEBC	⑩-10
					120			TYC064SDNEBC	⑩-10
					125			TYF064SDNEBC	⑩-10
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW064SDNEBC	⑩-22
					105			GYY064SDNEBC	⑩-22
					120			GYC064SDNEBC	⑩-22
					125			GYF064SDNEBC	⑩-22

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Dies ／ M64 × 2

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW064QDNEBC	⑩-10
					105			TYY064QDNEBC	⑩-10
					120			TYC064QDNEBC	⑩-10
					125			TYF064QDNEBC	⑩-10
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW064QDNEBC	⑩-22
					105			GYY064QDNEBC	⑩-22
					120			GYC064QDNEBC	⑩-22
					125			GYF064QDNEBC	⑩-22

Dies ／ M64 × 1.5

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	100	30	2.5P	TYW064ODNEBC	⑩-10
					105			TYY064ODNEBC	⑩-10
					120			TYC064ODNEBC	⑩-11
					125			TYF064ODNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	100	30	2.5P	GYW064ODNEBC	⑩-22
					105			GYY064ODNEBC	⑩-22
					120			GYC064ODNEBC	⑩-22
					125			GYF064ODNEBC	⑩-22

Dies ／ M65 × 6

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	105	36	2.5P	TYY065YDNEBC	⑩-11
					120			TYC065YDNEBC	⑩-11
					125			TYF065YDNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	105	36	2.5P	GYY065YDNEBC	⑩-22
					120			GYC065YDNEBC	⑩-23
					125			GYF065YDNEBC	⑩-23

Dies ／ M65 × 4

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	105	30	2.5P	TYY065UDNEBC	⑩-11
					120			TYC065UDNEBC	⑩-11
					125			TYF065UDNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	105	30	2.5P	GYY065UDNEBC	⑩-23
					120			GYC065UDNEBC	⑩-23
					125			GYF065UDNEBC	⑩-23

Dies ／ M65 × 3

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	105	30	2.5P	TYY065SDNEBC	⑩-11
					120			TYC065SDNEBC	⑩-11
					125			TYF065SDNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	105	30	2.5P	GYY065SDNEBC	⑩-23
					120			GYC065SDNEBC	⑩-23
					125			GYF065SDNEBC	⑩-23

Dies ／ M65 × 2

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	105	30	2.5P	TYY065QDNEBC	⑩-11
					120			TYC065QDNEBC	⑩-11
					125			TYF065QDNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	105	30	2.5P	GYY065QDNEBC	⑩-23
					120			GYC065QDNEBC	⑩-23
					125			GYF065QDNEBC	⑩-23

Dies ／ M65 × 1.5

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	105	30	2.5P	TYY065ODNEBC	⑩-11
					120			TYC065ODNEBC	⑩-11
					125			TYF065ODNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	105	30	2.5P	GYY065ODNEBC	⑩-23
					120			GYC065ODNEBC	⑩-23
					125			GYF065ODNEBC	⑩-23

Dies ／ M68 × 6

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	105	36	2.5P	TYY068YDNEBC	⑩-11
					120			TYC068YDNEBC	⑩-11
					125			TYF068YDNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	105	36	2.5P	GYY068YDNEBC	⑩-23
					120			GYC068YDNEBC	⑩-23
					125			GYF068YDNEBC	⑩-23

Dies ／ M68 × 4

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	105	30	2.5P	TYY068UDNEBC	⑩-11
					120			TYC068UDNEBC	⑩-11
					125			TYF068UDNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	105	30	2.5P	GYY068UDNEBC	⑩-23
					120			GYC068UDNEBC	⑩-23
					125			GYF068UDNEBC	⑩-23

Dies ／ M68 × 3

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	105	30	2.5P	TYY068SDNEBC	⑩-11
					120			TYC068SDNEBC	⑩-11
					125			TYF068SDNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	105	30	2.5P	GYY068SDNEBC	⑩-23
					120			GYC068SDNEBC	⑩-23
					125			GYF068SDNEBC	⑩-23

Dies ／ M68 × 2

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	105	30	2.5P	TYY068QDNEBC	⑩-11
					120			TYC068QDNEBC	⑩-11
					125			TYF068QDNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	105	30	2.5P	GYY068QDNEBC	⑩-23
					120			GYC068QDNEBC	⑩-23
					125			GYF068QDNEBC	⑩-23

Dies ／ M68 × 1.5

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	105	30	2.5P	TYY068ODNEBC	⑩-11
					120			TYC068ODNEBC	⑩-11
					125			TYF068ODNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	105	30	2.5P	GYY068ODNEBC	⑩-23
					120			GYC068ODNEBC	⑩-23
					125			GYF068ODNEBC	⑩-23

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Dies ／ M70 × 6

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	120	36	2.5P	TYC070YDNEBC	⑩-11
					125			TYF070YDNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	36	2.5P	GYC070YDNEBC	⑩-23
					125			GYF070YDNEBC	⑩-23

Dies ／ M70 × 4

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC070UDNEBC	⑩-11
					125			TYF070UDNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC070UDNEBC	⑩-23
					125			GYF070UDNEBC	⑩-23

Dies ／ M70 × 3

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC070SDNEBC	⑩-11
					125			TYF070SDNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC070SDNEBC	⑩-23
					125			GYF070SDNEBC	⑩-23

Dies ／ M70 × 2

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC070QDNEBC	⑩-11
					125			TYF070QDNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC070QDNEBC	⑩-23
					125			GYF070QDNEBC	⑩-23

Dies ／ M70 × 1.5

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC070ODNEBC	⑩-11
					125			TYF070ODNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC070ODNEBC	⑩-23
					125			GYF070ODNEBC	⑩-23

Dies ／ M72 × 6

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	120	36	2.5P	TYC072YDNEBC	⑩-11
					125			TYF072YDNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	36	2.5P	GYC072YDNEBC	⑩-23
					125			GYF072YDNEBC	⑩-23

Dies ／ M72 × 4

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC072UDNEBC	⑩-11
					125			TYF072UDNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC072UDNEBC	⑩-23
					125			GYF072UDNEBC	⑩-23

Dies ／ M72 × 3

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC072SDNEBC	⑩-11
					125			TYF072SDNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC072SDNEBC	⑩-23
					125			GYF072SDNEBC	⑩-23

Dies ／ M72 × 2

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC072QDNEBC	⑩-11
					125			TYF072QDNEBC	⑩-11
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC072QDNEBC	⑩-23
					125			GYF072QDNEBC	⑩-23

Dies ／ M72 × 1.5

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC072ODNEBC	⑩-12
					125			TYF072ODNEBC	⑩-12
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC072ODNEBC	⑩-23
					125			GYF072ODNEBC	⑩-23

Dies ／ M75 × 6

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	120	36	2.5P	TYC075YDNEBC	⑩-12
					125			TYF075YDNEBC	⑩-12
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	36	2.5P	GYC075YDNEBC	⑩-23
					125			GYF075YDNEBC	⑩-24

Dies ／ M75 × 4

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC075UDNEBC	⑩-12
					125			TYF075UDNEBC	⑩-12
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC075UDNEBC	⑩-24
					125			GYF075UDNEBC	⑩-24

Dies ／ M75 × 3

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC075SDNEBC	⑩-12
					125			TYF075SDNEBC	⑩-12
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC075SDNEBC	⑩-24
					125			GYF075SDNEBC	⑩-24

Dies ／ M75 × 2

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC075QDNEBC	⑩-12
					125			TYF075QDNEBC	⑩-12
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC075QDNEBC	⑩-24
					125			GYF075QDNEBC	⑩-24

Dies ／ M75 × 1.5

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC075ODNEBC	⑩-12
					125			TYF075ODNEBC	⑩-12
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC075ODNEBC	⑩-24
					125			GYF075ODNEBC	⑩-24

Dies ／ M76 × 6

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Solid dies	HSS	1 2 15 16 18 19	D	II	120	36	2.5P	TYC076YDNEBC	⑩-12
					125			TYF076YDNEBC	⑩-12
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	36	2.5P	GYC076YDNEBC	⑩-24
					125			GYF076YDNEBC	⑩-24

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies / M76 × 4									
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC076UDNEBC	⑩-12
					125			TYF076UDNEBC	⑩-12
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC076UDNEBC	⑩-24
					125			GYF076UDNEBC	⑩-24
Dies / M76 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC076SDNEBC	⑩-12
					125			TYF076SDNEBC	⑩-12
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC076SDNEBC	⑩-24
					125			GYF076SDNEBC	⑩-24
Dies / M76 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC076QDNEBC	⑩-12
					125			TYF076QDNEBC	⑩-12
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC076QDNEBC	⑩-24
					125			GYF076QDNEBC	⑩-24
Dies / M76 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC076ODNEBC	⑩-12
					125			TYF076ODNEBC	⑩-12
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC076ODNEBC	⑩-24
					125			GYF076ODNEBC	⑩-24
Dies / M78 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC078QDNEBC	⑩-12
					125			TYF078QDNEBC	⑩-12
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC078QDNEBC	⑩-24
					125			GYF078QDNEBC	⑩-24
Dies / M80 × 6									
Solid dies	HSS	1 2 15 16 18 19	D	II	120	36	2.5P	TYC080YDNEBC	⑩-12
					125			TYF080YDNEBC	⑩-12
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	36	2.5P	GYC080YDNEBC	⑩-24
					125			GYF080YDNEBC	⑩-24
Dies / M80 × 4									
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC080UDNEBC	⑩-12
					125			TYF080UDNEBC	⑩-12
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC080UDNEBC	⑩-24
					125			GYF080UDNEBC	⑩-24
Dies / M80 × 3									
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC080SDNEBC	⑩-12
					125			TYF080SDNEBC	⑩-12
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC080SDNEBC	⑩-24
					125			GYF080SDNEBC	⑩-24

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies / M80 × 2									
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC080QDNEBC	⑩-12
					125			TYF080QDNEBC	⑩-12
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC080QDNEBC	⑩-24
					125			GYF080QDNEBC	⑩-24
Dies / M80 × 1.5									
Solid dies	HSS	1 2 15 16 18 19	D	II	120	30	2.5P	TYC080ODNEBC	⑩-12
					125			TYF080ODNEBC	⑩-12
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	120	30	2.5P	GYC080ODNEBC	⑩-24
					125			GYF080ODNEBC	⑩-24

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Taps ／ No.0-80UNF

Tap selection	Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Standard	2 3	PO	POPUN0B	PO	P1	36	3	5P	③-19
	1 2 3	HT	TNMPUN0B5	HT	P1	36	3	5P	④-21
			TNMPUN0B1					1.5P	④-21
Oxidizing	1 2 3	PO OX	POPUN0BX	PO	P1	36	3	5P	③-37
Thread forming taps for non-ferrous materials	18 19 21	N-RS	NRSM5UN0BP	RO	G5	36	3	4P	⑥-29
			NRSM5UN0BB					2P	⑥-29

Taps ／ No.1-64UNC

Tap selection	Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Standard	2 3	SP	SPPUN1D	SP	P1	42	3	2.5P	①-45
		PO	POPUN1D	PO				5P	③-19
	1 2 3	HT	TNMPUN1D5	HT	P1	42	3	5P	④-21
			TNMPUN1D1					1.5P	④-21

Taps ／ No.1-72UNF

Tap selection	Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Standard	2 3	PO	POPUN1C	PO	P1	42	3	5P	③-19
	1 2 3	HT	TNMPUN1C5	HT	P1	42	3	5P	④-21
			TNMPUN1C1					1.5P	④-21
Thread forming taps for non-ferrous materials	18 19 21	N-RS	NRSM5UN1CP	RO	G5	42	3	4P	⑥-29
			NRSM5UN1CB					2P	⑥-29

Taps ／ No.2-56UNC

Tap selection	Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Standard	2 3	SP	SPPUN2E	SP	P1	42	3	2.5P	①-45
		PO	POPUN2E	PO				5P	③-19
	1 2 3	HT	TNMPUN2E5	HT	P1	42	3	5P	④-21
			TNMPUN2E1					1.5P	④-21
Oxidizing	1 2 3	SP OX	SPPUN2EX	SP	P1	42	3	2.5P	①-68
		PO OX	POPUN2EX	PO				5P	③-37
For stainless steels	2 3 4 9	SU-SP	SUMPUN2E	SP	P1	42	3	2.5P	①-104
	1 2 3 4 9	SU-PO	PUMPUN2E	PO	P1	42	3	5P	③-64
Thread forming taps for non-ferrous materials	18 19 21	N-RS	NRSM4UN2EP	RO	G4	42	3	4P	⑥-29
			NRSM4UN2EB					2P	⑥-29
			NRSM5UN2EP		G5			4P	⑥-29
			NRSM5UN2EB					2P	⑥-29
			NRSM6UN2EP		G6			4P	⑥-29
			NRSM6UN2EB					2P	⑥-29
			NRSM7UN2EP		G7			4P	⑥-29
			NRSM7UN2EB					2P	⑥-30
Thread forming taps for dry tapping	1 2 3 4 5 9 19	OL-RZ	OLRZM4UN2EP	RO	G4	42	3	4P	⑥-43
			OLRZM5UN2EP		G5				⑥-43
High performance thread forming taps	1 2 3 4 5 9 19	HP-RZ	HRZM4UN2EB	RO	G4	42	3	2P	⑥-50
			HRZM5UN2EB		G5				⑥-50
Torqueless thread forming taps — Short chamfer	1 2 3 9 19 21	SC-TL-RZ	SRZM4UN2E1	RO	G4	42	3	1P	⑥-58
Torqueless thread forming taps — Seamless	1 2 9	SURZ	SURZ4UN2EB	RO	G4	42	3	2P	⑥-60

Taps ／ No.2-64UNF

Tap selection	Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Standard	2 3	SP	SPPUN2D	SP	P1	42	3	2.5P	①-45
		PO	POPUN2D	PO				5P	③-19
	1 2 3	HT	TNMPUN2D5	HT	P1	42	3	5P	④-21
			TNMPUN2D1					1.5P	④-21
Thread forming taps for dry tapping	1 2 3 4 5 9 19	OL-RZ	OLRZM4UN2DP	RO	G4	42	3	4P	⑥-43
High performance thread forming taps	1 2 3 4 5 9 19	HP-RZ	HRZM4UN2DB	RO	G4	42	3	2P	⑥-50

Taps ／ No.3-48UNC

Tap selection	Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Standard	2 3	SP	SPPUN3F	SP	P1	46	3	2.5P	①-45
		PO	POPUN3F	PO				5P	③-19
	1 2 3	HT	TNMPUN3F5	HT	P1	46	3	5P	④-21
			TNMPUN3F1					1.5P	④-21
For stainless steels	2 3 4 9	SU-SP	SUMPUN3F	SP	P1	46	3	2.5P	①-104
Thread forming taps for non-ferrous materials	18 19 21	N-RS	NRSM4UN3FP	RO	G4	46	3	4P	⑥-30
			NRSM4UN3FB					2P	⑥-30
			NRSM5UN3FP		G5			4P	⑥-30
			NRSM5UN3FB					2P	⑥-30
Thread forming taps for dry tapping	1 2 3 4 5 9 19	OL-RZ	OLRZM4UN3FP	RO	G4	46	3	4P	⑥-43
High performance thread forming taps	1 2 3 4 5 9 19	HP-RZ	HRZM4UN3FB	RO	G4	46	3	2P	⑥-50

Taps ／ No.3-56UNF

Tap selection	Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Standard	2 3	SP	SPPUN3E	SP	P1	46	3	2.5P	①-45
		PO	POPUN3E	PO				5P	③-19
	1 2 3	HT	TNMPUN3E5	HT	P1	46	3	5P	④-21
			TNMPUN3E1					1.5P	④-21
Thread forming taps for dry tapping	1 2 3 4 5 9 19	OL-RZ	OLRZM4UN3EP	RO	G4	46	3	4P	⑥-43
High performance thread forming taps	1 2 3 4 5 9 19	HP-RZ	HRZM4UN3EB	RO	G4	46	3	2P	⑥-50

Taps ／ No.4-40UNC

Tap selection		Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Standard		2 3	SP	SPPUN4H	SP	P1	46	4	2.5P	①-46
			PO	POQUN4H	PO	P2			5P	③-19
		1 2 3	HT	TNMQUN4H5	HT	P2	46	4	5P	④-21
				TNMQUN4H1					1.5P	④-21
	Oversize	1 2 3	HT	TNMRUN4H5	HT	P3	46	4	5P	④-21
				TNMRUN4H1					1.5P	④-21
Oxidizing		1 2 3	SP OX	SPPUN4HX	SP	P1	46	4	2.5P	①-68
			PO OX	POQUN4HX	PO	P2			5P	③-37
Thread forming taps for steels		1 2	N-RZ	NRZM5UN4HB	RO	G5	46	4	2P	⑥-17
For titanium alloys		22	ZET-P	ZETPMRUN4H	SL	P3	46	4	5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMQUN4H	SP	P2	46	4	3P	①-166
			ZEN-P	ZENPMRUN4H	PO	P3			4.5P	③-90
For stainless steels		2 3 4 9	SU-SP	SUMPUN4H	SP	P1	46	4	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMQUN4H	PO	P2	46	4	5P	③-64
For cast irons	Carbide	12 13 16	N-CT FC	TCNRUN4H3	HT	P3	44	3	3P	⑤-13
				TCNRUN4H1					1.5P	⑤-13

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM5UN4HP	RO	G5	46	4	4P	⑥-30
				NRSM5UN4HB					2P	⑥-30
				NRSM6UN4HP		G6			4P	⑥-30
				NRSM6UN4HB					2P	⑥-30
				NRSM7UN4HP		G7			4P	⑥-30
				NRSM7UN4HB					2P	⑥-30
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL-RZ	OLRZM5UN4HP	RO	G5	46	4	4P	⑥-43
				OLRZM6UN4HP		G6				⑥-43
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM5UN4HB	RO	G5	46	4	2P	⑥-50
				HRZM6UN4HB		G6				⑥-50
Torqueless thread forming taps	Short chamfer	1 2 3 9 19 21	SC-TL-RZ	SRZM5UN4H1	RO	G5	46	4	1P	⑥-58
	Seamless	1 2 9	SURZ	SURZ5UN4HB	RO	G5	46	4	2P	⑥-60
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWUN4H1LEB5	HT	I b	52	5	5P	⑦-5
				TWUN4H1LEBA					1.5P	⑦-5

Taps ／ No.4-48UNF

Standard		2 3	SP	SPPUN4F	SP	P1	46	4	2.5P	①-46
			PO	POPUN4F	PO				5P	③-19
		1 2 3	HT	TNMPUN4F5	HT	P1	46	4	5P	④-21
				TNMPUN4F1					1.5P	④-21
	Oversize	1 2 3	HT	TNMRUN4F5	HT	P3	46	4	5P	④-21
				TNMRUN4F1					1.5P	④-21
For stainless steels		2 3 4 9	SU-SP	SUMPUN4F	SP	P1	46	4	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMPUN4F	PO	P1	46	4	5P	③-64
For cast irons	Carbide	12 13 16	N-CT FC	TCNRUN4F3	HT	P3	44	3	3P	⑤-13
				TCNRUN4F1					1.5P	⑤-13
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM5UN4FP	RO	G5	46	4	4P	⑥-30
				NRSM5UN4FB					2P	⑥-30
				NRSM6UN4FP		G6			4P	⑥-30
				NRSM6UN4FB					2P	⑥-30
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL-RZ	OLRZM5UN4FP	RO	G5	46	4	4P	⑥-43
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM5UN4FB	RO	G5	46	4	2P	⑥-50
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWUN4F1LEB5	HT	I b	52	5	5P	⑦-5
				TWUN4F1LEBA					1.5P	⑦-5

Taps ／ No.5-40UNC

Standard		2 3	SP	SPPUN5H	SP	P1	52	5	2.5P	①-46
			PO	POQUN5H	PO	P2			5P	③-19
		1 2 3	HT	TNMQUN5H5	HT	P2	52	5	5P	④-21
				TNMQUN5H1					1.5P	④-21
	Oversize	1 2 3	HT	TNMRUN5H5	HT	P3	52	5	5P	④-21
				TNMRUN5H1					1.5P	④-21
For left hand threads		1 2 3	HT LH	TNMQUN5H5-L	HT	P2	52	5	5P	④-71
				TNMQUN5H1-L					1.5P	④-71
Oxidizing		1 2 3	SP OX	SPPUN5HX	SP	P1	52	5	2.5P	①-68
			PO OX	POQUN5HX	PO	P2			5P	③-37
For stainless steels		2 3 4 9	SU-SP	SUMPUN5H	SP	P1	52	5	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMQUN5H	PO	P2	52	5	5P	③-64
For cast irons	Carbide	12 13 16	N-CT FC	TCNRUN5H3	HT	P3	46	4	3P	⑤-13
				TCNRUN5H1					1.5P	⑤-13
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM5UN5HP	RO	G5	52	5	4P	⑥-30
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL-RZ	OLRZM5UN5HP	RO	G5	52	5	4P	⑥-43
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM5UN5HP	RO	G5	52	5	4P	⑥-50
				HRZM5UN5HB					2P	⑥-50
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWUN5H1LEB5	HT	I b	52	5	5P	⑦-5
				TWUN5H1LEBA					1.5P	⑦-5

Taps ／ No.5-44UNF

Standard		2 3	SP	SPPUN5G	SP	P1	52	5	2.5P	①-46
			PO	POPUN5G	PO				5P	③-19
		1 2 3	HT	TNMPUN5G5	HT	P1	52	5	5P	④-21
				TNMPUN5G1					1.5P	④-22
	Oversize	1 2 3	HT	TNMRUN5G5	HT	P3	52	5	5P	④-22
				TNMRUN5G1					1.5P	④-22
For stainless steels		2 3 4 9	SU-SP	SUMPUN5G	SP	P1	52	5	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMPUN5G	PO	P1	52	5	5P	③-64
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM6UN5GB	RO	G6	52	5	2P	⑥-30
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL-RZ	OLRZM5UN5GP	RO	G5	52	5	4P	⑥-43
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM5UN5GP	RO	G5	52	5	4P	⑥-50
				HRZM5UN5GB					2P	⑥-50

Taps ／ No.6-32UNC

Standard		2 3	SP	SPQUN6J	SP	P2	52	5	2.5P	①-46
			PO	POQUN6J	PO				5P	③-19
		1 2 3	HT	TNMQUN6J5	HT	P2	52	5	5P	④-22
				TNMQUN6J1					1.5P	④-22
	Oversize	1 2 3	HT	TNMRUN6J5	HT	P3	52	5	5P	④-22
				TNMRUN6J1					1.5P	④-22
Oxidizing		1 2 3	SP OX	SPQUN6JX	SP	P2	52	5	2.5P	①-68
			PO OX	POQUN6JX	PO				5P	③-37
Thread forming taps for steels		1 2	N-RZ	NRZM6UN6JB	RO	G6	52	5	2P	⑥-17
For hard-to-machine materials	Powdered HSS	3 5 6	PM-PO	PYUN6JQDPB	PO	P2	52	5	5.5P	③-99
For titanium alloys		22	ZET-B	ZETBMRUN6J	SP	P3	52	5	3P	①-158
			ZET-P	ZETPMRUN6J	SL				5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMRUN6J	SP	P3	52	5	3P	①-166
			ZEN-P	ZENPMRUN6J	PO				4.5P	③-90
For stainless steels		2 3 4 9	SU-SP	SUMQUN6J	SP	P2	52	5	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMQUN6J	PO	P2	52	5	5P	③-64
For cast irons	Carbide	12 13 16	N-CT FC	TCNRUN6J3	HT	P3	48	4	3P	⑤-13
				TCNRUN6J1					1.5P	⑤-13
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM5UN6JP	RO	G5	52	5	4P	⑥-30
				NRSM5UN6JB					2P	⑥-30
				NRSM6UN6JP		G6			4P	⑥-30
				NRSM6UN6JB					2P	⑥-30
				NRSM7UN6JP		G7			4P	⑥-30
				NRSM7UN6JB					2P	⑥-30

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL-RZ	OLRZM5UN6JP	RO	G5	52	5	4P	⑥-43
				OLRZM6UN6JP		G6				⑥-43
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM5UN6JP	RO	G5	52	5	4P	⑥-50
				HRZM5UN6JB					2P	⑥-50
				HRZM6UN6JP		G6			4P	⑥-50
				HRZM6UN6JB					2P	⑥-50
Torqueless thread forming taps	Seamless	1 2 9	SURZ	SURZ5UN6JB	RO	G5	52	5	2P	⑥-60
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWUN6J1LEB5	HT	I b	60	5.5	5P	⑦-5
				TWUN6J1LEBA					1.5P	⑦-5

Taps ／ No.6-40UNF

Standard		2 3	SP	SPPUN6H	SP	P1	52	5	2.5P	①-46
			PO	POQUN6H	PO	P2			5P	③-19
		1 2 3	HT	TNMQUN6H5	HT	P2	52	5	5P	④-22
				TNMQUN6H1					1.5P	④-22
	Oversize	1 2 3	HT	TNMRUN6H5	HT	P3	52	5	5P	④-22
				TNMRUN6H1					1.5P	④-22
Oxidizing		1 2 3	PO OX	POQUN6HX	PO	P2	52	5	5P	③-37
For hard-to-machine materials	Powdered HSS	3 5 6	PM-PO	PYUN6HQDPB	PO	P2	52	5	5.5P	③-99
For stainless steels		2 3 4 9	SU-SP	SUMPUN6H	SP	P1	52	5	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMQUN6H	PO	P2	52	5	5P	③-64
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM5UN6HP	RO	G5	52	5	4P	⑥-30
				NRSM5UN6HB					2P	⑥-30
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL-RZ	OLRZM5UN6HP	RO	G5	52	5	4P	⑥-43
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM5UN6HP	RO	G5	52	5	4P	⑥-50
				HRZM5UN6HB					2P	⑥-50
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWUN6H1LEB5	HT	I b	60	5.5	5P	⑦-5
				TWUN6H1LEBA					1.5P	⑦-5

Taps ／ No.8-32UNC

Standard		2 3	SP	SPQUN8J	SP	P2	60	5.5	2.5P	①-46
			PO	POQUN8J	PO				5P	③-19
		1 2 3	HT	TNMQUN8J5	HT	P2	60	5.5	5P	④-22
				TNMQUN8J1					1.5P	④-22
	Oversize	1 2 3	HT	TNMRUN8J5	HT	P3	60	5.5	5P	④-22
				TNMRUN8J1					1.5P	④-22
				TNMSUN8J5		P4			5P	④-22
				TNMSUN8J1					1.5P	④-22
Oxidizing		1 2 3	SP OX	SPQUN8JX	SP	P2	60	5.5	2.5P	①-68
			PO OX	POQUN8JX	PO				5P	③-37
For hard-to-machine materials	Powdered HSS	3 5 6	PM-PO	PYUN8JQDPB	PO	P2	60	5.5	5.5P	③-99
For titanium alloys		22	ZET-B	ZETBMRUN8J	SP	P3	60	5.5	3P	①-158
			ZET-P	ZETPMRUN8J	SL				5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMRUN8J	SP	P3	60	5.5	3P	①-166
			ZEN-P	ZENPMRUN8J	PO				4.5P	③-90
For stainless steels		2 3 4 9	SU-SP	SUMQUN8J	SP	P2	60	5.5	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMQUN8J	PO	P2	60	5.5	5P	③-64
For cast irons	Carbide	12 13 16	N-CT FC	TCNRUN8J3	HT	P3	52	5	3P	⑤-13
				TCNRUN8J1					1.5P	⑤-13

Tap selection		Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM6UN8JP	RO	G6	60	5.5	4P	⑥-30
				NRSM6UN8JB					2P	⑥-30
				NRSM7UN8JP		G7			4P	⑥-30
				NRSM7UN8JB					2P	⑥-30
				NRSM8UN8JP		G8			4P	⑥-30
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL-RZ	OLRZM6UN8JP	RO	G6	60	5.5	4P	⑥-43
				OLRZM7UN8JP		G7				⑥-43
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM6UN8JP	RO	G6	60	5.5	4P	⑥-50
				HRZM6UN8JB					2P	⑥-50
				HRZM7UN8JP		G7			4P	⑥-50
				HRZM7UN8JB					2P	⑥-50
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWUN8J1LEB5	HT	I b	62	6	5P	⑦-5
				TWUN8J1LEBA					1.5P	⑦-5

Taps ／ No.8-36UNF

Standard		2 3	SP	SPQUN8I	SP	P2	60	5.5	2.5P	①-46
			PO	POQUN8I	PO				5P	③-19
		1 2 3	HT	TNMQUN8I5	HT	P2	60	5.5	5P	④-22
				TNMQUN8I1					1.5P	④-22
	Oversize	1 2 3	HT	TNMRUN8I5	HT	P3	60	5.5	5P	④-22
				TNMRUN8I1					1.5P	④-22
For hard-to-machine materials	Powdered HSS	3 5 6	PM-PO	PYUN8IQDPB	PO	P2	60	5.5	5.5P	③-99
For stainless steels		2 3 4 9	SU-SP	SUMQUN8I	SP	P2	60	5.5	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMQUN8I	PO	P2	60	5.5	5P	③-64
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM5UN8IP	RO	G5	60	5.5	4P	⑥-30
				NRSM5UN8IB					2P	⑥-30
				NRSM6UN8IB		G6				⑥-30
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL-RZ	OLRZM6UN8IP	RO	G6	60	5.5	4P	⑥-43
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM6UN8IP	RO	G6	60	5.5	4P	⑥-50
				HRZM6UN8IB					2P	⑥-50
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWUN8I1LEB5	HT	I b	62	6	5P	⑦-5
				TWUN8I1LEBA					1.5P	⑦-5

Taps ／ No.10-24UNC

Standard		2 3	SP	SPQUNAM	SP	P2	60	5.5	2.5P	①-46
			PO	POQUNAM	PO				5P	③-19
		1 2 3	HT	TNMQUNAM5	HT	P2	60	5.5	5P	④-22
				TNMQUNAM1					1.5P	④-22
	Oversize	1 2 3	HT	TNMRUNAM5	HT	P3	60	5.5	5P	④-22
				TNMRUNAM1					1.5P	④-22
For left hand threads		1 2 3	HT LH	TNMQUNAM5-L	HT	P2	60	5.5	5P	④-71
				TNMQUNAM1-L					1.5P	④-71
Oxidizing		1 2 3	SP OX	SPQUNAMX	SP	P2	60	5.5	2.5P	①-68
			PO OX	POQUNAMX	PO				5P	③-38
For hard-to-machine materials	Powdered HSS	3 5 6	PM-PO	PYUNAMQDPB	PO	P2	60	5.5	5.5P	③-99
For titanium alloys		22	ZET-B	ZETBMRUNAM	SP	P3	60	5.5	3P	①-158
			ZET-P	ZETPMRUNAM	SL				5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMRUNAM	SP	P3	60	5.5	3P	①-166
			ZEN-P	ZENPMRUNAM	PO				4.5P	③-90

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For stainless steels		2 3 4 9	SU-SP	SUMQUNAM	SP	P2	60	5.5	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMQUNAM	PO	P2	60	5.5	5P	③-64
For cast irons	Carbide	12 13 16	N-CT FC	TCNRUNAM3	HT	P3	60	5.5	3P	⑤-13
				TCNRUNAM1					1.5P	⑤-13
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM6UNAMP	RO	G6	60	5.5	4P	⑥-30
				NRSM6UNAMB					2P	⑥-30
				NRSM7UNAMP		G7			4P	⑥-30
				NRSM7UNAMB					2P	⑥-30
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL-RZ	OLRZM6UNAMP	RO	G6	60	5.5	4P	⑥-43
				OLRZM7UNAMP		G7				⑥-43
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM6UNAMP	RO	G6	60	5.5	4P	⑥-50
				HRZM6UNAMB					2P	⑥-50
				HRZM7UNAMP		G7			4P	⑥-50
				HRZM7UNAMB					2P	⑥-50
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWUNAM1LEB5	HT	I b	62	6	5P	⑦-5
				TWUNAM1LEBA					1.5P	⑦-5

Taps ／ No.10-32UNF

Tap selection		Main material	Symbol	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard		2 3	SP	SPQUNAJ	SP	P2	60	5.5	2.5P	①-46
			PO	POQUNAJ	PO				5P	③-19
		1 2 3	HT	TNMQUNAJ5	HT	P2	60	5.5	5P	④-22
				TNMQUNAJ1					1.5P	④-22
	Oversize	1 2 3	HT	TNMRUNAJ5	HT	P3	60	5.5	5P	④-22
				TNMRUNAJ1					1.5P	④-22
Oxidizing		1 2 3	SP OX	SPQUNAJX	SP	P2	60	5.5	2.5P	①-68
			PO OX	POQUNAJX	PO				5P	③-38
For hard-to-machine materials	Powdered HSS	3 5 6	PM-PO	PYUNAJQDPB	PO	P2	60	5.5	5.5P	③-99
For titanium alloys		22	ZET-B	ZETBMRUNAJ	SP	P3	60	5.5	3P	①-158
			ZET-P	ZETPMRUNAJ	SL				5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMRUNAJ	SP	P3	60	5.5	3P	①-166
			ZEN-P	ZENPMRUNAJ	PO				4.5P	③-90
For stainless steels		2 3 4 9	SU-SP	SUMQUNAJ	SP	P2	60	5.5	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMQUNAJ	PO	P2	60	5.5	5P	③-64
For cast irons	Carbide	12 13 16	N-CT FC	TCNRUNAJ3	HT	P3	60	5.5	3P	⑤-13
				TCNRUNAJ1					1.5P	⑤-13
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM6UNAJP	RO	G6	60	5.5	4P	⑥-30
				NRSM6UNAJB					2P	⑥-30
				NRSM7UNAJP		G7			4P	⑥-30
				NRSM7UNAJB					2P	⑥-30
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL-RZ	OLRZM6UNAJP	RO	G6	60	5.5	4P	⑥-43
				OLRZM7UNAJP		G7				⑥-43
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM6UNAJP	RO	G6	60	5.5	4P	⑥-50
				HRZM6UNAJB					2P	⑥-50
				HRZM7UNAJP		G7			4P	⑥-50
				HRZM7UNAJB					2P	⑥-50
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWUNAJ1LEB5	HT	I b	62	6	5P	⑦-5
				TWUNAJ1LEBA					1.5P	⑦-5

Taps ／ No.12-24UNC

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard		2 3	SP	SPQUNCM	SP	P2	62	6	2.5P	①-46
			PO	POQUNCM	PO				5P	③-19
		1 2 3	HT	TNMQUNCM5	HT	P2	62	6	5P	④-22
				TNMQUNCM1					1.5P	④-22
	Oversize	1 2 3	HT	TNMRUNCM5	HT	P3	62	6	5P	④-22
Oxidizing		1 2 3	PO OX	POQUNCMX	PO	P2	62	6	5P	③-38
For hard-to-machine materials	Powdered HSS	3 5 6	PM-PO	PYUNCMQDPB	PO	P2	62	6	5.5P	③-99
For stainless steels		2 3 4 9	SU-SP	SUMQUNCM	SP	P2	62	6	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMQUNCM	PO	P2	62	6	5P	③-64
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL-RZ	OLRZM6UNCMP	RO	G6	62	6	4P	⑥-43
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM6UNCMP	RO	G6	62	6	4P	⑥-50
				HRZM6UNCMB					2P	⑥-50
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWUNCM1LEB5	HT	I b	70	6.2	5P	⑦-5
				TWUNCM1LEBA					1.5P	⑦-5

Taps ／ No.12-28UNF

Tap selection		Main material	Symbol	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard		2 3	SP	SPQUNCK	SP	P2	62	6	2.5P	①-46
			PO	POQUNCK	PO				5P	③-19
		1 2 3	HT	TNMQUNCK5	HT	P2	62	6	5P	④-22
				TNMQUNCK1					1.5P	④-22
	Oversize	1 2 3	HT	TNMRUNCK5	HT	P3	62	6	5P	④-22
				TNMRUNCK1					1.5P	④-22
For left hand threads		1 2 3	HT LH	TNMQUNCK5-L	HT	P2	62	6	5P	④-71
				TNMQUNCK1-L					1.5P	④-71
Oxidizing		1 2 3	PO OX	POQUNCKX	PO	P2	62	6	5P	③-38
For hard-to-machine materials	Powdered HSS	3 5 6	PM-PO	PYUNCKQDPB	PO	P2	62	6	5.5P	③-99
For stainless steels		2 3 4 9	SU-SP	SUMQUNCK	SP	P2	62	6	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMQUNCK	PO	P2	62	6	5P	③-64
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL-RZ	OLRZM6UNCKP	RO	G6	62	6	4P	⑥-43
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM6UNCKP	RO	G6	62	6	4P	⑥-50
				HRZM6UNCKB					2P	⑥-50

Taps ／ No.12-32UNEF

Tap selection		Main material	Symbol	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard		1 2 3	HT	TNMQUNCJ5	HT	P2	62	6	5P	④-22
				TNMQUNCJ1					1.5P	④-22

Taps ／ 1/4-20UNC

Tap selection		Main material	Symbol	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard		2 3	SP	SPQU04N	SP	P2	62	6	2.5P	①-46
			PO	POQU04N	PO				5P	③-19
		1 2 3	HT	TNMQU04N5	HT	P2	62	6	5P	④-22
				TNMQU04N1					1.5P	④-22
	Oversize	1 2 3	HT	TNMRU04N5	HT	P3	62	6	5P	④-22
				TNMRU04N1					1.5P	④-22
				TNMSU04N5		P4			5P	④-22
				TNMSU04N1					1.5P	④-22
For left hand threads		2 3	SP LH	SPQU04N--L	SP	P2	62	6	2.5P	①-82
			PO LH	POQU04N–L	PO				5P	③-49
Oxidizing		1 2 3	SP OX	SPQU04NX	SP	P2	62	6	2.5P	①-68
			PO OX	POQU04NX	PO				5P	③-38

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*D*s	ℓc

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*D*s	ℓc	Product page
Long		2 3	LS-SP	SPFQU04NL10	SP	P2	100	6	2.5P	①-94
				SPFQU04NL15			150			①-94
			LS-PO	POFQU04NL10	PO		100		5P	③-56
				POFQU04NL15			150			③-56
		1 2 3	LS-HT	TNFQU04N515	HT	P2	150	6	5P	④-81
				TNFQU04N520			200			④-81
				TNFQU04N115			150		1.5P	④-81
				TNFQU04N120			200			④-81
For hard-to-machine materials	Powdered HSS	3 5 6	PM-PO	PYU04NRDPB	PO	P3	62	6	5.5P	③-99
For titanium alloys		22	ZET-B	ZETBMRU04N	SP	P3	62	6	3P	①-158
			ZET-P	ZETPMRU04N	SL				5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMRU04N	SP	P3	62	6	3P	①-166
			ZEN-P	ZENPMRU04N	PO				4.5P	③-90
For stainless steels		2 3 4 9	SU-SP	SUMQU04N	SP	P2	62	6	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMQU04N	PO	P2	62	6	5P	③-64
		1 2 9	SU-HT	TUMQU04N4	HT	P2	62	6	4P	④-91
				TUMQU04N1					1.5P	④-91
For cast irons	Carbide	12 13 16	N-CT FC	TCNRU04N3	HT	P3	62	6	3P	⑤-13
				TCNRU04N1					1.5P	⑤-13
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM6U04NP	RO	G6	62	6	4P	⑥-30
				NRSM6U04NB					2P	⑥-30
				NRSM7U04NP		G7			4P	⑥-30
				NRSM7U04NB					2P	⑥-30
				NRSM8U04NP		G8			4P	⑥-30
				NRSM8U04NB					2P	⑥-30
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL-RZ	OLRZM7U04NP	RO	G7	62	6	4P	⑥-43
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM7U04NP	RO	G7	62	6	4P	⑥-50
				HRZM7U04NB					2P	⑥-50
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWU04N1LEB5	HT	I b	70	6.2	5P	⑦-5
				TWU04N1LEBA					1.5P	⑦-5
Tripod		15 16 19 20 21	HT TRI	TYU04N0KEB3	HT	-	62	6	3P	⑦-30
				TYU04N0KEBA					1.5P	⑦-30
			SP TRI	SYU04N0KEB	SP				2.5P	⑦-31

Taps ／ 1/4-28UNF

Standard		2 3	SP	SPQU04K	SP	P2	62	6	2.5P	①-46
			PO	POQU04K	PO				5P	③-19
		1 2 3	HT	TNMQU04K5	HT	P2	62	6	5P	④-22
				TNMQU04K1					1.5P	④-22
	Oversize	1 2 3	HT	TNMSU04K5	HT	P4	62	6	5P	④-22
				TNMSU04K1					1.5P	④-22
For left hand threads		2 3	SP LH	SPQU04K–L	SP	P2	62	6	2.5P	①-82
			PO LH	POQU04K--L	PO				5P	③-49
		1 2 3	HT LH	TNMQU04K5-L	HT	P2	62	6	5P	④-71
				TNMQU04K1-L					1.5P	④-71
Oxidizing		1 2 3	SP OX	SPQU04KX	SP	P2	62	6	2.5P	①-68
			PO OX	POQU04KX	PO				5P	③-38
Long		2 3	LS-SP	SPFQU04KL10	SP	P2	100	6	2.5P	①-94
				SPFQU04KL15			150			①-94
			LS-PO	POFQU04KL10	PO		100		5P	③-56
				POFQU04KL15			150			③-56

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*D*s	ℓc	Product page
Long		1 2 3	LS-HT	TNFQU04K515	HT	P2	150	6	5P	④-81
				TNFQU04K520			200			④-81
				TNFQU04K115			150		1.5P	④-81
				TNFQU04K120			200			④-81
For hard-to-machine materials	Powdered HSS	3 5 6	PM-PO	PYU04KRDPB	PO	P3	62	6	5.5P	③-99
For titanium alloys		22	ZET-B	ZETBMRU04K	SP	P3	62	6	3P	①-158
			ZET-P	ZETPMRU04K	SL				5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMRU04K	SP	P3	62	6	3P	①-166
			ZEN-P	ZENPMRU04K	PO				4.5P	③-90
For stainless steels		2 3 4 9	SU-SP	SUMQU04K	SP	P2	62	6	2.5P	①-104
		1 2 3 4 9	SU-PO	PUMQU04K	PO	P2	62	6	5P	③-64
		1 2 9	SU-HT	TUMQU04K4	HT	P2	62	6	4P	④-91
				TUMQU04K1					1.5P	④-91
For cast irons	Carbide	12 13 16	N-CT FC	TCNRU04K3	HT	P3	62	6	3P	⑤-13
				TCNRU04K1					1.5P	⑤-13
Thread forming taps for non-ferrous materials		18 19 21	N-RS	NRSM6U04KP	RO	G6	62	6	4P	⑥-30
				NRSM6U04KB					2P	⑥-30
				NRSM7U04KB		G7				⑥-30
Thread forming taps for dry tapping		1 2 3 4 5 9 19	OL-RZ	OLRZM7U04KP	RO	G7	62	6	4P	⑥-43
High performance thread forming taps		1 2 3 4 5 9 19	HP-RZ	HRZM7U04KP	RO	G7	62	6	4P	⑥-50
				HRZM7U04KB					2P	⑥-50
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWU04K1LEB5	HT	I b	70	6.2	5P	⑦-5
				TWU04K1LEBA					1.5P	⑦-5

Taps ／ 1/4-32UNEF

Standard		2 3	SP	SPQU04J	SP	P2	62	6	2.5P	①-46
			PO	POQU04J	PO				5P	③-19
		1 2 3	HT	TNMQU04J5	HT	P2	62	6	5P	④-22
				TNMQU04J1					1.5P	④-22

Taps ／ 1/4-36UNS

Standard		2 3	SP	SPQU04I	SP	P2	62	6	2.5P	①-46
			PO	POQU04I	PO				5P	③-19
		1 2 3	HT	TNMQU04I5	HT	P2	62	6	5P	④-23
				TNMQU04I1					1.5P	④-23

Taps ／ 5/16-18UNC

Standard		2 3	SP	SPQU05O	SP	P2	70	6.2	2.5P	①-46
			PO	PORU05O	PO	P3			5P	③-19
		1 2 3	HT	TNMRU05O5	HT	P3	70	6.2	5P	④-23
				TNMRU05O1					1.5P	④-23
	Oversize	1 2 3	HT	TNMSU05O5	HT	P4	70	6.2	5P	④-23
				TNMSU05O1					1.5P	④-23
For left hand threads		2 3	SP LH	SPQU05O--L	SP	P2	70	6.2	2.5P	①-82
			PO LH	PORU05O–L	PO	P3			5P	③-49
Oxidizing		1 2 3	SP OX	SPQU05OX	SP	P2	70	6.2	2.5P	①-68
			PO OX	PORU05OX	PO	P3			5P	③-38
Long		2 3	LS-SP	SPQU05OL10	SP	P2	100	6.2	2.5P	①-94
				SPQU05OL15			150			①-94
			LS-PO	PORU05OL10	PO	P3	100		5P	③-56
				PORU05OL15			150			③-56

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Long		1 2 3	LS-HT	TNMQU05O515	HT	P2	150	6.2	5P	④-81
				TNMQU05O520			200			④-81
				TNMQU05O115			150		1.5P	④-81
				TNMQU05O120			200			④-81
Thread forming taps for steels		1 2	N-RZ	NRZM7U05OP	RO	G7	70	6.2	4P	⑥-17
				NRZM7U05OB					2P	⑥-17
For hard-to-machine materials	Powdered HSS	3 5 6	PM-SP	SYU05ORDPB	SP	P3	70	6.2	2.75P	①-175
			PM-PO	PYU05ORDPB	PO				5.5P	③-99
For titanium alloys		22	ZET-B	ZETBMRU05O	SP	P3	70	6.2	3P	①-158
			ZET-P	ZETPMSU05O	SL	P4			5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMRU05O	SP	P3	70	6.2	3P	①-166
			ZEN-P	ZENPMSU05O	PO	P4			4.5P	③-90
For stainless steels		2 3 4 9	SU-SP	SUMQU05O	SP	P2	70	6.2	2.5P	①-105
		1 2 3 4 9	SU-PO	PUMRU05O	PO	P3	70	6.2	5P	③-64
		1 2 9	SU-HT	TUMRU05O4	HT	P3	70	6.2	4P	④-91
				TUMRU05O1					1.5P	④-91
For cast irons	Carbide	12 13 16	N-CT FC	TCNRU05O3	HT	P3	70	6.1	3P	⑤-13
				TCNRU05O1					1.5P	⑤-13
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWU05O1LEB5	HT	I b	75	7	5P	⑦-5
				TWU05O1LEBA					1.5P	⑦-5

Taps ／ 5/16-24UNF

Standard		2 3	SP	SPQU05M	SP	P2	70	6.2	2.5P	①-46
			PO	POQU05M	PO				5P	③-19
		1 2 3	HT	TNMQU05M5	HT	P2	70	6.2	5P	④-23
				TNMQU05M1					1.5P	④-23
	Oversize	1 2 3	HT	TNMSU05M5	HT	P4	70	6.2	5P	④-23
				TNMSU05M1					1.5P	④-23
For left hand threads		2 3	SP LH	SPQU05M--L	SP	P2	70	6.2	2.5P	①-82
			PO LH	POQU05M--L	PO				5P	③-49
		1 2 3	HT LH	TNMQU05M5-L	HT	P2	70	6.2	5P	④-71
				TNMQU05M1-L					1.5P	④-71
Oxidizing		1 2 3	SP OX	SPQU05MX	SP	P2	70	6.2	2.5P	①-68
			PO OX	POQU05MX	PO				5P	③-38
Long		2 3	LS-SP	SPQU05ML10	SP	P2	100	6.2	2.5P	①-94
				SPQU05ML15			150			①-94
			LS-PO	POQU05ML10	PO		100		5P	③-56
				POQU05ML15			150			③-56
		1 2 3	LS-HT	TNMQU05M515	HT	P2	150	6.2	5P	④-81
				TNMQU05M520			200			④-81
				TNMQU05M115			150		1.5P	④-81
				TNMQU05M120			200			④-81
For hard-to-machine materials	Powdered HSS	3 5 6	PM-SP	SYU05MRDPB	SP	P3	70	6.2	2.75P	①-175
			PM-PO	PYU05MRDPB	PO				5.5P	③-99
For titanium alloys		22	ZET-B	ZETBMRU05M	SP	P3	70	6.2	3P	①-158
			ZET-P	ZETPMSU05M	SL	P4			5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMRU05M	SP	P3	70	6.2	3P	①-166
			ZEN-P	ZENPMSU05M	PO	P4			4.5P	③-90
For stainless steels		2 3 4 9	SU-SP	SUMQU05M	SP	P2	70	6.2	2.5P	①-105
		1 2 3 4 9	SU-PO	PUMQU05M	PO	P2	70	6.2	5P	③-64
		1 2 9	SU-HT	TUMQU05M4	HT	P2	70	6.2	4P	④-91
				TUMQU05M1					1.5P	④-92

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For cast irons	Carbide	12 13 16	N-CT FC	TCNRU05M3	HT	P3	70	6.1	3P	⑤-13
				TCNRU05M1					1.5P	⑤-13
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWU05M1LEB5	HT	I b	75	7	5P	⑦-5
				TWU05M1LEBA					1.5P	⑦-5

Taps ／ 5/16-32UNEF

Standard		2 3	SP	SPQU05J	SP	P2	70	6.2	2.5P	①-46
			PO	POQU05J	PO				5P	③-19
		1 2 3	HT	TNMQU05J5	HT	P2	70	6.2	5P	④-23
				TNMQU05J1					1.5P	④-23

Taps ／ 3/8-16UNC

Standard		2 3	SP	SPQU06P	SP	P2	75	7	2.5P	①-46
			PO	PORU06P	PO	P3			5P	③-19
		1 2 3	HT	TNMRU06P5	HT	P3	75	7	5P	④-23
				TNMRU06P1					1.5P	④-23
	Oversize	1 2 3	HT	TNMSU06P5	HT	P4	75	7	5P	④-23
				TNMSU06P1					1.5P	④-23
For left hand threads		2 3	SP LH	SPQU06P--L	SP	P2	75	7	2.5P	①-82
			PO LH	PORU06P--L	PO	P3			5P	③-49
Oxidizing		1 2 3	SP OX	SPQU06PX	SP	P2	75	7	2.5P	①-68
			PO OX	PORU06PX	PO	P3			5P	③-38
Long		2 3	LS-SP	SPQU06PL10	SP	P2	100	7	2.5P	①-94
				SPQU06PL15			150			①-94
				SPQU06PL20			200			①-94
			LS-PO	PORU06PL10	PO	P3	100		5P	③-56
				PORU06PL15			150			③-56
		1 2 3	LS-HT	TNMQU06P515	HT	P2	150	7	5P	④-81
				TNMQU06P520			200			④-81
				TNMQU06P115			150		1.5P	④-81
				TNMQU06P120			200			④-81
For hard-to-machine materials	Powdered HSS	3 5 6	PM-SP	SYU06PRDPB	SP	P3	75	7	2.75P	①-175
			PM-PO	PYU06PSDPB	PO	P4			5.5P	③-99
For titanium alloys		22	ZET-B	ZETBMRU06P	SP	P3	75	7	3P	①-158
			ZET-P	ZETPMSU06P	SL	P4			5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMRU06P	SP	P3	75	7	3P	①-166
			ZEN-P	ZENPMSU06P	PO	P4			4.5P	③-90
For stainless steels		2 3 4 9	SU-SP	SUMQU06P	SP	P2	75	7	2.5P	①-105
		1 2 3 4 9	SU-PO	PUMRU06P	PO	P3	75	7	5P	③-64
		1 2 9	SU-HT	TUMRU06P4	HT	P3	75	7	4P	④-92
				TUMRU06P1					1.5P	④-92
For cast irons	Carbide	12 13 16	N-CT FC	TCNRU06P3	HT	P3	75	7	3P	⑤-13
				TCNRU06P1					1.5P	⑤-13
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWU06P1LEB5	HT	I b	82	8.5	5P	⑦-5
				TWU06P1LEBA					1.5P	⑦-5

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*D*s	*ℓ*c

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*D*s	*ℓ*c	Product page
Taps ／ 3/8-24UNF										
Standard		2 3	SP	SPQU06M	SP	P2	75	7	2.5P	①-46
			PO	POQU06M	PO				5P	③-19
		1 2 3	HT	TNMRU06M5	HT	P3	75	7	5P	④-23
				TNMRU06M1					1.5P	④-23
	Oversize	1 2 3	HT	TNMSU06M5	HT	P4	75	7	5P	④-23
				TNMSU06M1					1.5P	④-23
For left hand threads		2 3	SP LH	SPQU06M–L	SP	P2	75	7	2.5P	①-82
			PO LH	POQU06M--L	PO				5P	③-49
Oxidizing		1 2 3	SP OX	SPQU06MX	SP	P2	75	7	2.5P	①-68
			PO OX	POQU06MX	PO				5P	③-38
Long		2 3	LS-SP	SPQU06ML10	SP	P2	100	7	2.5P	①-94
				SPQU06ML15			150			①-94
				SPQU06ML20			200			①-94
			LS-PO	POQU06ML10	PO		100		5P	③-56
				POQU06ML15			150			③-56
		1 2 3	LS-HT	TNMQU06M515	HT	P2	150	7	5P	④-81
				TNMQU06M520			200			④-82
				TNMQU06M115			150		1.5P	④-82
				TNMQU06M120			200			④-82
Thread forming taps for steels		1 2	N-RZ	NRZM7U06MP	RO	G7	75	7	4P	⑥-17
				NRZM7U06MB					2P	⑥-17
For hard-to-machine materials	Powdered HSS	3 5 6	PM-SP	SYU06MRDPB	SP	P3	75	7	2.75P	①-175
			PM-PO	PYU06MRDPB	PO				5.5P	③-99
For titanium alloys		22	ZET-B	ZETBMRU06M	SP	P3	75	7	3P	①-158
			ZET-P	ZETPMSU06M	SL	P4			5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMRU06M	SP	P3	75	7	3P	①-166
			ZEN-P	ZENPMSU06M	PO	P4			4.5P	③-90
For stainless steels		2 3 4 9	SU-SP	SUMQU06M	SP	P2	75	7	2.5P	①-105
		1 2 3 4 9	SU-PO	PUMQU06M	PO	P2	75	7	5P	③-64
		1 2 9	SU-HT	TUMQU06M4	HT	P2	75	7	4P	④-92
				TUMQU06M1					1.5P	④-92
For cast irons	Carbide	12 13 16	N-CT FC	TCNRU06M3	HT	P3	75	7	3P	⑤-13
				TCNRU06M1					1.5P	⑤-13
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWU06M1LEB5	HT	I b	82	8.5	5P	⑦-5
				TWU06M1LEBA					1.5P	⑦-5
Taps ／ 3/8-32UNEF										
Standard		2 3	SP	SPQU06J	SP	P2	75	7	2.5P	①-46
			PO	POQU06J	PO				5P	③-19
		1 2 3	HT	TNMQU06J5	HT	P2	75	7	5P	④-23
				TNMQU06J1					1.5P	④-23
Taps ／ 7/16-14UNC										
Standard		2 3	SP	SPRU07Q	SP	P3	82	8.5	2.5P	①-46
			PO	PORU07Q	PO				5P	③-19
		1 2 3	HT	TNMRU07Q5	HT	P3	82	8.5	5P	④-23
				TNMRU07Q1					1.5P	④-23
	Oversize	1 2 3	HT	TNMSU07Q5	HT	P4	82	8.5	5P	④-23
				TNMSU07Q1					1.5P	④-23
For left hand threads		2 3	SP LH	SPRU07Q--L	SP	P3	82	8.5	2.5P	①-82
			PO LH	PORU07Q--L	PO				5P	③-49
Oxidizing		1 2 3	SP OX	SPRU07QX	SP	P3	82	8.5	2.5P	①-68
			PO OX	PORU07QX	PO				5P	③-38
Long		2 3	LS-SP	SPRU07QL15	SP	P3	150	8.5	2.5P	①-94
			LS-PO	PORU07QL15	PO				5P	③-56
		1 2 3	LS-HT	TNMRU07Q515	HT	P3	150	8.5	5P	④-82
				TNMRU07Q520			200			④-82
				TNMRU07Q115			150		1.5P	④-82
Thread forming taps for steels		1 2	N-RZ	NRZM8U07QP	RO	G8	82	8.5	4P	⑥-17
				NRZM8U07QB					2P	⑥-17
For hard-to-machine materials	Powdered HSS	3 5 6	PM-SP	SYU07QSDPB	SP	P4	82	8.5	2.75P	①-175
			PM-PO	PYU07QSDPB	PO				5.5P	③-99
For titanium alloys		22	ZET-B	ZETBMRU07Q	SP	P3	82	8.5	3P	①-158
			ZET-P	ZETPMSU07Q	SL	P4			5P	②-22
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMRU07Q	SP	P3	82	8.5	3P	①-166
			ZEN-P	ZENPMSU07Q	PO	P4			4.5P	③-90
For stainless steels		2 3 4 9	SU-SP	SUMRU07Q	SP	P3	82	8.5	2.5P	①-105
		1 2 3 4 9	SU-PO	PUMRU07Q	PO	P3	82	8.5	5P	③-64
		1 2 9	SU-HT	TUMRU07Q4	HT	P3	82	8.5	4P	④-92
				TUMRU07Q1					1.5P	④-92
For cast irons	Carbide	12 13 16	N-CT FC	TCNRU07Q3	HT	P3	80	8	3P	⑤-13
				TCNRU07Q1					1.5P	⑤-13
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWU07Q1LEB5	HT	I b	88	10.5	5P	⑦-5
				TWU07Q1LEBA					1.5P	⑦-5
Taps ／ 7/16-20UNF										
Standard		2 3	SP	SPQU07N	SP	P2	82	8.5	2.5P	①-46
			PO	PORU07N	PO	P3			5P	③-19
		1 2 3	HT	TNMRU07N5	HT	P3	82	8.5	5P	④-23
				TNMRU07N1					1.5P	④-23
	Oversize	1 2 3	HT	TNMSU07N5	HT	P4	82	8.5	5P	④-23
				TNMSU07N1					1.5P	④-23
For left hand threads		2 3	SP LH	SPQU07N--L	SP	P2	82	8.5	2.5P	①-82
			PO LH	PORU07N–L	PO	P3			5P	③-49
		1 2 3	HT LH	TNMRU07N5-L	HT	P3	82	8.5	5P	④-71
				TNMRU07N1-L					1.5P	④-71
Oxidizing		1 2 3	SP OX	SPQU07NX	SP	P2	82	8.5	2.5P	①-68
			PO OX	PORU07NX	PO	P3			5P	③-38
Long		2 3	LS-SP	SPQU07NL15	SP	P2	150	8.5	2.5P	①-94
			LS-PO	PORU07NL15	PO	P3			5P	③-56
		1 2 3	LS-HT	TNMQU07N515	HT	P2	150	8.5	5P	④-82
				TNMQU07N520			200			④-82
				TNMQU07N115			150		1.5P	④-82
				TNMQU07N120			200			④-82
Thread forming taps for steels		1 2	N-RZ	NRZM8U07NP	RO	G8	82	8.5	4P	⑥-17
				NRZM8U07NB					2P	⑥-17
For hard-to-machine materials	Powdered HSS	3 5 6	PM-SP	SYU07NRDPB	SP	P3	82	8.5	2.75P	①-175
			PM-PO	PYU07NRDPB	PO				5.5P	③-99
For titanium alloys		22	ZET-B	ZETBMRU07N	SP	P3	82	8.5	3P	①-159
			ZET-P	ZETPMSU07N	SL	P4			5P	②-22

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For nickel base alloys	1 2 9 23	ZEN-B	ZENBMRU07N	SP	P3	82	8.5	3P	①-166
		ZEN-P	ZENPMSU07N	PO	P4			4.5P	③-90
For stainless steels	2 3 4 9	SU-SP	SUMQU07N	SP	P2	82	8.5	2.5P	①-105
	1 2 3 4 9	SU-PO	PUMRU07N	PO	P3	82	8.5	5P	③-64
	1 2 9	SU-HT	TUMRU07N4	HT	P3	82	8.5	4P	④-92
			TUMRU07N1					1.5P	④-92
For cast irons — Carbide	12 13 16	N-CT FC	TCNRU07N3	HT	P3	80	8	3P	⑤-13
			TCNRU07N1					1.5P	⑤-13
For helical coil wire screw thread inserts	18 19 21	AL-HT STI	TWU07N1LEB5	HT	I b	88	10.5	5P	⑦-5
			TWU07N1LEBA					1.5P	⑦-5

Taps ／ 7/16-24UNS

Standard	1 2 3	HT	TNMRU07M5	HT	P3	82	8.5	5P	④-23
			TNMRU07M1					1.5P	④-23

Taps ／ 7/16-28UNEF

Standard	2 3	SP	SPQU07K	SP	P2	82	8.5	2.5P	①-46
		PO	POQU07K	PO				5P	③-19
	1 2 3	HT	TNMQU07K5	HT	P2	82	8.5	5P	④-23
			TNMQU07K1					1.5P	④-23

Taps ／ 1/2-13UNC

Standard	2 3	SP	SPRU08R	SP	P3	88	10.5	2.5P	①-46
		PO	PORU08R	PO				5P	③-19
	1 2 3	HT	TNMRU08R5	HT	P3	88	10.5	5P	④-23
			TNMRU08R1					1.5P	④-23
Oversize	1 2 3	HT	TNMSU08R5	HT	P4	88	10.5	5P	④-23
			TNMSU08R1					1.5P	④-23
For left hand threads	2 3	SP LH	SPRU08R–L	SP	P3	88	10.5	2.5P	①-82
		PO LH	PORU08R--L	PO				5P	③-49
Oxidizing	1 2 3	SP OX	SPRU08RX	SP	P3	88	10.5	2.5P	①-68
		PO OX	PORU08RX	PO				5P	③-38
Long	2 3	LS-SP	SPRU08RL15	SP	P3	150	10.5	2.5P	①-94
			SPRU08RL20			200			①-94
		LS-PO	PORU08RL15	PO		150		5P	③-56
			PORU08RL20			200			③-56
	1 2 3	LS-HT	TNMRU08R515	HT	P3	150	10.5	5P	④-82
			TNMRU08R520			200			④-82
			TNMRU08R115			150		1.5P	④-82
			TNMRU08R120			200			④-82
Thread forming taps for steels	1 2	N-RZ	NRZM8U08RP	RO	G8	88	10.5	4P	⑥-17
			NRZM8U08RB					2P	⑥-17
For hard-to-machine materials — Powdered HSS	3 5 6	PM-SP	SYU08RSDPB	SP	P4	88	10.5	2.75P	①-175
		PM-PO	PYU08RSDPB	PO				5.5P	③-99
For titanium alloys	22	ZET-B	ZETBMRU08R	SP	P3	88	10.5	3P	①-159
		ZET-P	ZETPMTU08R	SL	P5			5P	②-22
For nickel base alloys	1 2 9 23	ZEN-B	ZENBMRU08R	SP	P3	88	10.5	3P	①-167
		ZEN-P	ZENPMTU08R	PO	P5			4.5P	③-90

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For stainless steels	2 3 4 9	SU-SP	SUMRU08R	SP	P3	88	10.5	2.5P	①-105
	1 2 3 4 9	SU-PO	PUMRU08R	PO	P3	88	10.5	5P	③-64
	1 2 9	SU-HT	TUMRU08R4	HT	P3	88	10.5	4P	④-92
			TUMRU08R1					1.5P	④-92
For cast irons — Carbide	12 13 16	N-CT FC	TCNRU08R3	HT	P3	85	9	3P	⑤-13
			TCNRU08R1					1.5P	⑤-13
For helical coil wire screw thread inserts	18 19 21	AL-HT STI	TWU08R1LEB5	HT	I b	95	12.5	5P	⑦-5
			TWU08R1LEBA					1.5P	⑦-5

Taps ／ 1/2-20UNF

Standard	2 3	SP	SPQU08N	SP	P2	88	10.5	2.5P	①-46
		PO	PORU08N	PO	P3			5P	③-19
	1 2 3	HT	TNMRU08N5	HT	P3	88	10.5	5P	④-23
			TNMRU08N1					1.5P	④-23
Oversize	1 2 3	HT	TNMSU08N5	HT	P4	88	10.5	5P	④-23
			TNMSU08N1					1.5P	④-23
For left hand threads	2 3	SP LH	SPQU08N--L	SP	P2	88	10.5	2.5P	①-82
		PO LH	PORU08N--L	PO	P3			5P	③-49
Oxidizing	1 2 3	SP OX	SPQU08NX	SP	P2	88	10.5	2.5P	①-68
		PO OX	PORU08NX	PO	P3			5P	③-38
Long	2 3	LS-SP	SPQU08NL15	SP	P2	150	10.5	2.5P	①-94
			SPQU08NL20			200			①-94
		LS-PO	PORU08NL15	PO	P3	150		5P	③-56
			PORU08NL20			200			③-56
	1 2 3	LS-HT	TNMQU08N515	HT	P2	150	10.5	5P	④-82
			TNMQU08N520			200			④-82
			TNMQU08N115			150		1.5P	④-82
			TNMQU08N120			200			④-82
Thread forming taps for steels	1 2	N-RZ	NRZM8U08NP	RO	G8	88	10.5	4P	⑥-17
			NRZM8U08NB					2P	⑥-17
For hard-to-machine materials — Powdered HSS	3 5 6	PM-SP	SYU08NRDPB	SP	P3	88	10.5	2.75P	①-175
		PM-PO	PYU08NSDPB	PO	P4			5.5P	③-99
For titanium alloys	22	ZET-B	ZETBMRU08N	SP	P3	88	10.5	3P	①-159
		ZET-P	ZETPMSU08N	SL	P4			5P	②-23
For nickel base alloys	1 2 9 23	ZEN-B	ZENBMRU08N	SP	P3	88	10.5	3P	①-167
		ZEN-P	ZENPMSU08N	PO	P4			4.5P	③-91
For stainless steels	2 3 4 9	SU-SP	SUMQU08N	SP	P2	88	10.5	2.5P	①-105
	1 2 3 4 9	SU-PO	PUMRU08N	PO	P3	88	10.5	5P	③-64
	1 2 9	SU-HT	TUMRU08N4	HT	P3	88	10.5	4P	④-92
			TUMRU08N1					1.5P	④-92
For cast irons — Carbide	12 13 16	N-CT FC	TCNRU08N3	HT	P3	85	9	3P	⑤-13
			TCNRU08N1					1.5P	⑤-13
For helical coil wire screw thread inserts	18 19 21	AL-HT STI	TWU08N1LEB5	HT	I b	95	12.5	5P	⑦-5
			TWU08N1LEBA					1.5P	⑦-5

Taps ／ 1/2-24UNS

Standard	1 2 3	HT	TNMRU08M5	HT	P3	88	10.5	5P	④-23
			TNMRU08M1					1.5P	④-23

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ 1/2-28UNEF										
Standard		2 3	SP	SPQU08K	SP	P2	88	10.5	2.5P	①-46
			PO	POQU08K	PO				5P	③-20
		1 2 3	HT	TNMQU08K5	HT	P2	88	10.5	5P	④-23
				TNMQU08K1					1.5P	④-23
Taps ／ 1/2-32UN										
Standard		1 2 3	HT	TNMQU08J5	HT	P2	88	10.5	5P	④-23
				TNMQU08J1					1.5P	④-23
Taps ／ 9/16-12UNC										
Standard		2 3	SP	SPRU09S	SP	P3	95	12.5	2.5P	①-46
			PO	PORU09S	PO				5P	③-20
		1 2 3	HT	TNMRU09S5	HT	P3	95	12.5	5P	④-23
				TNMRU09S1					1.5P	④-23
For hard-to-machine materials	Powdered HSS	3 5 6	PM-PO	PYU09SSDPB	PO	P4	95	12.5	5.5P	③-99
Taps ／ 9/16-18UNF										
Standard		2 3	SP	SPQU09O	SP	P2	95	12.5	2.5P	①-46
			PO	PORU09O	PO	P3			5P	③-20
		1 2 3	HT	TNMRU09O5	HT	P3	95	12.5	5P	④-24
				TNMRU09O1					1.5P	④-24
	Oversize	1 2 3	HT	TNMSU09O5	HT	P4	95	12.5	5P	④-24
				TNMSU09O1					1.5P	④-24
For left hand threads		1 2 3	HT LH	TNMRU09O5-L	HT	P3	95	12.5	5P	④-71
				TNMRU09O1-L					1.5P	④-71
Oxidizing		1 2 3	SP OX	SPQU09OX	SP	P2	95	12.5	2.5P	①-68
			PO OX	PORU09OX	PO	P3			5P	③-38
Long		1 2 3	LS-HT	TNMQU09O515	HT	P2	150	12.5	5P	④-82
				TNMQU09O115					1.5P	④-82
For hard-to-machine materials	Powdered HSS	3 5 6	PM-PO	PYU09OSDPB	PO	P4	95	12.5	5.5P	③-99
For stainless steels		1 2 3 4 9	SU-PO	PUMRU09O	PO	P3	95	12.5	5P	③-64
Taps ／ 9/16-20UN										
Standard		1 2 3	HT	TNMRU09N5	HT	P3	95	12.5	5P	④-24
				TNMRU09N1					1.5P	④-24
Taps ／ 9/16-24UNEF										
Standard		2 3	SP	SPQU09M	SP	P2	95	12.5	2.5P	①-46
		1 2 3	HT	TNMRU09M5	HT	P3	95	12.5	5P	④-24
				TNMRU09M1					1.5P	④-24
Taps ／ 5/8-11UNC										
Standard		2 3	SP	SPRU10U	SP	P3	95	12.5	2.5P	①-46
			PO	PORU10U	PO				5P	③-20
		1 2 3	HT	TNMSU10U5	HT	P4	95	12.5	5P	④-24
				TNMSU10U1					1.5P	④-24
For left hand threads		2 3	SP LH	SPRU10U–L	SP	P3	95	12.5	2.5P	①-82
		1 2 3	HT LH	TNMSU10U5-L	HT	P4	95	12.5	5P	④-71
				TNMSU10U1-L					1.5P	④-71
Oxidizing		1 2 3	SP OX	SPRU10UX	SP	P3	95	12.5	2.5P	①-68
			PO OX	PORU10UX	PO				5P	③-38
Long		2 3	LS-SP	SPRU10UL15	SP	P3	150	12.5	2.5P	①-94
				SPRU10UL20			200			①-94
			LS-PO	PORU10UL15	PO		150		5P	③-56
				PORU10UL20			200			③-56
		1 2 3	LS-HT	TNMRU10U515	HT	P3	150	12.5	5P	④-82
				TNMRU10U520			200			④-82
				TNMRU10U115			150		1.5P	④-82
				TNMRU10U120			200			④-82
For hard-to-machine materials	Powdered HSS	3 5 6	PM-SP	SYU10USDPB	SP	P4	95	12.5	2.75P	①-175
			PM-PO	PYU10UTDPB	PO	P5			5.5P	③-99
For titanium alloys		22	ZET-B	ZETBMRU10U	SP	P3	95	12.5	3P	①-159
			ZET-P	ZETPMTU10U	SL	P5			5P	②-23
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMRU10U	SP	P3	95	12.5	3P	①-167
			ZEN-P	ZENPMTU10U	PO	P5			4.5P	③-91
For stainless steels		2 3 4 9	SU-SP	SUMRU10U	SP	P3	95	12.5	2.5P	①-105
		1 2 3 4 9	SU-PO	PUMRU10U	PO	P3	95	12.5	5P	③-64
		1 2 9	SU-HT	TUMRU10U4	HT	P3	95	12.5	4P	④-92
				TUMRU10U1					1.5P	④-92
For cast irons	Carbide	12 13 16	N-CT FC	TCNSU10U3	HT	P4	95	12	3P	⑤-13
				TCNSU10U1					1.5P	⑤-13
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWU10U1LEB5	HT	I b	105	15	5P	⑦-5
				TWU10U1LEBA					1.5P	⑦-5
Taps ／ 5/8-18UNF										
Standard		2 3	SP	SPQU10O	SP	P2	95	12.5	2.5P	①-46
			PO	PORU10O	PO	P3			5P	③-20
		1 2 3	HT	TNMRU10O5	HT	P3	95	12.5	5P	④-24
				TNMRU10O1					1.5P	④-24
	Oversize	1 2 3	HT	TNMSU10O5	HT	P4	95	12.5	5P	④-24
				TNMSU10O1					1.5P	④-24
For left hand threads		2 3	SP LH	SPQU10O--L	SP	P2	95	12.5	2.5P	①-82
		1 2 3	HT LH	TNMRU10O5-L	HT	P3	95	12.5	5P	④-71
				TNMRU10O1-L					1.5P	④-71
Oxidizing		1 2 3	SP OX	SPQU10OX	SP	P2	95	12.5	2.5P	①-68
			PO OX	PORU10OX	PO	P3			5P	③-38
Long		2 3	LS-SP	SPQU10OL15	SP	P2	150	12.5	2.5P	①-94
				SPQU10OL20			200			①-94
			LS-PO	PORU10OL15	PO	P3	150		5P	③-56
				PORU10OL20			200			③-56
		1 2 3	LS-HT	TNMQU10O515	HT	P2	150	12.5	5P	④-82
				TNMQU10O115					1.5P	④-82
For hard-to-machine materials	Powdered HSS	3 5 6	PM-SP	SYU10ORDPB	SP	P3	95	12.5	2.75P	①-175
			PM-PO	PYU10OSDPB	PO	P4			5.5P	③-99
For titanium alloys		22	ZET-B	ZETBMRU10O	SP	P3	95	12.5	3P	①-159
			ZET-P	ZETPMSU10O	SL	P4			5P	②-23
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMRU10O	SP	P3	95	12.5	3P	①-167
			ZEN-P	ZENPMSU10O	PO	P4			4.5P	③-91
For stainless steels		2 3 4 9	SU-SP	SUMQU10O	SP	P2	95	12.5	2.5P	①-105
		1 2 3 4 9	SU-PO	PUMRU10O	PO	P3	95	12.5	5P	③-64

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
For stainless steels		1 2 9	SU-HT	TUMRU10O4	HT	P3	95	12.5	4P	④-92
				TUMRU10O1					1.5P	④-92
For cast irons	Carbide	12 13 16	N-CT FC	TCNSU10O3	HT	P4	95	12	3P	⑤-13
				TCNSU10O1					1.5P	⑤-14
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWU10O1LEB5	HT	I b	100	14	5P	⑦-5
				TWU10O1LEBA					1.5P	⑦-5
Taps ／ 5/8-20UN										
Standard		1 2 3	HT	TNMRU10N5	HT	P3	95	12.5	5P	④-24
				TNMRU10N1					1.5P	④-24
Taps ／ 5/8-24UNEF										
Standard		2 3	SP	SPQU10M	SP	P2	95	12.5	2.5P	①-46
			PO	PORU10M	PO	P3			5P	③-20
		1 2 3	HT	TNMRU10M5	HT	P3	95	12.5	5P	④-24
				TNMRU10M1					1.5P	④-24
Taps ／ 3/4-10UNC										
Standard		2 3	SP	SPRU12V	SP	P3	105	15	2.5P	①-46
			PO	POSU12V	PO	P4			5P	③-20
		1 2 3	HT	TNMSU12V5	HT	P4	105	15	5P	④-24
				TNMSU12V1					1.5P	④-24
For left hand threads		2 3	SP LH	SPRU12V–L	SP	P3	105	15	2.5P	①-82
Oxidizing		1 2 3	SP OX	SPRU12VX	SP	P3	105	15	2.5P	①-68
			PO OX	POSU12VX	PO	P4			5P	③-38
Long		2 3	LS-SP	SPRU12VL15	SP	P3	150	15	2.5P	①-94
				SPRU12VL20			200			①-94
			LS-PO	POSU12VL15	PO	P4	150		5P	③-56
				POSU12VL20			200			③-56
		1 2 3	LS-HT	TNMRU12V515	HT	P3	150	15	5P	④-82
				TNMRU12V520			200			④-82
				TNMRU12V115			150		1.5P	④-82
				TNMRU12V120			200			④-82
For hard-to-machine materials	Powdered HSS	3 5 6	PM-SP	SYU12VSDPB	SP	P4	105	15	2.75P	①-175
			PM-PO	PYU12VTDPB	PO	P5			5.5P	③-99
For titanium alloys		22	ZET-B	ZETBMSU12V	SP	P4	105	15	3P	①-159
			ZET-P	ZETPMTU12V	SL	P5			5P	②-23
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMSU12V	SP	P4	105	15	3P	①-167
			ZEN-P	ZENPMTU12V	PO	P5			4.5P	③-91
For stainless steels		2 3 4 9	SU-SP	SUMRU12V	SP	P3	105	15	2.5P	①-105
		1 2 3 4 9	SU-PO	PUMSU12V	PO	P4	105	15	5P	③-64
		1 2 9	SU-HT	TUMSU12V4	HT	P4	105	15	4P	④-92
				TUMSU12V1					1.5P	④-92
For cast irons	Carbide	12 13 16	N-CT FC	TCNSU12V3	HT	P4	105	14	3P	⑤-14
				TCNSU12V1					1.5P	⑤-14
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWU12V1LEB5	HT	I b	115	17	5P	⑦-5
				TWU12V1LEBA					1.5P	⑦-5

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ 3/4-16UNF										
Standard		2 3	SP	SPRU12P	SP	P3	105	15	2.5P	①-46
			PO	PORU12P	PO				5P	③-20
		1 2 3	HT	TNMRU12P5	HT	P3	105	15	5P	④-24
				TNMRU12P1					1.5P	④-24
	Oversize	1 2 3	HT	TNMSU12P5	HT	P4	105	15	5P	④-24
				TNMSU12P1					1.5P	④-24
For left hand threads		2 3	SP LH	SPRU12P–L	SP	P3	105	15	2.5P	①-82
		1 2 3	HT LH	TNMRU12P5-L	HT	P3	105	15	5P	④-72
Oxidizing		1 2 3	SP OX	SPRU12PX	SP	P3	105	15	2.5P	①-68
			PO OX	PORU12PX	PO				5P	③-38
Long		2 3	LS-SP	SPRU12PL15	SP	P3	150	15	2.5P	①-94
				SPRU12PL20			200			①-94
			LS-PO	PORU12PL15	PO		150		5P	③-56
				PORU12PL20			200			③-56
		1 2 3	LS-HT	TNMRU12P515	HT	P3	150	15	5P	④-82
				TNMRU12P520			200			④-82
				TNMRU12P115			150		1.5P	④-82
				TNMRU12P120			200			④-82
For hard-to-machine materials	Powdered HSS	3 5 6	PM-SP	SYU12PSDPB	SP	P4	105	15	2.75P	①-175
			PM-PO	PYU12PSDPB	PO				5.5P	③-99
For titanium alloys		22	ZET-B	ZETBMSU12P	SP	P4	105	15	3P	①-159
			ZET-P	ZETPMTU12P	SL	P5			5P	②-23
For nickel base alloys		1 2 9 23	ZEN-B	ZENBMSU12P	SP	P4	105	15	3P	①-167
			ZEN-P	ZENPMTU12P	PO	P5			4.5P	③-91
For stainless steels		2 3 4 9	SU-SP	SUMRU12P	SP	P3	105	15	2.5P	①-105
		1 2 3 4 9	SU-PO	PUMRU12P	PO	P3	105	15	5P	③-64
		1 2 9	SU-HT	TUMRU12P4	HT	P3	105	15	4P	④-92
				TUMRU12P1					1.5P	④-92
For cast irons	Carbide	12 13 16	N-CT FC	TCNSU12P3	HT	P4	95	14	3P	⑤-14
				TCNSU12P1					1.5P	⑤-14
For helical coil wire screw thread inserts		18 19 21	AL-HT STI	TWU12P1LEB5	HT	I b	115	17	5P	⑦-5
				TWU12P1LEBA					1.5P	⑦-5
Taps ／ 3/4-20UNEF										
Standard		2 3	SP	SPQU12N	SP	P2	105	15	2.5P	①-46
			PO	PORU12N	PO	P3			5P	③-20
		1 2 3	HT	TNMRU12N5	HT	P3	105	15	5P	④-24
				TNMRU12N1					1.5P	④-24
Taps ／ 7/8-9UNC										
Standard		2 3	SP	SPRU14W	SP	P3	115	17	2.5P	①-46
			PO	POSU14W	PO	P4			5P	③-20
		1 2 3	HT	TNMSU14W5	HT	P4	115	17	5P	④-24
				TNMSU14W1					1.5P	④-24
For left hand threads		2 3	SP LH	SPRU14W--L	SP	P3	115	17	2.5P	①-82
		1 2 3	HT LH	TNMSU14W5-L	HT	P4	115	17	5P	④-72
				TNMSU14W1-L					1.5P	④-72
Oxidizing		1 2 3	SP OX	SPRU14WX	SP	P3	115	17	2.5P	①-68
			PO OX	POSU14WX	PO	P4			5P	③-38

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Long		2 3	LS-SP	SPRU14WL15	SP	P3	150	17	2.5P	①-94
				SPRU14WL20			200			①-95
			LS-PO	POSU14WL20	PO	P4			5P	③-56
		1 2 3	LS-HT	TNMRU14W520	HT	P3	200	17	5P	④-82
				TNMRU14W120					1.5P	④-82
For hard-to-machine materials	Powdered HSS	3 5 6	PM-PO	PYU14WTDPB	PO	P5	115	17	5.5P	③-99
For stainless steels		2 3 4 9	SU-SP	SUMRU14W	SP	P3	115	17	2.5P	①-105
Taps ／ 7/8-14UNF										
Standard		2 3	SP	SPRU14Q	SP	P3	115	17	2.5P	①-46
			PO	PORU14Q	PO				5P	③-20
		1 2 3	HT	TNMSU14Q5	HT	P4	115	17	5P	④-24
				TNMSU14Q1					1.5P	④-24
For left hand threads		2 3	SP LH	SPRU14Q–L	SP	P3	115	17	2.5P	①-82
Oxidizing		1 2 3	SP OX	SPRU14QX	SP	P3	115	17	2.5P	①-68
			PO OX	PORU14QX	PO				5P	③-38
Long		2 3	LS-SP	SPRU14QL20	SP	P3	200	17	2.5P	①-95
			LS-PO	PORU14QL20	PO				5P	③-56
		1 2 3	LS-HT	TNMRU14Q115	HT	P3	150	17	1.5P	④-82
				TNMRU14Q120			200			④-82
For hard-to-machine materials	Powdered HSS	3 5 6	PM-PO	PYU14QSDPB	PO	P4	115	17	5.5P	③-99
For stainless steels		2 3 4 9	SU-SP	SUMRU14Q	SP	P3	115	17	2.5P	①-105
Taps ／ 7/8-20UNEF										
Standard		2 3	SP	SPQU14N	SP	P2	115	17	2.5P	①-46
		1 2 3	HT	TNMRU14N5	HT	P3	115	17	5P	④-24
				TNMRU14N1					1.5P	④-24
Taps ／ 1 -8UNC										
Standard		2 3	SP	SPRU16X	SP	P3	125	19	2.5P	①-46
			PO	POSU16X	PO	P4			5P	③-20
		1 2 3	HT	TNMSU16X5	HT	P4	125	19	5P	④-24
				TNMSU16X1					1.5P	④-24
For left hand threads		2 3	SP LH	SPRU16X–L	SP	P3	125	19	2.5P	①-82
		1 2 3	HT LH	TNMSU16X5-L	HT	P4	125	19	5P	④-72
				TNMSU16X1-L					1.5P	④-72
Oxidizing		1 2 3	SP OX	SPRU16XX	SP	P3	125	19	2.5P	①-68
			PO OX	POSU16XX	PO	P4			5P	③-38
Long		2 3	LS-SP	SPRU16XL15	SP	P3	150	19	2.5P	①-95
				SPRU16XL20			200			①-95
			LS-PO	POSU16XL15	PO	P4	150		5P	③-56
				POSU16XL20			200			③-56
		1 2 3	LS-HT	TNMRU16X515	HT	P3	150	19	5P	④-82
				TNMRU16X520			200			④-82
				TNMRU16X525			250			④-82
				TNMRU16X115			150		1.5P	④-82
				TNMRU16X120			200			④-82
				TNMRU16X125			250			④-82
For steels		1 2 3 4 5 9 11	HVSP	SYU16XTEEXJ	SP	P5	160	19	2.5P	①-27
For hard-to-machine materials	Powdered HSS	3 5 6	PM-SP	SYU16XTDPB	SP	P5	125	19	2.75P	①-175
			PM-PO	PYU16XUDPB	PO	P6			5.5P	③-99
For stainless steels		2 3 4 9	SU-SP	SUMRU16X	SP	P3	125	19	2.5P	①-105

Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ 1 -12UNF										
Standard		2 3	SP	SPRU16S	SP	P3	125	19	2.5P	①-46
			PO	POSU16S	PO	P4			5P	③-20
		1 2 3	HT	TNMSU16S5	HT	P4	125	19	5P	④-24
				TNMSU16S1					1.5P	④-24
For left hand threads		2 3	SP LH	SPRU16S–L	SP	P3	125	19	2.5P	①-82
		1 2 3	HT LH	TNMSU16S5-L	HT	P4	125	19	5P	④-72
				TNMSU16S1-L					1.5P	④-72
Oxidizing		1 2 3	SP OX	SPRU16SX	SP	P3	125	19	2.5P	①-68
Long		2 3	LS-SP	SPRU16SL20	SP	P3	200	19	2.5P	①-95
			LS-PO	POSU16SL20	PO	P4			5P	③-56
		1 2 3	LS-HT	TNMRU16S515	HT	P3	150	19	5P	④-82
				TNMRU16S115					1.5P	④-82
For steels		1 2 3 4 5 9 11	HVSP	SYU16SSEEXJ	SP	P4	160	19	2.5P	①-27
For hard-to-machine materials	Powdered HSS	3 5 6	PM-SP	SYU16SSDPB	SP	P4	125	19	2.75P	①-175
			PM-PO	PYU16STDPB	PO	P5			5.5P	③-99
For stainless steels		2 3 4 9	SU-SP	SUMRU16S	SP	P3	125	19	2.5P	①-105
Taps ／ 1 -14UNS										
Standard		2 3	SP	SPRU16Q	SP	P3	125	19	2.5P	①-46
			PO	POSU16Q	PO	P4			5P	③-20
		1 2 3	HT	TNMSU16Q5	HT	P4	125	19	5P	④-24
				TNMSU16Q1					1.5P	④-24
Taps ／ 1 -20UNEF										
Standard		2 3	SP	SPQU16N	SP	P2	125	19	2.5P	①-46
		1 2 3	HT	TNMRU16N5	HT	P3	125	19	5P	④-24
				TNMRU16N1					1.5P	④-24
Taps ／ 1 1/16-12UN										
Standard		1 2 3	HT	TNMSU17S5	HT	P4	130	20	5P	④-24
				TNMSU17S1					1.5P	④-24
Taps ／ 1 1/16-14UNS										
Standard		1 2 3	HT	TNMSU17Q5	HT	P4	130	20	5P	④-24
				TNMSU17Q1					1.5P	④-24
Taps ／ 1 1/8-7UNC										
Standard		2 3	SP	SPSU18Y	SP	P4	135	23	2.5P	①-46
			PO	POSU18Y	PO				5P	③-20
		1 2 3	HT	TNMTU18Y5	HT	P5	135	23	5P	④-24
				TNMTU18Y1					1.5P	④-24
For steels		1 2 3 4 5 9 11	HVSP	SYU18YUEEXJ	SP	P6	180	23	2.5P	①-27
Taps ／ 1 1/8-8UN										
Standard		2 3	SP	SPRU18X	SP	P3	135	23	2.5P	①-46
			PO	POSU18X	PO	P4			5P	③-20
		1 2 3	HT	TNMTU18X5	HT	P5	135	23	5P	④-24
				TNMTU18X1					1.5P	④-24
For steels		1 2 3 4 5 9 11	HVSP	SYU18XTEEXJ	SP	P5	180	23	2.5P	①-27

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ 1 1/8-12UNF									
Standard	2 3	SP	SPRU18S	SP	P3	135	23	2.5P	①-46
		PO	POSU18S	PO	P4			5P	③-20
	1 2 3	HT	TNMSU18S5	HT	P4	135	23	5P	④-24
			TNMSU18S1					1.5P	④-24
For steels	1 2 3 4 5 9 11	HVSP	SYU18SSEEXJ	SP	P4	180	23	2.5P	①-27
Taps ／ 1 1/8-14UNS									
Standard	2 3	SP	SPRU18Q	SP	P3	135	23	2.5P	①-46
Taps ／ 1 3/16-12UN									
Standard	1 2 3	HT	TNMSU19S5	HT	P4	145	24	5P	④-25
			TNMSU19S1					1.5P	④-25
Taps ／ 1 1/4-7UNC									
Standard	2 3	SP	SPMSU20Y	SP	P4	145	24	2.5P	①-46
		PO	POMSU20Y	PO				5P	③-20
	1 2 3	HT	TNMTU20Y5	HT	P5	145	24	5P	④-25
			TNMTU20Y1					1.5P	④-25
For steels	1 2 3 4 5 9 11	HVSP	SYU20YUEEXJ	SP	P6	180	24	2.5P	①-27
Taps ／ 1 1/4-8UN									
Standard	2 3	SP	SPMRU20X	SP	P3	145	24	2.5P	①-46
		PO	POMSU20X	PO	P4			5P	③-20
	1 2 3	HT	TNMTU20X5	HT	P5	145	24	5P	④-25
			TNMTU20X1					1.5P	④-25
For steels	1 2 3 4 5 9 11	HVSP	SYU20XTEEXJ	SP	P5	180	24	2.5P	①-27
Taps ／ 1 1/4-12UNF									
Standard	2 3	SP	SPMRU20S	SP	P3	145	24	2.5P	①-47
		PO	POMSU20S	PO	P4			5P	③-20
	1 2 3	HT	TNMSU20S5	HT	P4	145	24	5P	④-25
			TNMSU20S1					1.5P	④-25
For steels	1 2 3 4 5 9 11	HVSP	SYU20SSEEXJ	SP	P4	180	24	2.5P	①-27
Taps ／ 1 5/16-12UN									
Standard	1 2 3	HT	TNMSU21S5	HT	P4	155	28	5P	④-25
			TNMSU21S1					1.5P	④-25
Taps ／ 1 3/8-6UNC									
Standard	2 3	SP	SPMSU22Z	SP	P4	155	28	2.5P	①-47
		PO	POMTU22Z	PO	P5			5P	③-20
	1 2 3	HT	TNMTU22Z5	HT	P5	155	28	5P	④-25
			TNMTU22Z1					1.5P	④-25
For steels	1 2 3 4 5 9 11	HVSP	SYU22ZUEEXJ	SP	P6	200	28	2.5P	①-27

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ 1 3/8-8UN									
Standard	2 3	SP	SPMRU22X	SP	P3	155	28	2.5P	①-47
		PO	POMTU22X	PO	P5			5P	③-20
	1 2 3	HT	TNMTU22X5	HT	P5	155	28	5P	④-25
			TNMTU22X1					1.5P	④-25
For steels	1 2 3 4 5 9 11	HVSP	SYU22XTEEXJ	SP	P5	200	28	2.5P	①-27
Taps ／ 1 3/8-12UNF									
Standard	2 3	SP	SPMRU22S	SP	P3	155	28	2.5P	①-47
		PO	POMSU22S	PO	P4			5P	③-20
	1 2 3	HT	TNMSU22S5	HT	P4	155	28	5P	④-25
			TNMSU22S1					1.5P	④-25
Oxidizing	1 2 3	PO OX	POMSU22SX	PO	P4	155	28	5P	③-38
For steels	1 2 3 4 5 9 11	HVSP	SYU22SSEEXJ	SP	P4	200	28	2.5P	①-27
Taps ／ 1 1/2-6UNC									
Standard	2 3	SP	SPMSU24Z	SP	P4	165	30	2.5P	①-47
		PO	POMTU24Z	PO	P5			5P	③-20
	1 2 3	HT	TNMTU24Z5	HT	P5	165	30	5P	④-25
			TNMTU24Z1					1.5P	④-25
Oxidizing	1 2 3	SP OX	SPMSU24ZX	SP	P4	165	30	2.5P	①-68
For steels	1 2 3 4 5 9 11	HVSP	SYU24ZUEEXJ	SP	P6	200	30	2.5P	①-27
Taps ／ 1 1/2-8UN									
Standard	2 3	SP	SPMRU24X	SP	P3	165	30	2.5P	①-47
		PO	POMTU24X	PO	P5			5P	③-20
	1 2 3	HT	TNMTU24X5	HT	P5	165	30	5P	④-25
			TNMTU24X1					1.5P	④-25
For steels	1 2 3 4 5 9 11	HVSP	SYU24XTEEXJ	SP	P5	200	30	2.5P	①-27
Taps ／ 1 1/2-12UNF									
Standard	2 3	SP	SPMRU24S	SP	P3	165	30	2.5P	①-47
		PO	POMSU24S	PO	P4			5P	③-20
	1 2 3	HT	TNMSU24S5	HT	P4	165	30	5P	④-25
			TNMSU24S1					1.5P	④-25
Oxidizing	1 2 3	SP OX	SPMRU24SX	SP	P3	165	30	2.5P	①-68
		PO OX	POMSU24SX	PO	P4			5P	③-38
For steels	1 2 3 4 5 9 11	HVSP	SYU24SSEEXJ	SP	P4	200	30	2.5P	①-27
Taps ／ 1 5/8-5UNS									
Standard	1 2 3	HT	TNMTU2605	HT	P5	175	32	5P	④-25
			TNMTU2601					1.5P	④-25
Taps ／ 1 5/8-8UN									
Standard	1 2 3	HT	TNMTU26X5	HT	P5	175	32	5P	④-25
			TNMTU26X1					1.5P	④-25
Taps ／ 1 5/8-12UN									
Standard	1 2 3	HT	TNMSU26S5	HT	P4	175	32	5P	④-25
			TNMSU26S1					1.5P	④-25

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ 1 3/4-5UNC									
Standard	2 3	SP	SPMSU280	SP	P4	180	35	2.5P	①-47
	1 2 3	HT	TNMUU2805	HT	P6	180	35	5P	④-25
			TNMUU2801					1.5P	④-25
For steels	1 2 3 4 5 9 11	HVSP	SYU280UEEXJ	SP	P6	220	35	2.5P	①-27
Taps ／ 1 3/4-8UN									
Standard	1 2 3	HT	TNMTU28X5	HT	P5	180	35	5P	④-25
			TNMTU28X1					1.5P	④-25
For steels	1 2 3 4 5 9 11	HVSP	SYU28XTEEXJ	SP	P5	220	35	2.5P	①-27
Taps ／ 1 3/4-12UN									
Standard	2 3	SP	SPMRU28S	SP	P3	180	35	2.5P	①-47
	1 2 3	HT	TNMSU28S5	HT	P4	180	35	5P	④-25
			TNMSU28S1					1.5P	④-25
For steels	1 2 3 4 5 9 11	HVSP	SYU28SSEEXJ	SP	P4	220	35	2.5P	①-27
Taps ／ 1 7/8-8UN									
Standard	1 2 3	HT	TNMTU30X5	HT	P5	185	38	5P	④-25
			TNMTU30X1					1.5P	④-25
Taps ／ 1 7/8-12UN									
Standard	1 2 3	HT	TNMSU30S5	HT	P4	185	38	5P	④-25
			TNMSU30S1					1.5P	④-25
Taps ／ 2 -4 1/2UNC									
Standard	2 3	SP	SPTU329	SP	P5	195	40	2.5P	①-47
		PO	POTU329	PO				5P	③-20
	1 2 3	HT	TH2U3295	HT	II	195	40	5P	④-25
			TH2U3291					1.5P	④-25
For steels	1 2 3 4 5 9 11	HVSP	SYU329VEEXJ	SP	P7	250	40	2.5P	①-27
Taps ／ 2 -8UN									
Standard	2 3	SP	SPSU32X	SP	P4	195	40	2.5P	①-47
		PO	POTU32X	PO	P5			5P	③-20
	1 2 3	HT	TH2U32X5	HT	II	180	40	5P	④-25
			TH2U32X1					1.5P	④-25
For steels	1 2 3 4 5 9 11	HVSP	SYU32XUEEXJ	SP	P6	250	40	2.5P	①-27
Taps ／ 2 -12UN									
Standard	2 3	SP	SPRU32S	SP	P3	145	40	2.5P	①-47
		PO	POTU32S	PO	P5			5P	③-20
	1 2 3	HT	TH2U32S5	HT	II	130	40	5P	④-25
			TH2U32S1					1.5P	④-25
Taps ／ 2 1/4-8UN									
Standard	1 2 3	HT	TH2U36X5	HT	II	180	44	5P	④-25
			TH2U36X1					1.5P	④-25

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ 2 1/2-8UN									
Standard	1 2 3	HT	TH2U40X5	HT	II	185	48	5P	④-25
			TH2U40X1					1.5P	④-25
Taps ／ 2 3/4-8UN									
Standard	1 2 3	HT	TH2U44X5	HT	II	190	55	5P	④-25
			TH2U44X1					1.5P	④-26
Taps ／ 3 -8UN									
Standard	1 2 3	HT	TH2U48X5	HT	II	190	58	5P	④-26
			TH2U48X1					1.5P	④-26

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies / No.0-80UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	16	5	2.5P	TYDUN0BDNEBC	⑩-12
					20	7		TYEUN0BDNEBC	⑩-12
Dies / No.1-64UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEUN1DDNEBC	⑩-12
Dies / No.1-72UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEUN1CDNEBC	⑩-12
Dies / No.2-56UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	16	5	2.5P	TYDUN2EDNEBC	⑩-12
					20	7		TYEUN2EDNEBC	⑩-12
Dies / No.2-64UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEUN2DDNEBC	⑩-12
Dies / No.3-48UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEUN3FDNEBC	⑩-12
Dies / No.3-56UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEUN3EDNEBC	⑩-12
Dies / No.4-40UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEUN4HDNEBC	⑩-12
Dies / No.4-48UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEUN4FDNEBC	⑩-12
Dies / No.5-40UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEUN5HDNEBC	⑩-13
Dies / No.5-44UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEUN5GDNEBC	⑩-13
Dies / No.6-32UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEUN6JDNEBC	⑩-13
Dies / No.6-40UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEUN6HDNEBC	⑩-13
Dies / No.8-32UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEUN8JDNEBC	⑩-13
Dies / No.8-36UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEUN8IDNEBC	⑩-13
Dies / No.10-24UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEUNAMDNEBC	⑩-13

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies / No.10-32UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEUNAJDNEBC	⑩-13
Dies / No.12-24UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEUNCMDNEBC	⑩-13
Dies / No.12-28UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEUNCKDNEBC	⑩-13
Dies / 1/4-20UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEU04NDNEBC	⑩-13
					25	9		TYGU04NDNEBC	⑩-13
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYGU04NDNEBC	⑩-24
Dies / 1/4-28UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEU04KDNEBC	⑩-13
					25	9		TYGU04KDNEBC	⑩-13
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYGU04KDNEBC	⑩-24
Dies / 1/4-32UNEF									
Solid dies	HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYGU04JDNEBC	⑩-13
Dies / 1/4-36UNS									
Solid dies	HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYGU04IDNEBC	⑩-13
Dies / 5/16-18UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYGU05ODNEBC	⑩-13
					38	13		TYJU05ODNEBC	⑩-13
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYGU05ODNEBC	⑩-24
Dies / 5/16-24UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYGU05MDNEBC	⑩-13
					38	13		TYJU05MDNEBC	⑩-13
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYGU05MDNEBC	⑩-24
Dies / 5/16-32UNEF									
Solid dies	HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYGU05JDNEBC	⑩-13
Dies / 3/8-16UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYGU06PDNEBC	⑩-13
					38	13		TYJU06PDNEBC	⑩-13
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYGU06PDNEBC	⑩-24
Dies / 3/8-24UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYGU06MDNEBC	⑩-13
					38	13		TYJU06MDNEBC	⑩-13
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYGU06MDNEBC	⑩-24
					38	13		GYJU06MDNEBC	⑩-24
Dies / 3/8-32UNEF									
Solid dies	HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYGU06JDNEBC	⑩-13

Think threads with YAMAWA

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ 7/16-14UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJU07QDNEBC	⑩-13
Dies ／ 7/16-20UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJU07NDNEBC	⑩-13
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJU07NDNEBC	⑩-24
Dies ／ 7/16-24UNS									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJU07MDNEBC	⑩-13
Dies ／ 7/16-28UNEF									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJU07KDNEBC	⑩-13
Dies ／ 1/2-13UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJU08RDNEBC	⑩-13
					50	16		TYMU08RDNEBC	⑩-13
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJU08RDNEBC	⑩-24
Dies ／ 1/2-20UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJU08NDNEBC	⑩-13
					50	16		TYMU08NDNEBC	⑩-13
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJU08NDNEBC	⑩-24
Dies ／ 1/2-28UNEF									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJU08KDNEBC	⑩-13
Dies ／ 9/16-12UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJU09SDNEBC	⑩-13
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJU09SDNEBC	⑩-24
Dies ／ 9/16-18UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJU09ODNEBC	⑩-13
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJU09ODNEBC	⑩-24
Dies ／ 9/16-20UN									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJU09NDNEBC	⑩-13
Dies ／ 9/16-24UNEF									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJU09MDNEBC	⑩-13
Dies ／ 5/8-11UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJU10UDNEBC	⑩-13
					50	16		TYMU10UDNEBC	⑩-13
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYMU10UDNEBC	⑩-24
Dies ／ 5/8-18UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJU10ODNEBC	⑩-13
					50	16		TYMU10ODNEBC	⑩-13
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYMU10ODNEBC	⑩-24

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ 5/8-24UNEF									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJU10MDNEBC	⑩-13
Dies ／ 3/4-10UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYMU12VDNEBC	⑩-13
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYMU12VDNEBC	⑩-24
Dies ／ 3/4-16UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYMU12PDNEBC	⑩-13
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYMU12PDNEBC	⑩-24
Dies ／ 3/4-20UNEF									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYMU12NDNEBC	⑩-13
Dies ／ 7/8-9UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYMU14WDNEBC	⑩-13
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYMU14WDNEBC	⑩-25
Dies ／ 7/8-14UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYMU14QDNEBC	⑩-13
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYMU14QDNEBC	⑩-25
Dies ／ 1 -8UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYMU16XDNEBC	⑩-13
Dies ／ 1 -12UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYMU16SDNEBC	⑩-14
Dies ／ 1 -14UNS									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYMU16QDNEBC	⑩-14
Dies ／ 1 -20UNEF									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYMU16NDNEBC	⑩-14
Dies ／ 1 1/8-7UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYRU18YDNEBC	⑩-14
Dies ／ 1 1/8-8UN									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYRU18XDNEBC	⑩-14
Dies ／ 1 1/8-12UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYRU18SDNEBC	⑩-14
Dies ／ 1 1/4-7UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYRU20YDNEBC	⑩-14
Dies ／ 1 1/4-8UN									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYRU20XDNEBC	⑩-14
Dies ／ 1 1/4-12UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYRU20SDNEBC	⑩-14

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ 1 3/8-6UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYUU22ZDNEBC	⑩-14
Dies ／ 1 3/8-12UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYUU22SDNEBC	⑩-14
Dies ／ 1 1/2-6UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYUU24ZDNEBC	⑩-14
Dies ／ 1 1/2-8UN									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYUU24XDNEBC	⑩-14
Dies ／ 1 1/2-12UNF									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYUU24SDNEBC	⑩-14
Dies ／ 1 5/8-12UN									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYUU26SDNEBC	⑩-14
Dies ／ 1 3/4-5UNC									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYUU28ODNEBC	⑩-14
Dies ／ 1 3/4-12UN									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYUU28SDNEBC	⑩-14
Dies ／ 2 -12UN									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYUU32SDNEBC	⑩-14

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ 1/16W60									
Standard	1 2 3	HT	TNMQW01-5	HT	P2	36	3	5P	④-26
			TNMQW01-1					1.5P	④-26
Taps ／ 3/32W48									
Standard	1 2 3	HT	TNMQW1HF5	HT	P2	46	3	5P	④-25
			TNMQW1HF1					1.5P	④-25
Taps ／ 1/8W40									
Standard	2 3	SP	SPPW02H	SP	P1	52	5	2.5P	①-47
		PO	POQW02H	PO	P2			5P	③-20
	1 2 3	HT	TNMQW02H5	HT	P2	52	5	5P	④-26
			TNMQW02H1					1.5P	④-26
For left hand threads	1 2 3	HT LH	TNMQW02H5-L	HT	P2	52	5	5P	④-72
			TNMQW02H1-L					1.5P	④-72
Oxidizing	1 2 3	SP OX	SPPW02HX	SP	P1	52	5	2.5P	①-68
		PO OX	POQW02HX	PO	P2			5P	③-38
Nut taps	1 2	NT	NH2W02H	HT	II b	95	2.2	28P	⑦-28
Taps ／ 5/32W32									
Standard	2 3	SP	SPQW2HJ	SP	P2	52	5	2.5P	①-47
		PO	POQW2HJ	PO				5P	③-20
	1 2 3	HT	TNMQW2HJ5	HT	P2	52	5	5P	④-26
			TNMQW2HJ1					1.5P	④-26
Oxidizing	1 2 3	SP OX	SPQW2HJX	SP	P2	52	5	2.5P	①-68
		PO OX	POQW2HJX	PO				5P	③-38
Taps ／ 3/16W24									
Standard	2 3	SP	SPQW03M	SP	P2	60	5.5	2.5P	①-47
		PO	POQW03M	PO				5P	③-20
	1 2 3	HT	TNMRW03M5	HT	P3	60	5.5	5P	④-26
			TNMRW03M1					1.5P	④-26
For left hand threads	1 2 3	HT LH	TNMRW03M5-L	HT	P3	60	5.5	5P	④-72
			TNMRW03M1-L					1.5P	④-72
Oxidizing	1 2 3	SP OX	SPQW03MX	SP	P2	60	5.5	2.5P	①-68
		PO OX	POQW03MX	PO				5P	③-38
For stainless steels	2 3 4 9	SU-SP	SUMQW03M	SP	P2	60	5.5	2.5P	①-105
	1 2 3 4 9	SU-PO	PUMQW03M	PO	P2	60	5.5	5P	③-64
Nut taps	1 2	NT	NH2W03M	HT	II b	110	3.2	25P	⑦-28
Taps ／ 7/32W24									
Standard	2 3	SP	SPQW3HM	SP	P2	62	6	2.5P	①-47
		PO	POQW3HM	PO				5P	③-20
	1 2 3	HT	TNMRW3HM5	HT	P3	62	6	5P	④-26
			TNMRW3HM1					1.5P	④-26

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ 1/4W20									
Standard	2 3	SP	SPQW04N	SP	P2	62	6	2.5P	①-47
		PO	PORW04N	PO	P3			5P	③-20
	1 2 3	HT	TNMRW04N5	HT	P3	62	6	5P	④-26
			TNMRW04N1					1.5P	④-26
For left hand threads	2 3	SP LH	SPQW04N–L	SP	P2	62	6	2.5P	①-82
		PO LH	PORW04N-–L	PO	P3			5P	③-49
	1 2 3	HT LH	TNMRW04N5-L	HT	P3	62	6	5P	④-72
			TNMRW04N1-L					1.5P	④-72
Oxidizing	1 2 3	SP OX	SPQW04NX	SP	P2	62	6	2.5P	①-68
		PO OX	PORW04NX	PO	P3			5P	③-38
Long	2 3	LS-SP	SPFQW04NL10	SP	P2	100	6	2.5P	①-95
			SPFQW04NL15			150			①-95
		LS-PO	POFRW04NL10	PO	P3	100		5P	③-56
			POFRW04NL15			150			③-56
	1 2 3	LS-HT	TNFQW04N515	HT	P2	150	6	5P	④-82
			TNFQW04N115					1.5P	④-82
For high carbon steels	2 3	HC-SP	SCMQW04N	SP	P2	62	6	2.5P	①-137
For stainless steels	2 3 4 9	SU-SP	SUMQW04N	SP	P2	62	6	2.5P	①-105
	1 2 3 4 9	SU-PO	PUMRW04N	PO	P3	62	6	5P	③-64
	1 2 9	SU-HT	TUMRW04N4	HT	P3	62	6	4P	④-92
			TUMRW04N1					1.5P	④-92
Nut taps	1 2	NT	NH2W04N	HT	II b	125	4.5	24P	⑦-29
Taps ／ 5/16W18									
Standard	2 3	SP	SPQW05O	SP	P2	70	6.2	2.5P	①-47
		PO	PORW05O	PO	P3			5P	③-20
	1 2 3	HT	TNMRW05O5T	HT	P3	70	6.2	5P	④-26
			TNMRW05O1T					1.5P	④-26
			TNMRW05O5					5P	④-26
			TNMRW05O1					1.5P	④-26
For left hand threads	2 3	SP LH	SPQW05O–L	SP	P2	70	6.2	2.5P	①-82
		PO LH	PORW05O-–L	PO	P3			5P	③-49
	1 2 3	HT LH	TNMRW05O5-L	HT	P3	70	6.2	5P	④-72
			TNMRW05O1-L					1.5P	④-72
Oxidizing	1 2 3	SP OX	SPQW05OX	SP	P2	70	6.2	2.5P	①-68
		PO OX	PORW05OX	PO	P3			5P	③-38
Long	2 3	LS-SP	SPQW05OL10	SP	P2	100	6.2	2.5P	①-95
			SPQW05OL15			150			①-95
		LS-PO	PORW05OL10	PO	P3	100		5P	③-56
			PORW05OL15			150			③-56
	1 2 3	LS-HT	TNMQW05O515	HT	P2	150	6.2	5P	④-82
			TNMQW05O520			200			④-83
			TNMQW05O115			150		1.5P	④-83
			TNMQW05O120			200			④-83
For high carbon steels	2 3	HC-SP	SCMQW05O	SP	P2	70	6.2	2.5P	①-137
For stainless steels	2 3 4 9	SU-SP	SUMQW05O	SP	P2	70	6.2	2.5P	①-105
	1 2 3 4 9	SU-PO	PUMRW05O	PO	P3	70	6.2	5P	③-64
	1 2 9	SU-HT	TUMRW05O4	HT	P3	70	6.2	4P	④-92
			TUMRW05O1					1.5P	④-92
Nut taps	1 2	NT	NH2W05O	HT	II b	140	5.9	27P	⑦-29

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Taps ／ 3/8W16

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	2 3	SP	SPQW06P	SP	P2	75	7	2.5P	①-47
		PO	PORW06P	PO	P3			5P	③-20
	1 2 3	HT	TNMRW06P5	HT	P3	75	7	5P	④-26
			TNMRW06P1					1.5P	④-26
For left hand threads	2 3	SP LH	SPQW06P--L	SP	P2	75	7	2.5P	①-82
		PO LH	PORW06P--L	PO	P3			5P	③-49
	1 2 3	HT LH	TNMRW06P5-L	HT	P3	75	7	5P	④-72
			TNMRW06P1-L					1.5P	④-72
Oxidizing	1 2 3	SP OX	SPQW06PX	SP	P2	75	7	2.5P	①-68
		PO OX	PORW06PX	PO	P3			5P	③-38
Long	2 3	LS-SP	SPQW06PL10	SP	P2	100	7	2.5P	①-95
			SPQW06PL15			150			①-95
			SPQW06PL20			200			①-95
		LS-PO	PORW06PL10	PO	P3	100		5P	③-56
			PORW06PL15			150			③-56
	1 2 3	LS-HT	TNMQW06P515	HT	P2	150	7	5P	④-83
			TNMQW06P520			200			④-83
			TNMQW06P115			150		1.5P	④-83
			TNMQW06P120			200			④-83
For high carbon steels	2 3	HC-SP	SCMQW06P	SP	P2	75	7	2.5P	①-137
For stainless steels	2 3 4 9	SU-SP	SUMQW06P	SP	P2	75	7	2.5P	①-105
	1 2 3 4 9	SU-PO	PUMRW06P	PO	P3	75	7	5P	③-65
	1 2 9	SU-HT	TUMRW06P4	HT	P3	75	7	4P	④-92
			TUMRW06P1					1.5P	④-92
Nut taps	1 2	NT	NH2W06P	HT	II b	155	7.3	26P	⑦-29

Taps ／ 7/16W14

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	2 3	SP	SPRW07Q	SP	P3	82	8.5	2.5P	①-47
		PO	PORW07Q	PO				5P	③-20
	1 2 3	HT	TNMSW07Q5	HT	P4	82	8.5	5P	④-26
			TNMSW07Q1					1.5P	④-26
For left hand threads	2 3	SP LH	SPRW07Q--L	SP	P3	82	8.5	2.5P	①-82
	1 2 3	HT LH	TNMSW07Q5-L	HT	P4	82	8.5	5P	④-72
			TNMSW07Q1-L					1.5P	④-72
Oxidizing	1 2 3	SP OX	SPRW07QX	SP	P3	82	8.5	2.5P	①-68
		PO OX	PORW07QX	PO				5P	③-38
Long	2 3	LS-SP	SPRW07QL15	SP	P3	150	8.5	2.5P	①-95
		LS-PO	PORW07QL15	PO				5P	③-56
	1 2 3	LS-HT	TNMRW07Q515	HT	P3	150	8.5	5P	④-83
			TNMRW07Q115					1.5P	④-83
For stainless steels	2 3 4 9	SU-SP	SUMRW07Q	SP	P3	82	8.5	2.5P	①-105
	1 2 3 4 9	SU-PO	PUMRW07Q	PO	P3	82	8.5	5P	③-65
	1 2 9	SU-HT	TUMRW07Q4	HT	P3	82	8.5	4P	④-92
			TUMRW07Q1					1.5P	④-92
Nut taps	1 2	NT	NH2W07Q	HT	II b	165	8.5	25P	⑦-29

Taps ／ 1/2W12

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	2 3	SP	SPRW08S	SP	P3	88	10.5	2.5P	①-47
		PO	PORW08S	PO				5P	③-20
	1 2 3	HT	TNMSW08S5	HT	P4	88	10.5	5P	④-26
			TNMSW08S1					1.5P	④-26
For left hand threads	2 3	SP LH	SPRW08S--L	SP	P3	88	10.5	2.5P	①-82
		PO LH	PORW08S--L	PO				5P	③-49
	1 2 3	HT LH	TNMSW08S5-L	HT	P4	88	10.5	5P	④-72
			TNMSW08S1-L					1.5P	④-72
Oxidizing	1 2 3	SP OX	SPRW08SX	SP	P3	88	10.5	2.5P	①-68
		PO OX	PORW08SX	PO				5P	③-38
Long	2 3	LS-SP	SPRW08SL15	SP	P3	150	10.5	2.5P	①-95
			SPRW08SL20			200			①-95
		LS-PO	PORW08SL15	PO		150		5P	③-56
			PORW08SL20			200			③-56
	1 2 3	LS-HT	TNMRW08S515	HT	P3	150	10.5	5P	④-83
			TNMRW08S520			200			④-83
			TNMRW08S115			150		1.5P	④-83
			TNMRW08S120			200			④-83
For high carbon steels	2 3	HC-SP	SCMRW08S	SP	P3	88	10.5	2.5P	①-137
For stainless steels	2 3 4 9	SU-SP	SUMRW08S	SP	P3	88	10.5	2.5P	①-105
	1 2 3 4 9	SU-PO	PUMRW08S	PO	P3	88	10.5	5P	③-65
	1 2 9	SU-HT	TUMRW08S4	HT	P3	88	10.5	4P	④-92
			TUMRW08S1					1.5P	④-92
Nut taps	1 2	NT	NH2W08S	HT	II b	180	9.5	23P	⑦-29

Taps ／ 9/16W12

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	2 3	SP	SPRW09S	SP	P3	95	12.5	2.5P	①-47
		PO	PORW09S	PO				5P	③-20
	1 2 3	HT	TNMSW09S5	HT	P4	95	12.5	5P	④-26
			TNMSW09S1					1.5P	④-26
For left hand threads	1 2 3	HT LH	TNMSW09S5-L	HT	P4	95	12.5	5P	④-72
			TNMSW09S1-L					1.5P	④-72
For stainless steels	2 3 4 9	SU-SP	SUMRW09S	SP	P3	95	12.5	2.5P	①-105
Nut taps	1 2	NT	NH2W09S	HT	II b	190	11	25P	⑦-29

Taps ／ 5/8W11

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	2 3	SP	SPRW10U	SP	P3	95	12.5	2.5P	①-47
		PO	PORW10U	PO				5P	③-20
	1 2 3	HT	TNMSW10U5	HT	P4	95	12.5	5P	④-26
			TNMSW10U1					1.5P	④-26
For left hand threads	2 3	SP LH	SPRW10U--L	SP	P3	95	12.5	2.5P	①-82
		PO LH	PORW10U--L	PO				5P	③-49
	1 2 3	HT LH	TNMSW10U5-L	HT	P4	95	12.5	5P	④-72
			TNMSW10U1-L					1.5P	④-72
Oxidizing	1 2 3	SP OX	SPRW10UX	SP	P3	95	12.5	2.5P	①-69
		PO OX	PORW10UX	PO				5P	③-38

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Long	2 3	LS-SP	SPRW10UL15	SP	P3	150	12.5	2.5P	①-95
			SPRW10UL20			200			①-95
		LS-PO	PORW10UL15	PO		150		5P	③-56
			PORW10UL20			200			③-56
	1 2 3	LS-HT	TNMRW10U515	HT	P3	150	12.5	5P	④-83
			TNMRW10U520			200			④-83
			TNMRW10U115			150		1.5P	④-83
			TNMRW10U120			200			④-83
For high carbon steels	2 3	HC-SP	SCMRW10U	SP	P3	95	12.5	2.5P	①-137
For stainless steels	2 3 4 9	SU-SP	SUMRW10U	SP	P3	95	12.5	2.5P	①-105
	1 2 3 4 9	SU-PO	PUMRW10U	PO	P3	95	12.5	5P	③-65
	1 2 9	SU-HT	TUMRW10U4	HT	P3	95	12.5	4P	④-92
			TUMRW10U1					1.5P	④-92
Nut taps	1 2	NT	NH2W10U	HT	II b	200	12.5	24P	⑦-29
Taps ／ 3/4W10									
Standard	2 3	SP	SPRW12V	SP	P3	105	15	2.5P	①-47
		PO	POSW12V	PO	P4			5P	③-20
	1 2 3	HT	TNMSW12V5	HT	P4	105	15	5P	④-26
			TNMSW12V1					1.5P	④-26
For left hand threads	2 3	SP LH	SPRW12V--L	SP	P3	105	15	2.5P	①-82
		PO LH	POSW12V--L	PO	P4			5P	③-49
	1 2 3	HT LH	TNMSW12V5-L	HT	P4	105	15	5P	④-72
			TNMSW12V1-L					1.5P	④-72
Oxidizing	1 2 3	SP OX	SPRW12VX	SP	P3	105	15	2.5P	①-69
		PO OX	POSW12VX	PO	P4			5P	③-38
Long	2 3	LS-SP	SPRW12VL15	SP	P3	150	15	2.5P	①-95
			SPRW12VL20			200			①-95
		LS-PO	POSW12VL15	PO	P4	150		5P	③-56
			POSW12VL20			200			③-56
	1 2 3	LS-HT	TNMRW12V515	HT	P3	150	15	5P	④-83
			TNMRW12V520			200			④-83
			TNMRW12V115			150		1.5P	④-83
			TNMRW12V120			200			④-83
For high carbon steels	2 3	HC-SP	SCMRW12V	SP	P3	105	15	2.5P	①-137
For stainless steels	2 3 4 9	SU-SP	SUMRW12V	SP	P3	105	15	2.5P	①-105
	1 2 3 4 9	SU-PO	PUMSW12V	PO	P4	105	15	5P	③-65
	1 2 9	SU-HT	TUMSW12V4	HT	P4	105	15	4P	④-92
			TUMSW12V1					1.5P	④-92
Nut taps	1 2	NT	NH2W12V	HT	II b	230	15	25P	⑦-29
Taps ／ 7/8W9									
Standard	2 3	SP	SPRW14W	SP	P3	115	17	2.5P	①-47
		PO	POSW14W	PO	P4			5P	③-20
	1 2 3	HT	TNMTW14W5	HT	P5	115	17	5P	④-26
			TNMTW14W1					1.5P	④-26
For left hand threads	1 2 3	HT LH	TNMTW14W5-L	HT	P5	115	17	5P	④-72
			TNMTW14W1-L					1.5P	④-72
Oxidizing	1 2 3	SP OX	SPRW14WX	SP	P3	115	17	2.5P	①-69
		PO OX	POSW14WX	PO	P4			5P	③-38

Tap selection	Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Long	2 3	LS-SP	SPRW14WL15	SP	P3	150	17	2.5P	①-95
			SPRW14WL20			200			①-95
		LS-PO	POSW14WL15	PO	P4	150		5P	③-57
			POSW14WL20			200			③-57
	1 2 3	LS-HT	TNMRW14W520	HT	P3	200	17	5P	④-83
			TNMRW14W120					1.5P	④-83
For high carbon steels	2 3	HC-SP	SCMRW14W	SP	P3	115	17	2.5P	①-137
For stainless steels	2 3 4 9	SU-SP	SUMRW14W	SP	P3	115	17	2.5P	①-105
Nut taps	1 2	NT	NH2W14W	HT	II b	250	18	25P	⑦-29
Taps ／ 1 W8									
Standard	2 3	SP	SPRW16X	SP	P3	125	19	2.5P	①-47
		PO	POSW16X	PO	P4			5P	③-20
	1 2 3	HT	TNMTW16X5	HT	P5	125	19	5P	④-26
			TNMTW16X1					1.5P	④-26
For left hand threads	1 2 3	HT LH	TNMTW16X5-L	HT	P5	125	19	5P	④-72
			TNMTW16X1-L					1.5P	④-72
Oxidizing	1 2 3	SP OX	SPRW16XX	SP	P3	125	19	2.5P	①-69
		PO OX	POSW16XX	PO	P4			5P	③-38
Long	2 3	LS-SP	SPRW16XL15	SP	P3	150	19	2.5P	①-95
			SPRW16XL20			200			①-95
		LS-PO	POSW16XL15	PO	P4	150		5P	③-57
			POSW16XL20			200			③-57
	1 2 3	LS-HT	TNMRW16X515	HT	P3	150	19	5P	④-83
			TNMRW16X520			200			④-83
			TNMRW16X525			250			④-83
			TNMRW16X115			150		1.5P	④-83
			TNMRW16X120			200			④-83
			TNMRW16X125			250			④-83
For high carbon steels	2 3	HC-SP	SCMRW16X	SP	P3	125	19	2.5P	①-137
For stainless steels	2 3 4 9	SU-SP	SUMRW16X	SP	P3	125	19	2.5P	①-105
	1 2 3 4 9	SU-PO	PUMSW16X	PO	P4	125	19	5P	③-65
Nut taps	1 2	NT	NH2W16X	HT	II b	270	20.5	25P	⑦-29
Taps ／ 1 1/8W7									
Standard	2 3	SP	SPSW18Y	SP	P4	135	23	2.5P	①-47
		PO	POSW18Y	PO				5P	③-20
	1 2 3	HT	TNMTW18Y5	HT	P5	135	23	5P	④-26
			TNMTW18Y1					1.5P	④-26
For left hand threads	1 2 3	HT LH	TNMTW18Y5-L	HT	P5	135	23	5P	④-72
			TNMTW18Y1-L					1.5P	④-72
Nut taps	1 2	NT	NH2W18Y	HT	II b	290	23	25P	⑦-29
Taps ／ 1 1/4W7									
Standard	2 3	SP	SPMSW20Y	SP	P4	145	24	2.5P	①-47
		PO	POMSW20Y	PO				5P	③-20
	1 2 3	HT	TNMTW20Y5	HT	P5	145	24	5P	④-26
			TNMTW20Y1					1.5P	④-26
Oxidizing	1 2 3	SP OX	SPMSW20YX	SP	P4	145	24	2.5P	①-69
		PO OX	POMSW20YX	PO				5P	③-38
Nut taps	1 2	NT	NH2W20Y	HT	II b	300	26	26P	⑦-29

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ 1 3/8W6									
Standard	2 3	SP	SPMSW22Z	SP	P4	155	28	2.5P	①-47
		PO	POMTW22Z	PO	P5			5P	③-20
	1 2 3	HT	TNMUW22Z5	HT	P6	155	28	5P	④-26
			TNMUW22Z1					1.5P	④-26
Nut taps	1 2	NT	NH2W22Z	HT	Ⅱb	320	28	24P	⑦-29
Taps ／ 1 1/2W6									
Standard	2 3	SP	SPMSW24Z	SP	P4	165	30	2.5P	①-47
		PO	POMTW24Z	PO	P5			5P	③-20
	1 2 3	HT	TNMUW24Z5	HT	P6	165	30	5P	④-26
			TNMUW24Z1					1.5P	④-26
Oxidizing	1 2 3	SP OX	SPMSW24ZX	SP	P4	165	30	2.5P	①-69
Nut taps	1 2	NT	NH2W24Z	HT	Ⅱb	330	31	25P	⑦-29
Taps ／ 1 5/8W5									
Standard	2 3	SP	SPMSW260	SP	P4	175	32	2.5P	①-47
	1 2 3	HT	TNMUW2605	HT	P6	175	32	5P	④-26
			TNMUW2601					1.5P	④-26
Taps ／ 1 3/4W5									
Standard	2 3	SP	SPMSW280	SP	P4	180	35	2.5P	①-47
		PO	POMTW280	PO	P5			5P	③-20
	1 2 3	HT	TNMUW2805	HT	P6	180	35	5P	④-26
			TNMUW2801					1.5P	④-26
Taps ／ 1 7/8W4 1/2									
Standard	2 3	SP	SPMSW309	SP	P4	185	38	2.5P	①-47
	1 2 3	HT	TNMUW3095	HT	P6	185	38	5P	④-27
			TNMUW3091					1.5P	④-27
Taps ／ 2 W4 1/2									
Standard	2 3	SP	SPSW329	SP	P4	195	40	2.5P	①-47
		PO	POTW329	PO	P5			5P	③-20
	1 2 3	HT	TH2W3295	HT	Ⅱ	195	40	5P	④-27
			TH2W3291					1.5P	④-27
Taps ／ 2 1/4W4									
Standard	1 2 3	HT	TH2W3685	HT	Ⅱ	210	44	5P	④-27
			TH2W3681					1.5P	④-27
Taps ／ 2 1/2W4									
Standard	1 2 3	HT	TH2W4085	HT	Ⅱ	225	48	5P	④-27
			TH2W4081					1.5P	④-27
Taps ／ 2 3/4W3 1/2									
Standard	1 2 3	HT	TH2W4475	HT	Ⅱ	240	55	5P	④-27
			TH2W4471					1.5P	④-27
Taps ／ 3 W3 1/2									
Standard	1 2 3	HT	TH2W4875	HT	Ⅱ	250	58	5P	④-27
			TH2W4871					1.5P	④-27
Taps ／ 3 1/4W3 1/4									
Standard	1 2 3	HT	TH2W52-5	HT	Ⅱ	265	58	5P	④-27
			TH2W52-1					1.5P	④-27
Taps ／ 3 1/2W3 1/4									
Standard	1 2 3	HT	TH2W56-5	HT	Ⅱ	275	60	5P	④-27
			TH2W56-1					1.5P	④-27
Taps ／ 3 3/4W3									
Standard	1 2 3	HT	TH2W6065	HT	Ⅱ	285	65	5P	④-27
			TH2W6061					1.5P	④-27
Taps ／ 4 W3									
Standard	1 2 3	HT	TH2W6465	HT	Ⅱ	295	65	5P	④-27
			TH2W6461					1.5P	④-27

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ 1/16W60									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEW01-DNEBC	⑩-14
Dies ／ 3/32W48									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEW1HFDNEBC	⑩-14
Dies ／ 1/8W40									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEW02HDNEBC	⑩-14
Dies ／ 5/32W32									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEW2HJDNEBC	⑩-14
Dies ／ 3/16W24									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEW03MDNEBC	⑩-14
					25	9		TYGW03MDNEBC	⑩-14
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	20	7	2.5P	GYEW03MDNEBC	⑩-25
Dies ／ 7/32W24									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEW3HMDNEBC	⑩-14
Dies ／ 1/4W20									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYEW04NDNEBC	⑩-14
					25	9		TYGW04NDNEBC	⑩-14
					38	13		TYJW04NDNEBC	⑩-14
Dies ／ 5/16W18									
Solid dies	HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYGW05ODNEBC	⑩-14
					38	13		TYJW05ODNEBC	⑩-14
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYGW05ODNEBC	⑩-25
Dies ／ 3/8W16									
Solid dies	HSS	1 2 15 16 18 19	D	II	25	9	2.5P	TYGW06PDNEBC	⑩-14
					38	13		TYJW06PDNEBC	⑩-14
					50	16		TYMW06PDNEBC	⑩-14
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	25	9	2.5P	GYGW06PDNEBC	⑩-25
					38	13		GYJW06PDNEBC	⑩-25
Dies ／ 7/16W14									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJW07QDNEBC	⑩-14
					50	16		TYMW07QDNEBC	⑩-14
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJW07QDNEBC	⑩-25
Dies ／ 1/2W12									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJW08SDNEBC	⑩-14
					50	16		TYMW08SDNEBC	⑩-14
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJW08SDNEBC	⑩-25
Dies ／ 9/16W12									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJW09SDNEBC	⑩-14

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ 5/8W11									
Solid dies	HSS	1 2 15 16 18 19	D	II	38	13	2.5P	TYJW10UDNEBC	⑩-14
					50	16		TYMW10UDNEBC	⑩-14
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	38	13	2.5P	GYJW10UDNEBC	⑩-25
Dies ／ 3/4W10									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYMW12VDNEBC	⑩-14
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYMW12VDNEBC	⑩-25
Dies ／ 7/8W9									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYMW14WDNEBC	⑩-14
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYMW14WDNEBC	⑩-25
Dies ／ 1 W8									
Solid dies	HSS	1 2 15 16 18 19	D	II	50	16	2.5P	TYMW16XDNEBC	⑩-14
For left hand threads	HSS	1 2 15 16 18 19	D LH	II	50	16	2.5P	GYMW16XDNEBC	⑩-25
Dies ／ 1 1/8W7									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYRW18YDNEBC	⑩-14
Dies ／ 1 1/4W7									
Solid dies	HSS	1 2 15 16 18 19	D	II	63	20	2.5P	TYRW20YDNEBC	⑩-14
Dies ／ 1 3/8W6									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYUW22ZDNEBC	⑩-14
Dies ／ 1 1/2W6									
Solid dies	HSS	1 2 15 16 18 19	D	II	75	25	2.5P	TYUW24ZDNEBC	⑩-14

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Taps ／ 1/16SM80

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	1 2 3	HT	TNMPS04B5	HT	P1	36	3	5P	④-27
			TNMPS04B1					1.5P	④-27

Taps ／ 5/64SM64

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	1 2 3	HT	TNMPS05D5	HT	P1	42	3	5P	④-27
			TNMPS05D1					1.5P	④-27

Taps ／ 3/32SM56

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	2 3	SP	SPPS06E	SP	P1	46	3	2.5P	①-47
		PO	POPS06E	PO				5P	③-21
	1 2 3	HT	TNMPS06E5	HT	P1	46	3	5P	④-27
			TNMPS06E1					1.5P	④-27

Taps ／ 3/32SM100

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	1 2 3	HT	TNMPS06A5	HT	P1	46	3	5P	④-27
			TNMPS06A1					1.5P	④-27

Taps ／ 1/8SM40

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	2 3	SP	SPPS08H	SP	P1	52	5	2.5P	①-47
		PO	POQS08H	PO	P2			5P	③-21
	1 2 3	HT	TNMQS08H5	HT	P2	52	5	5P	④-27
			TNMQS08H1					1.5P	④-27

Taps ／ 1/8SM44

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	2 3	SP	SPPS08G	SP	P1	52	5	2.5P	①-47
		PO	POQS08G	PO	P2			5P	③-21
	1 2 3	HT	TNMQS08G5	HT	P2	52	5	5P	④-27
			TNMQS08G1					1.5P	④-27

Taps ／ 9/64SM40

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	2 3	SP	SPPS09H	SP	P1	52	5	2.5P	①-47
		PO	POQS09H	PO	P2			5P	③-21
	1 2 3	HT	TNMQS09H5	HT	P2	52	5	5P	④-27
			TNMQS09H1					1.5P	④-27

Taps ／ 11/64SM32

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	1 2 3	HT	TNMQS11J5	HT	P2	60	5.5	5P	④-27
			TNMQS11J1					1.5P	④-27

Taps ／ 11/64SM40

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	2 3	SP	SPPS11H	SP	P1	60	5.5	2.5P	①-47
		PO	POQS11H	PO	P2			5P	③-21
	1 2 3	HT	TNMQS11H5	HT	P2	60	5.5	5P	④-27
			TNMQS11H1					1.5P	④-27

Taps ／ 3/16SM24

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	1 2 3	HT	TNMQS12M5	HT	P2	60	5.5	5P	④-27
			TNMQS12M1					1.5P	④-27

Taps ／ 3/16SM28

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	2 3	SP	SPQS12K	SP	P2	60	5.5	2.5P	①-47
		PO	POQS12K	PO				5P	③-21
	1 2 3	HT	TNMQS12K5	HT	P2	60	5.5	5P	④-27
			TNMQS12K1					1.5P	④-27

Taps ／ 3/16SM32

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	2 3	SP	SPQS12J	SP	P2	60	5.5	2.5P	①-47
		PO	POQS12J	PO				5P	③-21
	1 2 3	HT	TNMQS12J5	HT	P2	60	5.5	5P	④-27
			TNMQS12J1					1.5P	④-27

Taps ／ 3/16SM40

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	1 2 3	HT	TNMQS12H5	HT	P2	60	5.5	5P	④-27
			TNMQS12H1					1.5P	④-27

Taps ／ 7/32SM32

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	2 3	SP	SPQS14J	SP	P2	62	6	2.5P	①-47
		PO	POQS14J	PO				5P	③-21

Taps ／ 15/64SM28

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	2 3	SP	SPQS15K	SP	P2	62	6	2.5P	①-47
		PO	POQS15K	PO				5P	③-21
	1 2 3	HT	TNMQS15K5	HT	P2	62	6	5P	④-27
			TNMQS15K1					1.5P	④-27

Taps ／ 1/4SM24

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	2 3	SP	SPQS16M	SP	P2	62	6	2.5P	①-47
		PO	POQS16M	PO				5P	③-21
	1 2 3	HT	TNMQS16M5	HT	P2	62	6	5P	④-28
			TNMQS16M1					1.5P	④-28

Taps ／ 1/4SM28

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	1 2 3	HT	TNMQS16K5	HT	P2	62	6	5P	④-28
			TNMQS16K1					1.5P	④-28

Taps ／ 1/4SM40

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Standard	2 3	SP	SPPS16H	SP	P1	62	6	2.5P	①-47
		PO	POQS16H	PO	P2			5P	③-21
	1 2 3	HT	TNMQS16H5	HT	P2	62	6	5P	④-28
			TNMQS16H1					1.5P	④-28

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	D_s	ℓ_c

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ 9/32SM28									
Standard	1 2 3	HT	TNMQS18K5	HT	P2	70	6.2	5P	④-28
			TNMQS18K1					1.5P	④-28
Taps ／ 5/16SM24									
Standard	1 2 3	HT	TNMQS20M5	HT	P2	70	6.2	5P	④-28
			TNMQS20M1					1.5P	④-28
Taps ／ 11/32SM28									
Standard	1 2 3	HT	TNMQS22K5	HT	P2	75	7	5P	④-28
			TNMQS22K1					1.5P	④-28

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ 3/32SM56									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYES06EDNEBC	⑩-15
Dies ／ 1/8SM40									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYES08HDNEBC	⑩-15
Dies ／ 1/8SM44									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYES08GDNEBC	⑩-15
Dies ／ 9/64SM40									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYES09HDNEBC	⑩-15
Dies ／ 11/64SM40									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYES11HDNEBC	⑩-15
Dies ／ 3/16SM28									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYES12KDNEBC	⑩-15
Dies ／ 3/16SM32									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYES12JDNEBC	⑩-15
Dies ／ 7/32SM32									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYES14JDNEBC	⑩-15
Dies ／ 15/64SM28									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYES15KDNEBC	⑩-15
Dies ／ 1/4SM24									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYES16MDNEBC	⑩-15
Dies ／ 1/4SM40									
Solid dies	HSS	1 2 15 16 18 19	D	II	20	7	2.5P	TYES16HDNEBC	⑩-15

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Taps / 1/16-28

Tap selection			Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Rc	Standard(ISO standard)	Standard	2 3 4	Rc	TH2RC01K	HT	II	59	8	2.5P	⑧-13
	Coating		1 2 3 4 9 19 21	AUSP Rc	SJRC010FET	SP		90	8	2.5P	⑧-8
PT	Standard	For PT threads	2 3 4	PT	TH2T01K-8	HT	II	55	8	2.5P	⑧-14
			1 2 3	SP-PT	SH2T01K-8	SP	II	55	8	2.5P	⑧-21
		For PT threads short (lg) type	2 3 4	PT-X	THX2T01K-8	HT	II	75	8	2.5P	⑧-16
				S-PT	TSPT01K-8			55			⑧-17
			1 2 3	SP-S-PT	SSPT01K	SP	II	55	8	2.5P	⑧-22
				SP-PT-X	SHX2T01K-8			75			⑧-23
	Long shank	For PT threads	2 3 4	LS-PT	L10T01K-8	HT	II	100	8	2.5P	⑧-19
		For PT threads short (lg) type	2 3 4	LS-S-PT	TSPT01KL10	HT	II	100	8	2.5P	⑧-20
	Interrupted	For PT threads	1 9 11	INT-PT	TINT01K-8	SL	II	55	8	3P	⑧-26
		For PT threads short (lg) type	1 9 11	INT-S-PT	TIST01K-8	SL	II	55	8	3P	⑧-27
	For cast irons	For PT threads	12 13	FC-PT	FCPT01K-8	HT	II	55	8	2.5P	⑧-36
		For PT threads short (lg) type	12 13	FC-S-PT	FCSPT01K-8	HT	II	55	8	2.5P	⑧-37
Rp	Standard(ISO standard)		1 2 3	Rp	TH2RP01K	HT	II	59	8	3.5P	⑧-40
PS	Standard		1 2 3	PS	TH2P01K-8	HT	II	55	8	3.5P	⑧-41
G	Standard(ISO standard)		1 2 3	G	TH2G01K	HT	II	59	8	3.5P	⑧-49
PF	Standard		1 2 3	PF	TH2F01K-8	HT	II	55	8	3.5P	⑧-71

Taps / 1/8-28

Tap selection			Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Rc	Standard(ISO standard)	Standard	2 3 4	Rc	TH2RC02K	HT	II	59	8	2.5P	⑧-13
	Coating		1 2 3 4 9 19 21	AUSP Rc	SJRC020FET	SP		90	8	2.5P	⑧-8
		Long	1 2 3 4 9 19 21	AUSP Rc	SJRC020FETG	SP		150	8	2.5P	⑧-8
					SJRC020FETK			200			⑧-8
PT	Standard	For PT threads	2 3 4	PT	TH2T02K	HT	II	55	8	2.5P	⑧-14
			1 2 3	SP-PT	SH2T02K	SP	II	55	8	2.5P	⑧-21
		For PT threads short (lg) type	2 3 4	PT-X	THX2T02K	HT	II	75	8	2.5P	⑧-16
				S-PT	TSPT02K			55			⑧-17
			1 2 3	SP-S-PT	SSPT02K	SP	II	55	8	2.5P	⑧-22
				SP-PT-X	SHX2T02K			75			⑧-23
	For left hand threads	For PT threads	2 3 4	PT LH	TH2T02K--L	HT	II	55	8	2.5P	⑧-15
		For PT threads short (lg) type	2 3 4	S-PT LH	TSPT02K--L	HT	II	55	8	2.5P	⑧-18
	Long shank	For PT threads	2 3 4	LS-PT	L10T02K	HT	II	100	8	2.5P	⑧-19
					L15T02K			150			⑧-19
					L20T02K			200			⑧-19
			1 2 3	LS-SP-PT	SH2T02KL10	SP	II	100	8	2.5P	⑧-24
					SH2T02KL12			120			⑧-24
					SH2T02KL15			150			⑧-24
		For PT threads short (lg) type	2 3 4	LS-S-PT	TSPT02KL10	HT	II	100	8	2.5P	⑧-20
					TSPT02KL15			150			⑧-20
					TSPT02KL20			200			⑧-20
			1 2 3	LS-SP-S-PT	SSPT02KL10	SP	II	100	8	2.5P	⑧-25
					SSPT02KL12			120			⑧-25
					SSPT02KL15			150			⑧-25

Tap selection			Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
PT	Interrupted	For PT threads	1 9 11	INT-PT	TINT02K	SL	II	55	8	3P	⑧-26
		For PT threads short (lg) type	1 9 11	INT-S-PT	TIST02K	SL	II	55	8	3P	⑧-27
		Long shank For PT threads	1 9 11	LS-INT-PT	TINT02KL10	SL	II	100	8	3P	⑧-28
					TINT02KL12			120			⑧-28
					TINT02KL15			150			⑧-28
		Long shank For PT threads short (lg) type	1 9 11	LS-INT-S-PT	TIST02KL10	SL	II	100	8	3P	⑧-29
					TIST02KL12			120			⑧-29
					TIST02KL15			150			⑧-29
	For low carbon steels	For PT threads	1 11	LC-PT	LCPT02K	HT	II	55	8	2.5P	⑧-30
		For PT threads short (lg) type	1 11	LC-S-PT	LCSPT02K	HT	II	55	8	2.5P	⑧-31
	For stainless steels	For PT threads	1 2 9	SU-PT	TU2T02K	HT	II	55	8	2.5P	⑧-32
			1 2 3 4 9	SU-SP-PT	SYPT022GEX	SP	II	55	8	2P	⑧-34
		For PT threads short (lg) type	1 2 9	SU-S-PT	TUST02K	HT	II	55	8	2.5P	⑧-33
			1 2 3 4 9	SU-SP-S-PT	SYPT022GEXS	SP	II	55	8	2P	⑧-35
	For cast irons	For PT threads	12 13	FC-PT	FCPT02K	HT	II	55	8	2.5P	⑧-36
		For PT threads short (lg) type	12 13	FC-S-PT	FCSPT02K	HT	II	55	8	2.5P	⑧-37
	Carbide	For PT threads	12 13 16	CT-PT	TCPT02K	HT	II	55	8	2.5P	⑧-38
		For PT threads short (lg) type	12 13 16	CT-S-PT	TCST02K	HT	II	55	8	2.5P	⑧-39
Rp	Standard(ISO standard)		1 2 3	Rp	TH2RP02K	HT	II	59	8	3.5P	⑧-40
	Coating		1 2 3 4 9 19 21	AUSP Rp	SJRP020FET	SP		90	8	2.5P	⑧-10
PS	Standard		1 2 3	PS	TH2P02K	HT	II	55	8	3.5P	⑧-41
					TH2P02K1					1.5P	⑧-41
				SP-PS	SH2P02K	SP				2.5P	⑧-45
	For left hand threads		1 2 3	PS LH	TH2P02K--L	HT	II	55	8	3.5P	⑧-43
	Long shank		1 2 3	LS-PS	L10P02K	HT	II	100	8	3.5P	⑧-44
					L15P02K			150			⑧-44
					L20P02K			200			⑧-44
				LS-SP-PS	SH2P02KL10	SP		100		2.5P	⑧-46
					SH2P02KL12			120			⑧-46
					SH2P02KL15			150			⑧-46
	For cast irons		12 13	FC-PS	FCPS02K	HT	II	55	8	3.5P	⑧-47
	Carbide		12 13 16	CT-PS	TCPS02K	HT	II	55	8	3.5P	⑧-48
G	Standard(ISO standard)		1 2 3	G	TH2G02K	HT	II	59	8	3.5P	⑧-49
	Coating		1 2 3 4 9 19 21	AUSP G	SJG0020FET	SP	P3	90	8	2.5P	⑧-12
PF	Standard		1 2 3	PF	TH2F02K	HT	II	55	8	3.5P	⑧-71
					TH2F02K1					1.5P	⑧-71
				SP-PF	SH2F02K	SP				2.5P	⑧-75
	For left hand threads		1 2 3	PF LH	TH2F02K--L	HT	II	55	8	3.5P	⑧-73
	Long shank		1 2 3	LS-PF	L10F02K	HT	II	100	8	3.5P	⑧-74
					L15F02K			150			⑧-74
					L20F02K			200			⑧-74
				LS-SP-PF	SH2F02KL10	SP		100		2.5P	⑧-76
					SH2F02KL12			120			⑧-76
					SH2F02KL15			150			⑧-76
	For stainless steels		1 2 9	SU-PF	TU2F02K	HT	II	55	8	3.5P	⑧-77
			1 2 3 4 9	SU-SP-PF	SYPF022GEX	SP	II	59	8	2.5P	⑧-78
	For cast irons		12 13	FC-PF	FCPF02K	HT	II	55	8	3.5P	⑧-79
	Carbide		12 13 16	CT-PF	TCPF02K	HT	II	55	8	3.5P	⑧-80

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Taps ／ 1/4-19

Tap selection			Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Rc	Standard(ISO standard)	Standard	2 3 4	Rc	TH2RC04-	HT	II	67	11	2.5P	⑧-13
	Coating		1 2 3 4 9 19 21	AUSP Rc	SJRC040FET	SP		100	11	2.5P	⑧-8
		Long	1 2 3 4 9 19 21	AUSP Rc	SJRC040FETG	SP		150	11	2.5P	⑧-8
					SJRC040FETK			200			⑧-8
PT	Standard	For PT threads	2 3 4	PT	TH2T04-	HT	II	62	11	2.5P	⑧-14
			1 2 3	SP-PT	SH2T04-	SP	II	62	11	2.5P	⑧-21
		For PT threads short (lg) type	2 3 4	PT-X	THX2T04-	HT	II	85	11	2.5P	⑧-16
				S-PT	TSPT04-			62			⑧-17
			1 2 3	SP-S-PT	SSPT04-	SP	II	62	11	2.5P	⑧-22
				SP-PT-X	SHX2T04-			85			⑧-23
	For left hand threads	For PT threads	2 3 4	PT LH	TH2T04-–L	HT	II	62	11	2.5P	⑧-15
		For PT threads short (lg) type	2 3 4	S-PT LH	TSPT04-–L	HT	II	62	11	2.5P	⑧-18
	Long shank	For PT threads	2 3 4	LS-PT	L10T04-	HT	II	100	11	2.5P	⑧-19
					L15T04-			150			⑧-19
					L20T04-			200			⑧-19
			1 2 3	LS-SP-PT	SH2T04-L10	SP	II	100	11	2.5P	⑧-24
					SH2T04-L12			120			⑧-24
					SH2T04-L15			150			⑧-24
		For PT threads short (lg) type	2 3 4	LS-S-PT	TSPT04-L10	HT	II	100	11	2.5P	⑧-20
					TSPT04-L15			150			⑧-20
					TSPT04-L20			200			⑧-20
			1 2 3	LS-SP-S-PT	SSPT04-L10	SP	II	100	11	2.5P	⑧-25
					SSPT04-L12			120			⑧-25
					SSPT04-L15			150			⑧-25
	Interrupted	For PT threads	1 9 11	INT-PT	TINT04-	SL	II	62	11	3P	⑧-26
		For PT threads short (lg) type	1 9 11	INT-S-PT	TIST04-	SL	II	62	11	3P	⑧-27
		Long shank For PT threads	1 9 11	LS-INT-PT	TINT04-L10	SL	II	100	11	3P	⑧-28
					TINT04-L12			120			⑧-28
					TINT04-L15			150			⑧-28
		Long shank For PT threads short (lg) type	1 9 11	LS-INT-S-PT	TIST04-L10	SL	II	100	11	3P	⑧-29
					TIST04-L12			120			⑧-29
					TIST04-L15			150			⑧-29
	For low carbon steels	For PT threads	1 11	LC-PT	LCPT04-	HT	II	62	11	2.5P	⑧-30
		For PT threads short (lg) type	1 11	LC-S-PT	LCSPT04-	HT	II	62	11	2.5P	⑧-31
	For stainless steels	For PT threads	1 2 9	SU-PT	TU2T04-	HT	II	62	11	2.5P	⑧-32
			1 2 3 4 9	SU-SP-PT	SYPT042GEX	SP	II	62	11	2P	⑧-34
		For PT threads short (lg) type	1 2 9	SU-S-PT	TUST04-	HT	II	62	11	2.5P	⑧-33
			1 2 3 4 9	SU-SP-S-PT	SYPT042GEXS	SP	II	62	11	2P	⑧-35
	For cast irons	For PT threads	12 13	FC-PT	FCPT04-	HT	II	62	11	2.5P	⑧-36
		For PT threads short (lg) type	12 13	FC-S-PT	FCSPT04-	HT	II	62	11	2.5P	⑧-37
	Carbide	For PT threads	12 13 16	CT-PT	TCPT04-	HT	II	62	11	2.5P	⑧-38
		For PT threads short (lg) type	12 13 16	CT-S-PT	TCST04-	HT	II	62	11	2.5P	⑧-39
Rp	Standard(ISO standard)		1 2 3	Rp	TH2RP04-	HT	II	67	11	3.5P	⑧-40
	Coating		1 2 3 4 9 19 21	AUSP Rp	SJRP040FET	SP		100	11	2.5P	⑧-10
PS	Standard		1 2 3	PS	TH2P04-	HT	II	62	11	3.5P	⑧-41
					TH2P04-1					1.5P	⑧-41
				SP-PS	SH2P04-	SP				2.5P	⑧-45
	For left hand threads		1 2 3	PS LH	TH2P04-–L	HT	II	62	11	3.5P	⑧-43
PS	Long shank		1 2 3	LS-PS	L10P04-	HT	II	100	11	3.5P	⑧-44
					L15P04-			150			⑧-44
					L20P04-			200			⑧-44
				LS-SP-PS	SH2P04-L10	SP		100		2.5P	⑧-46
					SH2P04-L15			150			⑧-46
	For cast irons		12 13	FC-PS	FCPS04-	HT	II	62	11	3.5P	⑧-47
	Carbide		12 13 16	CT-PS	TCPS04-	HT	II	62	11	3.5P	⑧-48
G	Standard(ISO standard)		1 2 3	G	TH2G04-	HT	II	67	11	3.5P	⑧-49
	Coating		1 2 3 4 9 19 21	AUSP G	SJG0040FET	SP	P3.5	100	11	2.5P	⑧-12
PF	Standard		1 2 3	PF	TH2F04-	HT	II	62	11	3.5P	⑧-71
					TH2F04-1					1.5P	⑧-71
				SP-PF	SH2F04-	SP				2.5P	⑧-75
	For left hand threads		1 2 3	PF LH	TH2F04-–L	HT	II	62	11	3.5P	⑧-73
	Long shank		1 2 3	LS-PF	L10F04-	HT	II	100	11	3.5P	⑧-74
					L15F04-			150			⑧-74
					L20F04-			200			⑧-74
				LS-SP-PF	SH2F04-L10	SP		100		2.5P	⑧-76
					SH2F04-L12			120			⑧-76
					SH2F04-L15			150			⑧-76
	For stainless steels		1 2 9	SU-PF	TU2F04-	HT	II	62	11	3.5P	⑧-77
			1 2 3 4 9	SU-SP-PF	SYPF042GEX	SP	II	67	11	2.5P	⑧-78
	For cast irons		12 13	FC-PF	FCPF04-	HT	II	62	11	3.5P	⑧-79
	Carbide		12 13 16	CT-PF	TCPF04-	HT	II	62	11	3.5P	⑧-80

Taps ／ 3/8-19

Tap selection			Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Rc	Standard(ISO standard)	Standard	2 3 4	Rc	TH2RC06-	HT	II	75	14	2.5P	⑧-13
	Coating		1 2 3 4 9 19 21	AUSP Rc	SJRC060FET	SP		100	14	2.5P	⑧-8
		Long	1 2 3 4 9 19 21	AUSP Rc	SJRC060FETG	SP		150	14	2.5P	⑧-8
					SJRC060FETK			200			⑧-8
PT	Standard	For PT threads	2 3 4	PT	TH2T06-	HT	II	65	14	2.5P	⑧-14
			1 2 3	SP-PT	SH2T06-	SP	II	65	14	2.5P	⑧-21
		For PT threads short (lg) type	2 3 4	PT-X	THX2T06-	HT	II	95	14	2.5P	⑧-16
				S-PT	TSPT06-			65			⑧-17
			1 2 3	SP-S-PT	SSPT06-	SP	II	65	14	2.5P	⑧-22
				SP-PT-X	SHX2T06-			95			⑧-23
	For left hand threads	For PT threads	2 3 4	PT LH	TH2T06-–L	HT	II	65	14	2.5P	⑧-15
		For PT threads short (lg) type	2 3 4	S-PT LH	TSPT06-–L	HT	II	65	14	2.5P	⑧-18
	Long shank	For PT threads	2 3 4	LS-PT	L10T06-	HT	II	100	14	2.5P	⑧-19
					L12T06-			120			⑧-19
					L15T06-			150			⑧-19
					L20T06-			200			⑧-19
			1 2 3	LS-SP-PT	SH2T06-L12	SP	II	120	14	2.5P	⑧-24
					SH2T06-L15			150			⑧-24
					SH2T06-L10			100			⑧-24
		For PT threads short (lg) type	2 3 4	LS-S-PT	TSPT06-L10	HT	II	100	14	2.5P	⑧-20
					TSPT06-L12			120			⑧-20
					TSPT06-L15			150			⑧-20
					TSPT06-L20			200			⑧-20
			1 2 3	LS-SP-S-PT	SSPT06-L10	SP	II	100	14	2.5P	⑧-25
					SSPT06-L12			120			⑧-25
					SSPT06-L15			150			⑧-25

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection			Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
PT	Interrupted	For PT threads	1 9 11	INT-PT	TINT06-	SL	II	65	14	3P	⑧-26
		For PT threads short (lg) type	1 9 11	INT-S-PT	TIST06-	SL	II	65	14	3P	⑧-27
		Long shank For PT threads	1 9 11	LS-INT-PT	TINT06-L10	SL	II	100	14	3P	⑧-28
					TINT06-L12			120			⑧-28
					TINT06-L15			150			⑧-28
		Long shank For PT threads short (lg) type	1 9 11	LS-INT-S-PT	TIST06-L10	SL	II	100	14	3P	⑧-29
					TIST06-L12			120			⑧-29
					TIST06-L15			150			⑧-29
	For low carbon steels	For PT threads	1 11	LC-PT	LCPT06-	HT	II	65	14	2.5P	⑧-30
		For PT threads short (lg) type	1 11	LC-S-PT	LCSPT06-	HT	II	65	14	2.5P	⑧-31
	For stainless steels	For PT threads	1 2 9	SU-PT	TU2T06-	HT	II	65	14	2.5P	⑧-32
			1 2 3 4 9	SU-SP-PT	SYPT062GEX	SP	II	65	14	2P	⑧-34
		For PT threads short (lg) type	1 2 9	SU-S-PT	TUST06-	HT	II	65	14	2.5P	⑧-33
			1 2 3 4 9	SU-SP-S-PT	SYPT062GEXS	SP	II	65	14	2P	⑧-35
	For cast irons	For PT threads	12 13	FC-PT	FCPT06-	HT	II	65	14	2.5P	⑧-36
		For PT threads short (lg) type	12 13	FC-S-PT	FCSPT06-	HT	II	65	14	2.5P	⑧-37
	Carbide	For PT threads	12 13 16	CT-PT	TCPT06-	HT	II	65	14	2.5P	⑧-38
		For PT threads short (lg) type	12 13 16	CT-S-PT	TCST06-	HT	II	65	14	2.5P	⑧-39
Rp	Standard(ISO standard)		1 2 3	Rp	TH2RP06-	HT	II	75	14	3.5P	⑧-40
	Coating		1 2 3 4 9 19 21	AUSP Rp	SJRP060FET	SP		100	14	2.5P	⑧-10
PS	Standard		1 2 3	PS	TH2P06-	HT	II	65	14	3.5P	⑧-41
					TH2P06-1					1.5P	⑧-41
				SP-PS	SH2P06-	SP				2.5P	⑧-45
	For left hand threads		1 2 3	PS LH	TH2P06-–L	HT	II	65	14	3.5P	⑧-43
	Long shank		1 2 3	LS-PS	L10P06-	HT	II	100	14	3.5P	⑧-44
					L15P06-			150			⑧-44
					L20P06-			200			⑧-44
				LS-SP-PS	SH2P06-L10	SP		100		2.5P	⑧-46
					SH2P06-L12			120			⑧-46
					SH2P06-L15			150			⑧-46
	For cast irons		12 13	FC-PS	FCPS06-	HT	II	65	14	3.5P	⑧-47
	Carbide		12 13 16	CT-PS	TCPS06-	HT	II	65	14	3.5P	⑧-48
G	Standard(ISO standard)		1 2 3	G	TH2G06-	HT	II	75	14	3.5P	⑧-49
	Coating		1 2 3 4 9 19 21	AUSP G	SJG0060FET	SP	P3.5	100	14	2.5P	⑧-12
PF	Standard		1 2 3	PF	TH2F06-	HT	II	65	14	3.5P	⑧-71
					TH2F06-1					1.5P	⑧-71
				SP-PF	SH2F06-	SP				2.5P	⑧-75
	For left hand threads		1 2 3	PF LH	TH2F06-–L	HT	II	65	14	3.5P	⑧-73
	Long shank		1 2 3	LS-PF	L10F06-	HT	II	100	14	3.5P	⑧-74
					L15F06-			150			⑧-74
					L20F06-			200			⑧-74
				LS-SP-PF	SH2F06-L10	SP		100		2.5P	⑧-76
					SH2F06-L12			120			⑧-76
					SH2F06-L15			150			⑧-76
	For stainless steels		1 2 9	SU-PF	TU2F06-	HT	II	65	14	3.5P	⑧-77
			1 2 3 4 9	SU-SP-PF	SYPF062GEX	SP	II	75	14	2.5P	⑧-78
	For cast irons		12 13	FC-PF	FCPF06-	HT	II	65	14	3.5P	⑧-79
	Carbide		12 13 16	CT-PF	TCPF06-	HT	II	65	14	3.5P	⑧-80

Taps ／ 1/2-14

Tap selection			Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Rc	Standard(ISO standard)	Standard	2 3 4	Rc	TH2RC08Q	HT	II	87	18	2.5P	⑧-13
	Coating		1 2 3 4 9 19 21	AUSP Rc	SJRC080FET	SP		125	18	2.5P	⑧-8
		Long	1 2 3 4 9 19 21	AUSP Rc	SJRC080FETK	SP		200	18	2.5P	⑧-8
PT	Standard	For PT threads	2 3 4	PT	TH2T08Q	HT	II	80	18	2.5P	⑧-14
			1 2 3	SP-PT	SH2T08Q	SP	II	80	18	2.5P	⑧-21
		For PT threads short (lg) type	2 3 4	PT-X	THX2T08Q	HT	II	105	18	2.5P	⑧-16
				S-PT	TSPT08Q			80			⑧-17
			1 2 3	SP-S-PT	SSPT08Q	SP	II	80	18	2.5P	⑧-22
				SP-PT-X	SHX2T08Q			105			⑧-23
	For left hand threads	For PT threads	2 3 4	PT LH	TH2T08Q–L	HT	II	80	18	2.5P	⑧-15
		For PT threads short (lg) type	2 3 4	S-PT LH	TSPT08Q–L	HT	II	80	18	2.5P	⑧-18
	Long shank	For PT threads	2 3 4	LS-PT	L15T08Q	HT	II	150	18	2.5P	⑧-19
					L20T08Q			200			⑧-19
			1 2 3	LS-SP-PT	SH2T08QL15	SP	II	150	18	2.5P	⑧-24
		For PT threads short (lg) type	2 3 4	LS-S-PT	TSPT08QL15	HT	II	150	18	2.5P	⑧-20
					TSPT08QL20			200			⑧-20
			1 2 3	LS-SP-S-PT	SSPT08QL15	SP	II	150	18	2.5P	⑧-25
	Interrupted	For PT threads	1 9 11	INT-PT	TINT08Q	SL	II	80	18	3P	⑧-26
		For PT threads short (lg) type	1 9 11	INT-S-PT	TIST08Q	SL	II	80	18	3P	⑧-27
		Long shank For PT threads	1 9 11	LS-INT-PT	TINT08QL15	SL	II	150	18	3P	⑧-28
		Long shank For PT threads short (lg) type	1 9 11	LS-INT-S-PT	TIST08QL15	SL	II	150	18	3P	⑧-29
	For low carbon steels	For PT threads	1 11	LC-PT	LCPT08Q	HT	II	80	18	2.5P	⑧-30
		For PT threads short (lg) type	1 11	LC-S-PT	LCSPT08Q	HT	II	80	18	2.5P	⑧-31
	For stainless steels	For PT threads	1 2 9	SU-PT	TU2T08Q	HT	II	80	18	2.5P	⑧-32
			1 2 3 4 9	SU-SP-PT	SYPT082GEX	SP	II	80	18	2P	⑧-34
		For PT threads short (lg) type	1 2 9	SU-S-PT	TUST08Q	HT	II	80	18	2.5P	⑧-33
			1 2 3 4 9	SU-SP-S-PT	SYPT082GEXS	SP	II	80	18	2P	⑧-35
	For cast irons	For PT threads	12 13	FC-PT	FCPT08Q	HT	II	80	18	2.5P	⑧-36
		For PT threads short (lg) type	12 13	FC-S-PT	FCSPT08Q	HT	II	80	18	2.5P	⑧-37
	Carbide	For PT threads	12 13 16	CT-PT	TCPT08Q	HT	II	80	18	2.5P	⑧-38
		For PT threads short (lg) type	12 13 16	CT-S-PT	TCST08Q	HT	II	80	18	2.5P	⑧-39
Rp	Standard(ISO standard)		1 2 3	Rp	TH2RP08Q	HT	II	87	18	3.5P	⑧-40
	Coating		1 2 3 4 9 19 21	AUSP Rp	SJRP080FET	SP		125	18	2.5P	⑧-10
PS	Standard		1 2 3	PS	TH2P08Q	HT	II	80	18	3.5P	⑧-41
					TH2P08Q1					1.5P	⑧-41
				SP-PS	SH2P08Q	SP				2.5P	⑧-45
	For left hand threads		1 2 3	PS LH	TH2P08Q–L	HT	II	80	18	3.5P	⑧-43
	Long shank		1 2 3	LS-PS	L15P08Q	HT	II	150	18	3.5P	⑧-44
					L20P08Q			200			⑧-44
				LS-SP-PS	SH2P08QL15	SP		150		2.5P	⑧-46
	For cast irons		12 13	FC-PS	FCPS08Q	HT	II	80	18	3.5P	⑧-47
	Carbide		12 13 16	CT-PS	TCPS08Q	HT	II	80	18	3.5P	⑧-48

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection			Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
G	Standard(ISO standard)		1 2 3	G	TH2G08Q	HT	II	87	18	3.5P	⑧-49
	Coating		1 2 3 4 9 19 21	AUSP G	SJG0080FET	SP	P4	125	18	2.5P	⑧-12
PF	Standard		1 2 3	PF	TH2F08Q	HT	II	80	18	3.5P	⑧-71
					TH2F08Q1					1.5P	⑧-71
				SP-PF	SH2F08Q	SP				2.5P	⑧-75
	For left hand threads		1 2 3	PF LH	TH2F08Q--L	HT	II	80	18	3.5P	⑧-73
	Long shank		1 2 3	LS-PF	L15F08Q	HT	II	150	18	3.5P	⑧-74
					L20F08Q			200			⑧-74
				LS-SP-PF	SH2F08QL15	SP		150		2.5P	⑧-76
	For stainless steels		1 2 9	SU-PF	TU2F08Q	HT	II	80	18	3.5P	⑧-77
			1 2 3 4 9	SU-SP-PF	SYPF082GEX	SP	II	87	18	2.5P	⑧-78
	For cast irons		12 13	FC-PF	FCPF08Q	HT	II	80	18	3.5P	⑧-79
	Carbide		12 13 16	CT-PF	TCPF08Q	HT	II	80	18	3.5P	⑧-80

Taps ／ 5/8-14

PT	Standard	For PT threads	2 3 4	PT	TH2T10Q	HT	II	82	19	2.5P	⑧-14
PS	Standard		1 2 3	PS	TH2P10Q	HT	II	82	19	3.5P	⑧-41
PF	Standard		1 2 3	PF	TH2F10Q	HT	II	82	19	3.5P	⑧-71

Taps ／ 3/4-14

Rc	Standard(ISO standard)	Standard	2 3 4	Rc	TH2RC12Q	HT	II	96	23	2.5P	⑧-13
	Coating		1 2 3 4 9 19 21	AUSP Rc	SJRC120FET	SP		140	23	2.5P	⑧-8
		Long	1 2 3 4 9 19 21	AUSP Rc	SJRC120FETK	SP		200	23	2.5P	⑧-8
PT	Standard	For PT threads	2 3 4	PT	TH2T12Q	HT	II	85	23	2.5P	⑧-14
			1 2 3	SP-PT	SH2T12Q	SP	II	85	23	2.5P	⑧-21
		For PT threads short (lg) type	2 3 4	S-PT	TSPT12Q	HT	II	85	23	2.5P	⑧-17
			1 2 3	SP-S-PT	SSPT12Q	SP	II	85	23	2.5P	⑧-22
	For left hand threads	For PT threads	2 3 4	PT LH	TH2T12Q--L	HT	II	85	23	2.5P	⑧-15
		For PT threads short (lg) type	2 3 4	S-PT LH	TSPT12Q--L	HT	II	85	23	2.5P	⑧-18
	Long shank	For PT threads	2 3 4	LS-PT	L15T12Q	HT	II	150	23	2.5P	⑧-19
					L20T12Q			200			⑧-19
			1 2 3	LS-SP-PT	SH2T12QL15	SP	II	150	23	2.5P	⑧-24
		For PT threads short (lg) type	2 3 4	LS-S-PT	TSPT12QL15	HT	II	150	23	2.5P	⑧-20
					TSPT12QL20			200			⑧-20
			1 2 3	LS-SP-S-PT	SSPT12QL15	SP	II	150	23	2.5P	⑧-25
	Interrupted	For PT threads	1 9 11	INT-PT	TINT12Q	SL	II	85	23	3P	⑧-26
		For PT threads short (lg) type	1 9 11	INT-S-PT	TIST12Q	SL	II	85	23	3P	⑧-27
		Long shank For PT threads	1 9 11	LS-INT-PT	TINT12QL15	SL	II	150	23	3P	⑧-28
		Long shank For PT threads short (lg) type	1 9 11	LS-INT-S-PT	TIST12QL15	SL	II	150	23	3P	⑧-29
	For low carbon steels	For PT threads	1 11	LC-PT	LCPT12Q	HT	II	85	23	2.5P	⑧-30
		For PT threads short (lg) type	1 11	LC-S-PT	LCSPT12Q	HT	II	85	23	2.5P	⑧-31
	For stainless steels	For PT threads	1 2 9	SU-PT	TU2T12Q	HT	II	85	23	2.5P	⑧-32
			1 2 3 4 9	SU-SP-PT	SYPT122GEX	SP	II	85	23	2P	⑧-34
		For PT threads short (lg) type	1 2 9	SU-S-PT	TUST12Q	HT	II	85	23	2.5P	⑧-33
			1 2 3 4 9	SU-SP-S-PT	SYPT122GEXS	SP	II	85	23	2P	⑧-35
	For cast irons	For PT threads	12 13	FC-PT	FCPT12Q	HT	II	85	23	2.5P	⑧-36
		For PT threads short (lg) type	12 13	FC-S-PT	FCSPT12Q	HT	II	85	23	2.5P	⑧-37
	Carbide	For PT threads	12 13 16	CT-PT	TCPT12Q	HT	II	85	23	2.5P	⑧-38
Rp	Standard(ISO standard)		1 2 3	Rp	TH2RP12Q	HT	II	96	23	3.5P	⑧-40
	Coating		1 2 3 4 9 19 21	AUSP Rp	SJRP120FET	SP		140	23	2.5P	⑧-10

Tap selection			Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
PS	Standard		1 2 3	PS	TH2P12Q	HT	II	85	23	3.5P	⑧-41
					TH2P12Q1					1.5P	⑧-41
				SP-PS	SH2P12Q	SP				2.5P	⑧-45
	For left hand threads		1 2 3	PS LH	TH2P12Q--L	HT	II	85	23	3.5P	⑧-43
	Long shank		1 2 3	LS-PS	L15P12Q	HT	II	150	23	3.5P	⑧-44
					L20P12Q			200			⑧-44
				LS-SP-PS	SH2P12QL15	SP		150		2.5P	⑧-46
	For cast irons		12 13	FC-PS	FCPS12Q	HT	II	85	23	3.5P	⑧-47
	Carbide		12 13 16	CT-PS	TCPS12Q	HT	II	85	23	3.5P	⑧-48
G	Standard(ISO standard)		1 2 3	G	TH2G12Q	HT	II	96	23	3.5P	⑧-49
	Coating		1 2 3 4 9 19 21	AUSP G	SJG0120FET	SP	P4	140	23	2.5P	⑧-12
PF	Standard		1 2 3	PF	TH2F12Q	HT	II	85	23	3.5P	⑧-71
					TH2F12Q1					1.5P	⑧-71
				SP-PF	SH2F12Q	SP				2.5P	⑧-75
	For left hand threads		1 2 3	PF LH	TH2F12Q--L	HT	II	85	23	3.5P	⑧-73
	Long shank		1 2 3	LS-PF	L15F12Q	HT	II	150	23	3.5P	⑧-74
					L20F12Q			200			⑧-74
				LS-SP-PF	SH2F12QL15	SP		150		2.5P	⑧-76
	For stainless steels		1 2 9	SU-PF	TU2F12Q	HT	II	85	23	3.5P	⑧-77
			1 2 3 4 9	SU-SP-PF	SYPF122GEX	SP	II	96	23	2.5P	⑧-78
	For cast irons		12 13	FC-PF	FCPF12Q	HT	II	85	23	3.5P	⑧-79
	Carbide		12 13 16	CT-PF	TCPF12Q	HT	II	85	23	3.5P	⑧-80

Taps ／ 7/8-14

PT	Standard	For PT threads	2 3 4	PT	TH2T14Q	HT	II	90	24	2.5P	⑧-14
PS	Standard		1 2 3	PS	TH2P14Q	HT	II	90	24	3.5P	⑧-41
PF	Standard		1 2 3	PF	TH2F14Q	HT	II	90	24	3.5P	⑧-71

Taps ／ 1-11

Rc	Standard(ISO standard)	Standard	2 3 4	Rc	TH2RC16U	HT	II	109	26	2.5P	⑧-13
	Coating		1 2 3 4 9 19 21	AUSP Rc	SJRC160FET	SP		160	26	2.5P	⑧-8
		Long	1 2 3 4 9 19 21	AUSP Rc	SJRC160FETK	SP		200	26	2.5P	⑧-8
PT	Standard	For PT threads	2 3 4	PT	TH2T16U	HT	II	95	26	2.5P	⑧-14
			1 2 3	SP-PT	SH2T16U	SP	II	95	26	2.5P	⑧-21
		For PT threads short (lg) type	2 3 4	S-PT	TSPT16U	HT	II	95	26	2.5P	⑧-17
			1 2 3	SP-S-PT	SSPT16U	SP	II	95	26	2.5P	⑧-22
	For left hand threads	For PT threads	2 3 4	PT LH	TH2T16U--L	HT	II	95	26	2.5P	⑧-15
		For PT threads short (lg) type	2 3 4	S-PT LH	TSPT16U--L	HT	II	95	26	2.5P	⑧-18
	Long shank	For PT threads	2 3 4	LS-PT	L15T16U	HT	II	150	26	2.5P	⑧-19
					L20T16U			200			⑧-19
			1 2 3	LS-SP-PT	SH2T16UL15	SP	II	150	26	2.5P	⑧-24
					SH2T16UL20			200			⑧-24
		For PT threads short (lg) type	2 3 4	LS-S-PT	TSPT16UL15	HT	II	150	26	2.5P	⑧-20
					TSPT16UL20			200			⑧-20
			1 2 3	LS-SP-S-PT	SSPT16UL15	SP	II	150	26	2.5P	⑧-25
					SSPT16UL20			200			⑧-25
	Interrupted	For PT threads	1 9 11	INT-PT	TINT16U	SL	II	95	26	3P	⑧-26
		For PT threads short (lg) type	1 9 11	INT-S-PT	TIST16U	SL	II	95	26	3P	⑧-27
		Long shank For PT threads	1 9 11	LS-INT-PT	TINT16UL15	SL	II	150	26	3P	⑧-28
					TINT16UL20			200			⑧-28
		Long shank For PT threads short (lg) type	1 9 11	LS-INT-S-PT	TIST16UL15	SL	II	150	26	3P	⑧-29
					TIST16UL20			200			⑧-29

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection			Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
PT	For low carbon steels	For PT threads	1 11	LC-PT	LCPT16U	HT	II	95	26	2.5P	⑧-30
		For PT threads short (lg) type	1 11	LC-S-PT	LCSPT16U	HT	II	95	26	2.5P	⑧-31
	For stainless steels	For PT threads	1 2 9	SU-PT	TU2T16U	HT	II	95	26	2.5P	⑧-32
			1 2 3 4 9	SU-SP-PT	SYPT162GEX	SP	II	95	26	2P	⑧-34
		For PT threads short (lg) type	1 2 9	SU-S-PT	TUST16U	HT	II	95	26	2.5P	⑧-33
			1 2 3 4 9	SU-SP-S-PT	SYPT162GEXS	SP	II	95	26	2P	⑧-35
	For cast irons	For PT threads	12 13	FC-PT	FCPT16U	HT	II	95	26	2.5P	⑧-36
		For PT threads short (lg) type	12 13	FC-S-PT	FCSPT16U	HT	II	95	26	2.5P	⑧-37
	Carbide	For PT threads	12 13 16	CT-PT	TCPT16U	HT	II	95	26	2.5P	⑧-38
Rp	Standard(ISO standard)		1 2 3	Rp	TH2RP16U	HT	II	109	26	3.5P	⑧-40
	Coating		1 2 3 4 9 19 21	AUSP Rp	SJRP160FET	SP		160	26	2.5P	⑧-10
PS	Standard		1 2 3	PS	TH2P16U	HT	II	95	26	3.5P	⑧-41
					TH2P16U1					1.5P	⑧-41
				SP-PS	SH2P16U	SP				2.5P	⑧-45
	For left hand threads		1 2 3	PS LH	TH2P16U--L	HT	II	95	26	3.5P	⑧-43
	Long shank		1 2 3	LS-PS	L15P16U	HT	II	150	26	3.5P	⑧-44
					L20P16U			200			⑧-44
				LS-SP-PS	SH2P16UL15	SP		150		2.5P	⑧-46
					SH2P16UL20			200			⑧-46
	For cast irons		12 13	FC-PS	FCPS16U	HT	II	95	26	3.5P	⑧-47
	Carbide		12 13 16	CT-PS	TCPS16U	HT	II	95	26	3.5P	⑧-48
G	Standard(ISO standard)		1 2 3	G	TH2G16U	HT	II	109	26	3.5P	⑧-49
	Coating		1 2 3 4 9 19 21	AUSP G	SJG0160FET	SP	P5	160	26	2.5P	⑧-12
PF	Standard		1 2 3	PF	TH2F16U	HT	II	95	26	3.5P	⑧-71
					TH2F16U1					1.5P	⑧-71
				SP-PF	SH2F16U	SP				2.5P	⑧-75
	For left hand threads		1 2 3	PF LH	TH2F16U--L	HT	II	95	26	3.5P	⑧-73
	Long shank		1 2 3	LS-PF	L15F16U	HT	II	150	26	3.5P	⑧-74
					L20F16U			200			⑧-74
				LS-SP-PF	SH2F16UL15	SP		150		2.5P	⑧-76
					SH2F16UL20			200			⑧-76
	For stainless steels		1 2 9	SU-PF	TU2F16U	HT	II	95	26	3.5P	⑧-77
			1 2 3 4 9	SU-SP-PF	SYPF162GEX	SP	II	109	26	2.5P	⑧-78
	For cast irons		12 13	FC-PF	FCPF16U	HT	II	95	26	3.5P	⑧-79
	Carbide		12 13 16	CT-PF	TCPF16U	HT	II	95	26	3.5P	⑧-80
Taps ／ 1 1/8-11											
PT	Standard	For PT threads	2 3 4	PT	TH2T18U	HT	II	100	28	2.5P	⑧-14
PS	Standard		1 2 3	PS	TH2P18U	HT	II	100	28	3.5P	⑧-41
PF	Standard		1 2 3	PF	TH2F18U	HT	II	100	28	3.5P	⑧-71
Taps ／ 1 1/4-11											
Rc	Standard(ISO standard)	Standard	2 3 4	Rc	TH2RC20U	HT	II	119	32	2.5P	⑧-13
PT	Standard	For PT threads	2 3 4	PT	TH2T20U	HT	II	105	32	2.5P	⑧-14
			1 2 3	SP-PT	SH2T20U	SP	II	105	32	2.5P	⑧-21
		For PT threads short (lg) type	2 3 4	S-PT	TSPT20U	HT	II	105	32	2.5P	⑧-17
			1 2 3	SP-S-PT	SSPT20U	SP	II	105	32	2.5P	⑧-22
	For left hand threads	For PT threads	2 3 4	PT LH	TH2T20U--L	HT	II	105	32	2.5P	⑧-15
		For PT threads short (lg) type	2 3 4	S-PT LH	TSPT20U--L	HT	II	105	32	2.5P	⑧-18
	Long shank	For PT threads	2 3 4	LS-PT	L20T20U	HT	II	200	32	2.5P	⑧-19

Tap selection			Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
PT	Interrupted	For PT threads	1 9 11	INT-PT	TINT20U	SL	II	105	32	3P	⑧-26
		For PT threads short (lg) type	1 9 11	INT-S-PT	TIST20U	SL	II	105	32	3P	⑧-27
	For low carbon steels	For PT threads	1 11	LC-PT	LCPT20U	HT	II	105	32	2.5P	⑧-30
	For stainless steels	For PT threads	1 2 9	SU-PT	TU2T20U	HT	II	105	32	2.5P	⑧-32
			1 2 3 4 9	SU-SP-PT	SYPT202GEX	SP	II	105	32	2P	⑧-34
		For PT threads short (lg) type	1 2 9	SU-S-PT	TUST20U	HT	II	105	32	2.5P	⑧-33
			1 2 3 4 9	SU-SP-S-PT	SYPT202GEXS	SP	II	105	32	2P	⑧-35
	For cast irons	For PT threads	12 13	FC-PT	FCPT20U	HT	II	105	32	2.5P	⑧-36
		For PT threads short (lg) type	12 13	FC-S-PT	FCSPT20U	HT	II	105	32	2.5P	⑧-37
Rp	Standard(ISO standard)		1 2 3	Rp	TH2RP20U	HT	II	119	32	3.5P	⑧-40
PS	Standard		1 2 3	PS	TH2P20U	HT	II	105	32	3.5P	⑧-41
					TH2P20U1					1.5P	⑧-41
				SP-PS	SH2P20U	SP				2.5P	⑧-45
	For left hand threads		1 2 3	PS LH	TH2P20U--L	HT	II	105	32	3.5P	⑧-43
	Long shank		1 2 3	LS-PS	L20P20U	HT	II	200	32	3.5P	⑧-44
	For cast irons		12 13	FC-PS	FCPS20U	HT	II	105	32	3.5P	⑧-47
G	Standard(ISO standard)		1 2 3	G	TH2G20U	HT	II	119	32	3.5P	⑧-49
PF	Standard		1 2 3	PF	TH2F20U	HT	II	105	32	3.5P	⑧-71
					TH2F20U1					1.5P	⑧-71
				SP-PF	SH2F20U	SP				2.5P	⑧-75
	For left hand threads		1 2 3	PF LH	TH2F20U--L	HT	II	105	32	3.5P	⑧-73
	Long shank		1 2 3	LS-PF	L20F20U	HT	II	200	32	3.5P	⑧-74
	For cast irons		12 13	FC-PF	FCPF20U	HT	II	105	32	3.5P	⑧-79
Taps ／ 1 3/8-11											
PT	Standard	For PT threads	2 3 4	PT	TH2T22U	HT	II	110	35	2.5P	⑧-14
Taps ／ 1 1/2-11											
Rc	Standard(ISO standard)	Standard	2 3 4	Rc	TH2RC24U	HT	II	125	38	2.5P	⑧-13
PT	Standard	For PT threads	2 3 4	PT	TH2T24U	HT	II	110	38	2.5P	⑧-14
			1 2 3	SP-PT	SH2T24U	SP	II	110	38	2.5P	⑧-21
		For PT threads short (lg) type	2 3 4	S-PT	TSPT24U	HT	II	110	38	2.5P	⑧-17
			1 2 3	SP-S-PT	SSPT24U	SP	II	110	38	2.5P	⑧-22
	For left hand threads	For PT threads	2 3 4	PT LH	TH2T24U--L	HT	II	110	38	2.5P	⑧-15
		For PT threads short (lg) type	2 3 4	S-PT LH	TSPT24U--L	HT	II	110	38	2.5P	⑧-18
	Long shank	For PT threads	2 3 4	LS-PT	L20T24U	HT	II	200	38	2.5P	⑧-19
	Interrupted	For PT threads	1 9 11	INT-PT	TINT24U	SL	II	110	38	3P	⑧-26
		For PT threads short (lg) type	1 9 11	INT-S-PT	TIST24U	SL	II	110	38	3P	⑧-27
	For low carbon steels	For PT threads	1 11	LC-PT	LCPT24U	HT	II	110	38	2.5P	⑧-30
	For stainless steels	For PT threads	1 2 9	SU-PT	TU2T24U	HT	II	110	38	2.5P	⑧-32
			1 2 3 4 9	SU-SP-PT	SYPT242GEX	SP	II	110	38	2P	⑧-34
		For PT threads short (lg) type	1 2 9	SU-S-PT	TUST24U	HT	II	110	38	2.5P	⑧-33
			1 2 3 4 9	SU-SP-S-PT	SYPT242GEXS	SP	II	110	38	2P	⑧-35
	For cast irons	For PT threads	12 13	FC-PT	FCPT24U	HT	II	110	38	2.5P	⑧-36
		For PT threads short (lg) type	12 13	FC-S-PT	FCSPT24U	HT	II	110	38	2.5P	⑧-37
Rp	Standard(ISO standard)		1 2 3	Rp	TH2RP24U	HT	II	125	38	3.5P	⑧-40
PS	Standard		1 2 3	PS	TH2P24U	HT	II	110	38	3.5P	⑧-41
					TH2P24U1					1.5P	⑧-41
				SP-PS	SH2P24U	SP				2.5P	⑧-45

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

	Tap selection		Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
PS	For left hand threads		1 2 3	PS LH	TH2P24U--L	HT	II	110	38	3.5P	⑧-43
	Long shank		1 2 3	LS-PS	L20P24U	HT	II	200	38	3.5P	⑧-44
	For cast irons		12 13	FC-PS	FCPS24U	HT	II	110	38	3.5P	⑧-47
G	Standard(ISO standard)		1 2 3	G	TH2G24U	HT	II	125	38	3.5P	⑧-49
PF	Standard		1 2 3	PF	TH2F24U	HT	II	110	38	3.5P	⑧-71
					TH2F24U1					1.5P	⑧-71
				SP-PF	SH2F24U	SP				2.5P	⑧-75
	For left hand threads		1 2 3	PF LH	TH2F24U--L	HT	II	110	38	3.5P	⑧-73
	Long shank		1 2 3	LS-PF	L20F24U	HT	II	200	38	3.5P	⑧-74
	For cast irons		12 13	FC-PF	FCPF24U	HT	II	110	38	3.5P	⑧-79
Taps ／ 1 3/4-11											
PT	Standard	For PT threads	2 3 4	PT	TH2T28U	HT	II	115	42	2.5P	⑧-14
		For PT threads short (lg) type	2 3 4	S-PT	TSPT28U	HT	II	115	42	2.5P	⑧-17
PS	Standard		1 2 3	PS	TH2P28U	HT	II	115	42	3.5P	⑧-41
PF	Standard		1 2 3	PF	TH2F28U	HT	II	115	42	3.5P	⑧-71
					TH2F28U1					1.5P	⑧-71
Taps ／ 2-11											
Rc	Standard(ISO standard)	Standard	2 3 4	Rc	TH2RC32U	HT	II	140	46	2.5P	⑧-13
PT	Standard	For PT threads	2 3 4	PT	TH2T32U	HT	II	120	46	2.5P	⑧-14
			1 2 3	SP-PT	SH2T32U	SP	II	120	46	2.5P	⑧-21
		For PT threads short (lg) type	2 3 4	S-PT	TSPT32U	HT	II	120	46	2.5P	⑧-17
			1 2 3	SP-S-PT	SSPT32U	SP	II	120	46	2.5P	⑧-22
	For left hand threads	For PT threads	2 3 4	PT LH	TH2T32U--L	HT	II	120	46	2.5P	⑧-15
		For PT threads short (lg) type	2 3 4	S-PT LH	TSPT32U--L	HT	II	120	46	2.5P	⑧-18
	Long shank	For PT threads	2 3 4	LS-PT	L20T32U	HT	II	200	46	2.5P	⑧-19
	Interrupted	For PT threads	1 9 11	INT-PT	TINT32U	SL	II	120	46	3P	⑧-26
		For PT threads short (lg) type	1 9 11	INT-S-PT	TIST32U	SL	II	120	46	3P	⑧-27
	For low carbon steels	For PT threads	1 11	LC-PT	LCPT32U	HT	II	120	46	2.5P	⑧-30
	For stainless steels	For PT threads	1 2 3 4 9	SU-SP-PT	SYPT322GEX	SP	II	120	46	2P	⑧-34
		For PT threads short (lg) type	1 2 3 4 9	SU-SP-S-PT	SYPT322GEXS	SP	II	120	46	2P	⑧-35
	For cast irons	For PT threads	12 13	FC-PT	FCPT32U	HT	II	120	46	2.5P	⑧-36
		For PT threads short (lg) type	12 13	FC-S-PT	FCSPT32U	HT	II	120	46	2.5P	⑧-37
Rp	Standard(ISO standard)		1 2 3	Rp	TH2RP32U	HT	II	140	46	3.5P	⑧-40
PS	Standard		1 2 3	PS	TH2P32U	HT	II	120	46	3.5P	⑧-41
				SP-PS	SH2P32U	SP				2.5P	⑧-45
	For left hand threads		1 2 3	PS LH	TH2P32U--L	HT	II	120	46	3.5P	⑧-43
G	Standard(ISO standard)		1 2 3	G	TH2G32U	HT	II	140	46	3.5P	⑧-49
PF	Standard		1 2 3	PF	TH2F32U	HT	II	120	46	3.5P	⑧-71
					TH2F32U1					1.5P	⑧-71
				SP-PF	SH2F32U	SP				2.5P	⑧-75
	For left hand threads		1 2 3	PF LH	TH2F32U--L	HT	II	120	46	3.5P	⑧-73
	Long shank		1 2 3	LS-PF	L20F32U	HT	II	200	46	3.5P	⑧-74
	For cast irons		12 13	FC-PF	FCPF32U	HT	II	120	46	3.5P	⑧-79
Taps ／ 2 1/4-11											
PT	Standard	For PT threads	2 3 4	PT	TH2T36U	HT	II	145	50	2.5P	⑧-14
PS	Standard		1 2 3	PS	TH2P36U	HT	II	145	50	3.5P	⑧-41

	Tap selection		Main material	Symbol (Note1)	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
Taps ／ 2 1/2-11											
PT	Standard	For PT threads	2 3 4	PT	TH2T40U	HT	II	145	55	2.5P	⑧-14
		For PT threads short (lg) type	2 3 4	S-PT	TSPT40U	HT	II	145	55	2.5P	⑧-17
PS	Standard		1 2 3	PS	TH2P40U	HT	II	145	55	3.5P	⑧-41
PF	Standard		1 2 3	PF	TH2F40U	HT	II	145	55	3.5P	⑧-71
Taps ／ 3-11											
PT	Standard	For PT threads	2 3 4	PT	TH2T48U	HT	II	155	65	2.5P	⑧-14
		For PT threads short (lg) type	2 3 4	S-PT	TSPT48U	HT	II	155	65	2.5P	⑧-17
PS	Standard		1 2 3	PS	TH2P48U	HT	II	155	65	3.5P	⑧-42
PF	Standard		1 2 3	PF	TH2F48U	HT	II	155	65	3.5P	⑧-72
					TH2F48U1					1.5P	⑧-72
Taps ／ 3 1/2-11											
PT	Standard	For PT threads	2 3 4	PT	TH2T56U	HT	II	165	70	2.5P	⑧-14
PS	Standard		1 2 3	PS	TH2P56U	HT	II	165	70	3.5P	⑧-42
PF	Standard		1 2 3	PF	TH2F56U	HT	II	165	70	3.5P	⑧-72
Taps ／ 4-11											
PT	Standard	For PT threads	2 3 4	PT	TH2T64U	HT	II	170	75	2.5P	⑧-14
PS	Standard		1 2 3	PS	TH2P64U	HT	II	170	75	3.5P	⑧-42
PF	Standard		1 2 3	PF	TH2F64U	HT	II	170	75	3.5P	⑧-72

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Dies selection			Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ PT1/16-28											
PT	For PT threads	Solid dies	HSS	1 2 12 15 16 18 19	D PT		38	13	2.5P	TYJPT010NEBC	⑩-26
Dies ／ PF1/16-28											
PF	For PF threads	Solid dies	HSS	1 2 12 15 16 18 19	D PF		25	9	2.5P	TYGPF010NEBC	⑩-28
Dies ／ PT1/8-28											
PT	For PT threads	Solid dies	HSS	1 2 12 15 16 18 19	D PT		38	13	2.5P	TYJPT020NEBC	⑩-26
	For PT left hand threads	Solid dies	HSS	1 2 12 15 16 18 19	D PT LH		38	13	2.5P	GYJPT020NEBC	⑩-27
Dies ／ PF1/8-28											
PF	For PF threads	Solid dies	HSS	1 2 12 15 16 18 19	D PF		25	9	2.5P	TYGPF020NEBC	⑩-28
							38	13		TYJPF020NEBC	⑩-28
	For PF left hand threads	Solid dies	HSS	1 2 12 15 16 18 19	D PF LH		38	13	2.5P	GYJPF020NEBC	⑩-29
Dies ／ PT1/4-19											
PT	For PT threads	Solid dies	HSS	1 2 12 15 16 18 19	D PT		38	18	2.5P	TYJPT040NEBC	⑩-26
	For PT left hand threads	Solid dies	HSS	1 2 12 15 16 18 19	D PT LH		38	18	2.5P	GYJPT040NEBC	⑩-27
Dies ／ PF1/4-19											
PF	For PF threads	Solid dies	HSS	1 2 12 15 16 18 19	D PF		38	13	2.5P	TYJPF040NEBC	⑩-28
	For PF left hand threads	Solid dies	HSS	1 2 12 15 16 18 19	D PF LH		38	13	2.5P	GYJPF040NEBC	⑩-29
Dies ／ PT3/8-19											
PT	For PT threads	Solid dies	HSS	1 2 12 15 16 18 19	D PT		50	22	2.5P	TYMPT060NEBC	⑩-26
	For PT left hand threads	Solid dies	HSS	1 2 12 15 16 18 19	D PT LH		50	22	2.5P	GYMPT060NEBC	⑩-27
Dies ／ PF3/8-19											
PF	For PF threads	Solid dies	HSS	1 2 12 15 16 18 19	D PF		38	13	2.5P	TYJPF060NEBC	⑩-28
							50	16		TYMPF060NEBC	⑩-28
	For PF left hand threads	Solid dies	HSS	1 2 12 15 16 18 19	D PF LH		50	16	2.5P	GYMPF060NEBC	⑩-29
Dies ／ PT1/2-14											
PT	For PT threads	Solid dies	HSS	1 2 12 15 16 18 19	D PT		50	22	2.5P	TYMPT080NEBC	⑩-26
	For PT left hand threads	Solid dies	HSS	1 2 12 15 16 18 19	D PT LH		50	22	2.5P	GYMPT080NEBC	⑩-27
Dies ／ PF1/2-14											
PF	For PF threads	Solid dies	HSS	1 2 12 15 16 18 19	D PF		50	16	2.5P	TYMPF080NEBC	⑩-28
	For PF left hand threads	Solid dies	HSS	1 2 12 15 16 18 19	D PF LH		50	16	2.5P	GYMPF080NEBC	⑩-29
Dies ／ PT5/8-14											
PT	For PT threads	Solid dies	HSS	1 2 12 15 16 18 19	D PT		63	24	2.5P	TYRPT100NEBC	⑩-26
Dies ／ PF5/8-14											
PF	For PF threads	Solid dies	HSS	1 2 12 15 16 18 19	D PF		50	16	2.5P	TYMPF100NEBC	⑩-28
Dies ／ PT3/4-14											
PT	For PT threads	Solid dies	HSS	1 2 12 15 16 18 19	D PT		63	24	2.5P	TYRPT120NEBC	⑩-26
	For PT left hand threads	Solid dies	HSS	1 2 12 15 16 18 19	D PT LH		63	24	2.5P	GYRPT120NEBC	⑩-27

Dies selection			Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ PF3/4-14											
PF	For PF threads	Solid dies	HSS	1 2 12 15 16 18 19	D PF		50	16	2.5P	TYMPF120NEBC	⑩-28
							63	20		TYRPF120NEBC	⑩-28
	For PF left hand threads	Solid dies	HSS	1 2 12 15 16 18 19	D PF LH		63	20	2.5P	GYRPF120NEBC	⑩-29
Dies ／ PT7/8-14											
PT	For PT threads	Solid dies	HSS	1 2 12 15 16 18 19	D PT		75	30	2.5P	TYUPT140NEBC	⑩-26
Dies ／ PT1-11											
PT	For PF threads	Solid dies	HSS	1 2 12 15 16 18 19	D PT		75	30	2.5P	TYUPT160NEBC	⑩-26
	For PF left hand threads	Solid dies	HSS	1 2 12 15 16 18 19	D PT LH		75	30	2.5P	GYUPT160NEBC	⑩-27
Dies ／ PF1-11											
PF	For PF threads	Solid dies	HSS	1 2 12 15 16 18 19	D PF		75	25	2.5P	TYUPF160NEBC	⑩-28
	For PF left hand threads	Solid dies	HSS	1 2 12 15 16 18 19	D PF LH		75	25	2.5P	GYUPF160NEBC	⑩-29
Dies ／ PT1 1/4-11											
PT	For PT threads	Solid dies	HSS	1 2 12 15 16 18 19	D PT		75	30	2.5P	TYUPT200NEBC	⑩-26
Dies ／ PF1 1/4-11											
PF	For PF threads	Solid dies	HSS	1 2 12 15 16 18 19	D PF		75	25	2.5P	TYUPF200NEBC	⑩-28
Dies ／ PT1 1/2-11											
PT	For PT threads	Solid dies	HSS	1 2 12 15 16 18 19	D PT		75	30	2.5P	TYUPT240NEBC	⑩-26
Dies ／ PF1 1/2-11											
PF	For PF threads	Solid dies	HSS	1 2 12 15 16 18 19	D PF		75	25	2.5P	TYUPF240NEBC	⑩-28
Dies ／ PT2-11											
PT	For PT threads	Solid dies	HSS	1 2 12 15 16 18 19	D PT		105	36	2.5P	TYYPT320NEBC	⑩-26
Dies ／ PF2-11											
PF	For PF threads	Solid dies	HSS	1 2 12 15 16 18 19	D PF		105	30	2.5P	TYYPF320NEBC	⑩-28

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Taps ／ 1/16-27

	Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
NPT	Standard	For NPT threads	2 3 4	NPT	TNPT01L	HT	ANSI G	54	8	3P	⑧-81
			1 2 3	SP-NPT	SNPT01L	SP	ANSI G	54	8	2.5P	⑧-87
		For NPT threads short (lg) type	2 3 4	S-NPT	TSNPT01L	HT	ANSI G	54	8	3P	⑧-85
	Long shank	For NPT threads	2 3 4	LS-NPT	TNPT01LL10	HT	ANSI G	100	8	3P	⑧-86
					TNPT01LL15			150			⑧-86
	Interrupted	For NPT threads	1 9 11	INT-NPT	TINPT01L	SL	ANSI G	54	8	3P	⑧-90
		For NPT threads short (lg) type	1 9 11	INT-S-NPT	TISNT01L	SL	ANSI G	54	8	3P	⑧-92
NPTF	Standard		2 3 4	NPTF	TNTF01L	HT	ANSI G	54	8	3P	⑧-93
	Long shank		2 3 4	LS-NPTF	TNTF01LL10	HT	ANSI G	100	8	3P	⑧-97
					TNTF01LL15			150			⑧-97
NPS	Standard		1 2 3	NPS	TNPS01L	HT	ANSI G	54	8	5P	⑧-98
NPSF	Standard		1 2 3	NPSF	TNSF01L	HT	ANSI G	54	8	5P	⑧-100

Taps ／ 1/8-27

	Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
NPT	Standard	For NPT threads	2 3 4	NPT	TNPT02L	HT	ANSI G	55	8	3P	⑧-81
			1 2 3	SP-NPT	SNPT02L	SP	ANSI G	55	8	2.5P	⑧-87
		For NPT threads short (lg) type	2 3 4	S-NPT	TSNPT02L	HT	ANSI G	55	8	3P	⑧-85
	Long shank	For NPT threads	2 3 4	LS-NPT	TNPT02LL10	HT	ANSI G	100	8	3P	⑧-86
					TNPT02LL15			150			⑧-86
		For NPT threads short (lg) type	1 2 3	LS-SP-S-NPT	SSNPT02LL10	SP	ANSI G	100	8	2.5P	⑧-89
	Interrupted	For NPT threads	1 9 11	INT-NPT	TINPT02L	SL	ANSI G	55	8	3P	⑧-90
		For NPT threads short (lg) type	1 9 11	INT-S-NPT	TISNT02L	SL	ANSI G	55	8	3P	⑧-92
NPTF	Standard		2 3 4	NPTF	TNTF02L	HT	ANSI G	55	8	3P	⑧-93
	Long shank		2 3 4	LS-NPTF	TNTF02LL10	HT	ANSI G	100	8	3P	⑧-97
					TNTF02LL15			150			⑧-97
NPS	Standard		1 2 3	NPS	TNPS02L	HT	ANSI G	55	8	5P	⑧-98
NPSF	Standard		1 2 3	NPSF	TNSF02L	HT	ANSI G	55	8	5P	⑧-100

Taps ／ 1/4-18

	Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
NPT	Standard	For NPT threads	2 3 4	NPT	TNPT04O	HT	ANSI G	62	11	3P	⑧-81
			1 2 3	SP-NPT	SNPT04O	SP	ANSI G	62	11	2.5P	⑧-87
		For NPT threads short (lg) type	2 3 4	S-NPT	TSNPT04O	HT	ANSI G	62	11	3P	⑧-85
	Long shank	For NPT threads	2 3 4	LS-NPT	TNPT04OL10	HT	ANSI G	100	11	3P	⑧-86
					TNPT04OL15			150			⑧-86
		For NPT threads short (lg) type	1 2 3	LS-SP-S-NPT	SSNPT04OL15	SP	ANSI G	150	11	2.5P	⑧-89
	Interrupted	For NPT threads	1 9 11	INT-NPT	TINPT04O	SL	ANSI G	62	11	3P	⑧-90
		For NPT threads short (lg) type	1 9 11	INT-S-NPT	TISNT04O	SL	ANSI G	62	11	3P	⑧-92
NPTF	Standard		2 3 4	NPTF	TNTF04O	HT	ANSI G	62	11	3P	⑧-93
	Long shank		2 3 4	LS-NPTF	TNTF04OL10	HT	ANSI G	100	11	3P	⑧-97
					TNTF04OL15			150			⑧-97
NPS	Standard		1 2 3	NPS	TNPS04O	HT	ANSI G	62	11	5P	⑧-98
NPSF	Standard		1 2 3	NPSF	TNSF04O	HT	ANSI G	62	11	5P	⑧-100

Taps ／ 3/8-18

	Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
NPT	Standard	For NPT threads	2 3 4	NPT	TNPT06O	HT	ANSI G	65	14	3P	⑧-81
			1 2 3	SP-NPT	SNPT06O	SP	ANSI G	65	14	2.5P	⑧-87
		For NPT threads short (lg) type	2 3 4	S-NPT	TSNPT06O	HT	ANSI G	65	14	3P	⑧-85
	Long shank	For NPT threads	2 3 4	LS-NPT	TNPT06OL10	HT	ANSI G	100	14	3P	⑧-86
					TNPT06OL15			150			⑧-86
		For NPT threads short (lg) type	1 2 3	LS-SP-S-NPT	SSNPT06OL15	SP	ANSI G	150	14	2.5P	⑧-89
	Interrupted	For NPT threads	1 9 11	INT-NPT	TINPT06O	SL	ANSI G	65	14	3P	⑧-90
		For NPT threads short (lg) type	1 9 11	INT-S-NPT	TISNT06O	SL	ANSI G	65	14	3P	⑧-92
NPTF	Standard		2 3 4	NPTF	TNTF06O	HT	ANSI G	65	14	3P	⑧-93
	Long shank		2 3 4	LS-NPTF	TNTF06OL10	HT	ANSI G	100	14	3P	⑧-97
					TNTF06OL15			150			⑧-97
NPS	Standard		1 2 3	NPS	TNPS06O	HT	ANSI G	65	14	5P	⑧-98
NPSF	Standard		1 2 3	NPSF	TNSF06O	HT	ANSI G	65	14	5P	⑧-100

Taps ／ 1/2-14

	Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
NPT	Standard	For NPT threads	2 3 4	NPT	TNPT08Q	HT	ANSI G	80	18	3P	⑧-81
			1 2 3	SP-NPT	SNPT08Q	SP	ANSI G	80	18	2.5P	⑧-87
		For NPT threads short (lg) type	2 3 4	S-NPT	TSNPT08Q	HT	ANSI G	80	18	3P	⑧-85
	Long shank	For NPT threads	2 3 4	LS-NPT	TNPT08QL15	HT	ANSI G	150	18	3P	⑧-86
		For NPT threads short (lg) type	1 2 3	LS-SP-S-NPT	SSNPT08QL15	SP	ANSI G	150	18	2.5P	⑧-89
	Interrupted	For NPT threads	1 9 11	INT-NPT	TINPT08Q	SL	ANSI G	80	18	3P	⑧-90
		For NPT threads short (lg) type	1 9 11	INT-S-NPT	TISNT08Q	SL	ANSI G	80	18	3P	⑧-92
NPTF	Standard		2 3 4	NPTF	TNTF08Q	HT	ANSI G	80	18	3P	⑧-93
	Long shank		2 3 4	LS-NPTF	TNTF08QL15	HT	ANSI G	150	18	3P	⑧-97
NPS	Standard		1 2 3	NPS	TNPS08Q	HT	ANSI G	80	18	5P	⑧-98
NPSF	Standard		1 2 3	NPSF	TNSF08Q	HT	ANSI G	80	18	5P	⑧-100

Taps ／ 3/4-14

	Tap selection		Main material	Symbol Note1	Code	Flute	Class	*L*	*Ds*	*ℓc*	Product page
NPT	Standard	For NPT threads	2 3 4	NPT	TNPT12Q	HT	ANSI G	85	23	3P	⑧-81
			1 2 3	SP-NPT	SNPT12Q	SP	ANSI G	85	23	2.5P	⑧-87
		For NPT threads short (lg) type	2 3 4	S-NPT	TSNPT12Q	HT	ANSI G	85	23	3P	⑧-85
	Long shank	For NPT threads	2 3 4	LS-NPT	TNPT12QL15	HT	ANSI G	150	23	3P	⑧-86
		For NPT threads short (lg) type	1 2 3	LS-SP-S-NPT	SSNPT12QL15	SP	ANSI G	150	23	2.5P	⑧-89
	Interrupted	For NPT threads	1 9 11	INT-NPT	TINPT12Q	SL	ANSI G	85	23	3P	⑧-90
		For NPT threads short (lg) type	1 9 11	INT-S-NPT	TISNT12Q	SL	ANSI G	85	23	3P	⑧-92
NPTF	Standard		2 3 4	NPTF	TNTF12Q	HT	ANSI G	85	23	3P	⑧-93
	Long shank		2 3 4	LS-NPTF	TNTF12QL15	HT	ANSI G	150	23	3P	⑧-97
NPS	Standard		1 2 3	NPS	TNPS12Q	HT	ANSI G	85	23	5P	⑧-98
NPSF	Standard		1 2 3	NPSF	TNSF12Q	HT	ANSI G	85	23	5P	⑧-100

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection			Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ 1-11 1/2											
NPT	Standard	For NPT threads	2 3 4	NPT	TNPT16T	HT	ANSI G	95	26	3P	⑧-81
			1 2 3	SP-NPT	SNPT16T	SP	ANSI G	95	26	2.5P	⑧-87
		For NPT threads short (lg) type	2 3 4	S-NPT	TSNPT16T	HT	ANSI G	95	26	3P	⑧-85
	Long shank	For NPT threads	2 3 4	LS-NPT	TNPT16TL15	HT	ANSI G	150	26	3P	⑧-86
	Interrupted	For NPT threads	1 9 11	INT-NPT	TINPT16T	SL	ANSI G	95	26	3P	⑧-90
		For NPT threads short (lg) type	1 9 11	INT-S-NPT	TISNT16T	SL	ANSI G	95	26	3P	⑧-92
NPTF	Standard		2 3 4	NPTF	TNTF16T	HT	ANSI G	95	26	3P	⑧-93
	Long shank		2 3 4	LS-NPTF	TNTF16TL15	HT	ANSI G	150	26	3P	⑧-97
NPS	Standard		1 2 3	NPS	TNPS16T	HT	ANSI G	95	26	5P	⑧-98
NPSF	Standard		1 2 3	NPSF	TNSF16T	HT	ANSI G	95	26	5P	⑧-100
Taps ／ 1 1/4-11 1/2											
NPT	Standard	For NPT threads	2 3 4	NPT	TNPT20T	HT	ANSI G	105	32	3P	⑧-81
		For NPT threads short (lg) type	2 3 4	S-NPT	TSNPT20T	HT	ANSI G	105	32	3P	⑧-85
	Interrupted	For NPT threads	1 9 11	INT-NPT	TINPT20T	SL	ANSI G	105	32	3P	⑧-90
		For NPT threads short (lg) type	1 9 11	INT-S-NPT	TISNT20T	SL	ANSI G	105	32	3P	⑧-92
NPTF	Standard		2 3 4	NPTF	TNTF20T	HT	ANSI G	105	32	3P	⑧-93
NPS	Standard		1 2 3	NPS	TNPS20T	HT	ANSI G	105	32	5P	⑧-98
NPSF	Standard		1 2 3	NPSF	TNSF20T	HT	ANSI G	105	32	5P	⑧-100
Taps ／ 1 1/2-11 1/2											
NPT	Standard	For NPT threads	2 3 4	NPT	TNPT24T	HT	ANSI G	110	38	3P	⑧-81
		For NPT threads short (lg) type	2 3 4	S-NPT	TSNPT24T	HT	ANSI G	110	38	3P	⑧-85
	Interrupted	For NPT threads	1 9 11	INT-NPT	TINPT24T	SL	ANSI G	110	38	3P	⑧-90
		For NPT threads short (lg) type	1 9 11	INT-S-NPT	TISNT24T	SL	ANSI G	110	38	3P	⑧-92
NPTF	Standard		2 3 4	NPTF	TNTF24T	HT	ANSI G	110	38	3P	⑧-93
NPS	Standard		1 2 3	NPS	TNPS24T	HT	ANSI G	110	38	5P	⑧-98
NPSF	Standard		1 2 3	NPSF	TNSF24T	HT	ANSI G	110	38	5P	⑧-100
Taps ／ 2-11 1/2											
NPT	Standard	For NPT threads	2 3 4	NPT	TNPT32T	HT	ANSI G	120	46	3P	⑧-81
		For NPT threads short (lg) type	2 3 4	S-NPT	TSNPT32T	HT	ANSI G	120	46	3P	⑧-85
	Interrupted	For NPT threads	1 9 11	INT-NPT	TINPT32T	SL	ANSI G	120	46	3P	⑧-90
		For NPT threads short (lg) type	1 9 11	INT-S-NPT	TISNT32T	SL	ANSI G	120	46	3P	⑧-92
NPTF	Standard		2 3 4	NPTF	TNTF32T	HT	ANSI G	120	46	3P	⑧-93
NPS	Standard		1 2 3	NPS	TNPS32T	HT	ANSI G	120	46	5P	⑧-98
NPSF	Standard		1 2 3	NPSF	TNSF32T	HT	ANSI G	120	46	5P	⑧-100
Taps ／ 2 1/2-8											
NPT	Standard	For NPT threads	2 3 4	NPT	TNPT40X	HT	ANSI G	145	55	3P	⑧-81
Taps ／ 3-8											
NPT	Standard	For NPT threads	2 3 4	NPT	TNPT48X	HT	ANSI G	155	65	3P	⑧-81

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	*Ds*	*ℓc*

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ 1/16-27 NPT									
NPT	For NPT threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPT	-	38	13	2.5P	TYJNT010NEBC	⑩-30
Dies ／ 1/16-27 NPTF									
NPTF	For NPTF threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPTF	-	38	13	2.5P	TYJNF010NEBC	⑩-31
Dies ／ 1/16-27 NPSM									
NPSM	For NPSM threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPSM	-	38	13	2.5P	TYJSM010NEBC	⑩-32
Dies ／ 1/8-27 NPT									
NPT	For NPT threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPT	-	38	13	2.5P	TYJNT020NEBC	⑩-30
Dies ／ 1/8-27 NPTF									
NPTF	For NPTF threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPTF	-	38	13	2.5P	TYJNF020NEBC	⑩-31
Dies ／ 1/8-27 NPSM									
NPSM	For NPSM threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPSM	-	38	13	2.5P	TYJSM020NEBC	⑩-32
Dies ／ 1/4-18 NPT									
NPT	For NPT threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPT	-	38	18	2.5P	TYJNT040NEBC	⑩-30
Dies ／ 1/4-18 NPTF									
NPTF	For NPTF threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPTF	-	38	18	2.5P	TYJNF040NEBC	⑩-31
Dies ／ 1/4-18 NPSM									
NPSM	For NPSM threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPSM	-	38	13	2.5P	TYJSM040NEBC	⑩-32
Dies ／ 3/8-18 NPT									
NPT	For NPT threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPT	-	50	22	2.5P	TYMNT060NEBC	⑩-30
Dies ／ 3/8-18 NPTF									
NPTF	For NPTF threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPTF	-	50	22	2.5P	TYMNF060NEBC	⑩-31
Dies ／ 3/8-18 NPSM									
NPSM	For NPSM threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPSM	-	50	16	2.5P	TYMSM060NEBC	⑩-32
Dies ／ 1/2-14 NPT									
NPT	For NPT threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPT	-	50	22	2.5P	TYMNT080NEBC	⑩-30
Dies ／ 1/2-14 NPTF									
NPTF	For NPTF threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPTF	-	50	22	2.5P	TYMNF080NEBC	⑩-31
Dies ／ 1/2-14 NPSM									
NPSM	For NPSM threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPSM	-	50	16	2.5P	TYMSM080NEBC	⑩-32
Dies ／ 3/4-14 NPT									
NPT	For NPT threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPT	-	63	24	2.5P	TYRNT120NEBC	⑩-30
Dies ／ 3/4-14 NPTF									
NPTF	For NPTF threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPTF	-	63	24	2.5P	TYRNF120NEBC	⑩-31

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ 3/4-14 NPSM									
NPSM	For NPSM threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPSM	-	63	20	2.5P	TYRSM120NEBC	⑩-32
Dies ／ 1-11 1/2 NPT									
NPT	For NPT threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPT	-	75	30	2.5P	TYUNT160NEBC	⑩-30
Dies ／ 1-11 1/2 NPTF									
NPTF	For NPTF threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPTF	-	75	30	2.5P	TYUNF160NEBC	⑩-31
Dies ／ 1-11 1/2 NPSM									
NPSM	For NPSM threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPSM	-	75	25	2.5P	TYUSM160NEBC	⑩-32
Dies ／ 1 1/4-11 1/2 NPT									
NPT	For NPT threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPT	-	75	30	2.5P	TYUNT200NEBC	⑩-30
Dies ／ 1 1/4-11 1/2 NPTF									
NPTF	For NPTF threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPTF	-	75	30	2.5P	TYUNF200NEBC	⑩-31
Dies ／ 1 1/4-11 1/2 NPSM									
NPSM	For NPSM threads	Solid dies	HSS	1 2 12 15 16 18 19	D NPSM	-	75	25	2.5P	TYUSM200NEBC	⑩-32

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Icons of main materials

1 Low carbon steel　2 Medium carbon steel　3 High carbon steel　4 Alloy steel　5 Thermal refined steel (25~35HRC)　6 Thermal refined steel (35~45HRC)
7 Thermal refined steel (45~55HRC)　8 Thermal refined steel (50~63HRC)　9 Stainless steel　10 Tool steel　11 Cast steel　12 Cast iron
13 Ductile cast iron　14 Copper　15 Brass　16 Brass casting　17 Bronze　18 Wrought aluminum　19 Aluminum alloy casting
20 Magnesium alloy　21 Zinc alloy　22 Titanium alloy　23 Nickel base alloy　24 Thermosetting plastic　25 Thermoplastic resin

Tap selection		Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ S0.4 × 0.1										
Cutting		1 15	MS+TR	GMHRP0.4-3	HT	-	36	3	2.75P	④-136
Taps ／ S0.5 × 0.125										
Cutting		1 15	MS+TR	GMHRP0.5-3	HT	-	36	3	2.75P	④-136
Taps ／ S0.6 × 0.15										
Cutting		1 15	MS+TR	GMHRP0.6-3	HT	-	36	3	2.75P	④-136
Thread forming taps for non-ferrous materials	High performance	1 9 15 18 19 21	MS+RS	MSP20.6-B	RO	GS2	36	3	2P	⑥-62
		1 2 3 9 18 22	HPsRZ	HPS20.6-B	RO	GS2	36	3	2P	⑥-62
Taps ／ S0.7 × 0.175										
Cutting		1 15	MS+TR	GMHRP0.7-3	HT	-	36	3	2.75P	④-136
Thread forming taps for non-ferrous materials	High performance	1 9 15 18 19 21	MS+RS	MSP30.7-B	RO	GS3	36	3	2P	⑥-62
		1 2 3 9 18 22	HPsRZ	HPS30.7-B	RO	GS3	36	3	2P	⑥-62
Taps ／ S0.8 × 0.2										
Cutting		1 15	MS+TR	GMHRP0.8-3	HT	-	36	3	2.75P	④-136
Thread forming taps for non-ferrous materials	High performance	1 9 15 18 19 21	MS+RS	MSP30.8-B	RO	GS3	36	3	2P	⑥-62
		1 2 3 9 18 22	HPsRZ	HPS30.8-B	RO	GS3	36	3	2P	⑥-62
Taps ／ S0.9 × 0.225										
Cutting		1 15	MS+TR	GMHRP0.9-3	HT	-	36	3	2.75P	④-136
Thread forming taps for non-ferrous materials	High performance	1 9 15 18 19 21	MS+RS	MSP40.9-B	RO	GS4	36	3	2P	⑥-62
		1 2 3 9 18 22	HPsRZ	HPS40.9-B	RO	GS4	36	3	2P	⑥-62
Taps ／ 5V1										
Standard		15	HT TV	TY05V1RLEBA	HT	-	62	6	1.5P	⑦-33
Taps ／ 8V1										
Standard		15	HT TV	TY08V1SLEBA	HT	-	70	6.2	1.5P	⑦-33
Taps ／ 8V2										
Standard		15	HT TV	TY08V2QLEBA	HT	-	70	6.2	1.5P	⑦-33
Taps ／ 9V1										
Standard		15	HT TV	TY09V1QLEBA	HT	-	75	7	1.5P	⑦-33
Taps ／ 10V1										
Standard		15	HT TV	TY10V1QLEBA	HT	-	75	7	1.5P	⑦-33
Taps ／ 10V2										
Standard		15	HT TV	TY10V2RLEBA	HT	-	82	8.5	1.5P	⑦-33
Taps ／ 11V1										
Standard		15	HT TV	TY11V1RLEBA	HT	-	82	8.5	1.5P	⑦-33
Taps ／ 12V1										
Standard		15	HT TV	TY12V1RLEBA	HT	-	88	10.5	1.5P	⑦-33

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ 13V1									
Standard	15	HT TV	TY13V1RLEBA	HT	-	88	10.5	1.5P	⑦-33
Taps ／ 13V2									
Standard	15	HT TV	TY13V2QLEBA	HT	-	88	10.5	1.5P	⑦-34
Taps ／ 15V1									
Standard	15	HT TV	TY15V1QLEBA	HT	-	95	12.5	1.5P	⑦-34
Taps ／ 16V1									
Standard	15	HT TV	TY16V1RLEBA	HT	-	95	12.5	1.5P	⑦-34
Taps ／ 17V1									
Standard	15	HT TV	TY17V1QLEBA	HT	-	100	14	1.5P	⑦-34
Taps ／ 17V2									
Standard	15	HT TV	TY17V2RLEBA	HT	-	100	14	1.5P	⑦-34
Taps ／ 17V3									
Standard	15	HT TV	TY17V3RLEBA	HT	-	100	14	1.5P	⑦-34
Taps ／ 19V1									
Standard	15	HT TV	TY19V1RLEBA	HT	-	105	15	1.5P	⑦-34
Taps ／ 20V1									
Standard	15	HT TV	TY20V1QLEBA	HT	-	115	17	1.5P	⑦-34
Taps ／ CTV5-36									
Standard	15	HT CTV	TYCV5IRLEBA	HT	-	62	6	1.5P	⑦-35
Taps ／ CTV5-24									
Standard	15	HT CTV	TYCV5MSLEBA	HT	-	62	6	1.5P	⑦-35
Taps ／ CTV8-32									
Standard	15	HT CTV	TYCV8JRLEBA	HT	-	70	6.2	1.5P	⑦-35
Taps ／ CTV8-30									
Standard	15	HT CTV	TYCV83RLEBA	HT	-	70	6.2	1.5P	⑦-35
Taps ／ 5V2									
Standard	15	HT CTV	TY05V2QLEBA	HT	-	62	6	1.5P	⑦-35
Taps ／ 6V1									
Standard	15	HT CTV	TY06V1QLEBA	HT	-	62	6	1.5P	⑦-35
Taps ／ CTC19-16									
Standard	1 2 3	HT CTC	TYCC190HEB5	HT	-	105	15	5P	⑦-36
Taps ／ CTC25-16									
Standard	1 2 3	HT CTC	TYCC250HEB5	HT	-	125	19	5P	⑦-36

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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Note 1: Product symbols shown in red mean the tap suitable for synchronized feed tapping.

Symbol of size

Overall length	Shank dia.	Chamfer length
L	D_s	ℓ_c

Symbol of flute design

	Spiral	Straight	Spiral point	Left hand spiral	Roll
Symbol of flute design	SP	HT	PO	SL	RO
Drill hole shape					P:  B: 

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ CTC31-16									
Standard	1 2 3	HT CTC	TYCC310HEB5	HT	-	145	24	5P	⑦-36
Taps ／ CTC39-16									
Standard	1 2 3	HT CTC	TYCC390HEB5	HT	-	165	30	5P	⑦-36
Taps ／ CTG16-14									
Standard	1 2 3	HT CTG	TYCG160HEB5	HT	-	115	17	5P	⑦-37
Taps ／ CTG22-14									
Standard	1 2 3	HT CTG	TYCG220HEB5	HT	-	130	20	5P	⑦-37
Taps ／ CTG28-11									
Standard	1 2 3	HT CTG	TYCG280HEB5	HT	-	155	28	5P	⑦-37
Taps ／ CTG36-11									
Standard	1 2 3	HT CTG	TYCG360HEB5	HT	-	180	35	5P	⑦-37
Taps ／ CTG42-11									
Standard	1 2 3	HT CTG	TYCG420HEB5	HT	-	185	38	5P	⑦-37
Taps ／ BC5/16-26									
Standard	1 2	HT BC	TYBC01RHEB5	HT	-	70	6.2	5P	⑦-39
			TYBC01RHEBA					1.5P	⑦-39
Taps ／ BC3/8-26									
Standard	1 2	HT BC	TYBC02RHEB5	HT	-	75	7	5P	⑦-39
			TYBC02RHEBA					1.5P	⑦-39
Taps ／ BC7/16-26									
Standard	1 2	HT BC	TYBC03RHEB5	HT	-	82	8.5	5P	⑦-39
			TYBC03RHEBA					1.5P	⑦-39
Taps ／ BC1/2-20									
Standard	1 2	HT BC	TYBC04RHEB5	HT	-	88	10.5	5P	⑦-39
			TYBC04RHEBA					1.5P	⑦-39
Taps ／ BC9/16-20									
Standard	1 2	HT BC	TYBC05RHEB5	HT	-	95	12.5	5P	⑦-39
			TYBC05RHEBA					1.5P	⑦-39
		SL BC	LYBC050HEV7	SL				7P	⑦-41
For left hand threads	1 2	SL LH BC	ZYBC050HEV7	SL	-	95	12.5	7P	⑦-42
Taps ／ BC5/8-20									
Standard	1 2	HT BC	TYBC06RHEB5	HT	-	95	12.5	5P	⑦-39
			TYBC06RHEBA					1.5P	⑦-39

Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ BC11/16-24									
Standard	1 2	HT BC	TYBC07RHEB5	HT	-	100	14	5P	⑦-39
			TYBC07RHEBA					1.5P	⑦-39
Taps ／ BC3/4-30									
Standard	1 2	HT BC	TYBC08RHEB5	HT	-	105	15	5P	⑦-39
			TYBC08RHEBA					1.5P	⑦-39
Taps ／ BC31/32-30									
Standard	1 2	HT BC	TYBC09RHEB5	HT	-	125	19	5P	⑦-39
			TYBC09RHEBA					1.5P	⑦-40
Taps ／ BC1-24									
Standard	1 2	HT BC	TYBC10RHEB5	HT	-	125	19	5P	⑦-40
			TYBC10RHEBA					1.5P	⑦-40
Taps ／ BC1.29-24									
Standard	1 2	HT BC	TYBC11RHEB5	HT	-	145	25	5P	⑦-40
			TYBC11RHEBA					1.5P	⑦-40
Taps ／ BC1.37-24									
Standard	1 2	HT BC	TYBC12RHEB5	HT	-	155	28	5P	⑦-40
			TYBC12RHEBA					1.5P	⑦-40
Taps ／ BC1 7/16-24									
Standard	1 2	HT BC	TYBC13RHEB5	HT	-	165	30	5P	⑦-40
			TYBC13RHEBA					1.5P	⑦-40
Taps ／ BC1.45-24									
Standard	1 2	HT BC	TYBC14RHEB5	HT	-	165	30	5P	⑦-40
			TYBC14RHEBA					1.5P	⑦-40
Taps ／ BC1 9/16-24									
Standard	1 2	HT BC	TYBC15RHEB5	HT	-	175	32	5P	⑦-40
			TYBC15RHEBA					1.5P	⑦-40
Taps ／ 3.4 × 0.5 × 28°									
カメラレリーズ用	15 16	RLS-HT	TY3.4G0LEB	HT	-	52	4	-	⑦-32
Taps ／ 20.32W36									
For microscope objective lenses	15	HT MST	TYRMS10LEB5	HT	-	87	18	5P	⑦-43
			TYRMS10LEBA					1.5P	⑦-43
Taps ／ 26W36									
For microscope objective lenses	15	HT MST	TYRMS20LEB5	HT	-	96	23	5P	⑦-43
			TYRMS20LEBA					1.5P	⑦-43
Taps ／ Tr 10 × 2									
For trapezoidal threads	1 2	SL Tr	LYT10Q0HEB	SL	-	160	7.8	26P	⑦-44
For left hand threads	1 2	SL LH Tr	ZYT10Q0HEB	SL	-	160	7.8	26P	⑦-45

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Icons of main materials

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Tap selection	Main material	Symbol Note1	Code	Flute	Class	L	D_s	ℓ_c	Product page
Taps ／ Tr 12 × 3									
For trapezoidal threads	1 2	SL Tr	LYT12S0HEB	SL	-	190	9	23P	⑦-44
For left hand threads	1 2	SL LH Tr	ZYT12S0HEB	SL	-	190	9	23P	⑦-45
Taps ／ Tr 12 × 2									
For trapezoidal threads	1 2	SL Tr	LYT12Q0HEB	SL	-	170	9	30P	⑦-44
For left hand threads	1 2	SL LH Tr	ZYT12Q0HEB	SL	-	170	9	30P	⑦-45
Taps ／ Tr 14 × 3									
For trapezoidal threads	1 2	SL Tr	LYT14S0HEB	SL	-	190	11	23P	⑦-44
For left hand threads	1 2	SL LH Tr	ZYT14S0HEB	SL	-	190	11	23P	⑦-45
Taps ／ Tr 16 × 4									
For trapezoidal threads	1 2	SL Tr	LYT16U0HEB	SL	-	220	12	22.5P	⑦-44
For left hand threads	1 2	SL LH Tr	ZYT16U0HEB	SL	-	220	12	22.5P	⑦-45
Taps ／ Tr 16 × 3									
For trapezoidal threads	1 2	SL Tr	LYT16S0HEB	SL	-	200	13	25P	⑦-44
For left hand threads	1 2	SL LH Tr	ZYT16S0HEB	SL	-	200	13	25P	⑦-45
Taps ／ Tr 18 × 4									
For trapezoidal threads	1 2	SL Tr	LYT18U0HEB	SL	-	220	14	22.5P	⑦-44
For left hand threads	1 2	SL LH Tr	ZYT18U0HEB	SL	-	220	14	22.5P	⑦-45
Taps ／ Tr 20 × 4									
For trapezoidal threads	1 2	SL Tr	LYT20U0HEB	SL	-	230	16	24.5P	⑦-44
For left hand threads	1 2	SL LH Tr	ZYT20U0HEB	SL	-	230	16	24.5P	⑦-45
Taps ／ Tr 22 × 5									
For trapezoidal threads	1 2	SL Tr	LYT22W0HEB	SL	-	250	18	22P	⑦-44
For left hand threads	1 2	SL LH Tr	ZYT22W0HEB	SL	-	250	18	22P	⑦-45
Taps ／ Tr 24 × 5									
For trapezoidal threads	1 2	SL Tr	LYT24W0HEB	SL	-	260	19	24P	⑦-44
For left hand threads	1 2	SL LH Tr	ZYT24W0HEB	SL	-	260	19	24P	⑦-45
Taps ／ Tr 25 × 5									
For trapezoidal threads	1 2	SL Tr	LYT25W0HEB	SL	-	270	20	25P	⑦-44
For left hand threads	1 2	SL LH Tr	ZYT25W0HEB	SL	-	270	20	25P	⑦-45
Taps ／ Tr 26 × 5									
For trapezoidal threads	1 2	SL Tr	LYT26W0HEB	SL	-	280	21	27P	⑦-44
For left hand threads	1 2	SL LH Tr	ZYT26W0HEB	SL	-	280	21	27P	⑦-45
Taps ／ Tr 28 × 5									
For trapezoidal threads	1 2	SL Tr	LYT28W0HEB	SL	-	290	22	28P	⑦-44
For left hand threads	1 2	SL LH Tr	ZYT28W0HEB	SL	-	290	22	28P	⑦-45
Taps ／ Tr 30 × 6									
For trapezoidal threads	1 2	SL Tr	LYT30Y0HEB	SL	-	300	24	25P	⑦-44
For left hand threads	1 2	SL LH Tr	ZYT30Y0HEB	SL	-	300	24	25P	⑦-45

Dies selection	Material	Main material	Symbol Note1	Class	Outside diameter	Thickness	Front face	Code	Product page
Dies ／ S0.5 × 0.125									
Rolling dies	For Miniature threads	HSS	1 2 9 15	MS-RS-D	R2	6	2	-	RA20.5-	⑩-47
Dies ／ S0.6 × 0.15									
Rolling dies	For Miniature threads	HSS	1 2 9 15	MS-RS-D	R2	6	2	-	RA20.6-	⑩-47
Dies ／ S0.7 × 0.175									
Rolling dies	For Miniature threads	HSS	1 2 9 15	MS-RS-D	R3	6	2	-	RA20.7-	⑩-47
Dies ／ S0.8 × 0.2									
Rolling dies	For Miniature threads	HSS	1 2 9 15	MS-RS-D	R3	8	3	-	RO20.8-	⑩-47
Dies ／ S0.9 × 0.225									
Rolling dies	For Miniature threads	HSS	1 2 9 15	MS-RS-D	R3	8	3	-	RO20.9-	⑩-47

Think threads with YAMAWA

Codes shown in ( ) are available while supplies last.

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PRAD system Solution tool

PRAD system PRoduct According to Demand

What is PRAD system ?

Efficient use of limited resources

P **R** → **PRoduct** — Product

A → **According** — According

D → **Demand** — Demand

The PRAD system is YAMAWA's quick delivery production system for special taps by which we manufacture from our standard blanks.
In addition, we can manufacture the products with optimal specifications to meet your specific application based on YAMAWA's products as well as your own products.

Circumstances surrounding tool materials



Depletion of resources

Main tool materials for YAMAWA taps use a lot of rare metals as the substrate. Today market price of rare metals has risen due to collapse of the balance between supply and demand. In the world, rare metals omnipresent. Political situation can make it more difficult for us to obtain these rare metals. So, it is quite important to assure stable supply and recycling technique.



PRAD system is globally- friendly and stands on customer's eye.

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PRAD system PRoduct According to Demand

Solution tool

PRAD system

Version of special tap manufacturing

Manufacturing system of special taps beginnig from the use of standard blanks.

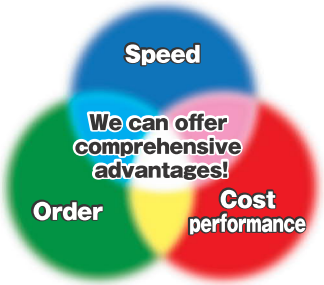
Manufacturing of special taps usually starts from cutting-off process of materials to finished product through tens of manufacturing processes.
By using our standard blanks, we can complete special taps by only grinding the threaded parts of the tap (flutes, thread and chamfer), which enables us to respond to short time delivery and small lots.

? What is standard blank ?



- "The standard blank" is a generic term for semi-finished products used for manufacturing our standard taps.
- 5 kinds of thread standard (unified, whitworth, SM-sewing machine screw, STI metric, STI unified)
- We have a wide range of JIS, DIN, and ANSI standard blanks available so we can meet the needs of various industry thread standards.

Standard blank sytem



For 5 kinds of thread standard, let's use Metric thread blanks.

Unified (U) | Whitworth (W) | Sewing machine screw (SM)

STI metric | STI unified

Metric thread blanks

Standardization can realize commonization of tap collets.

1 Main standard blanks

①Sizes from M1 to M6.



②Sizes from M7 to M18.



③Sizes from M19 to M48.



④For Taper Pipe Threads



⑤For Parallel Pipe Threads



⑥For Long Shank



2 Examples of special tap shapes made from standard blanks

Standard blanks can be modified into various tap geometries.

standard blank



Example of how 1 blank can be used to make many different taps

Special spiral fluted tap



Special spiral pointed tap



Special roll tap



Special spiral fluted tap (TIN)



Special spiral pointed tap (OX)



Special HT tap



QR code for the standard blank dimension table

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PRAD system PRoduct According to Demand

Solution tool **PRAD system**

Version of special tap manufacturing

Case No.1

I need a M5 × 0.5 spiral fluted tap for stainless steel!

Tapping Condition

Workpiece Materials	SUS303
Machine	MC
Feed	Synchronous feed
Cutting Fluid	Non-water soluble cutting oil
Bore Hole Size	ϕ4.56
Bored Hole Length	10mm (blind hole)
Tapping Length	6mm
Tapping Speed	7m/min

Standard blank



Step 1 is grinding the flute.

- Next is grinding the cutting edge design suitable for tapping stainless steels
- With all grinding completed the tap is oxide treated



The spiral fluted tap for stainless steel is now completed!

Case No.2

I need a M20 × 2 tap that is resistant to chipping!

Tapping Condition

Workpiece Materials	SCM440
Machine	MC
Feed	Synchronous feed
Cutting Fluid	Non-water soluble cutting oil
Bore Hole Size	ϕ18
Bored Hole Length	40mm (blind hole)
Tapping Length	30mm
Tapping Speed	4m/min

Standard blank



Step 1 is grinding the flute.

- Modified flute shape for improved chip evacuation
- A special design of grinding relief to the back of the threads up to the pitch diameter
- With all grinding completed the tap is oxide treated



A completed spiral fluted tap for forged parts in the heavy metalworking industry!

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PRAD system PRoduct According to Demand

Solution tool **PRAD system**

Version of special tap manufacturing

Case No.3

I need a M8 × 1.25 tap with a OAL of 150mm for high speed tapping in through holes!

Tapping Condition

Workpiece Materials	S45C
Machine	MC
Feed	Synchronous feed
Cutting Fluid	Water soluble cutting fluid
Bore Hole Size	ϕ6.75
Bored Hole Length	15mm (through hole)
Tapping Length	15mm
Tapping Speed	18m/min

Standard blank



Step 1 is grinding the flute.

- Cutting edge designed for high speed tapping
- Add a coating



A long shank spiral fluted tap for through hole high speed tapping is completed with coating added!

Case No.4

I need an oversize (G7) M3 × 0.5 Roll tap for tapping stainless steels!

Tapping Condition

Workpiece Materials	SUS304
Machine	MC
Feed	Synchronous feed
Cutting Fluid	Non-water soluble cutting oil
Bore Hole Size	ϕ2.87
Bored Hole Length	7mm (blind hole)
Tapping Length	5mm
Tapping Speed	11m/min

Standard blank



Step 1 is grinding the flute.

- Special lobe design to reduce tapping torque
- Add a coating



High Performance (Oversize) Roll Tap completed!

Think threads with YAMAWA

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PRAD system PRoduct According to Demand

Solution tool **PRAD system**

Version of special tap manufacturing

Case No.5

I need a M20 × 2.5 oversize tap for Helical Wire Screw Thread Inserts (STI)!

Tapping Condition

Workpiece Materials	ADC12
Machine	NC lathe
Feed	Synchronous feed
Cutting Fluid	Non-water soluble cutting oil
Bore Hole Size	ϕ17.6
Bored Hole Length	22mm (through hole)
Tapping Length	22mm
Tapping Speed	7.5m/min

Standard blank



Step 1 is grinding the flute.

- Cutting edge designed for tapping aluminum
- Specification is for Helical Wire Screw Thread Inserts

Hand tap for (oversize) Helical Wire Screw Thread Inserts completed!



Case No.6

I want a spiral fluted M5 × 0.8 tap with a 100mm OAL and a 1.5P chamfer!

Tapping Condition

Workpiece Materials	S45C
Machine	MC
Feed	Synchronous feed
Cutting Fluid	Water soluble cutting fluid
Bore Hole Size	ϕ4.2
Bored Hole Length	8.5mm (blind hole)
Tapping Length	7mm
Tapping Speed	5m/min

Standard blank



Step 1 is grinding the flute.

- Chamfer length is specified to be 1.5P

A completed long shank spiral fluted tap with 1.5P chamfer!



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PRAD system PRoduct According to Demand

Solution tool **PRAD system**

Version of special tap manufacturing

Case No.7

I need a 1/2W12 tap for aluminum!

Tapping Condition

Workpiece Materials	AC4C-T6
Machine	Auto Lathe
Feed	Synchronous feed
Cutting Fluid	Water soluble cutting fluid
Bore Hole Size	ϕ10.7
Bored Hole Length	30mm (blind hole)
Tapping Length	18mm
Tapping Speed	8m/min

A completed hand tap for die castings!

Standard blank



Step 1 is grinding the flute.

- Cutting edge designed for tapping die castings
- Nitriding treatment applied



Case No.8

I need a M11 × 1 tap for through holes that can prevent welding and improve tool life!

Tapping Condition

Workpiece Materials	SCM440
Machine	MC
Feed	Synchronous feed
Cutting Fluid	Water soluble cutting fluid
Bore Hole Size	ϕ10
Bored Hole Length	17mm (through hole)
Tapping Length	17mm
Tapping Speed	20m/min

A completed spiral pointed tap with special PVD coating!

Standard blank



Step 1 is grinding the flute.

- Cutting edge designed to improve chip ejection and reduce cutting resistance
- Add a coating



Think threads with YAMAWA

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PRAD system PRoduct According to Demand **PRAD system** Solution tool

Version of special tap manufacturing

Case No.9

I need a M8 × 1 tap for tapping through holes in hardened materials!

Tapping Condition

Workpiece Materials	S55C tempered steel(30HRC)
Machine	MC
Feed	Synchronous feed
Cutting Fluid	Water soluble cutting fluid
Bore Hole Size	ϕ7.1
Bored Hole Length	15mm (through hole)
Tapping Length	15mm
Tapping Speed	12.5m/min

A completed left hand spiral fluted tap for through holes to tap medium-hard carbon steels!

Standard blank



Step 1 is grinding the flute.

- Original flute design
- Add a coating



Case No.10

I need an oversize thread inspection tool for a M20 × 2.5 (GB) GO gage.

Intended use

Workpiece Materials	SCM440
Effective thread length	20mm (through hole)
Classes of Internal Threads	Class II+30 (μm)
Reason for oversize	Since the internal threads can shrink during the hardening process, we produce oversize taps for this application. This simple inspection tool is for checking II+30 oversize internal thread.

A completed simple inspection tool for a M20 × 2.5 (GB) GO gage!

Standard blank



Step 1 is grinding the flute.

- Specifications for a simple thread inspection tool



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PRAD system PRoduct According to Demand

Solution tool

PRAD system

Version of recycling

Through PRAD system, taps at your hand or taps at YAMAWA ▶ **Modified to completely satisfy your requirements**

Consulting (check of customer's demand)

We start with the customer's true requirements. So we look at any potential problems that may occur such as the machining environment and the machining conditions.

Problem analysis and design delivery

Follow-up-consulting (Analysis of result of use) (design proposal corresponding to the cutting condition)

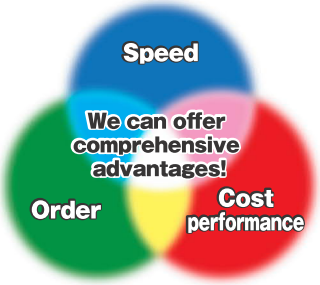
We analyze the problems in detail and design products based on that outcome. Here, we propose products that meet the customer's needs.

Manufacturing of recycling product

* These orders are typically accepted in small lot quantities. (Please tell us if you need a large quantity.)



YAMAWA standard tap or tap at your hand





oxide coating



TiN coating



coolant hole to be added



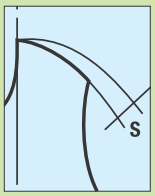
guide to be added



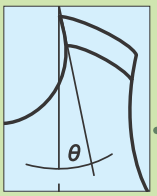
threads to be ground off



heal cut



relief adjustment on chamfer



rake angle adjustment

applicable to more than 1000 kinds of adjustments by combining various modifications.

Delivery

The estimated delivery time is 3 weeks or more, depending on the modification. (Please confirm the delivery time on quotation.)

Follow-up-consulting (Analysis of result of use)

We analyze the machining results after delivery of each special tap to improve future tool performance. This enables us to continually improve the quality and offer our customer the best options possible for any application.

Think threads with YAMAWA

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PRAD system PRoduct According to Demand

PRAD system Solution tool

Version of recycling

Case No.1

I want a M8 × 1 Left Handed, Spiral Fluted Tap for tapping stainless steels!

Tapping Condition

Workpiece Materials	SUS303
Machine	MC
Feed	Synchronous feed
Cutting Fluid	Non-water soluble cutting oil
Bore Hole Size	ϕ7.1
Bored Hole Length	15mm
Tapping Length	10mm
Tapping Speed	5m/min

Spiral Fluted Tap for Left Hand threads, designed for tapping stainless steel is completed!

Standard blank



- Cutting edge designed for tapping stainless steels
- Oxidizing treatment applied



Case No.2

I need a M14 × 1 Spiral Fluted Tap with a 1.5P chamfer!

Tapping Condition

Workpiece Materials	S45C
Machine	MC
Feed	Synchronous feed
Cutting Fluid	Water soluble cutting fluid
Bore Hole Size	ϕ13.1
Bored Hole Length	22mm
Tapping Length	20mm
Tapping Speed	5.3m/min

Spiral fluted M14 × 1 tap with a 1.5P chamfer is completed!

Standard blank



- Chamfer length: 1.5P



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PRAD system Solution tool PRAD system Version of recycling

PRoduct According to Demand

Case No.3

I want a M24 × 3 tap for a blind hole that can both prevent chipping and improve durability!

Tapping Condition

Workpiece Materials	SS400
Machine	MC
Feed	Synchronous feed
Cutting Fluid	Water soluble cutting fluid
Bore Hole Size	ϕ21.1
Bored Hole Length	40mm
Tapping Length	30mm
Tapping Speed	11m/min

A completed spiral fluted tap with PVD coating!

Standard blank



- Specifications with the relief ground threads after the full thread
- Add a coating



Case No.4

I want a M8 × 1.25 spiral fluted tap with center-through coolant hole!

Tapping Condition

Workpiece Materials	S45C
Machine	MC
Feed	Synchronous feed
Cutting Fluid	Water soluble cutting fluid
Bore Hole Size	ϕ6.85
Bored Hole Length	20mm
Tapping Length	15mm
Tapping Speed	13.8m/min

A completed spiral fluted tap with center through coolant hole and PVD coating!

Standard blank



- Center through coolant hole specification
- Add a coating



Think threads with YAMAWA

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PRAD system PRoduct According to Demand

Solution tool **PRAD system** Version of recycling

Case No.5

I want a M5 × 0.8 tap for tapping stainless steel that can both prevent welding and improve durability!

Tapping Condition

Workpiece Materials	SUS304
Machine	MC
Feed	Synchronous feed
Cutting Fluid	Non-water soluble cutting oil
Bore Hole Size	ϕ4.25
Bored Hole Length	15mm
Tapping Length	8mm
Tapping Speed	7.8m/min

Standard blank



- Applying oxidizing over nitriding treatment



A spiral fluted tap designed for tapping stainless steel is completed!

Case No.6

I want a ϕ5 × 60° × 11 center drill that resists breaking!

Tapping Condition

Workpiece Materials	SS400
Machine	NC
Holder	Drill chuck
Tapping Speed	15m/min
Feed Amount	0.08mm/rev
Drilling Direction	Beside
Drilling Depth	5.8mm
Large-end diameter ofdrilled hole	ϕ8.8

Standard blank



- Shortening the drill length helps with the breakage problem



A modified center drill with a shortened pilot drill to prevent breakage is completed!

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PRAD system Solution tool

PRAD system PRoduct According to Demand

Version of recycling

Case No.7

I need a M4 × 0.7 tap with a flat center!

Tapping Condition

Workpiece Materials	SCM440
Machine	Drill machines
Feed	Non-synchronous system by approximation
Cutting Fluid	Tapping spray
Bore Hole Size	ϕ3.35
Bored Hole Length	9.5mm
Tapping Length	8mm
Tapping Speed	2.5m/min

A spiral fluted tap with flat center is now completed!

Standard blank



- Remove the external center



Case No.8

I want a M12 × 1 tap for tapping low carbon steels!

Tapping Condition

Workpiece Materials	SS400
Machine	MC
Feed	Synchronous feed
Cutting Fluid	Non-water soluble cutting oil
Bore Hole Size	ϕ11.1
Bored Hole Length	15mm
Tapping Length	12mm
Tapping Speed	7.5m/min

A spiral fluted tap that is designed for low carbon steels is now completed!

Standard blank



- Cutting edge designed for low carbon steels
- With all grinding completed the tap is oxide treated



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PRAD system PRoduct According to Demand

Solution tool **PRAD system** Version of recycling

Case No.9

I want a M8 × 1 tap with a 1.5P chamfer for tapping aluminum!

Tapping Condition

Workpiece Materials	ADC12
Machine	MC
Feed	Synchronous feed
Cutting Fluid	Water soluble cutting fluid
Bore Hole Size	ϕ7.1
Bored Hole Length	12mm
Tapping Length	10mm
Tapping Speed	17.5m/min

Standard blank



A spiral fluted tap with a 1.5P chamfer specifically designed for tapping aluminum is completed!

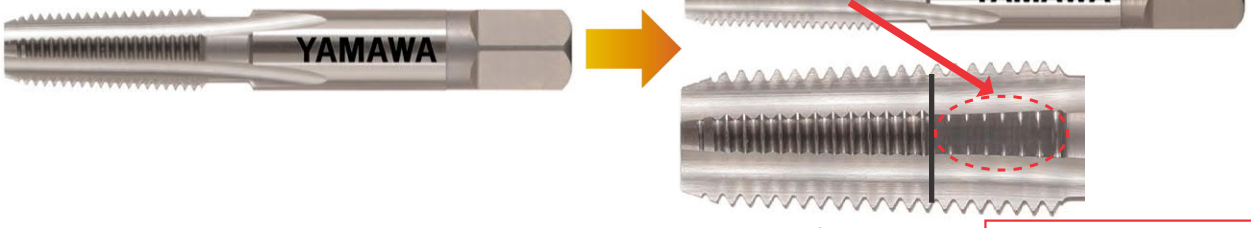
- Cutting edge designed specifically for tapping aluminum
- Chamfer length: 1.5P
- Nitriding treatment applied



Case No.10

I want to simplify the insertion position of a PT1/16-28 tap!

Standard blank



Gauge plane position

Simply grind off the threads behind the basic diameter position.

The basic diameter position can be seen at a glance!

YAMAWA Modified PT/Modified S-PT
(available on request)



Nominal size range

PT•S-PT 1/8-28
〜
PT•S-PT 2'-11

A modified PT tap with built in stopping point is completed!

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Solution tool
PRAD system

Specification corresponding with standard blanks(for Japanese market)

HSS HSS-Co HSS-P

Material Symbols　HSS : ○　HSS-Co : ●　HSS-P : ◎

Main size designation and specification					
① metric	② unified	③ whitworth	④ sewing screw	⑤ STI (metric)	⑥ STI (unified)
M1×0.25					
M1×0.2					
M1.2×0.25					
M1.2×0.2					
M1.4×0.3					
M1.4×0.2					
M1.6×0.35	№0-80UNF	W1/16-60	SM1/16-80		
M1.6×0.2					
M1.7×0.35					
M1.7×0.2					
M1.8×0.35					
M1.8×0.2					
M2×0.4	№1-64UNC №1-72UNF		SM5/64-64		
M2×0.25					
M2×0.4					
M2×0.25					
M2.2×0.45	№2-56UNC №2-64UNF				
M2.2×0.25					
M2.2×0.45					
M2.2×0.25					
M2.3×0.4					
M2.3×0.25					
M2.3×0.4					
M2.3×0.25					
M2.5×0.45		W3/32-48	SM3/32-56		
M2.5×0.35					
			SM3/32-100		
M2.5×0.45					
M2.5×0.35					
M2.6×0.45	№3-48UNC №3-56UNF				
M2.6×0.35					
M2.6×0.45					
M2.6×0.35					
M3×0.5				STI_M2.2×0.45	STI_№2-56UNC
	№4-40UNC №4-48UNF				
M3×0.35					
M3×0.6					
M3×0.5					
M3×0.35					

- Corresponding pitches meet with the pitches of other kinds.
- Concerning Hand of threads, both right and left are applicable in the same blank.
- Concerning the kind of taps, SP, PO, HT, ROLL are applicable in the same blank.
- Concerning applicable thread limits, maximum applicable thread limits for metric coase threads are listed.
- ▭ is a blank for Z-PRO.

Think threads with YAMAWA

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Main size designation and specification	Overall length of standard type and long type, and corresponding Materials						Max. thread length	Applicable class		TYPE
Length of standard type: L	ℓ	ℓ_n	ℓ_s (reference)	D_s	K	ℓ_k		Cutting	Forming	
36 ○◎	4.5 3.6	-	(24)	3	2.5	5	4.5	~P4	~G5	a
36 ○◎	4.5 3.6	-	(24)	3	2.5	5	4.5	~P4	~G5	a
36 ○◎	5.4 3.6	-	(24)	3	2.5	5	5.4	~P4	~G5	a
36 ○◎	6.3 3.6	-	(24)	3	2.5	5	6.3	~P4	~G5	b
36 ○◎	6.3 3.6	-	(24)	3	2.5	5	6.3	~P4	~G5	b
42 ○	6.3 3.6	-	(27)	3	2.5	5	6.3	~P4	~G5	b
42 ○◎	7.2 4.5	12	(27)	3	2.5	5	7.2	~P4	~G5	c c-1
45 ○◎	8 6	15	(27)	3	2.5	5	8	~P4	~G5	d d-1
42 ○◎	8.1 4.5	12	(27)	3	2.5	5	8.1	~P4	~G5	c c-1
45 ○◎	9 7	15	(27)	3	2.5	5	9	~P4	~G5	d d-1
42 ○◎	7.2 7	12	(27)	3	2.5	5	7.2	~P4	~G5	c c-1
45 ○◎	9 7	15	(27)	3	2.5	5	9	~P4	~G5	d d-1
46 ○◎	8.1 6.3 3.4	14	(29)	3	2.5	5	8.1	~P4	~G5	c c-1
50 ○◎	8 6.3	15	(32)	3	2.5	5	8	~P4	~G5	d d-1
46 ○◎	8.1 6.3	14	(29)	3	2.5	5	8.1	~P4	~G5	c c-1
50 ○◎	8 6.3	15	(32)	3	2.5	5	8	~P4	~G5	d d-1
46 ○●◎	9 6.5 9	14	26 25 26	4	3.2	6	9	~P7	~G8	c c-1 c
56 ○◎	9 6.5	18	32	4	3.2	6	9	~P7	~G8	d d-1

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Solution tool
PRAD system

Specification corresponding with standard blanks(for Japanese market)

HSS HSS-Co HSS-P

Material Symbols　HSS : ○　HSS-Co : ●　HSS-P : ◎

Main size designation and specification					
① metric	② unified	③ whitworth	④ sewing screw	⑤ STI (metric)	⑥ STI (unified)
M3.5×0.6			SM1/8-40 SM1/8-44		
	No.5-40UNC No.5-44UNF	W1/8-40			
	No.6-32UNC No.6-40UNF				
				STI_M2.5×0.45 STI_M2.6×0.45	
M3.5×0.35					
M3.5×0.6					
M3.5×0.35					
M4×0.7 M4×0.75		W5/32-32	SM9/64-40		STI_No.4-40UNC STI_No.5-40UNC
M4×0.5					
				STI_M3×0.5	
M4×0.7					
M4×0.5					
M4.5×0.75			SM11/64-40		STI_No.6-40UNF
	No.8-32UNC No.8-36UNF				
M4.5×0.5				STI_M3.5×0.6	
M4.5×0.75					
M4.5×0.5					
M5×0.8 M5×0.75 M5×0.9		W3/16-24	SM3/16-24 SM3/16-28 SM3/16-32 SM3/16-40	STI_M4×0.7	STI_No.6-32UNC
	No.10-24UNC No.10-32UNF				
M5×0.5					
M5×0.8					
M5×0.5					
M5.5×0.5					
M5.5×0.5					
M6×1 M6×0.75		W7/32-24	SM15/64-28 SM7/32-32	STI_M4.5×0.75 STI_M5×0.8	STI_No.8-32UNC STI_No.10-24UNC STI_No.10-32UNF
	No.12-24UNC No.12-28UNF No.12-32UNEF				
					STI_No.8-36UNF
M6×0.5					
M6×1 M6×0.75					
M6×0.5					

- Corresponding pitches meet with the pitches of other kinds.
- Concerning Hand of threads, both right and left are applicable in the same blank.
- Concerning the kind of taps, SP, PO, HT, ROLL are applicable in the same blank.
- Concerning applicable thread limits, maximum applicable thread limits for metric coase threads are listed.
- ▭ is a blank for Z-PRO.

Think threads with YAMAWA

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Main size designation and specification	Overall length of standard type and long type, and corresponding Materials						Max. thread length	Applicable class		TYPE
Length of standard type: L	ℓ	ℓ_n	ℓ_s (reference)	D_s	K	ℓ_k		Cutting	Forming	
52 ○●◎	11	16	29	5	4	7	11	~P6	~G7	c
			28							
		17	27							
52 ○●◎	6.8	16	29	5	4	7	11	~P6	~G7	c-1
	6.5									
63 ○◎	13	20	36	5	4	7	13	~P6	~G7	d
	6.5									d-1
52 ○●◎	11	17	29	5	4	7	11	~P6	~G7	c
	9									c-1
	7.5									
63 ○◎	13	21	36	5	4	7	13	~P6	~G7	d
	9									d-1
60 ○●◎	13	21	33	5.5	4.5	7	13	~P6	~G7	c
		22	31							
	9	21	33							c-1
70 ○◎	14	24	40	5.5	4.5	7	14	~P6	~G7	d
	9									d-1
60 ○●◎	13	22	33	5.5	4.5	7	13	~P6	~G7	c
			32							
	9		33							c-1
70 ○◎	14	25	40	5.5	4.5	7	14	~P6	~G7	d
	9									d-1
62 ○●◎	9	26	33	6	4.5	7	9	~P6	~G7	c
80 ○◎	9	30	45	6	4.5	7	15	~P6	~G7	d
62 ○●◎	15	26	33	6	4.5	7	15	~P4	~G7	c
			32							
	9.5		33							c-1
	9									
80 ○◎	15	30	45	6	4.5	7	15	~P4	~G7	d
	9									d-1

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Solution tool
PRAD system

Specification corresponding with standard blanks(for Japanese market)

HSS HSS-Co HSS-P

Material Symbols　HSS : ○　HSS-Co : ●　HSS-P : ◎

Main size designation and specification					
① metric	② unified	③ whitworth	④ sewing screw	⑤ STI (metric)	⑥ STI (unified)
-	1/4-20UNC 1/4-28UNF	W1/4-20	SM1/4-24 SM1/4-28		
			SM1/4-40		
M7×1 M7×0.75				 STI_M6×0.75	STI_No.12-24UNC STI_No.12-28UNF
M7×0.5					
M7×1 M7×0.75					
M8×1.25 M8×1 M8×0.75	5/16-18UNC 5/16-20UN 5/16-24UNF 5/16-28UN 5/16-32UNEF	W5/16-18		 STI_M6×1	 STI_1/4-20UNC STI_1/4-28UNF
M8×0.5					
M8×1.25 M8×1 M8×0.75					
M9×1.25 M9×1					
M9×0.75					
M9×0.5					
M9×1.25 M9×1 M9×0.75					
M10×1.5 M10×1.25 M10×1	3/8-16UNC 3/8-20UN 3/8-24UNF 3/8-28UN	W3/8-16		 STI_M8×1.25 STI_M8×1	STI_5/16-18UNC STI_5/16-24UNF
M10×0.75	3/8-32UNEF				
M10×0.5					
M10×1.5 M10×1.25 M10×1					
M11×1.5 M11×1.25 M11×1				 STI_M9×1.25 STI_M9×1	 STI_3/8-24UNF
M11×0.75					
M11×0.5					
M11×1.5 M11×1.25 M11×1					
M12×1.75 M12×1.5 M12×1.25 M12×1	7/16-14UNC 7/16-16UN 7/16-20UNF 7/16-28UNEF	W7/16-14		 STI_M10×1.5 STI_M10×1.25 STI_M10×1	 STI_3/8-16UNC
M12×0.75	7/16-32UN				
M12×0.5					

・Corresponding pitches meet with the pitches of other kinds.
・Concerning Hand of threads, both right and left are applicable in the same blank.
・Concerning the kind of taps, SP, PO, HT, ROLL are applicable in the same blank.
・Concerning applicable thread limits, maximum applicable thread limits for metric coase threads are listed.
・ is a blank for Z-PRO.

Think threads with YAMAWA

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Main size designation and specification	Overall length of standard type and long type, and corresponding Materials						Max. thread length	Applicable class		TYPE
Length of standard type: L	ℓ	ℓ_n	ℓ_s (reference)	D_s	K	ℓ_k		Cutting	Forming	
62 ○	15	26	33	6	4.5	7	15	~P5	~G6	c
	8.6									c-1
70 ○●◎	19	-	36	6.2	5	8	19	~P4	~G7	e
	10									e-1
90 ○◎	15	-	46	6.2	5	8	15	~P4	~G7	f
70 ○●◎	19	-	36	6.2	5	8	19	~P4	~G7	e
	10									e-1
90 ○◎	19	-	46	6.2	5	8	19	~P4	~G7	f
75 ○●◎	23	-	38	7	5.5	8	23	~P5	~G7	e
	13									
	11									e-1
100 ○◎	23	-	51	7	5.5	8	23	~P5	~G7	f
	13									
75 ○●◎	23	-	38	7	5.5	8	23	~P5	~G7	e
	13									
	11									e-1
100 ○◎	23	-	51	7	5.5	8	23	~P5	~G7	f
82 ○●◎	26	-	42	8.5	6.5	9	26	~P5	~G9	e
	14									
	12									e-1
110 ○◎	23	-	56	8.5	6.5	9	26	~P5	~G9	f
82 ○●◎	26	-	42	8.5	6.5	9	26	~P5	~G9	e
	14									
	12									e-1

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Solution tool
PRAD system

Specification corresponding with standard blanks(for Japanese market)

HSS HSS-Co HSS-P

Material Symbols　HSS : ○　HSS-Co : ●　HSS-P : ◎

Main size designation and specification					
① metric	② unified	③ whitworth	④ sewing screw	⑤ STI (metric)	⑥ STI (unified)
M12×1.75 M12×1.5 M12×1.25 M12×1					
M13×1.75 M13×1.5 M13×1.25 M13×1	1/2-13UNC 1/2-16UN 1/2-20UNF 1/2-28UNEF	W1/2-12		STI_M11×1.5 STI_M11×1.25	STI_7/16-20UNF
M13×0.75	1/2-32UN				
M13×0.5					
M13×1.75 M13×1.5 M13×1.25 M13×1					
M14×2 M14×1.5 M14×1.25 M14×1				STI_M12×1.5 STI_M12×1.25 STI_M12×1	STI_7/16-14UNC
M14×0.75					
M14×0.5					
M14×2 M14×1.5 M14×1.25 M14×1					
M15×2 M15×1.5 M15×1.25 M15×1	9/16-12UNC 9/16-16UN 9/16-18UNF 9/16-20UN 9/16-24UNEF 9/16-28UN	W9/16-12		 STI_M12×1.75 STI_M13×1.5 	 STI_1/2-20UNF
M15×0.75	9/16-32UN				
M15×0.5					
M15×2 M15×1.5 M15×1.25 M15×1					
M16×2 M16×1.5 M16×1.25 M16×1	5/8-11UNC 5/8-12UN 5/8-16UN 5/8-18UNF 5/8-20UN 5/8-24UNEF 5/8-28UN	W5/8-11		 STI_M13×1.75 STI_M14×1.5 STI_M14×1.25	STI_1/2-13UNC
M16×0.75	5/8-32UN				
M16×0.5					

- Corresponding pitches meet with the pitches of other kinds.
- Concerning Hand of threads, both right and left are applicable in the same blank.
- Concerning the kind of taps, SP, PO, HT, ROLL are applicable in the same blank.
- Concerning applicable thread limits, maximum applicable thread limits for metric coase threads are listed.
- ▭ is a blank for Z-PRO.

Think threads with YAMAWA

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Main size designation and specification	Overall length of standard type and long type, and corresponding Materials						Max. thread length	Applicable class		TYPE
Length of standard type: L	ℓ	ℓ_n	ℓ_s (reference)	D_s	K	ℓ_k		Cutting	Forming	
110 ○◎	26	-	56	8.5	6.5	9	26	~P5	~G9	f
88 ○◎	26	-	45	10.5	8	11	26	~P5	~G9	e
	14									e-1
	12									
110 ○◎	26	-	56	10.5	8	11	26	~P5	~G9	f
88 ○◎	26	-	45	10.5	8	11	26	~P5	~G9	e
	15									e-1
	12									
110 ○◎	26	-	56	10.5	8	11	26	~P5	~G9	f
95 ○◎	26	-	48	12.5	10	13	26	~P5	~G9	e
	15									e-1
	13									
110 ○◎	26	-	56	12.5	10	13	26	~P5	~G9	f
95 ○◎	26	-	48	12.5	10	13	26	~P5	~G9	e
	15									e-1
	13									

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Solution tool
PRAD system

Specification corresponding with standard blanks(for Japanese market)

HSS HSS-Co HSS-P

Material Symbols　HSS : ○　HSS-Co : ●　HSS-P : ◎

Main size designation and specification					
① metric	② unified	③ whitworth	④ sewing screw	⑤ STI (metric)	⑥ STI (unified)
M16×2 M16×1.5 M16×1.25 M16×1 M16×0.75					
M17×1.5				STI_M14×2	STI_9/16-18UNF
M17×1					
M17×0.5					
M17×1.5					
M18×2.5 M18×2 M18×1.5 M18×1.25				STI_M16×1.5	STI_9/16-12UNC STI_5/8-18UNF
M18×1				STI_M16×1	
M18×0.75					
M18×0.5					
M18×2.5 M18×2 M18×1.5 M18×1.25					
M19×2.5 M19×2 M19×1.5	3/4-10UNC 3/4-12UN 3/4-16UNF 3/4-20UNEF	W3/4-10		STI_M16×2	STI_5/8-11UNC
M19×1	3/4-28UN 3/4-32UN				
M19×2.5 M19×2 M19×1.5					
M20×2.5 M20×2 M20×1.5				STI_M18×1.5	
M20×1.25 M20×1					
M20×2.5 M20×2 M20×1.5					
M21×1.5					
M21×1					
M21×1.5					

- Corresponding pitches meet with the pitches of other kinds.
- Concerning Hand of threads, both right and left are applicable in the same blank.
- Concerning the kind of taps, SP, PO, HT, ROLL are applicable in the same blank.
- Concerning applicable thread limits, maximum applicable thread limits for metric coase threads are listed.
- ▭ is a blank for Z-PRO.

Think threads with YAMAWA

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Main size designation and specification	Overall length of standard type and long type, and corresponding Materials						Max. thread length	Applicable class		TYPE
Length of standard type: L	ℓ	ℓ_n	ℓ_s (reference)	D_s	K	ℓ_k		Cutting	Forming	
110 ○◎	26	-	56	12.5	10	13	26	~P5	~G9	f
	15									
100 ○	33	-	51	14	11	14	33	~P5	~G8	e
	18									e-1
	13									
125 ○◎	33	-	64	14	11	14	33	~P5	~G8	f
100 ○	33	-	51	14	11	14	33	~P5	~G8	e
	18									e-1
	16									
	13									
125 ○◎	33	-	64	14	11	14	33	~P5	~G8	f
105 ○	33	-	50	15	12	15	33	~P5	~G12	g
	18									g-1
140 ○◎	33	-	71	15	12	15	33	~P5	~G12	h
105 ○	33	-	50	15	12	15	33	~P5	~G12	g
	18									g-1
140 ○◎	33	-	71	15	12	15	33	~P5	~G12	h
115 ○	33	-	55	17	13	16	33	~P5	~G12	g
	19									g-1
140 ○◎	33	-	71	17	13	16	33	~P5	~G12	h

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Solution tool
PRAD system

Specification corresponding with standard blanks(for Japanese market)

HSS HSS-Co HSS-P

Material Symbols　HSS : ○　HSS-Co : ●　HSS-P : ◎

Main size designation and specification					
① metric	② unified	③ whitworth	④ sewing screw	⑤ STI (metric)	⑥ STI (unified)
M22×2.5 M22×2 M22×1.5	7/8-9UNC 7/8-12UN 7/8-14UNF 7/8-16UN 7/8-20UNEF	W7/8-9		STI_M18×2.5 STI_M20×1.5	STI_3/4-10UNC STI_3/4-16UNF
M22×1	7/8-28UN 7/8-32UN				
M22×0.5					
M22×2.5 M22×2 M22×1.5					
M23×2 M23×1.5				STI_M20×2	
M23×1					
M23×2 M23×1.5					
M24×3 M24×2 M24×1.5				STI_M20×2.5 STI_M22×1.5	
M24×1.25 M24×1					
M24×0.5					
M24×3 M24×2 M24×1.5					
M25×3 M25×2 M25×1.5	1-8UNC 1-12UNF 1-16UN 1-20UNEF	W1-8		 STI_M22×2.5 	 STI_7/8-14UNF
M25×1	1-28UN 1-32UN				
M25×0.5					
M25×3 M25×2 M25×1.5					
M26×3 M26×2 M26×1.5				 STI_M24×1.5	STI_7/8-9UNC
M26×1					
M26×0.5					
M26×3 M26×2 M26×1.5					
M27×3 M27×2 M27×1.5				STI_M24×2	
M27×1					

- Corresponding pitches meet with the pitches of other kinds.
- Concerning Hand of threads, both right and left are applicable in the same blank.
- Concerning the kind of taps, SP, PO, HT, ROLL are applicable in the same blank.
- Concerning applicable thread limits, maximum applicable thread limits for metric coase threads are listed.
- ▭ is a blank for Z-PRO.

Think threads with YAMAWA

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Main size designation and specification	Overall length of standard type and long type, and corresponding Materials						Max. thread length	Applicable class		TYPE
Length of standard type: L	ℓ	ℓ_n	ℓ_s (reference)	D_s	K	ℓ_k		Cutting	Forming	
115 ○	33	-	55	17	13	16	33	~P5	~G12	g
	19									g-1
	14									
140 ○◎	33	-	71	17	13	16	33	~P5	~G12	h
120 ○	39	-	55	19	15	18	39	~P5	~G12	g
	19									g-1
160 ○◎	37	-	82	19	15	18	37	~P5	~G12	h
120 ○	39	-	55	19	15	18	39	~P5	~G12	g
	19									g-1
	15									
160 ○◎	37	-	82	19	15	18	37	~P5	~G12	h
125 ○	39	-	58	19	15	18	39	~P5	~G12	g
	20									g-1
	15									
160 ○	37	-	82	19	15	18	37	~P5	~G12	h
130 ○	39	-	60	20	15	18	39	~P5	~G12	g
	20									g-1
	15									
160 ○	37	-	82	20	15	18	37	~P5	~G12	h
130 ○	39	-	60	20	15	18	39	~P5	~G12	g
	20									g-1

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Solution tool
PRAD system

Specification corresponding with standard blanks(for Japanese market)

HSS HSS-Co HSS-P

Material Symbols HSS : ○ HSS-Co : ● HSS-P : ◎

Main size designation and specification					
① metric	② unified	③ whitworth	④ sewing screw	⑤ STI (metric)	⑥ STI (unified)
M27×3 M27×2 M27×1.5					
M28×3 M28×2 M28×1.5					STI_1-12UNF
M28×1					
M28×0.5					
M28×3 M28×2 M28×1.5					
M30×3.5 M30×3 M30×2 M30×1.5	1 1/8-7UNC 1 1/8-8UN 1 1/8-12UNF 1 1/8-16UN	W1 1/8-7		STI_M24×3 STI_M27×2 STI_M28×1.5	STI_1-8UNC
M30×1	1 1/8-20UN 1 1/8-28UN				
M30×0.5					
M30×3.5 M30×3 M30×2 M30×1.5					
M32×3 M32×2 M32×1.5	1 1/4-7UNC 1 1/4-8UN 1 1/4-12UNF 1 1/4-18UNEF	W1 1/4-7		STI_M27×3	STI_1 1/8-12UNEF
M32×1 M32×0.5	1 1/4-20UN 1 1/4-28UN				
M32×3 M32×2 M32×1.5					
M33×3.5 M33×3 M33×2 M33×1.5	-	-		STI_M30×2	
M33×1					
M33×3.5 M33×3 M33×2 M33×1.5					
M34×3 M34×2	-	-		STI_M30×3	STI_1 1/8-7UNC
M34×1.5 M34×1					
M34×3 M34×2					

- Corresponding pitches meet with the pitches of other kinds.
- Concerning Hand of threads, both right and left are applicable in the same blank.
- Concerning the kind of taps, SP, PO, HT, ROLL are applicable in the same blank.
- Concerning applicable thread limits, maximum applicable thread limits for metric coase threads are listed.
- ▭ is a blank for Z-PRO.

Think threads with YAMAWA

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Main size designation and specification	Overall length of standard type and long type, and corresponding Materials						Max. thread length	Applicable class		TYPE
Length of standard type: L	ℓ	ℓ_n	ℓ_s (reference)	D_s	K	ℓ_k		Cutting	Forming	
160 ○	37	-	82	20	15	18	37	~P5	~G12	h
135 ○	46	-	62	23	17	20	46	~P5	~G13	g
	20									g-1
	15									
180 ○	44	-	92	23	17	20	44	~P5	~G12	h
135 ○	46	-	62	23	17	20	46	~P5	~G13	g
	21									g-1
	16									
180 ○	44	-	92	23	17	20	44	~P5	~G12	h
145 ○	46	-	67	24	19	22	46	~P5	~G13	g
	21									g-1
	16									
180 ○	44	-	92	24	19	22	44	~P5	~G13	h
145 ○	46	-	67	25	19	22	46	~P5	~G13	g
	21									g-1
180 ○	46	-	92	25	19	22	46	~P5	~G13	h
155 ○	52	-	71	28	21	24	52	~P6	~G14	g
	26									g-1
200 ○	52	-	102	28	21	24	52	~P6	~G14	h

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Solution tool
PRAD system

Specification corresponding with standard blanks(for Japanese market)

HSS HSS-Co HSS-P

Material Symbols　HSS : ○　HSS-Co : ●　HSS-P : ◎

Main size designation and specification					
① metric	② unified	③ whitworth	④ sewing screw	⑤ STI (metric)	⑥ STI (unified)
M35×3 M35×2	1 3/8-6UNC 1 3/8-8UN 1 3/8-12UNF	W1 3/8-6		STI_M30×3.5	STI_1 1/4-12UNF
M35×1.5 M35×1	1 3/8-16UN 1 3/8-18UNEF 1 3/8-20UN				
-	1 3/8-28UN				
M35×3 M35×2					
M36×4 M36×3 M36×2	-	-		STI_M33×2	
M36×1.5 M36×1 M36×0.5					
M36×4 M36×3 M36×2					
M37×1.5	-	-			
M38×3 M38×2	-	-		STI_M33×3.5	STI_1 1/4-7UNC
M38×1.5 M38×1 M38×0.5					STI_1 3/8-12UNF
M38×3 M38×2					
M39×4 M39×3 M39×2	1 1/2-6UNC 1 1/2-8UN 1 1/2-12UNF	W1 1/2-6		STI_M36×2	
M39×1.5 M39×1	1 1/2-16UN 1 1/2-18UNEF 1 1/2-20UN 1 1/2-28UN				
M39×4 M39×3 M39×2					
M40×4 M40×3 M40×2	-	-		STI_M36×3	
M40×1.5 M40×1					
M40×4 M40×3 M40×2					

・Corresponding pitches meet with the pitches of other kinds.
・Concerning Hand of threads, both right and left are applicable in the same blank.
・Concerning the kind of taps, SP, PO, HT, ROLL are applicable in the same blank.
・Concerning applicable thread limits, maximum applicable thread limits for metric coase threads are listed.
・□ is a blank for Z-PRO.

Think threads with YAMAWA

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Main size designation and specification	Overall length of standard type and long type, and corresponding Materials						Max. thread length	Applicable class		TYPE
Length of standard type: L	ℓ	ℓ_n	ℓ_s (reference)	D_s	K	ℓ_k		Cutting	Forming	
155 ○	52	-	71	28	21	24	52	~P6	~G14	g
	26									g-1
	17									
200 ○	52	-	102	28	21	24	52	~P6	~G14	h
155 ○	52	-	71	28	21	24	52	~P6	~G14	g
	26									g-1
	17									
200 ○	52	-	102	28	21	24	52	~P6	~G14	h
165 ○	26	-	76	30	23	26	52	~P6	~G14	g-1
165 ○	52	-	76	30	23	26	52	~P6	~G14	g
	26									g-1
	17									
200 ○	52	-	102	30	23	26	52	~P6	~G14	h
165 ○	52	-	76	30	23	26	52	~P6	~G14	g
	26									g-1
	17									
200 ○	52	-	102	30	23	26	52	~P6	~G14	h
175 ○	59	-	81	32	26	30	59	~P6	~G15	g
	27									g-1
200 ○	59	-	102	32	26	30	59	~P6	~G15	h

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Solution tool
PRAD system

Specification corresponding with standard blanks(for Japanese market)

HSS HSS-Co HSS-P

Material Symbols　HSS : ○　HSS-Co : ●　HSS-P : ◎

Main size designation and specification					
① metric	② unified	③ whitworth	④ sewing screw	⑤ STI (metric)	⑥ STI (unified)
M42×4.5 M42×4 M42×3 M42×2 M42×1.5 M42×1	-	W1 5/8-5		STI_M36×4 STI_M39×2	STI_1 3/8-6UNC STI_1 1/2-12UNF
M42×4.5 M42×4 M42×3 M42×2					
M44×2 M44×1.5					
M44×2					
M45×4.5 M45×4 M45×3 M45×2 M45×1.5 M45×1	1 3/4-5UNC 1 3/4-6UN 1 3/4-8UN 1 3/4-12UN 1 3/4-16UN 1 3/4-20UN	W1 3/4-5		STI_M39×4 STI_M39×3	STI_1 1/2-6UNC
M45×4.5 M45×4 M45×3 M45×2					
M46×4 M46×3 M46×2 M46×1.5	-	-			
M46×4 M46×3 M46×2	-	-			
M48×5 M48×4 M48×3 M48×2 M48×1.5 M48×1	-	-			
M48×5 M48×4 M48×3 M48×2					

・Corresponding pitches meet with the pitches of other kinds.
・Concerning Hand of threads, both right and left are applicable in the same blank.
・Concerning the kind of taps, SP, PO, HT, ROLL are applicable in the same blank.
・Concerning applicable thread limits, maximum applicable thread limits for metric coase threads are listed.
・□ is a blank for Z-PRO.

Think threads with YAMAWA

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Main size designation and specification	Overall length of standard type and long type, and corresponding Materials						Max. thread length	Applicable class		TYPE
Length of standard type: L	ℓ	ℓ_n	ℓ_s (reference)	D_s	K	ℓ_k		Cutting	Forming	
175 ○	59	-	81	32	26	30	59	~P6	~G15	g
	27									g-1
200 ○	59	-	102	32	26	30	59	~P6	~G15	h
180 ○	59	-	81	35	26	30	59	~P6	~G15	g
	27									g-1
220 ○	59	-	112	35	26	30	59	~P6	~G15	h
180 ○	59	-	83	35	26	30	59	~P6	~G15	g
	27									g-1
220 ○	59	-	112	35	26	30	59	~P6	~G15	h
185 ○	65	-	85	38	29	32	65	~P6	~G15	g
	28									g-1
250 ○	65	-	128	38	29	32	65	~P6	~G15	h
185 ○	65	-	85	38	29	32	65	~P6	~G15	g
	28									g-1
250 ○	65	-	128	38	29	32	65	~P6	~G15	h

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Solution tool
PRAD system

Standard blank dimension table (for Japan)

HSS HSS-P

Material Symbols HSS : ○ HSS-P : ◎

Main size designation and specification					
① metric	② unified	③ whitworth	④ sewing screw	⑤ STI (metric)	⑥ STI (unified)
M2×0.4	№1-64UNC №1-72UNF		SM5/64-64		
M2×0.25					
M2.2×0.45	№2-56UNC №2-64UNF				
M2.2×0.25					
M2.3×0.4					
M2.3×0.25					
M2.5×0.45		W3/32-48	SM3/32-56		
M2.5×0.35					
M2.6×0.45	№3-48UNC №3-56UNF				
M2.6×0.35					
M3×0.5	№4-40UNC №4-48UNF			STI_M2.2×0.45	STI_№2-56UNC
M3×0.35					
M3×0.6					
M3×0.5					
M3×0.35					
M3.5×0.6	№5-40UNF №5-44UNF	W1/8-40	SM1/8-40 SM1/8-44	 STI_M2.5×0.45 STI_M2.6×0.45	
M3.5×0.35					
M4×0.7 M4×0.75		W5/32-32	SM9/64-40		STI_№4-40UNC STI_№5-40UNC
M4×0.5					
				STI_M3×0.5	
M4×0.7					
M4×0.5					
M4.5×0.75	№8-32UNC №8-36UNF		SM11/64-40		STI_№6-40UNF
M4.5×0.5				STI_M3.5×0.6	
M5×0.8 M5×0.75 M5×0.9	№10-24UNC №10-32UNF	W3/16-24	SM3/16-24 SM3/16-28 SM3/16-32 SM3/16-40	STI_M4×0.7	STI_№6-32UNC
M5×0.5					
M5×0.8					
M5×0.5					

- Corresponding pitches meet with the pitches of other kinds.
- Concerning Hand of threads, both right and left are applicable in the same blank.
- Concerning the kind of taps, SP, PO, HT, ROLL are applicable in the same blank.
- Concerning applicable thread limits, maximum applicable thread limits for metric coase threads are listed.
- ▭ is a blank for Z-PRO.

Think threads with YAMAWA

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Overall length of long type and corresponding materials					Overall length of standard type and long type, and corresponding Materials						Max. thread length	Applicable class		TYPE
Overall length of long type : L					ℓ	ℓ_n	ℓ_s (reference)	D_s	K	ℓ_k		Cutting	Forming	
70 ○	-	-	-	-	7.2	15	52	3	2.5	5	7.2	～P4	～G5	i
					4.5									i-1
70 ○	-	-	-	-	8.1	15	52	3	2.5	5	8.1	～P4	～G5	i
					4.5									i-1
70 ○	-	-	-	-	7.2	15	52	3	2.5	5	7.2	～P4	～G5	i
					4.5									i-1
70 ○	-	-	-	-	8.1	15	52	3	2.5	5	8.1	～P4	～G5	i
					6.3									i-1
70 ○	-	-	-	-	8.1	15	52	3	2.5	5	8.1	～P4	～G5	i
					6.3									i-1
70 ○	100 ○	120 ○	150 ○	-	9	18	46 (L70) 40 (L100以上)	4	3.2	6	9	～P7	～G8	i
					6.5									i-1
					9									
-	100 ◎	-	-	-	9	18	32	4	3.2	6	9	～P7	～G8	i
					6.5									i-1
70 ○	100 ○	120 ○	150 ○	-	11	21	43 (L70) 40 (L100以上)	5	4	7	11	～P6	～G7	i
					6.8									i-1
					6.5									
70 ○	100 ○	120 ○	150 ○	-	11	21	43 (L70) 40 (L100以上)	5	4	7	11	～P6	～G7	i
					9									i-1
					7.5									
-	100 ◎	-	-	-	11	21	36	5	4	7	11	～P6	～G7	i
					9									i-1
70 ○	100 ○	120 ○	150 ○	-	13	25	40	5.5	4.5	7	13	～P6	～G7	i
					9									i-1
70 ○	-	-	-	-	14	25	40	5.5	4.5	7	14	～P6	～G7	i
-	100 ○	120 ○	150 ○	-	13						13			
					9									i-1
-	100 ◎	-	-	-	13	25	40	5.5	4.5	7	13	～P6	～G7	i
					9									i-1

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Solution tool
PRAD system

Standard blank dimension table (for Japan)

HSS HSS-P

Material Symbols HSS : ○ HSS-P : ◎

Main size designation and specification					
① metric	② unified	③ whitworth	④ sewing screw	⑤ STI (metric)	⑥ STI (unified)
M5.5×0.5					
M6×1 M6×0.75	No.12-24UNC No.12-28UNF No.12-32UNEF	W7/32-24	SM15/64-28 SM7/32-32	STI_M4.5×0.75 STI_M5×0.8	STI_No.8-32UNC STI_No.10-24UNC STI_No.10-32UNF
					STI_No.8-36UNF
M6×0.5					
M6×1					
M6×0.75					
M6×0.5					
M7×1 M7×0.75				 STI_M6×0.75	STI_No.12-24UNC STI_No.12-28UNF
M8×1.25 M8×1 M8×0.75	5/16-18UNC 5/16-20UN 5/16-24UNF 5/16-28UN 5/16-32UNEF	W5/16-18		 STI_M6×1	STI_1/4-20UNC STI_1/4-28UNF
M8×1.25 M8×1					
M9×1.25 M9×1					
M10×1.5 M10×1.25 M10×1	3/8-16UNC 3/8-20UN 3/8-24UNF 3/8-28UN	W3/8-16		 STI_M8×1.25 STI_M8×1	STI_5/16-18UNC STI_5/16-24UNF
M10×1.5 M10×1.25 M10×1					
M11×1.5 M11×1.25 M11×1				 STI_M9×1.25 STI_M9×1	 STI_3/8-24UNF
M12×1.75 M12×1.5 M12×1.25 M12×1	7/16-14UNC 7/16-16UN 7/16-20UNF 7/16-28UNEF	W7/16-14		 STI_M10×1.5 STI_M10×1.25 STI_M10×1	 STI_3/8-16UNC
M12×1.75 M12×1.5 M12×1.25					

- Corresponding pitches meet with the pitches of other kinds.
- Concerning Hand of threads, both right and left are applicable in the same blank.
- Concerning the kind of taps, SP, PO, HT, ROLL are applicable in the same blank.
- Concerning applicable thread limits, maximum applicable thread limits for metric coase threads are listed.
- ▭ is a blank for Z-PRO.

Think threads with YAMAWA

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Overall length of long type and corresponding materials					Overall length of standard type and long type, and corresponding Materials						Max. thread length	Applicable class		TYPE
Overall length of long type : L					ℓ	ℓ_n	ℓ_s (reference)	D_s	K	ℓ_k		Cutting	Forming	
-	100 ○	120 ○	150 ○	200 ○	9	30	40	6	4.5	7	9	~ P6	~ G7	i-1
-	100 ○	120 ○	150 ○	200 ○	15	30	40	6	4.5	7	15	~ P4	~ G7	i
					9.5									i-1
					9									
-	100 ◎	-	-	-	15	30	45	6	4.5	7	15	~ P4	~ G7	i
					9									i-1
-	100 ○	120 ○	150 ○	-	19	-	36	6.2	5	8	19	~ P4	~ G7	j
-	100 ○	120 ○	150 ○	-	19	-	36	6.2	5	8	19	~ P4	~ G7	j
-	-	-	150 ◎	-	19	-	46	6.2	5	8	19	~ P4	~ G7	j
-	100 ○	120 ○	150 ○	-	23	-	38	7	5.5	8	23	~ P5	~ G7	j
-	100 ○	120 ○	150 ○	-	23	-	38	7	5.5	8	23	~ P5	~ G7	j
-	-	-	150 ◎	-	23	-	51	7	5.5	8	23	~ P5	~ G7	j
-	100 ○	120 ○	150 ○	-	26	-	42	8.5	6.5	9	26	~ P5	~ G9	j
-	100 ○	120 ○	150 ○	-	26	-	42	8.5	6.5	9	26	~ P5	~ G9	j
-	-	-	150 ◎	-	26	-	56	8.5	6.5	9	26	~ P5	~ G9	j

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Solution tool
PRAD system

Standard blank dimension table (for Japan)

HSS HSS-P

Material Symbols HSS : ○ HSS-P : ◎

Main size designation and specification					
① metric	② unified	③ whitworth	④ sewing screw	⑤ STI (metric)	⑥ STI (unified)
M13×1.75 M13×1.5 M13×1.25 M13×1	1/2-13UNC 1/2-16UN 1/2-20UNF 1/2-28UNEF	W1/2-12		 STI_M11×1.5 STI_M11×1.25	 STI_7/16-20UNF
M14×2 M14×1.5 M14×1.25 M14×1				 STI_M12×1.5 STI_M12×1.25 STI_M12×1	 STI_7/16-14UNC
M14×2					
M14×1.5					
M15×2 M15×1.5 M15×1.25 M15×1	9/16-12UNC 9/16-16UN 9/16-18UNF 9/16-20UN 9/16-24UNEF 9/16-28UN	W9/16-12		 STI_M12×1.75 STI_M13×1.5	 STI_1/2-20UNF
M16×2 M16×1.5 M16×1.25 M16×1	5/8-11UNC 5/8-12UN 5/8-16UN 5/8-18UNF 5/8-20UN 5/8-24UNEF 5/8-28UN	W5/8-11		 STI_M13×1.75 STI_M14×1.5 STI_M14×1.25	STI_1/2-13UNC
M16×2					
M16×1.5					
 M17×1.5				STI_M14×2	 STI_9/16-18UNF
M18×2.5 M18×2 M18×1.5 M18×1.25				 STI_M16×1.5	 STI_9/16-12UNC STI_5/8-18UNF

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- Concerning the kind of taps, SP, PO, HT, ROLL are applicable in the same blank.
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Think threads with YAMAWA

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Overall length of long type and corresponding materials					Overall length of standard type and long type, and corresponding Materials						Max. thread length	Applicable class		TYPE
Overall length of long type : L					ℓ	ℓ_n	ℓ_s (reference)	D_s	K	ℓ_k		Cutting	Forming	
-	-	120 ○	150 ○	-	26	-	45	10.5	8	11	26	~ P5	~ G9	j
-	-	120 ○	150 ○	-	26	-	45	10.5	8	11	26	~ P5	~ G9	j
-	-	-	150 ◎	-	26	-	56	10.5	8	11	26	~ P5	~ G9	j
-	-	-	150 ○	-	26	-	48	12.5	10	13	26	~ P5	~ G9	j
-	-	-	150 ○	-	26	-	48	12.5	10	13	26	~ P5	~ G9	j
-	-	-	150 ◎	-	26	-	56	12.5	10	13	26	~ P5	~ G9	j
-	-	-	150 ○	-	33	-	51	14	11	14	33	~ P5	~ G8	j
-	-	-	150 ○	-	33	-	51	14	11	14	33	~ P5	~ G8	j

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Solution tool
PRAD system

HF

Specification corresponding with standard blanks(for Japanese market)

Main size designation and specification					
① metric	② unified	③ whitworth	④ sewing screw	⑤ STI (metric)	⑥ STI (unified)
M2×0.4	№1-64UNC №1-72UNF		SM5/64-64		
M2×0.25					
M2.2×0.45	№2-56UNC №2-64UNF				
M2.2×0.25					
M2.3×0.4					
M2.3×0.25					
M2.5×0.45		W3/32-48	SM3/32-56		
M2.5×0.35			SM3/32-100		
M2.6×0.45	№3-48UNC №3-56UNF				
M2.6×0.35					
M3×0.5	№4-40UNC №4-48UNF			STI_M2×0.4 STI_M2.2×0.45	STI_№2-56UNC
M3×0.35					
M3.5×0.6	№5-40UNC №5-44UNF №6-32UNC №6-40UNF	W1/8-40	SM1/8-40 SM1/8-44	STI_M2.5×0.45 STI_M2.6×0.45	
M3.5×0.35					
M4×0.7		W5/32-32	SM9/64-40	STI_M3×0.5	STI_№4-40UNC STI_№5-40UNC
M4×0.5					
M4.5×0.75	№8-32UNC №8-36UNF		SM11/64-40	STI_M3.5×0.6	STI_№6-40UNF
M4.5×0.5					
M5×0.8 M5×0.75	№10-24UNC №10-32UNF	W3/16-24	SM3/16-24 SM3/16-28 SM3/16-32	STI_M4×0.7	STI_ №6-32UNC
M5×0.5					
M6×1	№12-24UNC №12-28UNF	W7/32-24	SM15/64-28	STI_M4.5×0.75 STI_M5×0.8	STI_№8-32UNC STI_№8-36UNF STI_№10-32UNF
M6×0.75			SM7/32-32		
M6×0.5					

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- Concerning the kind of taps, SP, PO, HT, ROLL are applicable in the same blank.
- Concerning applicable thread limits, maximum applicable thread limits for metric coase threads are listed.

Think threads with YAMAWA

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Length of standard type	Overall length of standard type and long type, and corresponding Materials						Max. thread length	Applicable class		TYPE
Length of standard type: L	ℓ	ℓ_n	ℓ_s (reference)	D_s	K	ℓ_k		Cutting	Forming	
40	8 5.5	9.1	(25)	3	2.5	5	8	~P5	~G6	k
44	9.5 5.5	11.7	(28)	3	2.5	5	9.5	~P5	~G6	k
	8 5.5	10.1	(30)				8			
	9.5 8	10.8					9.5			
	9.5 8	10.9					9.5			
46	11 8	12.5	(27)	4	3.2	6	11	~P5	~G6	k
52	11 8	15.0	(30)	5	4	7	11	~P5	~G7	k
	13 11						13			
60	13 11	18.1	(37)	5.5	4.5	7	13	~P5	~G7	k
	16 11						16			
62	19 13 11	-	(43)	6	4.5	7	19	~P6	~G8	ℓ

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Solution tool
PRAD system

HF

Specification corresponding with standard blanks(for Japanese market)

Main size designation and specification					
① metric	② unified	③ whitworth	④ sewing screw	⑤ STI (metric)	⑥ STI (unified)
M8×1.25	5/16-18UNC	W5/16-18	SM9/32-20 SM5/16-18	STI_M6×1	STI_№10-24UNC STI_№12-24UNC STI_№12-28UNF STI_1/4-20UNC STI_1/4-28UNF
M8×1	1/4-20UNC 1/4-28UNF 5/16-24UNF	W1/4-20			
M8×0.75					
M10×1.5	3/8-16UNC	W3/8-16	SM11/32-28	STI_M8×1.25	STI_5/16-18UNC STI_5/16-24UNF
M10×1.25					
M10×1	3/8-24UNF				
M12×1.75		W7/16-14	SM7/16-16	STI_M10×1.5	STI_3/8-16UNC STI_3/8-24UNF
M12×1.5	7/16-14UNC			STI_M10×1.25	
M12×1.25				STI_M10×1	
M12×1	7/16-20UNF				
M12×0.75					

- Corresponding pitches meet with the pitches of other kinds.
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- Concerning applicable thread limits, maximum applicable thread limits for metric coase threads are listed.

Think threads with YAMAWA

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Length of standard type	Overall length of standard type and long type, and corresponding Materials						Max. thread length	Applicable class		TYPE
Length of standard type: L	ℓ	ℓ_n	ℓ_s (reference)	D_s	K	ℓ_k		Cutting	Forming	
70	22 19 13	-	(46)	6.2	5	8	22	~P6	~G8	m
75	24 22 19	-	(48)	7	5.5	8	24	~P6	~G8	m
82	30 24 22 19 13	-	(49)	8.5	6.5	9	30	~P7	~G10	m

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Solution tool
PRAD system

HF

Specification corresponding with standard blanks (DIN)

Main size designation and specification					
① metric	② unified	③ whitworth	④ sewing screw	⑤ STI (metric)	⑥ STI (unified)
M6×1	№12-24UNC №12-28UNF	W7/32-24	SM15/64-28	STI_M4.5×0.75 STI_M5×0.8	STI_№8-32UNC STI_№8-36UNF STI_№10-32UNF
M8×1.25 M8×1	1/4-20UNC 1/4-28UNF 5/16-18UNC 5/16-24UNF	W1/4-20 W5/16-18	SM1/4-20 SM1/4-28 SM9/32-20 SM5/16-18	STI_M6×1	STI_№10-24UNC STI_№12-24UNC STI_№12-28UNF STI_1/4-20UNC STI_1/4-28UNF
M10×1.5 M10×1.25	3/8-16UNC 3/8-24UNF	W3/8-16	SM11/32-28	STI_M8×1.25	STI_5/16-18UNC STI_5/16-24UNF
M12×1.5 M12×1.25	7/16-14UNC 7/16-20UNF	W7/16-14	SM7/16-16	STI_M10×1.5 STI_M10×1.25 STI_M10×1	STI_3/8-16UNC STI_3/8-24UNF

- Corresponding pitches meet with the pitches of other kinds.
- Concerning Hand of threads, both right and left are applicable in the same blank.
- Concerning the kind of taps, SP, PO, HT, ROLL are applicable in the same blank.
- Concerning applicable thread limits, maximum applicable thread limits for metric coase threads are listed.

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Overall length of standard type and long type, and corresponding Materials							Max. thread length	Applicable class			TYPE
								Cutting		Forming	
ℓ	ℓ_n	ℓ_s (reference)	D_s	K	ℓ_k	Length of standard type: L		(P class)	(ISO class)		
12	27.4	(48)	6	-	-	80	12	P6	ISO3	G9	n
15	30	(54)	8	-	-	90	15	P6	ISO3	G8	n
18	35.9	(57)	10	-	-	100	18	P6	ISO3	G8	n
21	39.9	(63)	12	-	-	110	21	P7	ISO3	G10	n

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Solution tool
PRAD system

Specification of corresponding standard blanks (for European market)

unit mm

YAMAWA standard	Applicable dimension						TYPE	Material				Applicable class		Corresponding products
Size	L	ℓ	ℓ_n	D	K	ℓ_k		HSS	HSS-E	HSS-Co	HSS-P	Cutting	Forming	
M3	56	6.5	18	3.5	2.7	6	c		●			ISO3	G7	SP,PO,HT,ROLL
M4	63	9	21	4.5	3.4	6	c		●			ISO3	G7	SP,PO,HT,ROLL
M5	70	10.5	25	6	4.9	8	c		●			ISO3	G7	SP,PO,HT,ROLL
M6	80	15	30	6	4.9	8	o		●			ISO2X	-	SP,PO,HT
M8	90	19	35	8	6.2	9	o		●			ISO3	G7	SP,PO,HT,ROLL
M10	100	23	39	10	8	11	o		●			ISO3	G7	SP,PO,HT,ROLL
M12	110	26	45	12	9	12	o		●			ISO3	G9	SP,PO,HT,ROLL

unit mm

YAMAWA standard	Applicable dimension						TYPE	Material				Applicable class		Corresponding products
Size	L	ℓ	ℓ_n	D	K	ℓ_k		HSS	HSS-E	HSS-Co	HSS-P	Cutting	Forming	
M1.4	40	7	-	2.5	2.1	5	DIN371		●			ISO3	G5	SP,PO,HT,ROLL
M1.6	40	8	-	2.5	2.1	5			●			ISO3	G5	SP,PO,HT,ROLL
M2	45	8	-	2.8	2.1	5			●	●	●	ISO3	G5	SP,PO,HT,ROLL
M2.5	50	9	-	2.8	2.1	5			●		●	ISO3	G6	SP,PO,HT,ROLL
M3	56	11	18	3.5	2.7	6			●	●	●	ISO3	G7	SP,PO,HT,ROLL
M4	63	13	21	4.5	3.4	6			●	●	●	ISO3	G7	SP,PO,HT,ROLL
M5	70	16	25	6	4.9	8			●	●	●	ISO3	G7	SP,PO,HT,ROLL
M6	80	19	30	6	4.9	8			●	●	●	ISO2X	-	SP,PO,HT
M7	80	19	30	7	5.5	8			●			ISO3	G11	SP,PO,HT,ROLL
M8	90	22	35	8	6.2	9			●	●	●	ISO3	G7	SP,PO,HT,ROLL
M10	100	24	39	10	8	11			●	●	●	ISO3	G7	SP,PO,HT,ROLL

unit mm

YAMAWA standard	Applicable dimension						TYPE	Material				Applicable class		Corresponding products
Size	L	ℓ	ℓ_n	D	K	ℓ_k		HSS	HSS-E	HSS-Co	HSS-P	Cutting	Forming	
M3	56	11	-	2.2	-	-	DIN376		●			ISO3	G7	SP,PO,HT,ROLL
M4	63	13	-	2.8	2.1	5			●			ISO3	G7	SP,PO,HT,ROLL
M5	70	16	-	3.5	2.7	6			●			ISO3	G7	SP,PO,HT,ROLL
M6	80	19	-	4.5	3.4	6			●			ISO2X	-	SP,PO,HT
M8	90	22	-	6	4.9	8			●			ISO3	G7	SP,PO,HT,ROLL
M10	100	24	-	7	5.5	8			●			ISO3	G7	SP,PO,HT,ROLL
M12	110	29	-	9	7	10			●		●	ISO3	G9	SP,PO,HT,ROLL
M14	110	30	-	11	9	12			●		●	ISO3	G9	SP,PO,HT,ROLL
M16	110	32	-	12	9	12			●		●	ISO3	G9	SP,PO,HT,ROLL
M20	140	34	-	16	12	15			●		●	ISO3	G13	SP,PO,HT,ROLL

unit mm

YAMAWA standard	Applicable dimension						TYPE	Material				Applicable class		Corresponding products
Size	L	ℓ	ℓ_n	D	K	ℓ_k		HSS	HSS-E	HSS-Co	HSS-P	Cutting	Forming	
M8×1	90	22	-	6	4.9	8	DIN374		●			ISO3	G7	SP,PO,HT,ROLL
M10×1	90	20	-	7	5.5	8			●			ISO3	G8	SP,PO,HT,ROLL
M12×1.5	100	22	-	9	7	10			●			ISO3	G10	SP,PO,HT,ROLL
M14×1.5	100	22	-	11	9	12			●			ISO3	G10	SP,PO,HT,ROLL
M16×1.5	100	22	-	12	9	12						ISO3	G10	SP,PO,HT,ROLL

unit mm

YAMAWA standard	Applicable dimension						TYPE	Material				Applicable class		Corresponding products
Size	L	ℓ	ℓ_n	D	K	ℓ_k		HSS	HSS-E	HSS-Co	HSS-P	Cutting	Forming	
G1/8	90	20	-	7	5.5	8	DIN5156		●			-	-	SP,PO,HT
G1/4	100	22	-	11	9	12			●			-	-	SP,PO,HT
G3/8	100	22	-	12	9	12			●			-	-	SP,PO,HT
G1/2	125	25	-	16	12	15			●			-	-	SP,PO,HT

・Concerning applicable thread limits, maximum applicable thread limits for metric coase threads are listed.

Think threads with YAMAWA

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Specification of corresponding standard blanks (for American market)

unit mm

YAMAWA standard	Applicable dimension							TYPE	Material				Applicable class			Corresponding products
Size	L	ℓ	ℓ_n	ℓ_S (reference)	D	K	ℓ_k		HSS	HSS-E	HSS-Co	HSS-P	Cutting	Forming		
No.4	47.6	8.5	14.3	28	3.58	2.79	4.7	c		●		●	GH8	G5		SP,PO,HT,ROLL
No.5	49.2	9.5	15.9	29	3.58	2.79	4.7	c		●			GH8	G8		SP,PO,HT,ROLL
No.6	50.8	10.5	17.5	29	3.58	2.79	4.7	c		●		●	GH6	G3		SP,PO,HT,ROLL
No.8	54	11.5	19.1	31	4.26	3.32	6.3	c		●		●	GH6	G3		SP,PO,HT,ROLL
No.10	60.3	13.5	22.2	33	4.92	3.86	6.3	c		●		●	GH6	G4		SP,PO,HT,ROLL
No.12	60.3	14.5	23.8	31	5.58	4.19	7.1	c		●			GH6	-		SP,PO,HT
U1/4	63.5	15	25.4	32	6.47	4.85	7.9	c		●		●	GH6	G4:20UNC	G6:28UNF	SP,PO,HT,ROLL
U5/16	69.1	17	28.6	32	8.07	6.04	9.5	c		●		●	GH9	G8		SP,PO,HT,ROLL
U3/8	74.6	19	31.8	33	9.67	7.26	11.1	c		●		●	GH6	-	G7:24UNF	SP,PO,HT,ROLL
U7/16	80.2	22	-	-	8.2	6.14	10.3	e		●			GH6	-	G6:20UNF	SP,PO,HT,ROLL
U1/2	85.7	25	-	-	9.32	6.98	11.1	e		●			GH9	-	G7:20UNF	SP,PO,HT,ROLL
M3	49.2	9.5	15.9	29	3.58	2.79	4.7	c		●			D10			SP,PO,HT,ROLL
M4	54	11.5	19.1	30	4.26	3.32	6.3	c		●			D11			SP,PO,HT,ROLL
M5	60.3	13.5	22.2	34	4.92	3.86	6.3	c		●			D7			SP,PO,HT,ROLL
M6	63.5	15	25.4	32	6.47	4.85	7.9	c		●		●	D8			SP,PO,HT,ROLL
M8	69.1	17	28.6	34	8.07	6.04	9.5	c		●			D8	-		SP,PO,HT
M10	74.6	19	31.8	36	9.67	7.26	11.1	e		●			D9	-		SP,PO,HT
M12	85.7	25	-	-	9.32	6.98	11.1	e		●			D9	-		SP,PO,HT

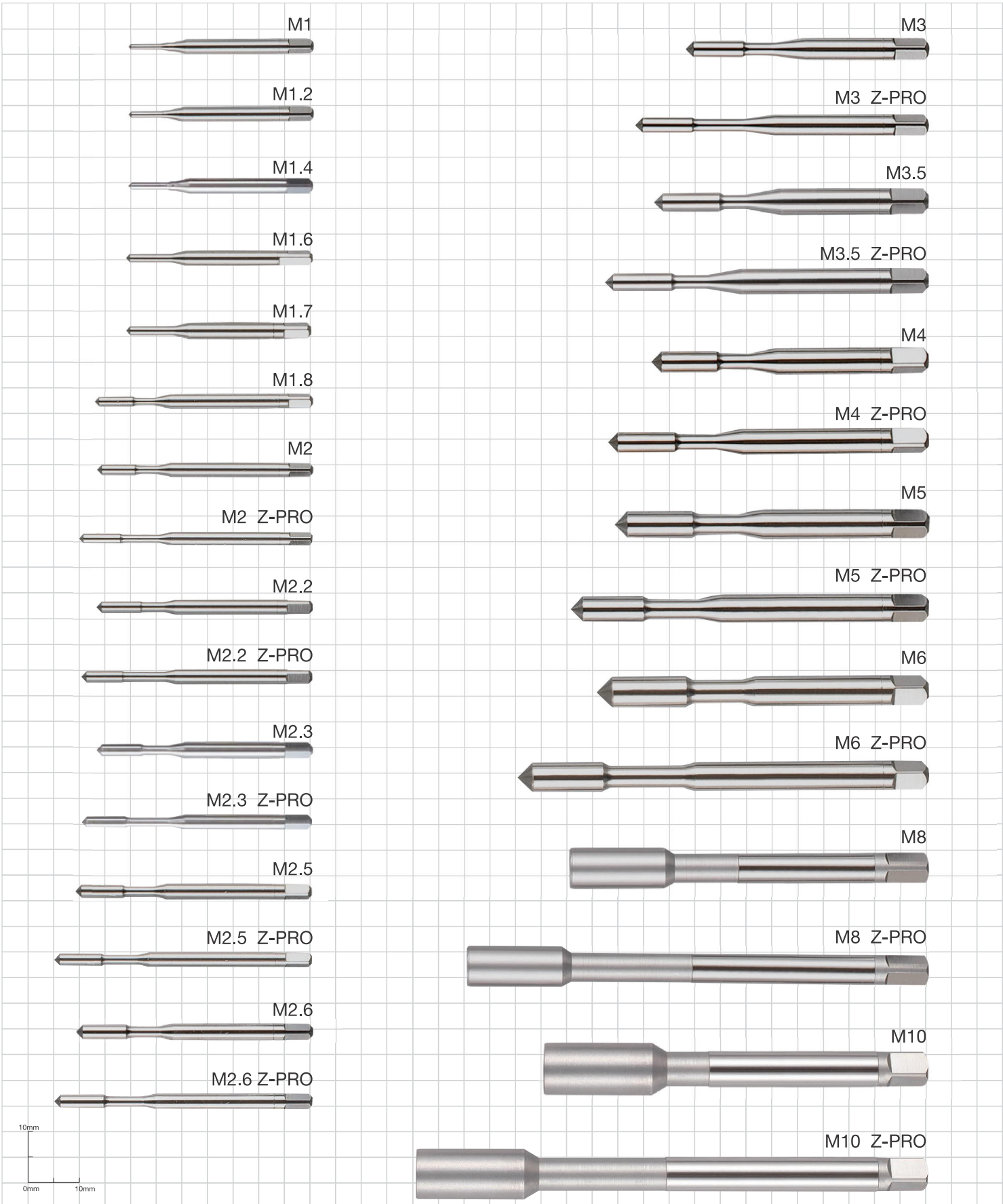
Specification of corresponding standard blanks (for American market) Overall length : DIN, Shank dia. : ANSI

unit mm

YAMAWA standard	Applicable dimension							TYPE	Material				Applicable class		Corresponding products
Size	L	ℓ	ℓ_n	ℓ_S (reference)	D	K	ℓ_k		HSS	HSS-E	HSS-Co	HSS-P	Cutting	Forming	
No.0	45	6	8.2	29	3.58	2.79	4.7	b		●			GH9	G8	SP,PO,HT,ROLL
No.2	45	8	10.7	29	3.58	2.79	4.7	b		●			GH8	G6	SP,PO,HT,ROLL
No.4	56	9	18	32	3.58	2.79	4.7	c		●		●	GH8	G5	SP,PO,HT,ROLL
No.5	56	11	18	34	3.58	2.79	4.7	c		●			GH8	G8	SP,PO,HT,ROLL
No.6	56	11	19	34	3.58	2.79	4.7	c		●		●	GH6	G3	SP,PO,HT,ROLL
No.8	63	13	21	39	4.26	3.32	6.3	c		●		●	GH9	G7	SP,PO,HT,ROLL
No.10	70	14	24	42	4.92	3.86	6.3	c		●		●	GH7	G7	SP,PO,HT,ROLL
No.12	80	15	25	49	5.58	4.19	7.1	c		●			GH6	-	SP,PO,HT
U1/4	80	15	30	43	6.47	4.85	7.9	c		●		●	GH6	G4	SP,PO,HT,ROLL
U5/16	90	19	35	46	8.07	6.04	9.5	c		●		●	GH9	G8	SP,PO,HT,ROLL
U3/8	100	23	39	51	9.67	7.26	11.1	c		●		●	GH6	24UNF:G7	SP,PO,HT,ROLL
U7/16	100	23	49	51	8.2	6.14	10.3	c		●			GH6	20UNF:G6	SP,PO,HT,ROLL
U1/2	110	26	54	56	9.32	6.98	11.1	c		●			GH9	20UNF:G7	SP,PO,HT,ROLL
M3	56	11	18	34	3.58	2.79	4.7	c		●			D12	D12	SP,PO,HT,ROLL
M4	63	13	21	39	4.26	3.32	6.3	c		●			D12	D12	SP,PO,HT,ROLL
M5	80	15	25	49	5.58	4.19	7.1	c		●			D12	D12	SP,PO,HT,ROLL
M6	80	15	30	43	6.47	4.85	7.9	c		●		●	D11	D11	SP,PO,HT,ROLL
M8	90	19	35	46	8.07	6.04	9.5	c		●			D7	-	SP,PO,HT
M10	100	23	49	51	8.2	6.14	10.3	e		●			D12	D12	SP,PO,HT,ROLL
M12	110	26	54	56	9.32	6.98	11.1	e		●			D11	D11	SP,PO,HT,ROLL

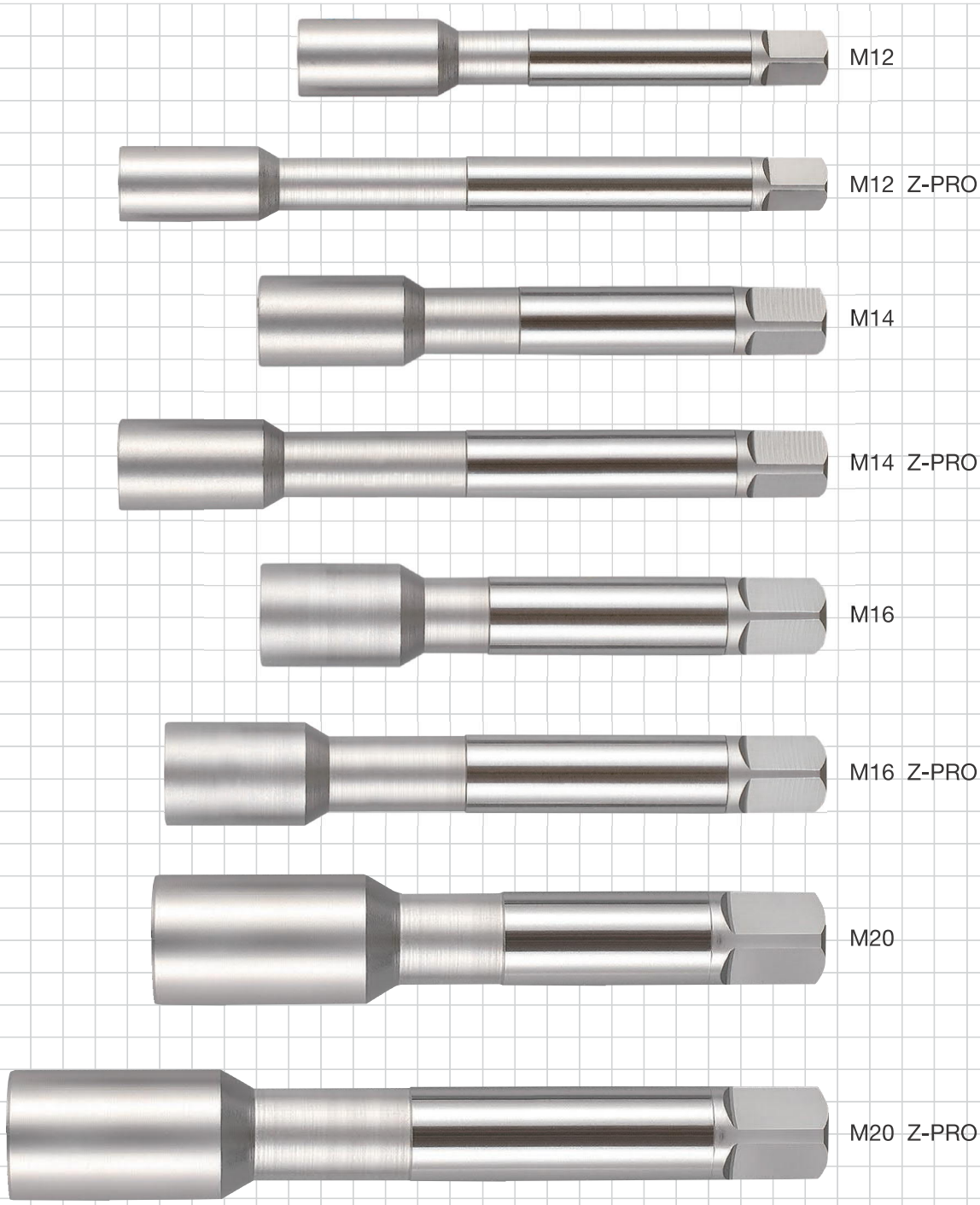
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YAMAWA Standard blank Line UP



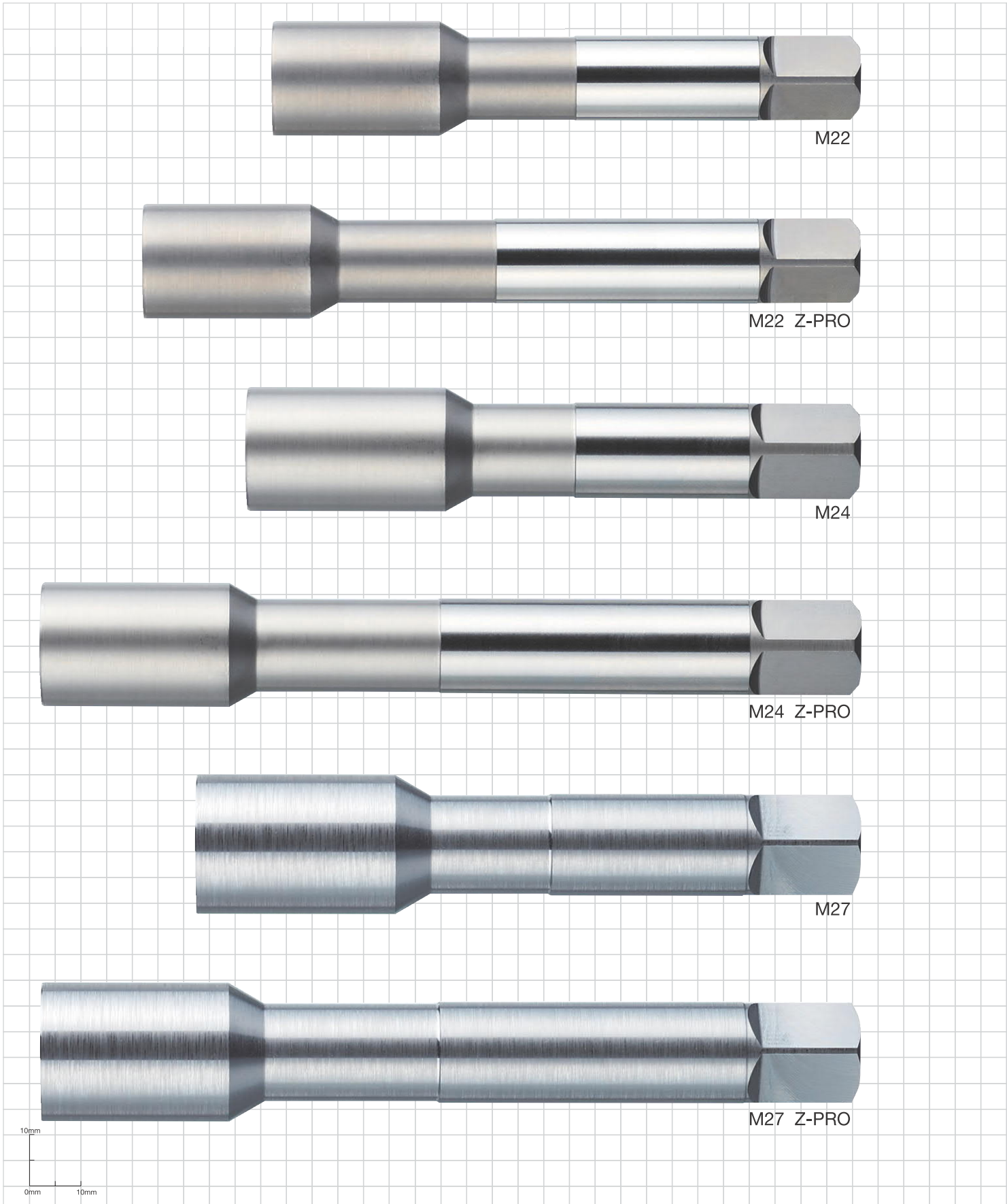
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YAMAWA Standard blank Line UP



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YAMAWA Standard blank Line UP

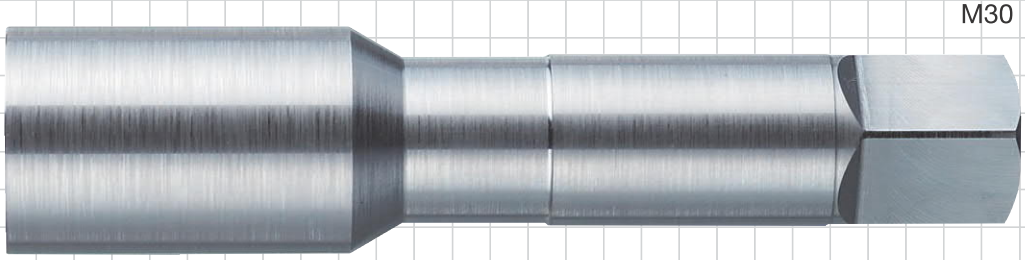


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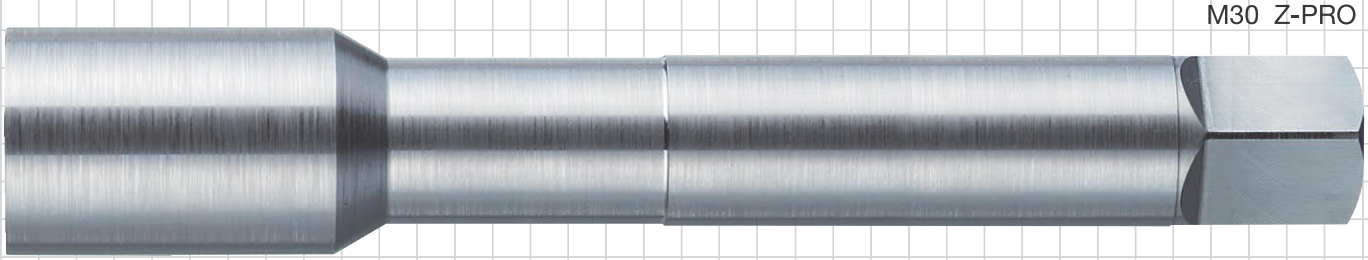
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YAMAWA Standard blank Line UP

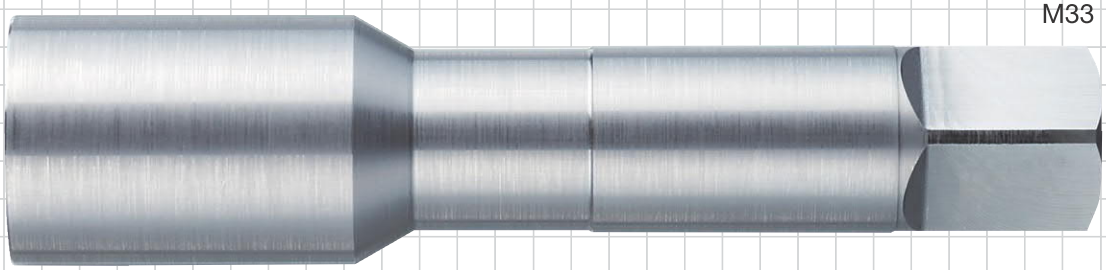
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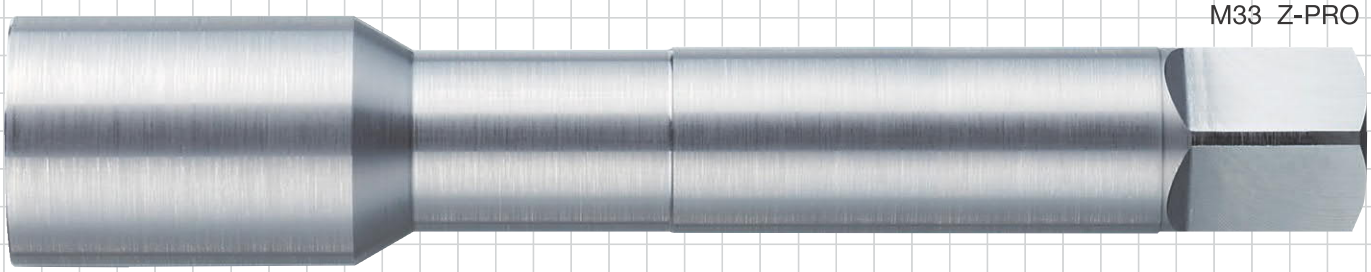
M30 Z-PRO

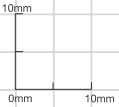


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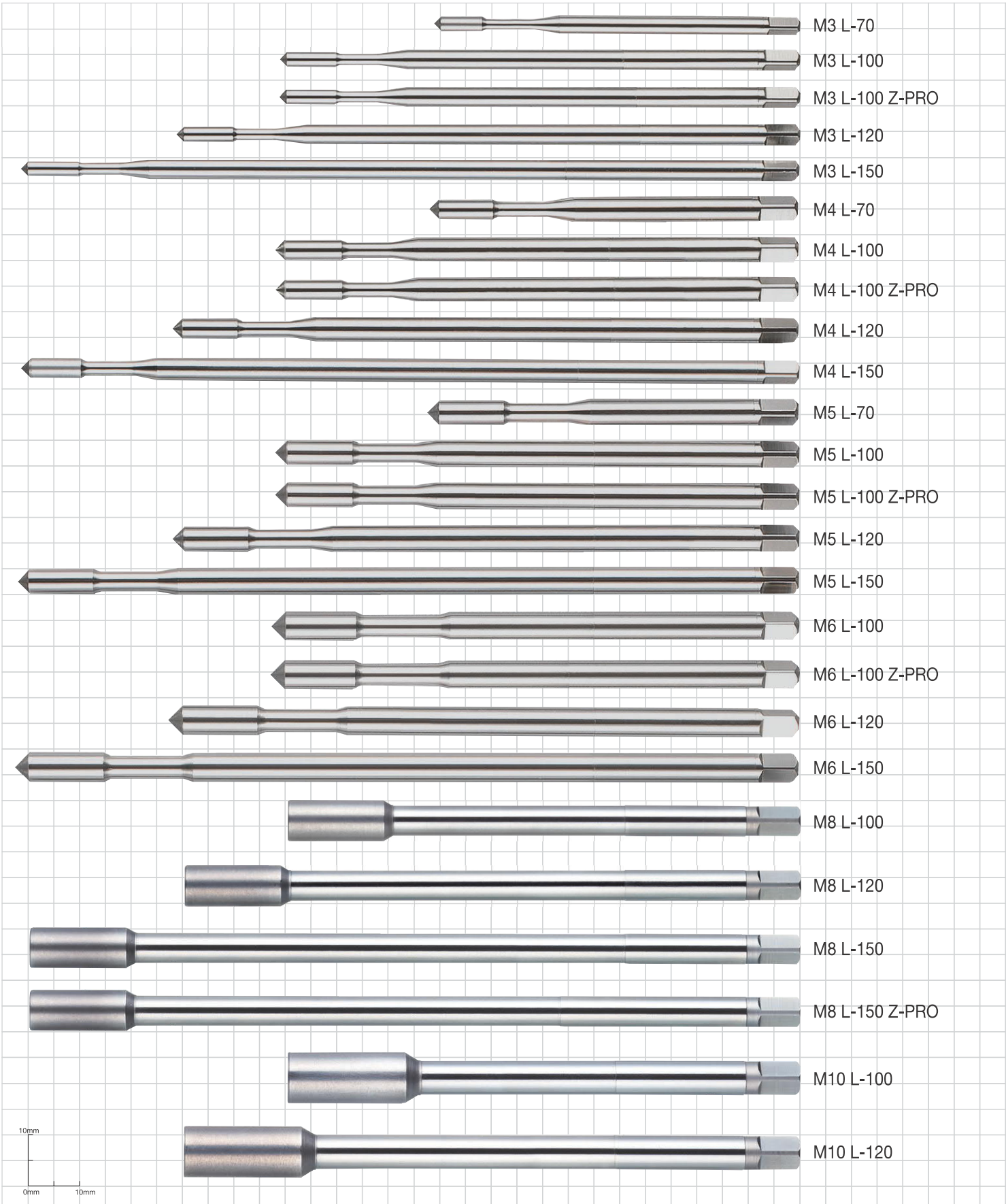
M33 Z-PRO





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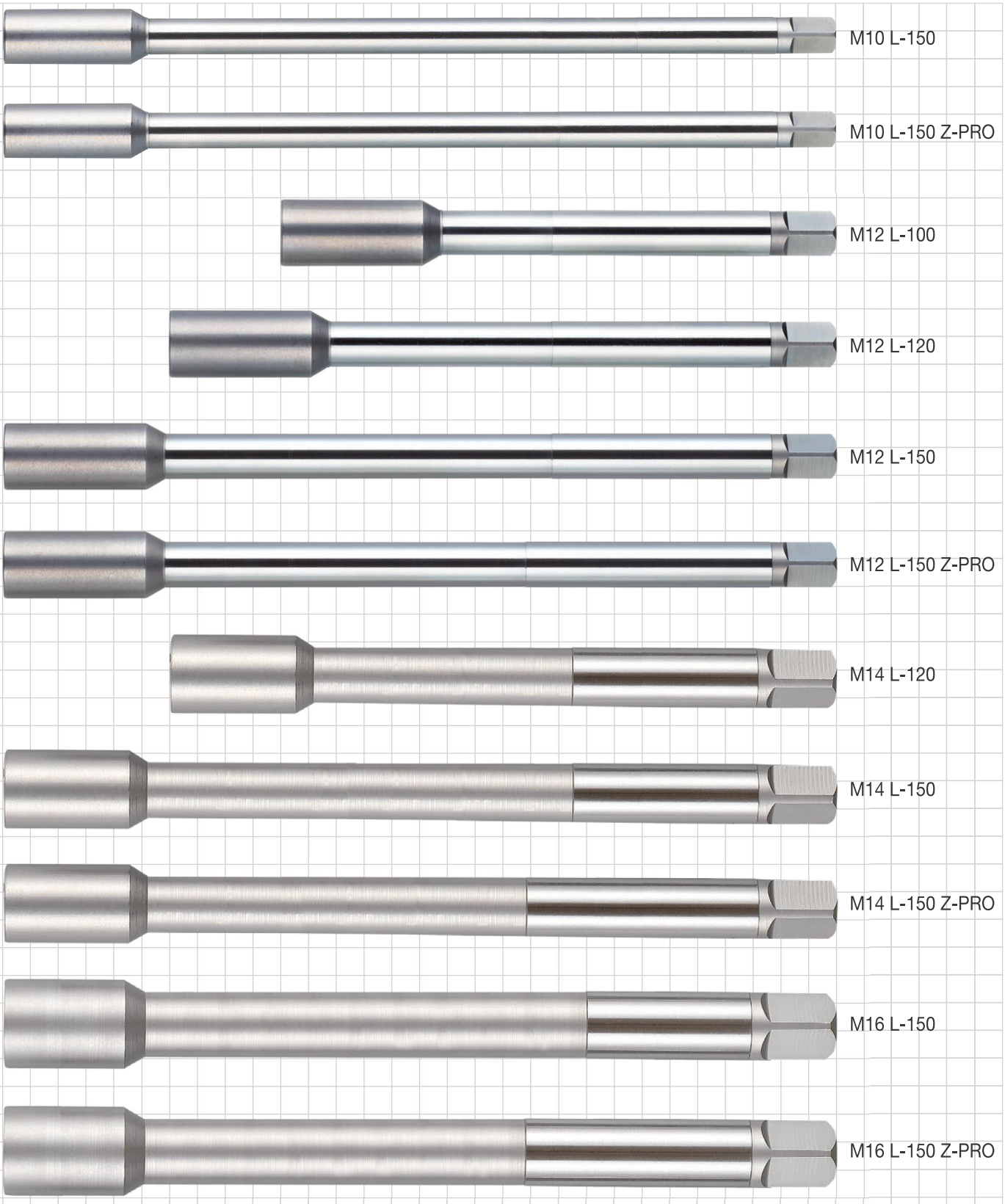
YAMAWA Standard Long shank blank Line UP



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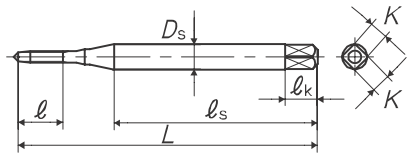
YAMAWA Standard Long shank blank Line UP



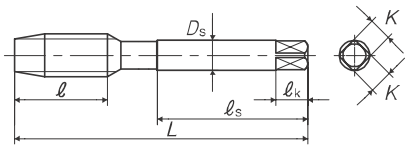
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Table for tap dimensions and type

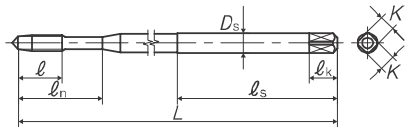
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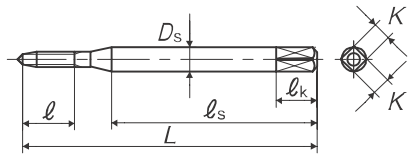
TYPE e



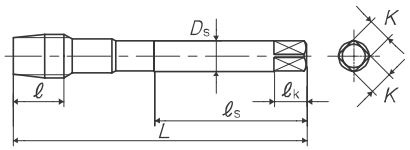
TYPE i



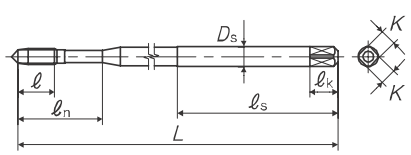
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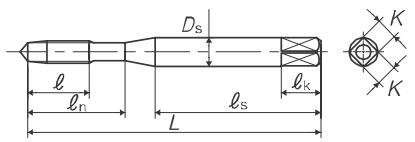
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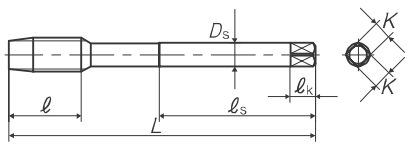
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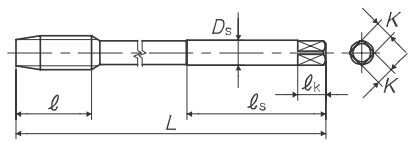
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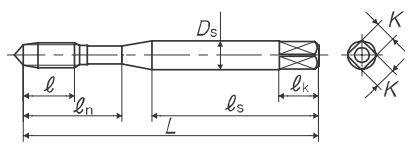
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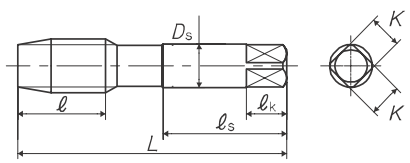
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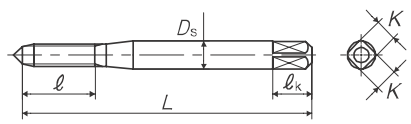
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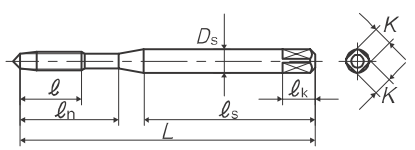
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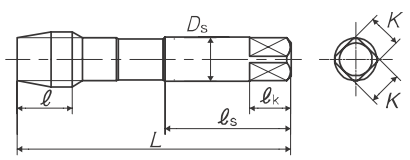
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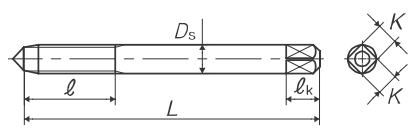
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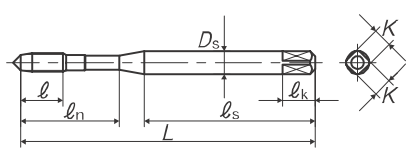
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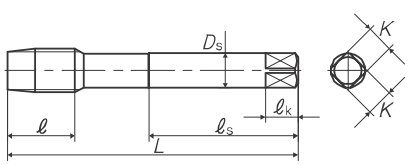
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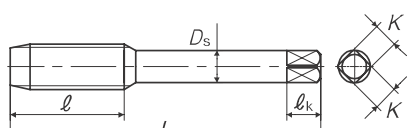
TYPE d-1



TYPE h



TYPE m



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PRAD system Inquiry sheet

Please fill in the blanks and send it to us by e-mail

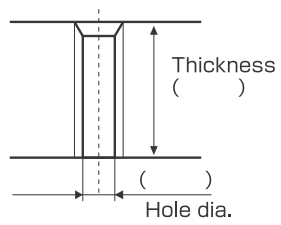
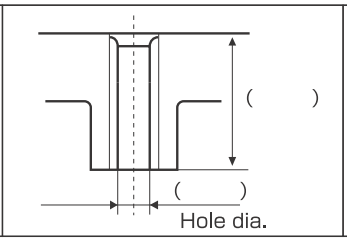
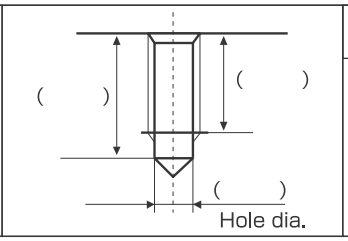
※Referring to Yamawa Web https://www.yamawa.com/en/, please send your tapping information as a PDF to our Web window "Customer Consultation"
Please fill the information table as much as possible. Our staff will contact you by return.

■ Company name		
■ Department · Name	(Department)	(Name)
■ TEL	(TEL)	
■ e-mail address		

Customer's request

■ Thread type	M : Metric U : Unified W : Whitworth Special( )		
■ Size and pitch		■ Hand of thread	· Right hand · Left hand
■ Tap type	· ( ) -SP · ( ) -PO · ( ) -HT · ROLL( ) · Other item( )		
■ Overall length	· YMW standard · L-70 · L-100 · L-120 · L-150 · L-( )other length		
■ Tap Material	· HSS(HSS-E) · HSS-Co · HSS-P		
■ Tolerance	· P( )Class · G( )Class · 2Class · Request Class( )		
■ Thread length	· YMW standard · ℓ-( )Request length	■ Shank dia.	· YMW standard · Request dia : Ds-( )
■ Chamfer length	· YMW standard · Taper · Plug · Bottoming · P · B · ( )Request chamfer		
■ Surface treatment	· OX(Oxide) · NI(Nitride) · NX(Nitride-Oxide) · TiN · TiCN · CrN · Bright finished		

Condition of Workpiece Material

■ Tapping part	· ( ) · Unclear	■ Hardness	· ( )HRB · ( )HRC · Unclear
■ Work Material	· FC( ) · SS( ) · SPC( ) · SUS( ) · ADC( ) · AC( ) · BSBM( ) · BC( ) · S( )C · SCM( ) · Plastics( ) · Other( ) · Unclear		
■ Parts shape	  		■ Direction · Vertical · Horizontal · inclined · Unclear
■ How to make hole	· Drill · Press · Reamer · Molding · ( )Other · Unclear		
■ Gauge	· GP-( ) · NP(WP)-( ) · No check · Unclear		

Machine, tapping condition

■ Tapping machine	· Drill press · Automatic lathe · Special machine · Tapping machine · Machining Center · Else( ) · Unclear
■ Holder	· Drill chuck type · Tapping holder(with spring) type · Complete fixed holder type · Else( ) · Unclear
■ Feed	· Manual feed · Gear feed system · Master lead screw feed system · Non-synchronous system by approximation · Fully synchronous feed system · Else( ) · Unclear
■ Tapping speed	( )m/min SFM or Revolution Speed ($^{-1}$)min · Unclear
■ Tapping fluid	· Non-water soluble(oil) · Water soluble cutting fluid · Paste · Else( ) · Unclear

<Comment>

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MEMO

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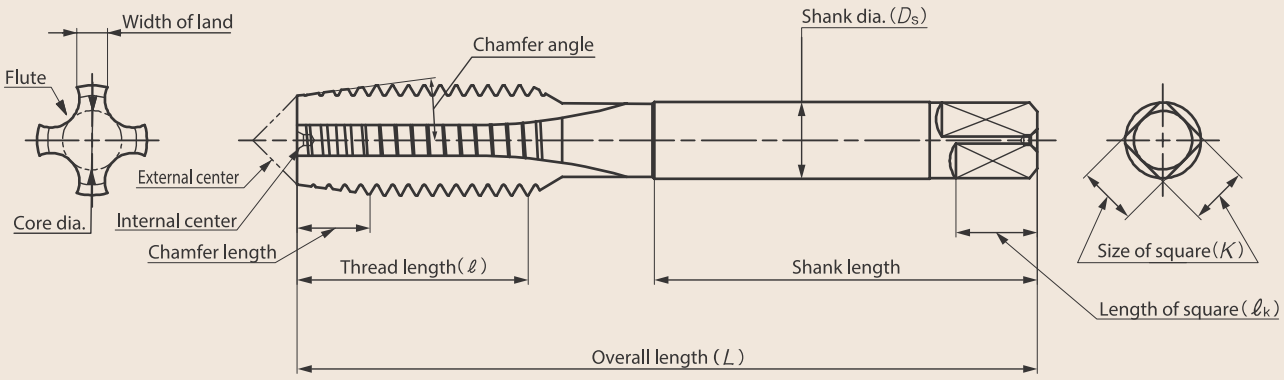
TECHNICAL INFORMATION

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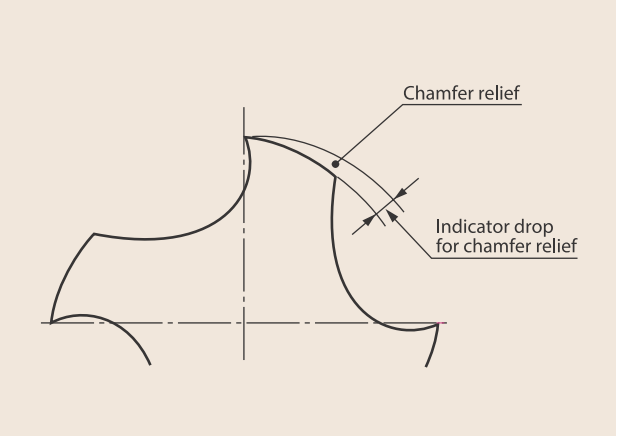
・For improvement, spec may change without advance notice.

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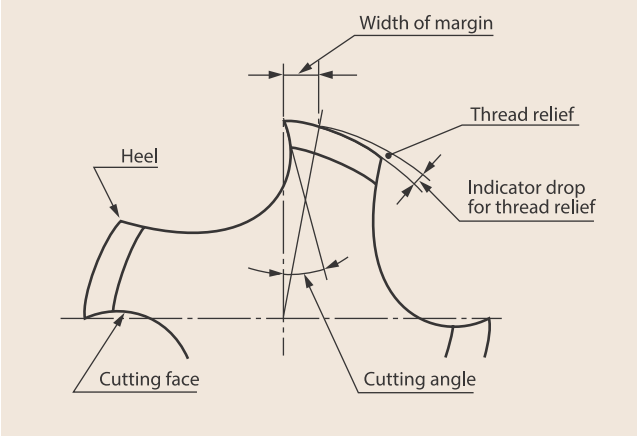
1. Terminology of Taps



■Chamfer relief

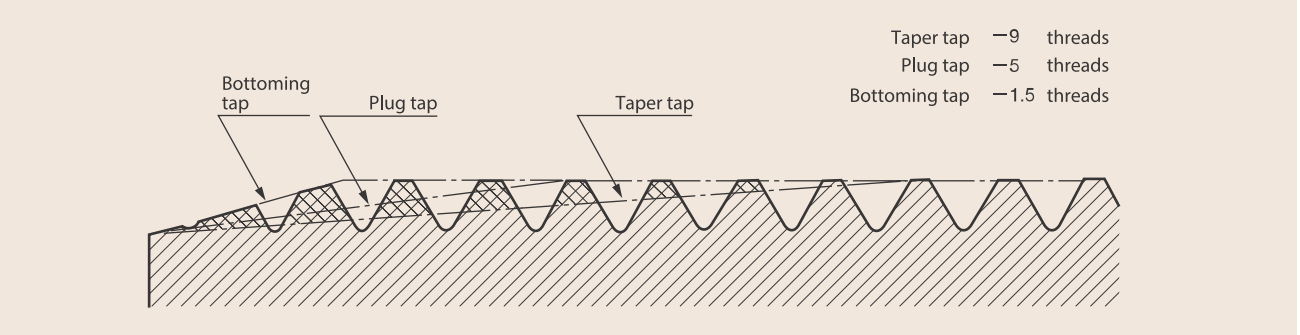


■Thread relief and cutting angle



Edge angle, including chamfer relief, thread relief, cutting angle and others, as well as heat treatment, have important functions affecting workpiece shape, tool life, surface finish of internal screw thread, and so on.

■Chamfer of hand tap



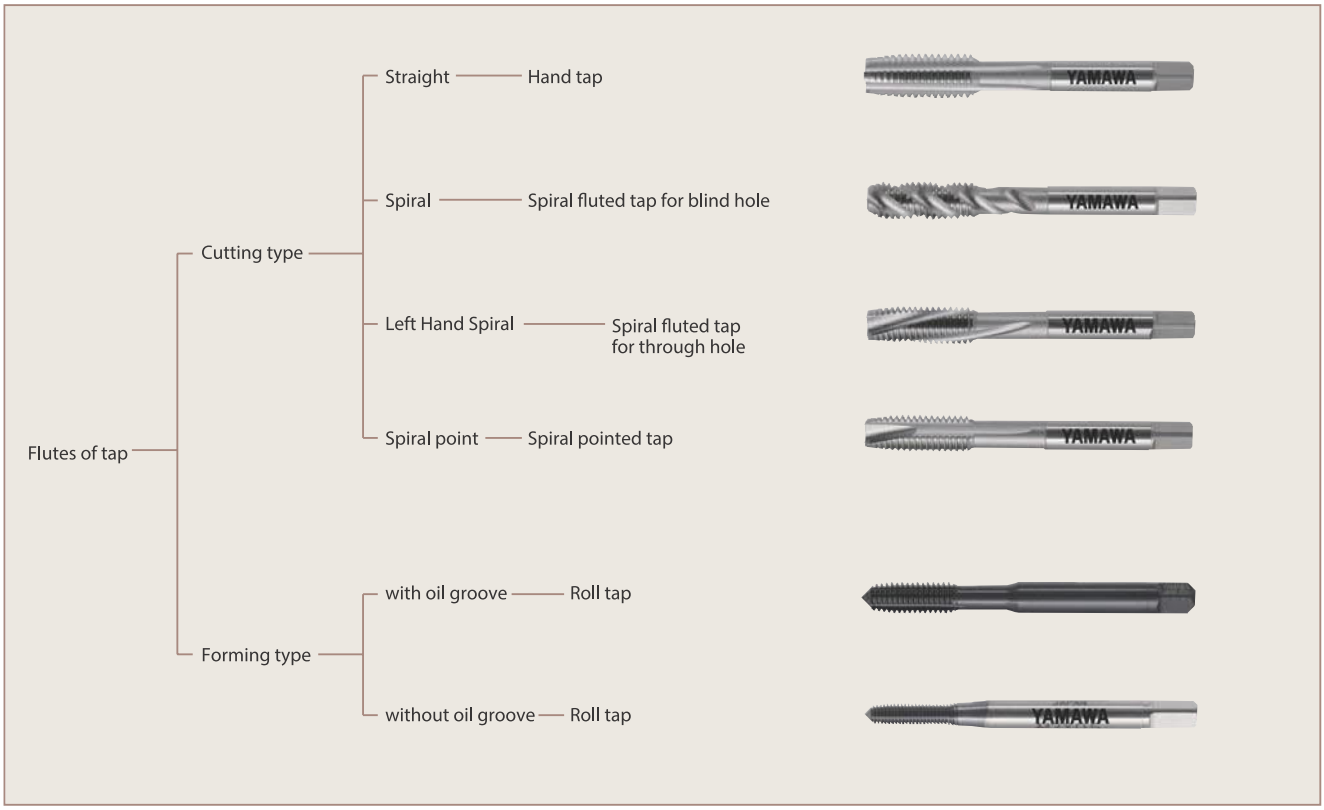
In general, tap chamfer is the most important part of taps to create internal thread. The function of full thread part of taps is to make a guidance.

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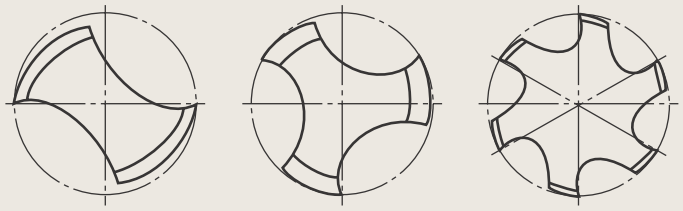
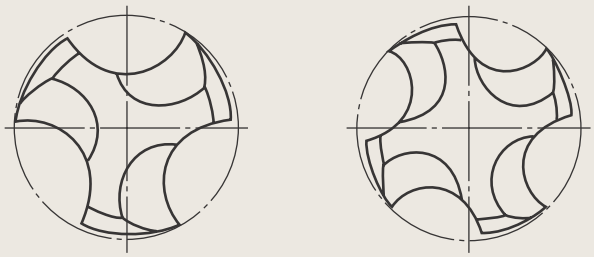
2. Flutes

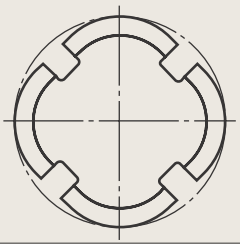
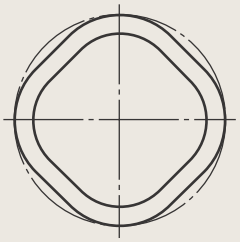
Major functions of flutes are :

1) Chips' pocket, 2) lubricant supply route, 3) rake angle formation, 4) to determine cutting amount in relation to the number of chamfer threads. And all are very important. Taps' flutes are classified into following groups by tapping methods, fluting method, tapping direction, and hand of screw thread.



Type of Flute

Flute \ Type of Taps	Cutting type
Straight Flute Spiral Flute	
Spiral Point Flute	

Flute \ Type of Taps	Forming type
With oil groove	
Without oil groove	

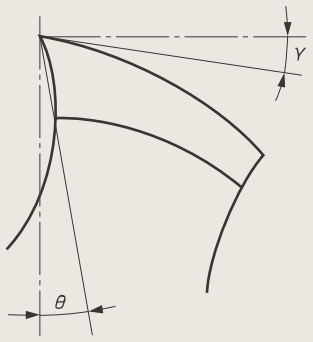
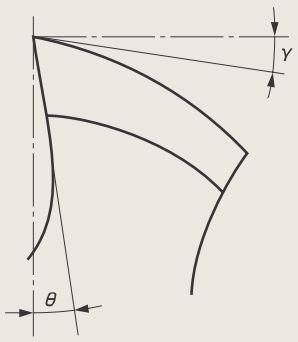
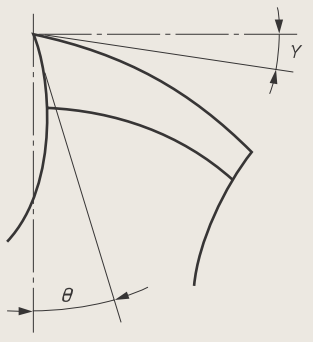
In general, the number of flutes for cutting type taps are usually increased as O.D. becomes larger. However, it is also influenced by tap's strength and rigidity, the accommodation of chip, the amount of cutting, and lubricant supply system.

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3. Edge angle and Cutting allowance of taps

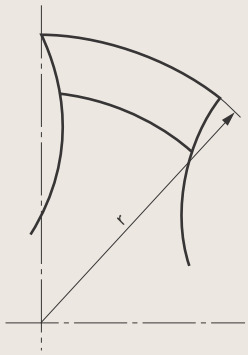
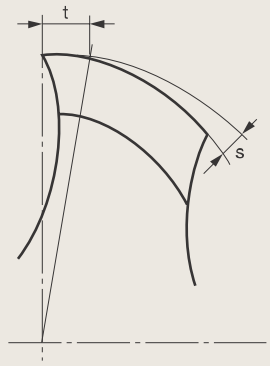
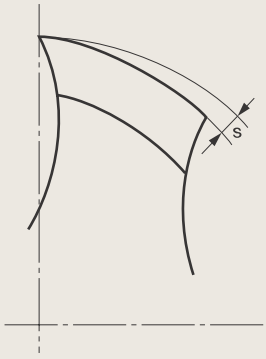
Cutting angle and Chamfer relief angle

θ : Cutting angle γ : Chamfer relief angle

Chordal Hook Angle	Rake Angle	Tangential Hook Angle
		
Cutting angle of hook face. The angle between the center line passing the cutting edge and the straight line linking the cutting edge with the thread root.	Cutting angle of rake face. The angle between the center line passing the cutting edge and the straight line linking the cutting edge with thread root.	Cutting angle of hook face. The angle between the center line passing the cutting edge and the straight line tangent to the rake face on the cutting edge.

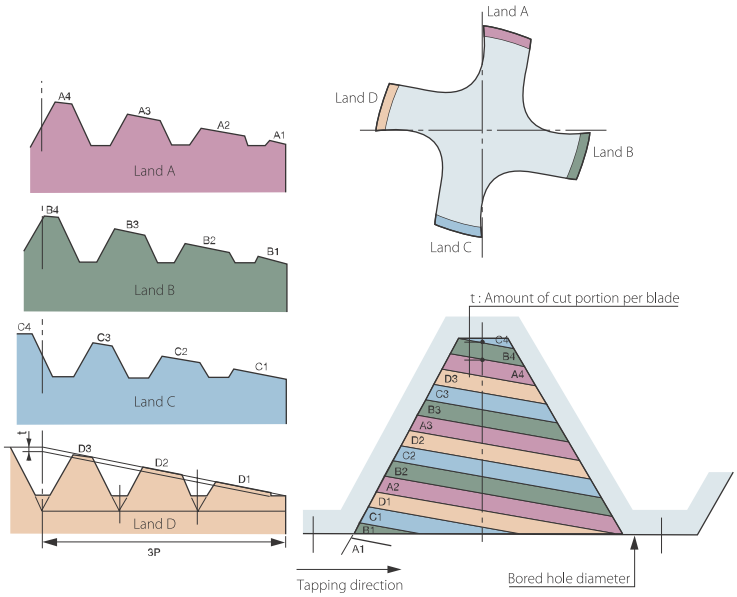
Thread relief

S : Indicator drop for thread relief

Concentric-unrelieved	Con-eccentric thread relief	Eccentric thread relief
		
No relief exists at land. Start (A) and heel (B) of thread land have same concentricity.	Radial relief in the thread form starts at the back of a concentric margin.	Radial relief in the thread form starts at the cutting edge and continues to the heel.

The amount of cut portion

Please refer to the pictures shown.
In such taps as have 4 flutes and 3 thread chamfer, the cutting operation progresses in order from the edge of A1, B1, C1, D1…A2, B2…A4. Tap end is usually smaller than the size of bored hole, and A1 may not make any cutting operation.



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4. Recommended Tapping Speeds

Tapping Speeds

Following usage conditions affect tapping speeds : kind of taps, workpieces, number of chamfered threads, materials, hole condition and fluid. It is necessary to select the suitable tapping speed by paying attention to these conditions.
When work material has excellent workability, when there is a little depth of tapping, or when tapping fluid can be sufficient, select rather higher tapping speed. When workability of work material is unknown, to be safe, try nearly the lowest tapping speed at first, and then increase the speed gradually.

* Following speed is basically for the cutting condition under the use of insoluble cutting oil. Under the use of water soluble cutting oil, please choose 30% slower speed.

Unit : m/min

Workpiece Materials		Tapping Speed				
		Spiral Fluted	Spiral Pointed	Roll Taps	Straight Fluted	Cemented Carbide
Low Carbon Steels	SS400 S10C～S25C	8～15	10～20	8～15	6～10	—
Medium Carbon Steels	S25C～S45C	6～12	8～14	7～12	5～9	—
High Carbon Steels	S45C～S58C	5～10	8～12	5～10	5～8	—
Alloy Steels	SCM・SNCM	5～10	7～10	5～10	5～8	—
Thermal refined steels	20～45HRC	3～5	4～7	—	3～6	—
Stainless Steels	SUS	3～8	4～9	6～15	3～7	—
Tool Steels	SKD	5～8	6～10	—	5～9	—
Cast Steels	SC	6～10	8～13	—	6～10	—
Cast Irons	FC	—	—	—	12～17	15～25
Ductile Cast Irons	FCD	5～10	5～10	—	5～8	12～20
Coppers	Cu	8～12	8～13	25～35	7～11	15～33
Brass・Brass Casting	Bs・BsC	11～22	13～25	25～35	10～20	23～33
Phosphor Bronze・Phosphor Bronze Casting	PB・PBC	8～15	10～18	25～35	8～15	18～33
Wrought Aluminum	Al	15～25	20～25	25～35	15～20	23～40
Aluminum Alloy Castings	AC・ADC	11～22	12～24	15～25	10～20	15～25
Magnesium Alloy Castings	MC	7～15	10～20	—	7～15	12～20
Zinc Alloy Diecastings	ZDC	7～15	10～20	15～25	7～15	12～20
Thermosetting Plastic	Bakelite (Phenol-PF)	11～17	12～18	—	10～15	15～25
Thermoplastic resin	PVC, Nylon	11～17	12～18	—	10～15	15～25
Titanium Alloys	Ti-6Al-4V etc	6～9	6～9	—	—	—
Nickel Base Alloys	Hastelloy, Inconel, Waspaloy	3～6	3～6	—	—	—

Formula

Tapping Speed (Vc)

$$Vc = \frac{\pi \cdot Dc \cdot n}{1000} \ (m/min)$$

n : Revolution Speed of tap (min^{-1})
π : 3.14
Dc : Nominal dia. of tap (mm)

Revolution Speed of tap (n)

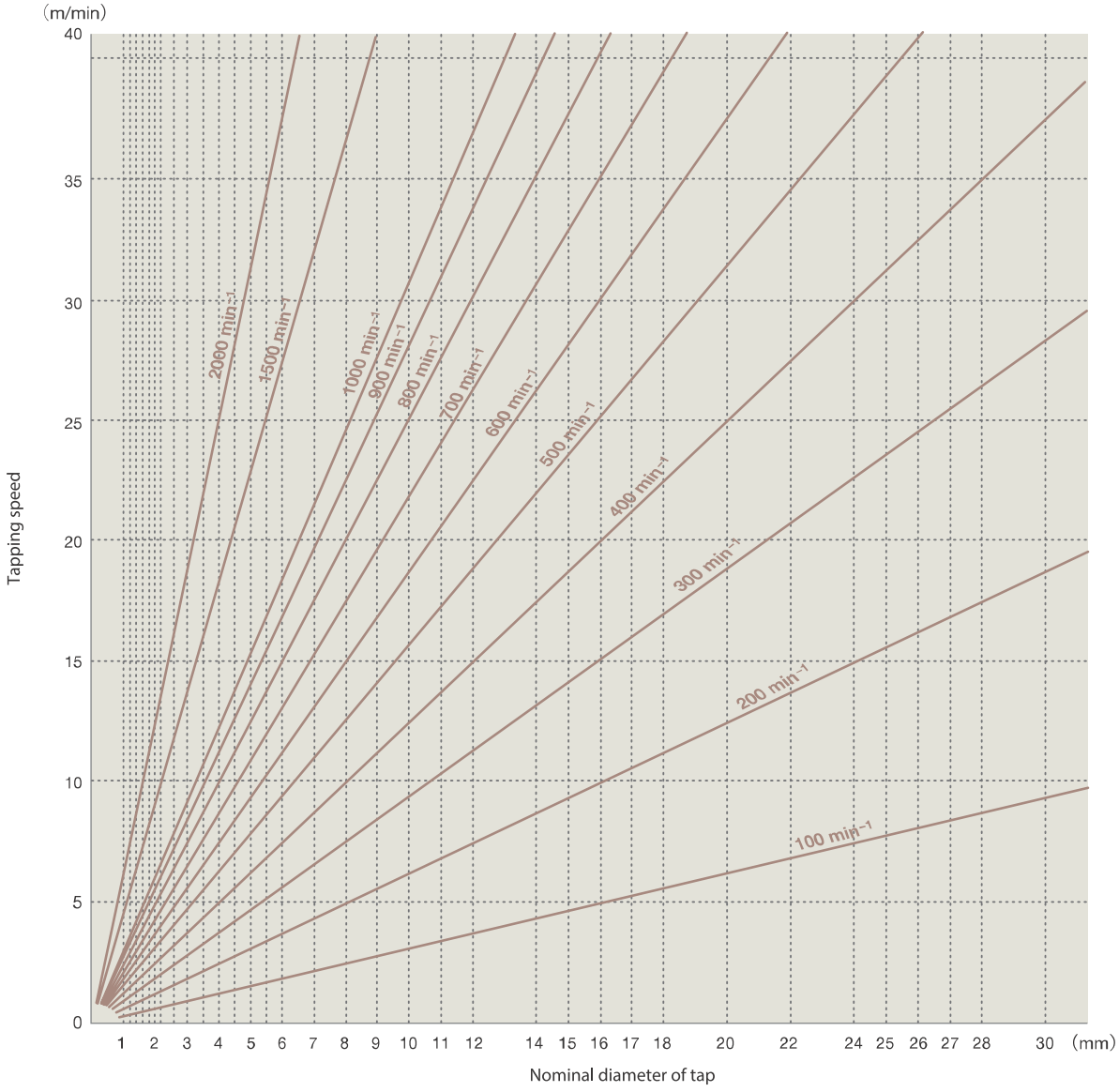
$$n = \frac{1000 \cdot Vc}{\pi \cdot Dc} \ (min^{-1})$$

Vc : Tapping Speed (m/min)
Dc : Nominal dia. of tap (mm)
π : 3.14

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5. Tapping speed and Revolution Speed

Conversion table



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6. Tapping Torque

■Tapping Torque of Cutting type Taps

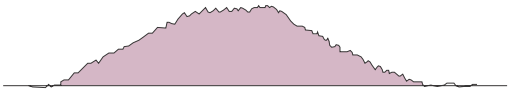
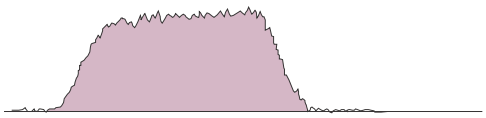
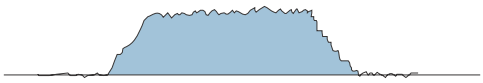
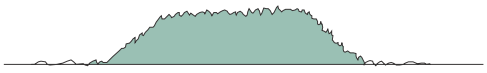
The torque starts increasing as the threads of chamfer enter the workpiece material. It becomes highest when all threads of chamfer cut into workpiece material, and is in plateau until the chamfer cuts through the workpiece. After that, the torque will decrease until the end of tapping.

■Cutting Torque Line

Cutting torque lines in the test of different kinds of taps, hand tap, spiral fluted tap, spiral pointed tap are shown below.

Tapping Condition

Tap : HSS P2 M8×1.25	Bored hole size : 6.8mm
Cutting speed : 6.1m/min	Cutting oil : Water insoluble oil
Workpiece material : S50C	Machine : Drilling machine
Tapping type : 10mm Through hole	Measurement equipment : Piezoelectric torque tester

Type of tap		Torque lines	Description
Hand tap (P2)	Taper tap (9 threads)		Gentle slope is observed because of less cutting by each cutting chamfer, but longer tapping time is taken than in the other hand taps.
	Plug tap (5 threads)		Plateau is observed since whole chamfer threads enter the workpiece material. Tapping time is much shorter than that of the taper tap.
	Bottoming tap (1.5 threads)		Plateau is also observed since whole short chamfer threads enter the workpiece material. Tapping process time is shorter than that of the plug tap.
Spiral fluted tap (P2, 2.5 threads)			Spiral fluted tap pulls out the chips, good choice for blind hole tapping. The cutting torque of spiral fluted taps is smaller than that of the hand taps.
Spiral pointed tap (P2, 5 threads)			Spiral pointed tap pushes out the chips forward. It is good choice for through hole use. Cutting torque is smallest in all taps.

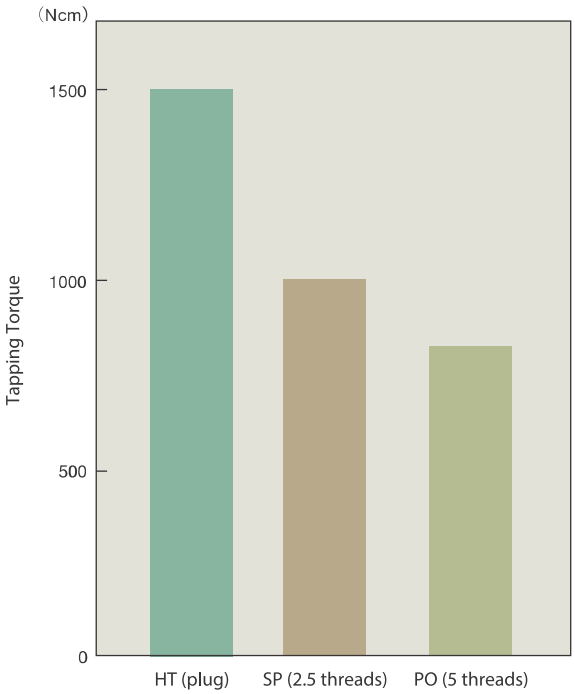
The cutting torque will change depending on the kind of taps, cutting chamfer, number of flutes, workpiece materials and their hardness, lubrication types, and chips.

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6. Tapping Torque

Comparison of Cutting Torque by Different Type of Taps

Cutting torque of hand tap (HT), and spiral fluted tap (SP), and spiral pointed tap (PO) differs, shown in the chart below.



Tapping Condition

Tap : HSS P2 M10×1.5
Cutting speed : 10m/min
Workpiece material : S50C
Hole condition : 20mm through hole
Bored hole size : ϕ8.5, drill
Lubrication : Water insoluble oil
Machine : Radial drilling machine
Measurement equipment : Piezoelectric torque tester

If the cutting torque of hand tap is assumed as 100, the cutting torque of other taps is as follows :

Hand Tap : 100
Spiral fluted Tap : 70~75
Spiral Pointed Tap : 60~65

Tapping Torque of Forming type Taps

Calculation for Tapping Torque of Roll Taps

○It is hard to calculate tapping torque for roll taps because they contain more complicated factor than the cutting taps.
According to our experience, tapping torque of roll taps is twice or three times larger than that of the cutting taps in general.
○Major factors increasing or decreasing tapping torque of roll taps are :
(1) Mechanical characteristic of workpiece (Tensile strength, hardness, spring back feature, work hardening index) : As the tensile strength gets larger, the threading torque becomes larger.
(2) Size and length of bored hole: Bored hole size is usually defined to obtain 75% thread height of basic thread profile. Roll taps may be shuttered due to the excessive tapping torque when the bored hole size is made smaller to obtain higher thread height. Tapping torque gets larger as the efficient length of internal screw becomes longer because there is an increase in friction coefficient caused by spring back of workpiece material.
(3) Tapping process (tapping speed, lubricant, and rigidity of main spindle).
(4) Surface treatment of taps (oxidizing, nitriding, TiN, and TiCN coatings).

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○Tapping Torque Equation for Forming Taps

Based on the tensile strength of workpiece material, we prepare following equation to obtain tapping torque of standard forming taps.
Condition : Effective length of internal screw is 1.5D. Thread height is 75%.

Tapping Torque Equation for Forming Taps

$$T = Kf \times Dc \times P^2/1000$$

T : Tapping Torque (Nm)
Dc : Nominal Diameter of Tap (mm)
P : Pitch (mm)
Kf : Deforming resistance (N/mm^2)

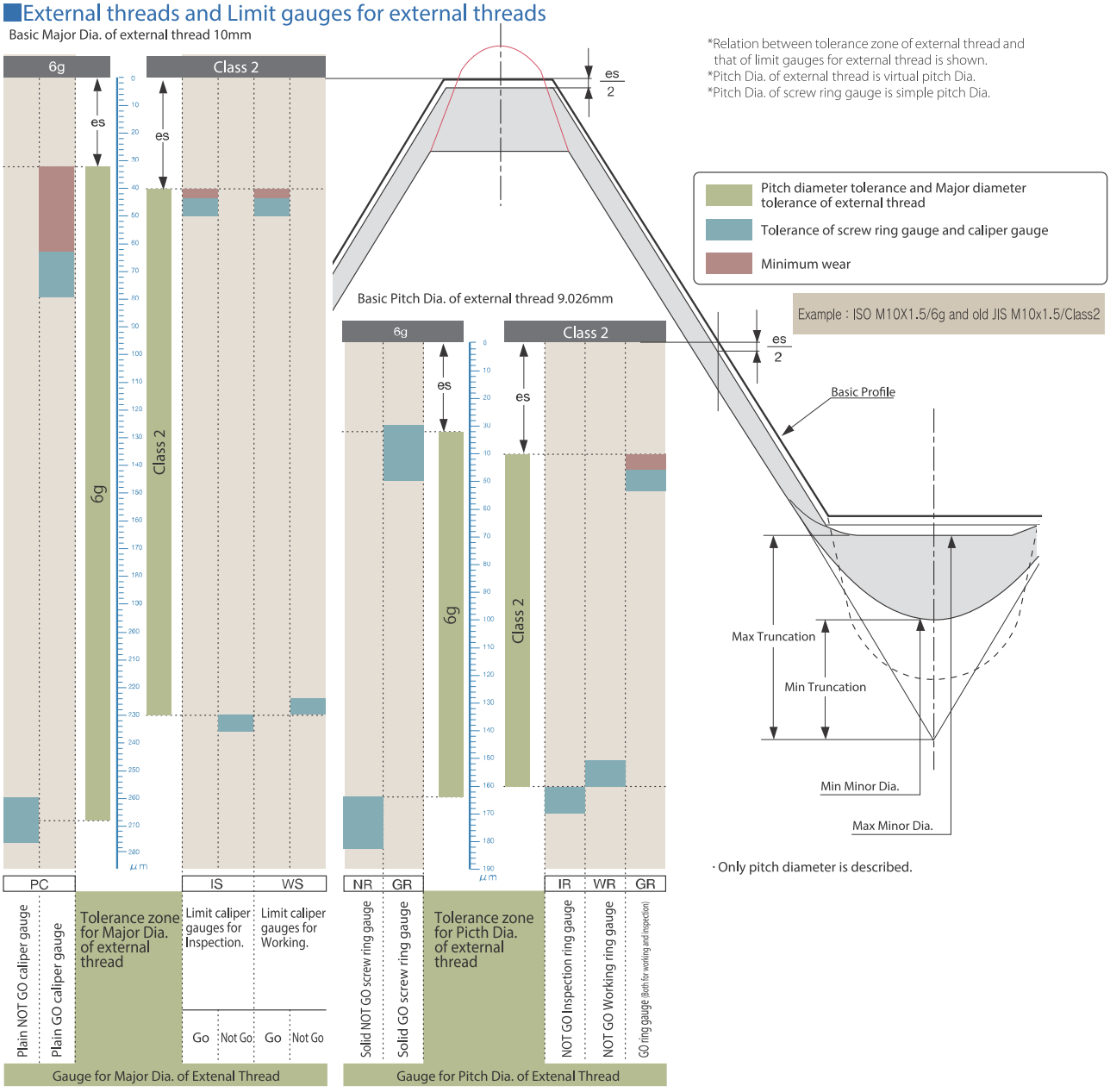
Workpiece Materials	Deforming resistance (N/mm^2)
General Structure Steels, Low Carbon Steels	750～850
Medium Carbon Steels, Alloy Steels	1150～1350
Stainless Steels	1100～1300
Wrought Aluminum	250～350
Aluminum Die Castings	380～530
Coppers, Wrought Copper Alloys	750～1050

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7. Metric Thread and Gauge Profile

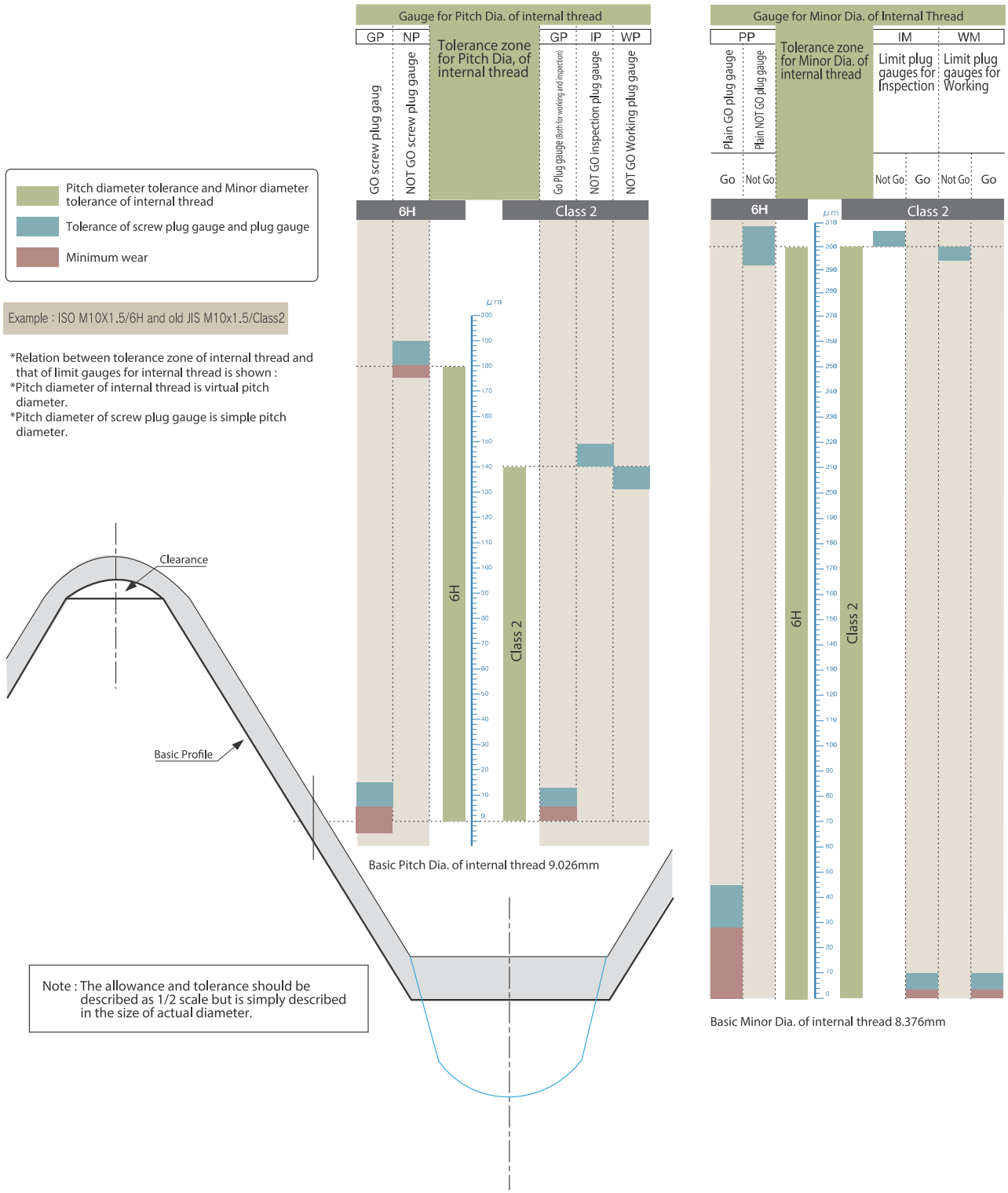
Relation of tolerance position between screw thread classes and thread gauge classes in ISO(new JIS) and old JIS standard.

External threads and Limit gauges for external threads



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Internal threads and Limit gauges for internal threads



- Limit gauges for screw threads

JIS B 0251-2008 Limit gauges for metric screw threads

JIS B 0251-1975 Limit gauges for metric coarse screw threads Appendix

JIS B 0252-1996 Limit gauges for metric fine screw threads

JIS B 0253-1985 Gauges for taper pipe threads

JIS B 0254-1985 Gauges for parallel pipe threads

JIS B 0255-1975 Limit gauges for unified coarse screw threads

JIS B 0256-1975 Limit gauges for unified fine screw threads

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8. Length of engagement

Length of engagement

Thread tolerance class is chosen in consideration of "engagement classification" and "engagement length". To realize the stable tapping, it is necessary to fully understand the relation between these factors and to choose the suitable tolerance class.

On "engagement classification: middle", the tolerance class 6H is almost always chosen for standard internal threads. However, in case of "engagement length : L", tolerance class 7H can also be chosen.

On M12x1.75, the tolerance of 7H is 25% (50μm) larger than that of 6H. And this widens the selection range of the tolerance class for taps to customer's advantage.

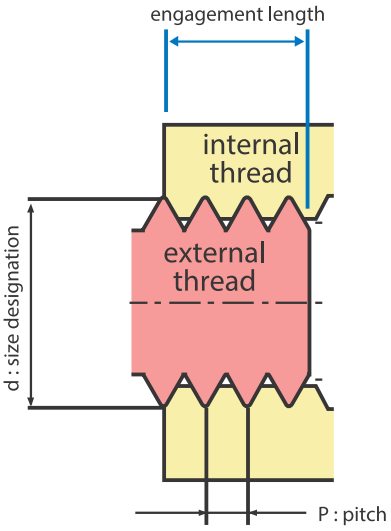
【M12x1.75】
6H Pitch diameter : 10.863 ~ 11.063mm (tolerance 0.200 mm)
7H Pitch diameter : 10.863 ~ 11.113mm (tolerance 0.250 mm)

1) Engagement classification

classification	application
fine	precise screw threads with a little allowance
middle	standard screw threads used for machines, apparatuses and constructions bodies
coarse	screw threads used for construction and building installation, and screw threads for which threading operation is very difficult such as threading of hot rolled steel bars.

2) Classification of engagement length

symbol	classification	limit size
S	short	up to and including $2.24Pd^{0.2}$
N	normal	over $2.24Pd^{0.2}$ up to and including $6.7Pd^{0.2}$
L	long	over $6.7Pd^{0.2}$



3) Selection rule of internal threads and external threads
Selection rule of the tolerance class of internal threads

tolerance position	H		
engagement length / engagement classification	S	N	L
fine	4H	5H	6H
middle	5H	6H	7H
coarse	-	7H	8H

Selection rule of the tolerance class of external threads

tolerance position	h			g		
engagement length / engagement classification	S	N	L	S	N	L
fine	(3h4h)	4h	(5h4h)	-	-	-
middle	(5h6h)	6h	(7h6h)	(5g6g)	6g	(7g6g)
coarse	-	-	-	-	8g	(9g8g)

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4) Engagement length

Unit : mm

size	pitch	S	N		L
		up to and including	over	up to and including	over
M1	0.25	0.6	0.6	1.7	1.7
M1	0.2	0.5	0.5	1.4	1.4
M1.1	0.25	0.6	0.6	1.7	1.7
M1.1	0.2	0.5	0.5	1.4	1.4
M1.2	0.25	0.6	0.6	1.7	1.7
M1.2	0.2	0.5	0.5	1.4	1.4
M1.4	0.3	0.7	0.7	2	2
M1.4	0.2	0.5	0.5	1.4	1.4
M1.6	0.35	0.8	0.8	2.6	2.6
M1.6	0.2	0.5	0.5	1.5	1.5
M1.8	0.35	0.8	0.8	2.6	2.6
M1.8	0.2	0.5	0.5	1.5	1.5
M2	0.4	1	1	3	3
M2	0.25	0.6	0.6	1.9	1.9
M2.2	0.45	1.3	1.3	3.8	3.8
M2.2	0.25	0.6	0.6	1.9	1.9
M2.5	0.45	1.3	1.3	3.8	3.8
M2.5	0.35	0.8	0.8	2.6	2.6
M3	0.5	1.5	1.5	4.5	4.5
M3	0.35	1	1	3	3
M3.5	0.6	1.7	1.7	5	5
M3.5	0.35	1	1	3	3
M4	0.7	2	2	6	6
M4	0.5	1.5	1.5	4.5	4.5
M4.5	0.75	2.2	2.2	6.7	6.7
M4.5	0.5	1.5	1.5	4.5	4.5
M5	0.8	2.5	2.5	7.5	7.5
M5	0.5	1.5	1.5	4.5	4.5
M5.5	0.5	1.5	1.5	4.5	4.5
M6	1	3	3	9	9
M6	0.75	2.4	2.4	7.1	7.1
M7	1	3	3	9	9
M7	0.75	2.4	2.4	7.1	7.1
M8	1.25	4	4	12	12
M8	1	3	3	9	9
M8	0.75	2.4	2.4	7.1	7.1
M9	1.25	4	4	12	12
M9	1	3	3	9	9
M9	0.75	2.4	2.4	7.1	7.1

size	pitch	S	N		L
		up to and including	over	up to and including	over
M10	1.5	5	5	15	15
M10	1.25	4	4	12	12
M10	1	3	3	9	9
M10	0.75	2.4	2.4	7.1	7.1
M11	1.5	5	5	15	15
M11	1	3	3	9	9
M11	0.75	2.4	2.4	7.1	7.1
M12	1.75	6	6	18	18
M12	1.5	5.6	5.6	16	16
M12	1.25	4.5	4.5	13	13
M12	1	3.8	3.8	11	11
M14	2	8	8	24	24
M14	1.5	5.6	5.6	16	16
M14	1	3.8	3.8	11	11
M15	1.5	5.6	5.6	16	16
M15	1	3.8	3.8	11	11
M16	2	8	8	24	24
M16	1.5	5.6	5.6	16	16
M16	1	3.8	3.8	11	11
M17	1.5	5.6	5.6	16	16
M17	1	3.8	3.8	11	11
M18	2.5	10	10	30	30
M18	2	8	8	24	24
M18	1.5	5.6	5.6	16	16
M18	1	3.8	3.8	11	11
M20	2.5	10	10	30	30
M20	2	8	8	24	24
M20	1.5	5.6	5.6	16	16
M20	1	3.8	3.8	11	11
M22	2.5	10	10	30	30
M22	2	8	8	24	24
M22	1.5	5.6	5.6	16	16
M22	1	3.8	3.8	11	11
M24	3	12	12	36	36
M24	2	8.5	8.5	25	25
M24	1.5	6.3	6.3	19	19
M24	1	4	4	12	12

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9. Classes of Internal Threads and Classes of Taps

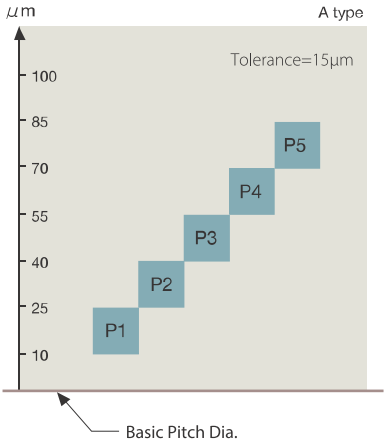
1. YAMAWA P Class System

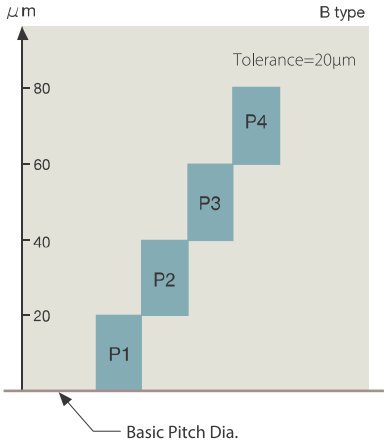
YAMAWA P Class system for thread limits is specified in accordance with JTA (The Japan Solid Cutting Tools' Association). Pitch diameter tolerance zones for normal size M1～M52 (U,W up to 2") are shown in the table below. Depending on pitch diameter tolerance and tolerance position, pitch diameter tolerance zones are classified into three types, A , B and C.
(1) A type : 15μm tolerance. The tolerance of P1, P2, P3… is defined as basic +10～+25μm, +25～+40μm, +40～+55μm and so on, respectively.
(2) B type : 20μm tolerance. The tolerance of P1, P2, P3… is defined as basic +0～+20μm, +20～+40μm, +40～+60μm and so on, respectively.
(3) C type : 40μm tolerance. The tolerance of P2, P3, P4… is defined as basic +0～+40μm, +20～+60μm, +40～+80μm and so on, respectively.
The pitch diameter tolerance zones are defined assuming that tolerance for type C is 40 μm and tolerance for type D type is 60 μm.
YAMAWA P class system is made in a step form. It can be used to select depending on the tapping conditions.

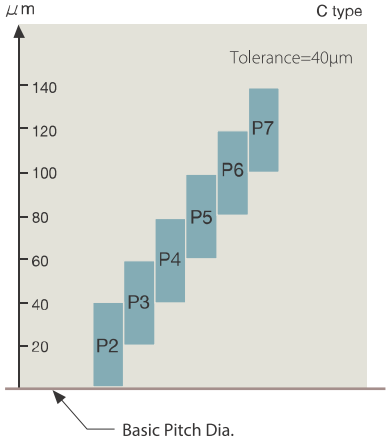
Pitch Tolerance zone for P Class with Nominal size and Pitch

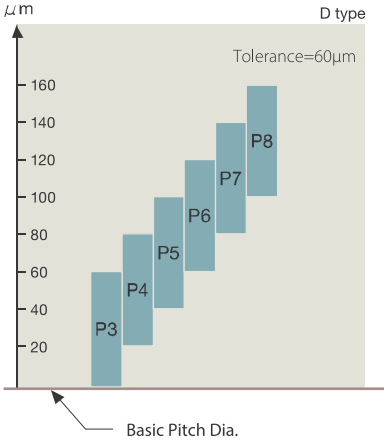
Pitch \ Nominal Size / TPI	1≦D≦24	24<D≦30	30<D≦52	52<D≦96	96<D≦100
	D≦7/8	7/8<D≦1 1/4	1 1/4<D≦2	2<D≦3	–
P≦0.6	A type	–	–	–	–
0.6<P≦1.75	B type	B type	B type	B type	–
P=2	B type	B type	C type	C type	C type
2<P≦5	B type	C type	C type	C type	C type
P=5.5, P=6	–	–	–	D type	D type

This table is for calls on product pages.







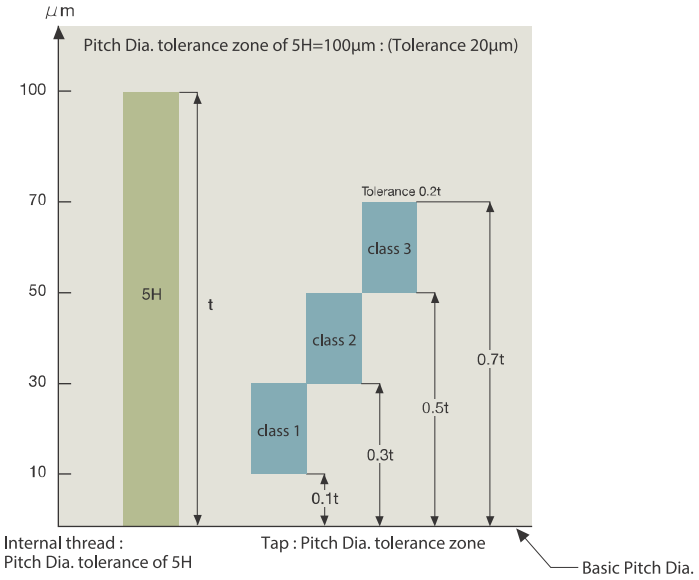


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2. JIS Limit

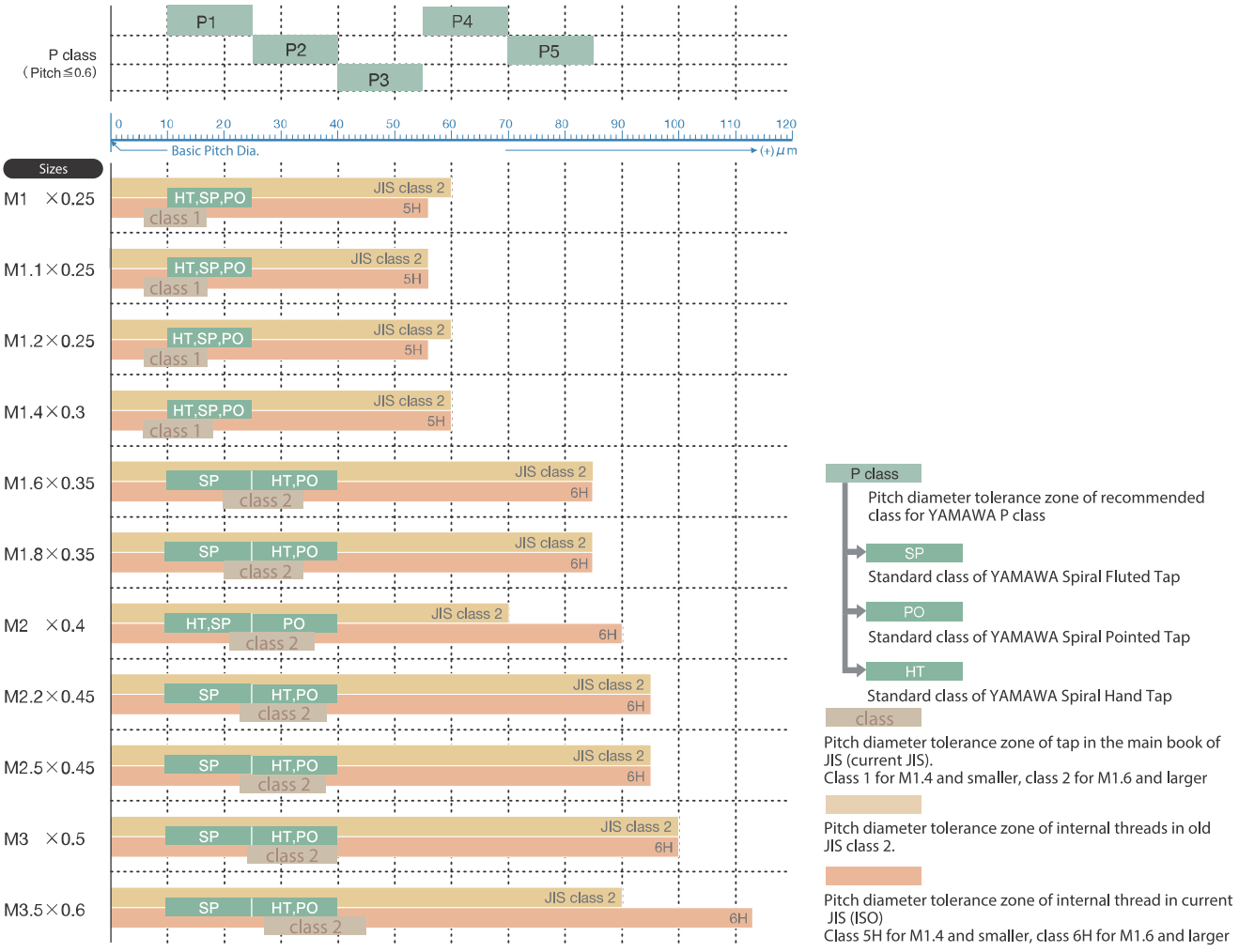
Thread limits of taps for metric threads : Today the thread limits of ISO2857 are specified in the main book of JIS, and those of old 1st class, 2nd class and 3rd class are specified in JIS Appendix. In the thread limits of 1st, 2nd and 3rd classes (old JIS), the pitch diameter tolerances change depending on nominal size and pitch even if the class is same. On the other hand, in the thread limit of ISO2857 (current JIS), the pitch diameter tolerance is same and only the tolerance position changes as far as the nominal size is same.

The tolerance, as shown in the next picture, is specified as X% of internal thread tolerance and it changes depending on nominal diameter and pitch. Thread classes of the main book of JIS will be said to be a system located in the middle of YAMAWA P class and old JIS class. To show clearly, thread limit classification is called Class 1, Class 2 and Class 3 in current JIS, and 1st class, 2nd class and3rd class in old JIS.



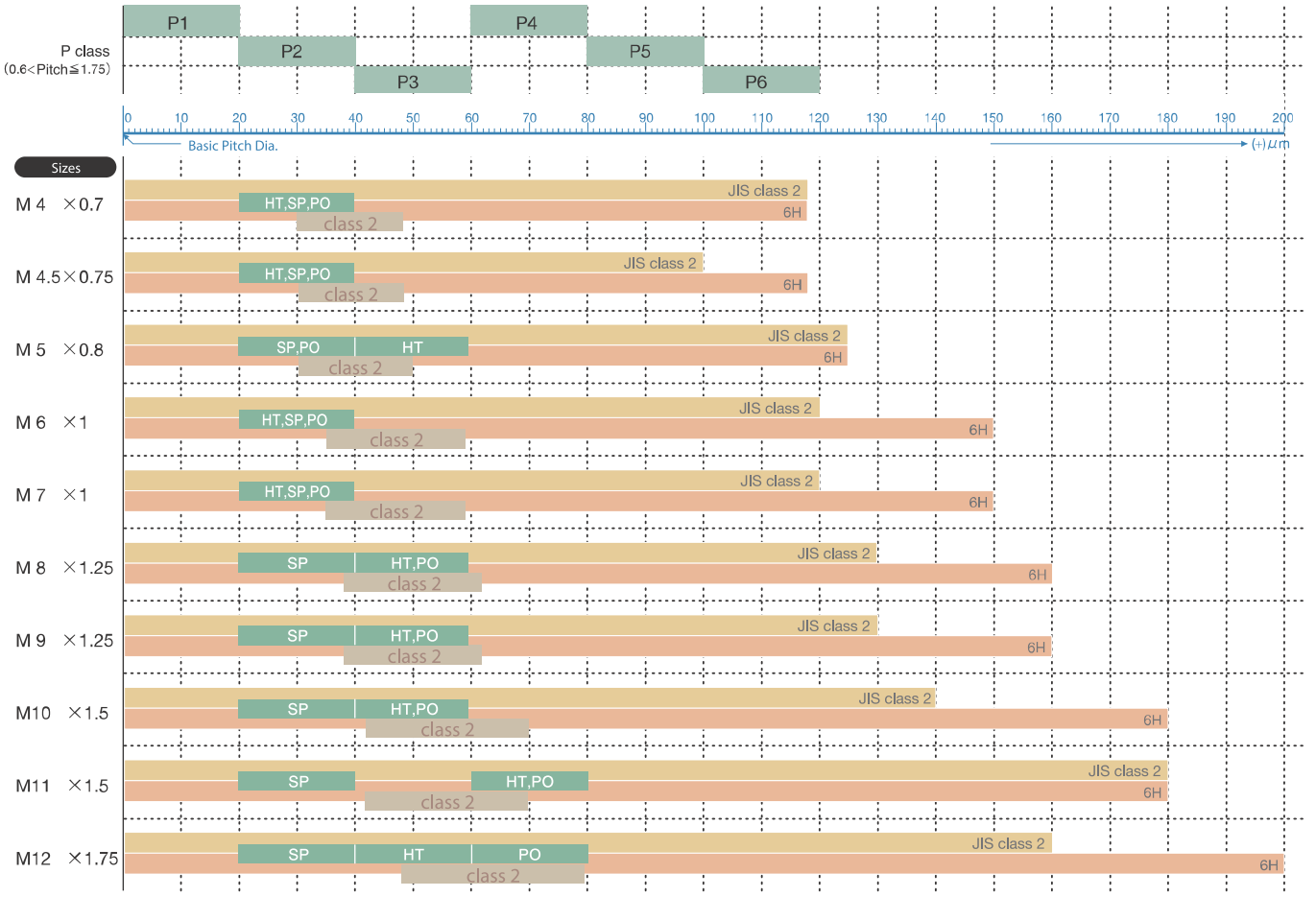
3. Comparison of pitch diameter tolerance zone for the classes of internal thread and tap.

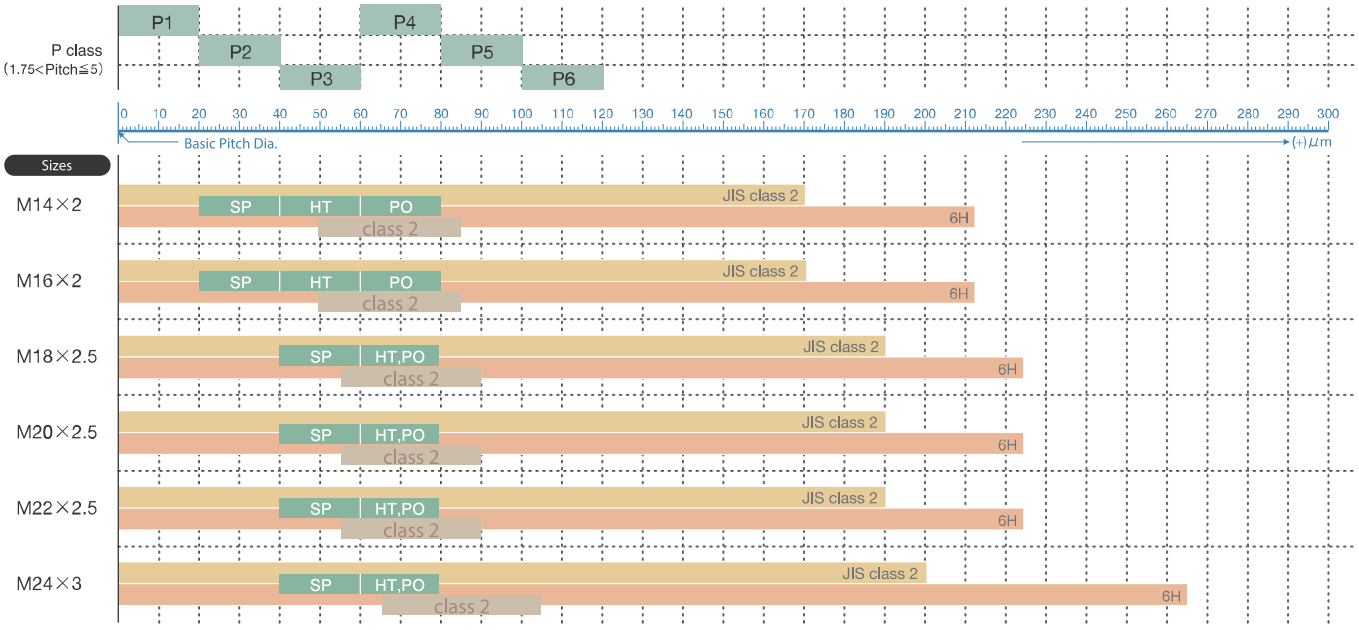
Following graph shows :
In metric coarse threads
(1) Tap limit classes of YAMAWA P class.
(2) Pitch diameter tolerance zone of 2nd class (Tap) of JIS Appendix (old JIS) and that of class 2 (Tap) <class 1 for M1.4 and smaller>of the main book of JIS (current JIS).
(3) Pitch diameter tolerance zone of old JIS 2nd class (Internal thread) and that of JIS 6Hclass (Internal thread) <5H class for M1.4 and smaller>
(4) Pitch diameter tolerance zone of standard classes of YAMAWA P class.



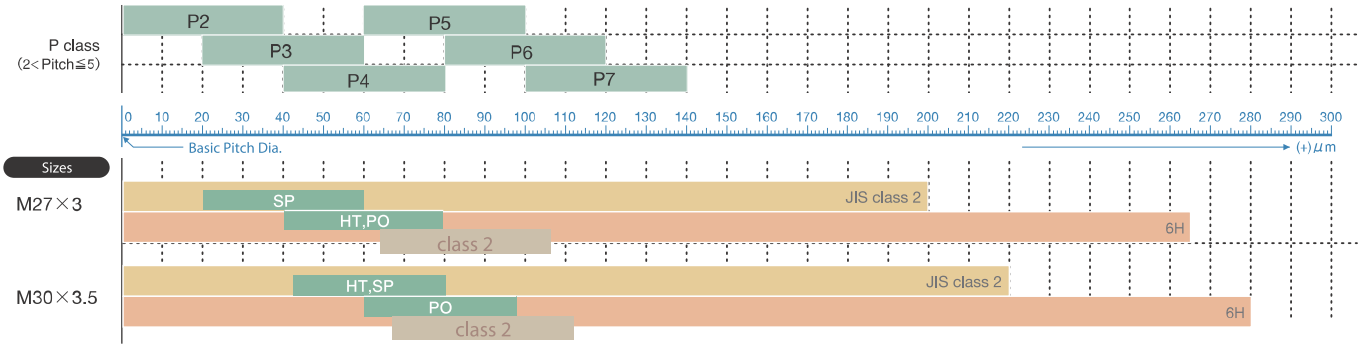
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9. Classes of Internal Threads and Classes of Taps





Think threads with YAMAWA
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4. Standard Class and Oversize

The standard class of the tap which we have been manufacturing for general use is JIS 2nd class. This JIS 2nd class is basically defined as the thread limit of the tap which can cut the internal thread of old JIS 2nd class. With technical innovation such as various tap classification, high precision tapping machines, workpiece materials and diversity of workpieces' dimension, conventional products having JIS 2nd class could not always satisfy customers' requirement due to following situations.

(1) In cutting taps, the shape of flutes influences the thrust of axial direction. We explain about oversize cutting tendency caused by the thrust force of axial direction by referring to that of Straight fluted hand taps as a basic. Spiral pointed taps have little tendency of oversize cutting, but Spiral fluted taps have a tendency of oversize cutting.

(2) Due to the relation between pitch diameter of JIS 2nd class tap and that of GO thread plug gauge for the internal thread of old JIS 2nd class, if the cutting edge of tap wears normally, threads cut by the tap will become gauge out quickly resulting in short tool life.

(3) Due to the material or shape of workpiece, the material can shrink. In these cases, it would be better to use oversized taps to compensate for shrinkage after tapping.

(4) When plating is to be applied to internal threads after threading, we should use oversized taps to compensate for the thickness amount of plating.

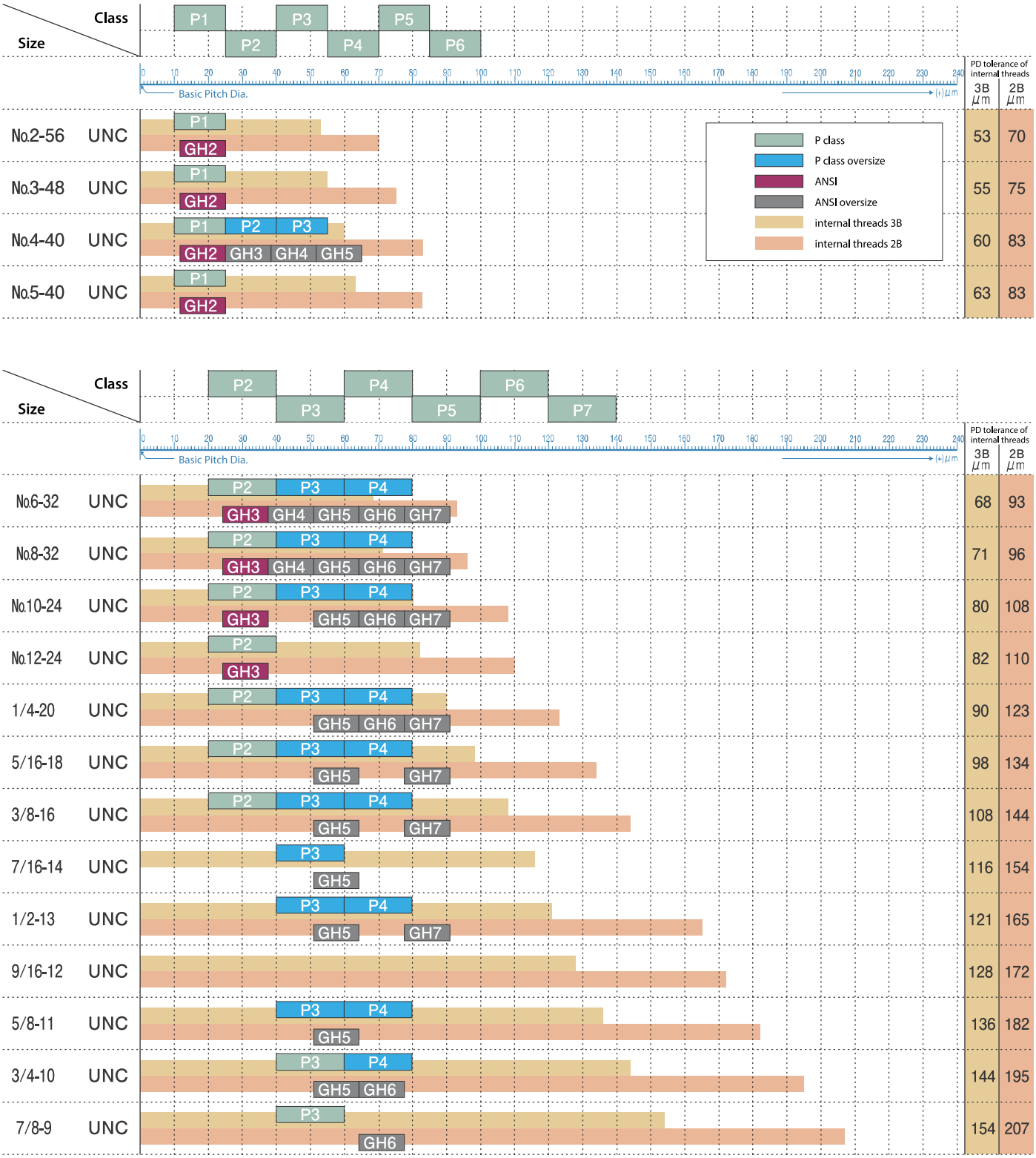
(5) Where little tendency of oversize cutting is expected, but large wear in tools is expected during tapping operation, it is better to consider using oversized taps as much as possible.

From these situations, in spiral pointed taps, spiral fluted taps and various types of special purpose taps, YAMAWA has adopted the P class limit system which is explained in previous pages. Depending on the type and designation of taps, YAMAWA has selected from the P class system the tap's thread limit which the tap manufacturer recommends for general tapping operation. From the reason of (1) stated above, even in the same tap designation, the recommendation for spiral pointed taps is different from that for spiral fluted taps. Especially in the standard products of spiral pointed taps and spiral fluted taps, YAMAWA has specified the recommendation differently in the relation to oversize cutting tendency. Oversize taps mean the taps of which thread limits are oversize above the recommendation. This is due to the reasons (3), (4) and (5) stated above. Usually for oversize taps, YAMAWA recommends the taps which thread tolerance classes are one or two steps above the standard recommendation.

As you can see in the picture drawn in previous pages, the recommendation can be used for cutting JIS (ISO) 6H internal threads.

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5. Comparison of PD tolerances for tap classes for American market, for Yamawa P classes and for unified internal thread classes. (Comparison with SP tap)



Think threads with YAMAWA

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10. About UNJ Threads

UNJ Threads are Unified Threads used for Aircrafts.

<Features of UNJ Threads>

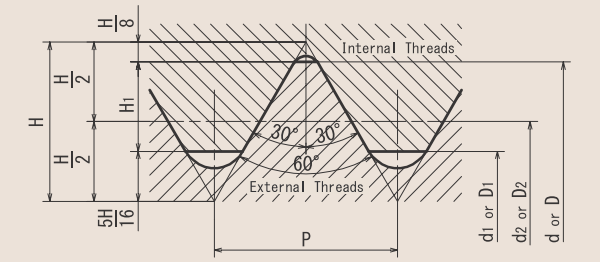
In order to protect the breakage from thread bottom of external threads, UNJ thread defines the minor diameter larger than Unified thread and the range of root bottom R.
And accuracy of threads is only defined in highest classes of unified threads, 3A of external threads and 3B of internal threads.
UNJ Threads were initially defined as a MIL Standard (American Military Standard). It is now superseded by American SAE Standard (Automobile Engineers Association).
Standard Numbers are as follows:

SAE AS8879D Screw Threads - UNJ Profile, Inch
Controlled Radius Root with Increased Minor Diameter

<Basic Profile of UNJ Thread>

Basic profile of UNJ thread is shown in the drawing below. Truncation on thread root of external threads is 5H/16, that is, H/16 larger than H/4 of normal Unified Thread's truncation. And radius of thread root is 0.18042P~0.15011P.

■ Basic Profile of UNJ Thread



H =0.866025P
H1 =9H/16
d2 =d−0.649519P
d1 =d−0.974278P

D =d
D2 =d2
D1 =d1
P =25.4/n
n =Threads per inch

【reference】
9H/16 =0.487139P
H/2 (8H/16) =0.433013P
5H/16 =0.270633P
H/8 (2H/16) =0.108253P

<Bored hole size>

Bored hole size is recommended to be a little larger than that for normal unified threads considering that the minor diameter of UNJ series is larger than that of normal Unified Threads.

Unit : mm

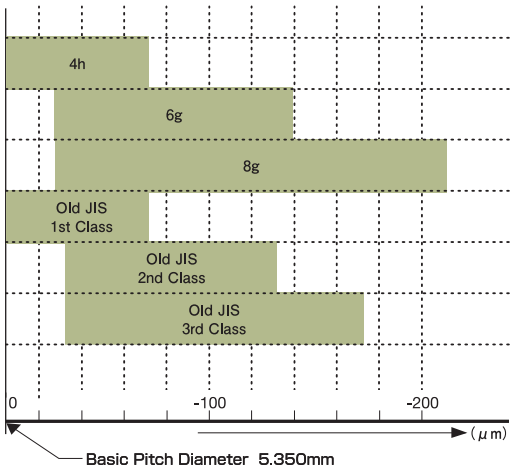
Size	(Reference notation)	Minor Diameter		
		Maximum	Minimum	Bored Hole Size
0.1380-32 UNJC	No.6 - 32 UNJC	2.938	2.734	2.89
0.1380-40 UNJF	No.6 - 40 UNJF	3.053	2.888	3.01
0.1640-32 UNJC	No.8 - 32 UNJC	3.599	3.394	3.55
0.1640-36 UNJF	No.8 - 36 UNJF	3.662	3.480	3.62
0.1900-24 UNJC	No.10 - 24 UNJC	4.064	3.795	4.00
0.1900-32 UNJF	No.10 - 32 UNJF	4.254	4.054	4.20
0.2160-24 UNJC	No.12 - 24 UNJC	4.704	4.456	4.64
0.2160-28 UNJF	No.12 - 28 UNJF	4.815	4.603	4.76
0.2500-20 UNJC	1/4 - 20 UNJC	5.387	5.114	5.32
0.2500-28 UNJF	1/4 - 28 UNJF	5.661	5.467	5.61
0.3125-18 UNJC	5/16 - 18 UNJC	6.832	6.564	6.76
0.3125-24 UNJF	5/16 - 24 UNJF	7.109	6.907	7.06
0.3750-16 UNJC	3/8 - 16 UNJC	8.255	7.979	8.19
0.3750-24 UNJF	3/8 - 24 UNJF	8.679	8.494	8.63
0.4375-14 UNJC	7/16 - 14 UNJC	9.639	9.348	9.57
0.4375-20 UNJF	7/16 - 20 UNJF	10.083	9.876	10.03
0.5000-13 UNJC	1/2 - 13 UNJC	11.094	10.798	11.02
0.5000-20 UNJF	1/2 - 20 UNJF	11.661	11.464	11.61

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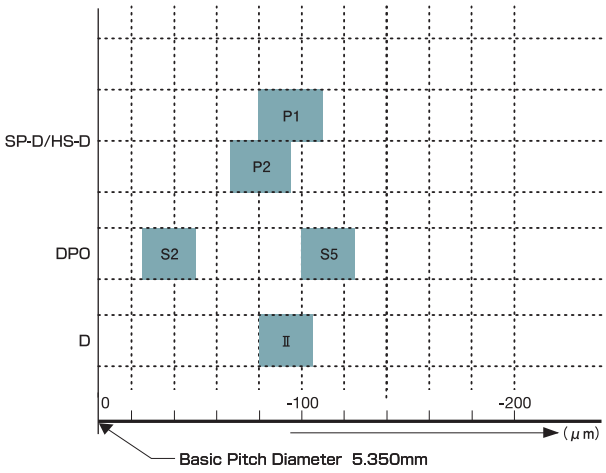
11. Class of external threads and class of Dies

Example : M6X1

Class of external threads



Class of Die



Class of Die shows pitch diameter tolerance of Testpiece External Threads cut by the die.

Dies type	Class of die	Application
SP-D / HS-D	P2	When the target is the middle of the tolerance of Class 2 or 6g external thread
	P1 (Standards)	When the target is the minimum limit size of Class 2 or 6g external thread
DPO	S5 (Standards)	For Class 2 or 6g external thread
	S2	For Class 1 or 4h external thread
D	Ⅱ	For Class 2 or 6g external thread

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12. Guide to Thread Forming Taps (Roll Taps)

Thread Forming Taps are the tools used for producing internal threads by a thread forming process. Currently, YAMAWA's Thread Forming Taps have a good reputation by being used in large area. They are widely used along with the diversity of workpieces and with the change into miniaturization of workpieces. Followings are the characteristics and features of Thread Forming Taps (Roll Tap) which cutting type taps do not have.

<Features of Roll Taps>

○**Tapping without producing chips.** They are suitable for blind hole tapping. In producing internal threads with no chips, they save you a time for chip disposal.

○**Roll taps are stronger than cutting taps due to their design.** The effect of fluteless design gives a large cross-section area to the tap, and there is no worry of chip jamming, which makes Roll taps very tough against breakage.

○**Roll taps produce excellent pitch diameter well within pitch diameter tolerances.** Material deformation process produces the internal threads with good surface finish as well as precise pitch diameter.

○**High efficiency and tool life** The configuration of the lobes at the crests of the tap threads makes high speed tapping possible and extends tool life compared with cutting type taps. The addition of a supplemental tap surface treatment, such as Oxidizing, Nitriding, TiN, and TiCN can extend tool life 2 to 20 times over an uncoated (bright) tap performance.

<Points to note during a Roll tapping operation>

○Tapping torque is 2 to 3 times larger than that of cutting type taps.

○Roll tapping is only applicable to stringy materials.

○The deviation of hole size before tapping should be about 5% of pitch. The control of hole size before tapping should be more severe than that of cutting type taps.

○The selection of lubricants is important to prevent sticking or welding.

○Burrs at the face of an internal thread are larger than those produced by cutting type taps. In some cases it is necessary to take additional counter-sink processing at the top of hole.

○In the minor diameter of internal thread, U-shape form (Tine form) at the hole entrance can be seen. U-shape form is never seen when using cutting type taps.

<Selection of YAMAWA Roll Taps>

○**Types of Roll Taps** YAMAWA produces various types of Roll Taps which include General purpose taps, Special purpose taps for non-ferrous and steel, as well as special purpose taps with surface treatment for the specified applications. To provide for longer tool life, specially developed premium materials are also used together with physical vapor deposition (PVD) such as TiN and TiCN. In particular, OL-RZ is superior product developed for dry machining with good regards to tapping environment and performance.

○**Tap Materials** YAMAWA's standard tap material is SKH58 designed for improving torque, superior anti-friction properties as well as toughness. To extend tool life, we use SKH56, or SKH10(Powder HSS) which is the best tap material for antifriction.

○**Tolerance Class** Using the datum 12.7μm in a step form, in accordance with ANSI standard GH class, we made up YAMAWA's G class system. The differences in materials being Roll tapped, as well as hole size, contribute to differences in thread forming. YAMAWA offers 2 to 3 oversized tap tolerance classes in order to achieve the most suitable internal thread pitch diameter size.

○**Chamfer length** Chamfer lengths : 2 pitches for blind hole use and 4 pitches for through hole use. Basically 4 pitches have longer tool life than 2 pitches because force applied on one blade at 4 pitch chamfer is smaller than that at 2 pitch chamfer. However, it is difficult to say about tool life in a few words because each different tapping condition influences the tool life.

<Shape of internal threads and the ratio of thread engagement affected by bored hole diameter>

Compared with the basic height of thread engagement, the actual height of the thread engagement is called "thread engagement ratio" in percentage.

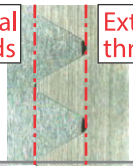
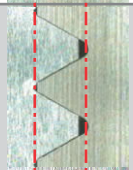
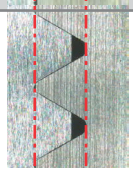
Depending on the bored hole diameter, internal threads and thread engagement ratio will change.

In tapping, the tapping condition must be chosen by referring to the thread engagement ratio.

In tapping, it can reduce cutting space and forming space to make bored hole diameters as large as possible. This, through reducing the load on taps, can restrict tap's wear and damage.

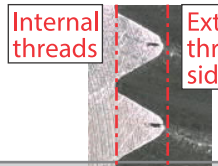
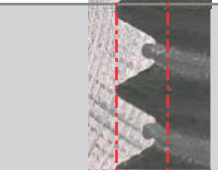
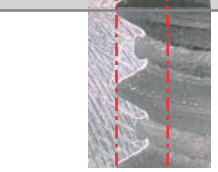
S50C, minor diameter of threads cut

M24x3
minor dia. tolerance of internal threads
ϕ20.752~ϕ21.252

【S50C internal threads cut ①】 M24x3 bored hole size : ϕ20.652 minor dia. tolerance of internal threads NG thread engagement ratio : 103.1%	
【S50C internal threads cut ③】 M24x3 bored hole size : ϕ21.000 minor dia. tolerance of internal threads: Middle thread engagement ratio : 92.4%	
【S50C internal threads cut ⑤】 M24x3 bored hole size : ϕ21.352 minor dia. tolerance of internal threads NG thread engagement ratio : 81.5%	

Aluminum, minor diameter of threads formed

M25x2
minor dia. tolerance of internal threads
ϕ22.835~ϕ23.210

【Aluminum, internal threads formed ①】 M25x2 bored hole size : ϕ23.903 minor diameter of finished internal threads : 22.723mm minor dia. tolerance of internal threads NG thread engagement ratio : 105.2%	
【Aluminum, internal threads formed ③】 M25x2 bored hole size : ϕ24.042mm minor diameter of finished internal threads : 23.067mm minor dia. tolerance of internal threads : Middle thread engagement ratio : 89.3%	
【Aluminum, internal threads formed ⑤】 M25x2 bored hole size : ϕ24.240mm minor diameter of finished internal threads : 23.462mm minor dia. tolerance of internal threads NG thread engagement ratio : 71.0%	

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12. Guide to Threads Forming Taps (Roll Taps)

<Condition of use>

○Relation between tapping speed and tapping lubricant depending on work materials.

Work Material		Tapping Speed (m/min)	Tapping lubricant
Aluminum and Aluminum Alloy	Die Cast Materials	15～25	Not water soluble N1 type 4 issue Not water soluble N3 type 8 issue
	Cold Drawn, Cold Forged, Cast	25～35	
Zinc and Zinc Alloy	Die Cast Materials	15～25	
	Cold Drawn, Cold Forged, Cast	25～35	
Copper	Cold Forged, Cast	25～35	
Brass	Cold Drawn, Cold Forged	25～35	
Steel	Mild Steel, Medium Carbon Steel, Stainless Steel	6～15	Not water soluble N3 type 8 issue Not water soluble N4 type 8 issue
	Free Cutting Steel, Soft Magnetic Iron	15～25	

Note : It is necessary to carefully select a suitable tapping speed taking into consideration : machining conditions, style of tap, number of tap chamfered threads, work piece design, material being tapped, hole condition and type of tapping fluid.

<Accuracy of roll taps>

■YAMAWA G class system Thread Forming Taps

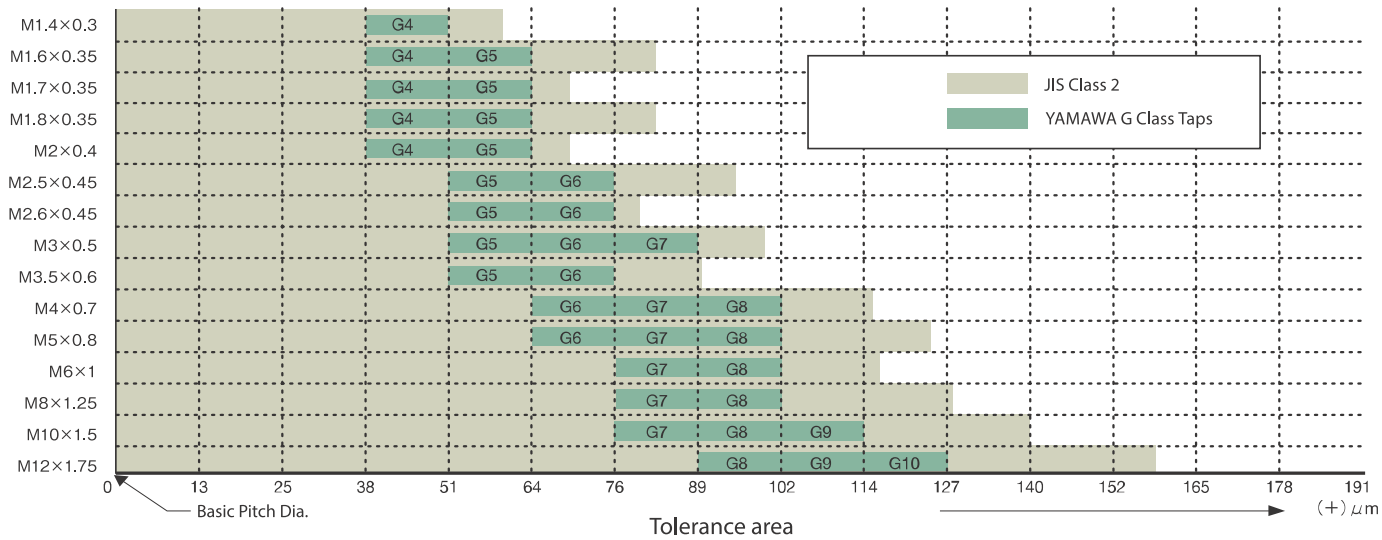
○YAMAWA G class system is made by using the datum 0.0005 inch (12.7μm) in a step form in accordance with ANSI standard GH class.

○The upper deviation of G class is decided by rounding off the grade No.× 12.7 to 1 decimal.

○The lower deviation of G class is specified in the same upper tolerance of one lower step.

○The tolerances are either 12 μm or 13μm.

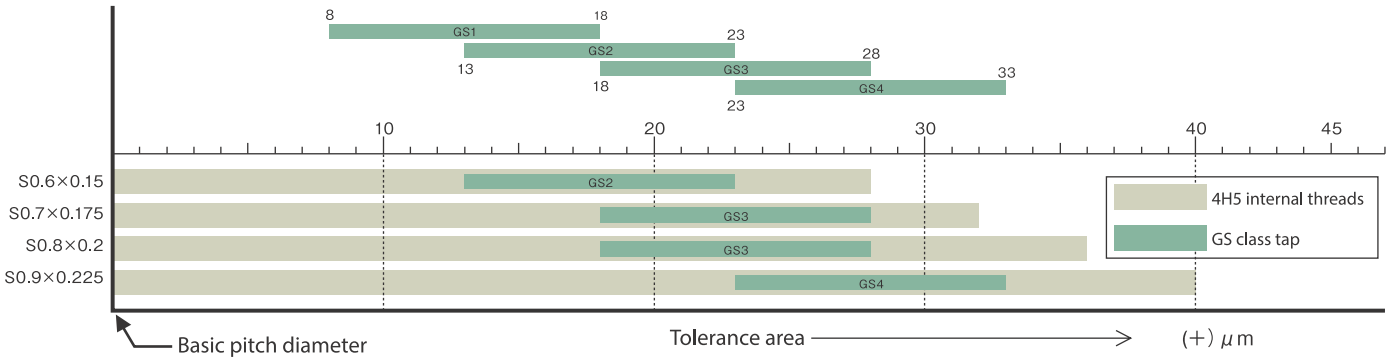
■Comparison of pitch diameter tolerance zone between class 2 internal threads and recommended Roll Taps G Class.



■Roll taps for miniature threads, Accuracy GS class

○GS class is the accuracy class special for roll taps for miniature threads.

Comparison table of PD tolerance of GS class of roll taps for miniature threads and 4H5 internal threads.



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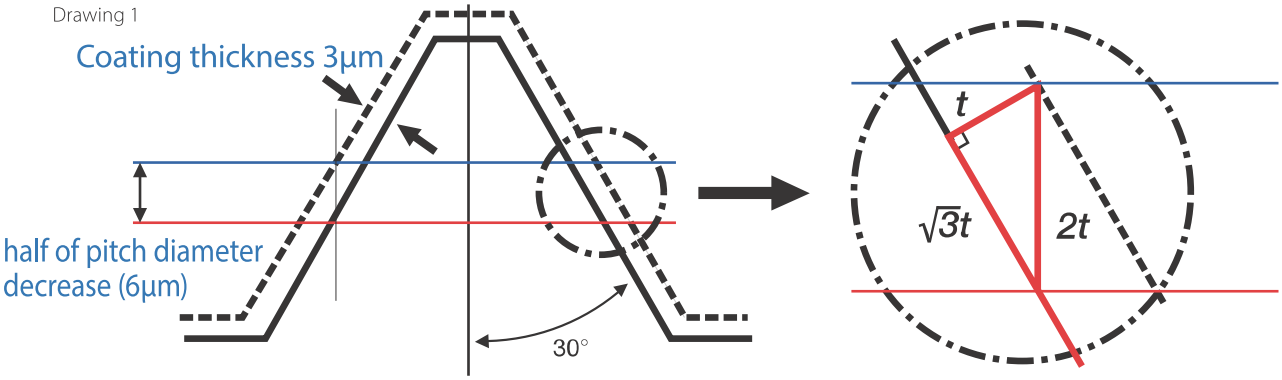
13. How to set the tap's oversize to meet with the coating margin of internal threads

1) Relation between coating thickness and pitch diameter when applied with coating

Dwg.1 shows the relation between coated internal thread and pitch diameter

* Thickness of coating is measured at right angle to flank face. Pitch diameter is measured at right angle to axis (radially).

Drawing 1

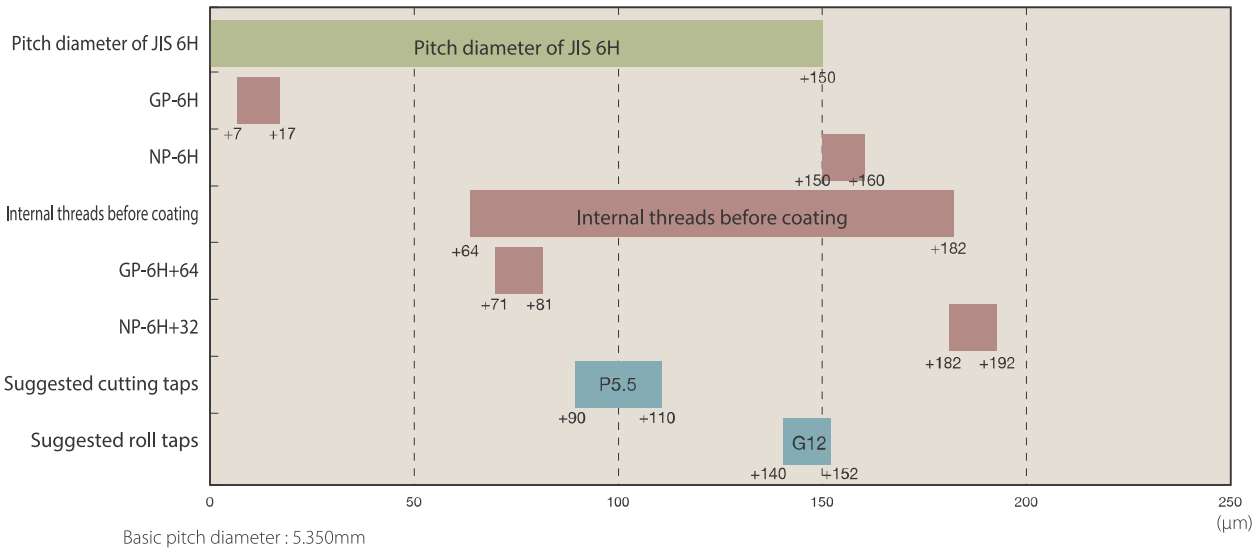


Where t (coating thickness) equals 3μm, by using following formula, oversize is roughly calculated.
Pitch diameter decrease 2t×2 (both side of threads) = 3μm×2×2 =12 μm (rough over size)

2) How to specify taps for coating

1. We suppose the accuracy of finished internal threads is 6H class, and inspection is done with GP-6H and NP-6H.
2. We suppose the disperse of coating thickness is controlled within the tolerance of 8~16μm.
   The disperse of coating thickness, when it is exchanged into pitch diameter, will become the disperse of 32~64μm.
3. Accuracy of internal threads before coating is the thread accuracy which GP-6H goes through (OK), even when max coating (64μm) is applied.
   And this accuracy is the thread accuray which NP-6H does not go through (OK), when min coating (32μm) is applied.
4. We propose followings for inspecting the accuracy of internal threads before coating :
   GO gauge before coating : GP-6H+64
5. Next, based on GO gauge before coating and NOT GO gauge before coating, we study to specify the suitable accuracy of the tap before coating.

M6×1 How to specify the accuracy of tap before coating (Coating thickness 8~16μm)



Basic pitch diameter : 5.350mm

M6×1 Basic pitch diameter	: 5.350mm		
Internal thread tolerance 6H	: 0~+150μm (Tolerance : 150μm)		
Accuracy GP-6H	: +7~+17μm	Accuracy NP-6H	: +150~+160μm
Internal thread tolerance before coating	: +64~+182μm (Tolerance : 118μm)		
Accuracy GP-6H+64	: +71~+81μm	Accuracy NP-6H+32	: +182~+192μm
Accuracy of suggested cutting taps (P5.5)	: +90~+110μm		
Accuracy of suggested roll taps (G12)	: +140~+152μm		

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14. Tap, Thread Limits

for Metric Threads

Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M 1 ×0.25	P1	1.000	0.838	25	10	0.729
	G4			51	38	
	ISO2			28	17	
M 1 ×0.2	P1	1.000	0.870	25	10	0.783
M 1.1 ×0.25	P1	1.100	0.938	25	10	0.829
	ISO2			28	17	
M 1.1 ×0.2	P1	1.100	0.970	25	10	0.883
M 1.2 ×0.25	P1	1.200	1.038	25	10	0.929
	ISO2			28	17	
M 1.2 ×0.2	P1	1.200	1.070	25	10	0.983
M 1.4 ×0.3	P1	1.400	1.205	25	10	1.075
	G4			51	38	
	ISO2			30	18	
M 1.4 ×0.2	P1	1.400	1.270	25	10	1.183
M 1.6 ×0.35	P2	1.600	1.373	40	25	1.221
	G4			51	38	
	ISO2			34	20	
	D3			39	24	
M 1.6 ×0.2	P1	1.600	1.470	25	10	1.383
M 1.7 ×0.35	P1	1.700	1.473	25	10	1.321
	G4			51	38	
	ISO2			34	20	
M 1.7 ×0.2	P1	1.700	1.570	25	10	1.483
M 1.8 ×0.35	P2	1.800	1.573	40	25	1.421
	G4			51	38	
	ISO2			34	20	
	D3			39	24	
M 1.8 ×0.2	P1	1.800	1.670	25	10	1.583
M 2 ×0.4	P1	2.000	1.740	25	10	1.567
	Ⅱb			20	5	
	G4			51	38	
	ISO2			36	21	
	D3			39	24	
M 2 ×0.25	P1	2.000	1.838	25	10	1.729
M 2.2 ×0.45	P2	2.200	1.908	40	25	1.713
	G5			64	51	
	ISO2			38	23	
	D3			39	24	
M 2.2 ×0.25	P1	2.200	2.038	25	10	1.929
M 2.3 ×0.4	P1	2.300	2.040	25	10	1.867
	Ⅱb			20	5	
	G4			51	38	
	ISO2			36	21	
M 2.3 ×0.25	P1	2.300	2.138	25	10	2.029
M 2.5 ×0.45	P2	2.500	2.208	40	25	2.013
	Ⅱb			20	5	
	G5			64	51	
	ISO2			38	23	
	D3			39	24	
M 2.5 ×0.35	P1	2.500	2.273	25	10	2.121
M 2.6 ×0.45	P1	2.600	2.308	25	10	2.113
	Ⅱb			20	5	
	G5			64	51	
	ISO2			38	23	
M 2.6 ×0.35	P1	2.600	2.373	25	10	2.221
M 3 ×0.5	P2	3.000	2.675	40	25	2.459
	Ⅱb			20	5	
	G5			64	51	
	ISO2			40	24	
	D3			39	24	
M 3 ×0.6	P1	3.000	2.610	25	10	2.350
M 3 ×0.35	P2	3.000	2.773	40	25	2.621
	G5			64	51	
	ISO2			36	21	
M 3.5 ×0.6	P2	3.500	3.110	40	25	2.850
	Ⅱb			20	5	
	G5			64	51	
	ISO2			45	27	
	D4			52	32	
M 3.5 ×0.35	P2	3.500	3.273	40	25	3.121
	G5			64	51	
	ISO2			36	21	
M 4 ×0.7	P2	4.000	3.545	40	20	3.242
	Ⅱb			25	5	
	G6			76	64	
	ISO2			48	29	
	D4			52	32	
M 4 ×0.75	P2	4.000	3.513	40	20	3.188
M 4 ×0.5	P2	4.000	3.675	40	25	3.459
	G6			76	64	
	ISO2			40	24	

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Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M 4.5 × 0.75	P2	4.500	4.013	40	20	3.688
M 4.5 × 0.5	P2	4.500	4.175	40	25	3.959
	G6			76	64	
	ISO2			40	24	
M 5 × 0.8	P3	5.000	4.480	60	40	4.134
	Ⅱb			25	5	
	G6			76	64	
	ISO2			50	30	
	D4			52	32	
M 5 × 0.9	P2	5.000	4.415	40	20	4.026
M 5 × 0.75	P2	5.000	4.513	40	20	4.188
M 5 × 0.5	P2	5.000	4.675	40	25	4.459
	G6			76	64	
	ISO2			40	24	
M 5.5 × 0.75	P2	5.500	5.013	40	20	4.688
M 5.5 × 0.5	P2	5.500	5.175	40	25	4.959
	ISO2			40	24	
M 6 × 1	P2	6.000	5.350	40	20	4.917
	Ⅱb			25	5	
	G7			89	76	
	ISO2			59	35	
	D5			65	40	
M 6 × 0.75	P2	6.000	5.513	40	20	5.188
	Ⅱ			30	10	
	G6			76	64	
	ISO2			53	32	
M 6 × 0.5	P2	6.000	5.675	40	25	5.459
	G6			76	64	
	ISO2			40	27	
M 7 × 1	P2	7.000	6.350	40	20	5.917
	G7			89	76	
	ISO2			59	35	
	D5			65	40	
M 7 × 0.75	P2	7.000	6.513	40	20	6.188
	G7			89	76	
	ISO2			53	32	
M 7 × 0.5	P2	7.000	6.675	40	25	6.459

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M 8 × 1.25	P3	8.000	7.188	60	40	6.647
	Ⅱb			30	5	
	G7			89	76	
	ISO2			63	38	
	D5			65	34	
M 8 × 1	P2	8.000	7.350	40	20	6.917
	Ⅱ			35	10	
	G7			89	76	
	ISO2			59	35	
	D5			65	40	
M 8 × 0.75	P2	8.000	7.513	40	20	7.188
	Ⅱ			37	12	
	G7			89	76	
	ISO2			53	32	
M 8 × 0.5	P2	8.000	7.675	40	25	7.459
	ISO2			40	27	
M 9 × 1.25	P3	9.000	8.188	60	40	7.647
	ISO2			63	38	
M 9 × 1	P2	9.000	8.350	40	20	7.917
	ISO2			59	35	
M 9 × 0.75	P2	9.000	8.513	40	20	8.188
	ISO2			53	32	
M 9 × 0.5	P2	9.000	8.675	40	25	8.459
M 10 × 1.5	P3	10.000	9.026	60	40	8.376
	Ⅱb			30	5	
	G7			89	76	
	ISO2			70	42	
	D6			78	47	
M 10 × 1.25	P3	10.000	9.188	60	40	8.647
	Ⅱ			35	10	
	G7			89	76	
	ISO2			63	38	
	D5			65	34	
M 10 × 1	P3	10.000	9.350	60	40	8.917
	Ⅱ			37	12	
	G7			89	76	
	ISO2			59	35	
M 10 × 0.75	P3	10.000	9.513	60	40	9.188
	ISO2			53	32	
M 10 × 0.5	P2	10.000	9.675	40	25	9.459
	ISO2			40	27	

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for Metric Threads

Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M 11 ×1.5	P4	11.000	10.026	80	60	9.376
	ISO2			70	42	
M 11 ×1.25	P3	11.000	10.188	60	40	9.647
M 11 ×1	P3	11.000	10.350	60	40	9.917
	ISO2			59	35	
M 11 ×0.75	P3	11.000	10.513	60	40	10.188
M 11 ×0.5	P2	11.000	10.675	40	25	10.459
M 12 ×1.75	P3	12.000	10.863	60	40	10.106
	Ⅱb			35	5	
	G8			102	89	
	ISO2			80	48	
	D6			78	47	
M 12 ×1.5	P3	12.000	11.026	60	40	10.376
	Ⅱ			45	15	
	G8			102	89	
	ISO2			75	45	
M 12 ×1.25	P4	12.000	11.188	80	60	10.647
	Ⅱ			45	15	
	G9			114	102	
	ISO2			70	42	
	D6			78	47	
M 12 ×1	P3	12.000	11.350	60	40	10.917
	Ⅱ			45	15	
	ISO2			63	38	
M 12 ×0.75	P3	12.000	11.513	60	40	11.188
	ISO2			56	34	
M 12 ×0.5	P2	12.000	11.675	40	25	11.459
M 13 ×1.75	P3	13.000	11.863	60	40	11.106
M 13 ×1.5	P3	13.000	12.026	60	40	11.376
M 13 ×1.25	P4	13.000	12.188	80	60	11.647
M 13 ×1	P3	13.000	12.350	60	40	11.917
M 13 ×0.75	P3	13.000	12.513	60	40	12.188
M 13 ×0.5	P2	13.000	12.675	40	25	12.459

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M 14 ×2	P3	14.000	12.701	60	40	11.835
	Ⅱb			35	5	
	G10			127	114	
	ISO2			85	51	
	D7			91	50	
M 14 ×1.5	P3	14.000	13.026	60	40	12.376
	Ⅱ			45	15	
	G9			114	102	
	ISO2			75	45	
	D7			91	60	
M 14 ×1.25	P4	14.000	13.188	80	60	12.647
	ISO2			70	42	
M 14 ×1	P3	14.000	13.350	60	40	12.917
	G9			114	102	
	ISO2			63	38	
M 14 ×0.75	P3	14.000	13.513	60	40	13.188
M 14 ×0.5	P2	14.000	13.675	40	25	13.459
M 15 ×2	P3	15.000	13.701	60	40	12.835
M 15 ×1.5	P3	15.000	14.026	60	40	13.376
M 15 ×1.25	P4	15.000	14.188	80	60	13.647
M 15 ×1	P3	15.000	14.350	60	40	13.917
M 15 ×0.75	P3	15.000	14.513	60	40	14.188
M 15 ×0.5	P2	15.000	14.675	40	25	14.459
M 16 ×2	P3	16.000	14.701	60	40	13.835
	Ⅱb			35	5	
	G10			127	114	
	ISO2			85	51	
	D7			91	50	
M 16 ×1.5	P3	16.000	15.026	60	40	14.376
	Ⅱ			45	15	
	G9			114	102	
	ISO2			75	45	
	D6			78	47	
M 16 ×1.25	P4	16.000	15.188	80	60	14.647
	ISO2			75	45	
M 16 ×1	P3	16.000	15.350	60	40	14.917
	G8			102	89	
	ISO2			75	45	
M 16 ×0.5	P2	16.000	15.675	40	25	15.459
M 17 ×1.5	P4	17.000	16.026	80	60	15.376
M 17 ×1	P3	17.000	16.350	60	40	15.917

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Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M 18 ×2.5	P4	18.000	16.376	80	60	15.294
	Ⅱb			40	5	
	ISO2			90	54	
	D7			91	50	
M 18 ×2	P4	18.000	16.701	80	60	15.835
	ISO2			85	51	
M 18 ×1.5	P3	18.000	17.026	60	40	16.376
	Ⅱ			45	15	
	G9			114	102	
	ISO2			75	45	
	D6			78	47	
M 18 ×1	P3	18.000	17.350	60	40	16.917
	ISO2			63	38	
M 18 ×0.5	P2	18.000	17.675	40	25	17.459
M 19 ×1.5	P3	19.000	18.026	60	40	17.376
M 19 ×1	P3	19.000	18.350	60	40	17.917
M 20 ×2.5	P4	20.000	18.376	80	60	17.294
	Ⅱb			40	5	
	G11			140	127	
	ISO2			90	54	
	D7			91	50	
M 20 ×2	P4	20.000	18.701	80	60	17.835
	ISO2			85	51	
M 20 ×1.5	P3	20.000	19.026	60	40	18.376
	Ⅱ			50	15	
	G10			127	114	
	ISO2			75	45	
	D6			78	47	
M 20 ×1	P3	20.000	19.350	60	40	18.917
	ISO2			63	38	
M 22 ×2.5	P4	22.000	20.376	80	60	19.294
	Ⅱb			40	5	
	ISO2			90	54	
	D7			91	50	
M 22 ×2	P4	22.000	20.701	80	60	19.835
	ISO2			85	51	
M 22 ×1.5	P3	22.000	21.026	60	40	20.376
	ISO2			75	45	
	D6			78	47	
M 22 ×1	P3	22.000	21.350	60	40	20.917
	ISO2			63	38	
M 23 ×1.5	P3	23.000	22.026	60	40	21.376

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M 24 ×3	P4	24.000	22.051	80	60	20.752
	Ⅱb			45	5	
	ISO2			106	64	
	D8			104	63	
M 24 ×2	P4	24.000	22.701	80	60	21.835
	ISO2			90	54	
	D8			104	63	
M 24 ×1.5	P3	24.000	23.026	60	40	22.376
	Ⅱ			50	15	
	ISO2			80	48	
M 24 ×1	P3	24.000	23.350	60	40	22.917
	ISO2			66	40	
M 25 ×3	P4	25.000	23.051	80	40	21.752
M 25 ×2	P4	25.000	23.701	80	60	22.835
	ISO2			90	54	
M 25 ×1.5	P3	25.000	24.026	60	40	23.376
	ISO2			80	48	
M 25 ×1	P3	25.000	24.350	60	40	23.917
M 25 ×0.75	P3	25.000	24.513	60	40	24.188
M 26 ×3	P4	26.000	24.051	80	40	22.752
M 26 ×2	P4	26.000	24.701	80	60	23.835
M 26 ×1.5	P3	26.000	25.026	60	40	24.376
	Ⅱ			50	15	
	ISO2			80	48	
M 26 ×1	P2	26.000	25.350	40	20	24.917
M 27 ×3	P4	27.000	25.051	80	40	23.752
	Ⅱb			45	5	
	ISO2			106	64	
	D8			104	52	
M 27 ×2	P5	27.000	25.701	100	80	24.835
	ISO2			90	54	
	D7			91	50	
M 27 ×1.5	P3	27.000	26.026	60	40	25.376
	ISO2			80	48	
M 27 ×1	P3	27.000	26.350	60	40	25.917
M 27 ×0.75	P3	27.000	26.513	60	40	26.188
M 28 ×3	P4	28.000	26.051	80	40	24.752
M 28 ×2	P4	28.000	26.701	80	60	25.835
	ISO2			90	54	
M 28 ×1.5	P3	28.000	27.026	60	40	26.376
	ISO2			80	48	
M 28 ×1	P3	28.000	27.350	60	40	26.917

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Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M30 ×3.5	P4	30.000	27.727	80	40	26.211
	Ⅱb			45	5	
	ISO2			112	67	
	D9			117	65	
M30 ×3	P5	30.000	28.051	100	60	26.752
M30 ×2	P4	30.000	28.701	80	60	27.835
	ISO2			90	54	
	D7			91	50	
M30 ×1.5	P3	30.000	29.026	60	40	28.376
	Ⅱ			50	15	
	ISO2			80	48	
M30 ×1	P3	30.000	29.350	60	40	28.917
M32 ×3	P3	32.000	30.051	60	20	28.752
M32 ×2	P4	32.000	30.701	80	40	29.835
M32 ×1.5	P4	32.000	31.026	80	60	30.376
	ISO2			80	48	
M32 ×1	P3	32.000	31.350	60	40	30.917
M32 ×0.75	P3	32.000	31.513	60	40	31.188
M33 ×3.5	P4	33.000	30.727	80	40	29.211
	ISO2			112	67	
	D9			117	65	
M33 ×3	P5	33.000	31.051	100	80	29.752
M33 ×2	P4	33.000	31.701	80	40	30.835
	ISO2			90	54	
	D7			91	50	
M33 ×1.5	P3	33.000	32.026	60	40	31.376
	ISO2			80	48	
M33 ×1	P3	33.000	32.350	60	40	31.917
M34 ×3	P3	34.000	32.051	60	20	30.752
M34 ×2	P4	34.000	32.701	80	40	31.835
M34 ×1.5	P4	34.000	33.026	80	60	32.376
	ISO2			80	48	
M34 ×1	P3	34.000	33.350	60	40	32.917
M35 ×3	P3	35.000	33.051	60	20	31.752
M35 ×2	P5	35.000	33.701	100	60	32.835
M35 ×1.5	P4	35.000	34.026	80	60	33.376
	ISO2			80	48	
M35 ×1	P2	35.000	34.350	40	20	33.917
M36 ×4	P5	36.000	33.402	100	60	31.670
	ISO2			118	71	
	D9			117	65	
M36 ×3	P5	36.000	34.051	100	60	32.752
	ISO2			106	64	
	D8			104	52	
M36 ×2	P4	36.000	34.701	80	40	33.835
	ISO2			90	54	
M36 ×1.5	P3	36.000	35.026	60	40	34.376
	ISO2			80	48	
M36 ×1	P3	36.000	35.350	60	40	34.917
M37 ×1.5	P4	37.000	36.026	80	60	35.376
M38 ×3	P3	38.000	36.051	60	20	34.752
M38 ×2	P4	38.000	36.701	80	40	35.835
M38 ×1.5	P4	38.000	37.026	80	60	36.376
	ISO2			80	48	
M38 ×1	P3	38.000	37.350	60	40	36.917
M39 ×4	P5	39.000	36.402	100	60	34.670
	ISO2			118	71	
	D10			130	78	
M39 ×3	P5	39.000	37.051	100	60	35.752
	D8			104	52	
M39 ×2	P4	39.000	37.701	80	40	36.835
M39 ×1.5	P3	39.000	38.026	60	40	37.376
	ISO2			80	48	
M39 ×1	P3	39.000	38.350	60	40	37.917
M40 ×4	P5	40.000	37.402	100	60	35.670
M40 ×3	P5	40.000	38.051	100	60	36.752
M40 ×2	P4	40.000	38.701	80	40	37.835
	ISO2			90	54	
M40 ×1.5	P4	40.000	39.026	80	60	38.376
	ISO2			80	48	
M42 ×4.5	P5	42.000	39.077	100	60	37.129
	ISO2			125	75	
M42 ×4	P6	42.000	39.402	120	80	37.670
M42 ×3	P5	42.000	40.051	100	60	38.752
	ISO2			106	64	
M42 ×2	P4	42.000	40.701	80	40	39.835
	ISO2			90	54	
M42 ×1.5	P4	42.000	41.026	80	60	40.376
	ISO2			80	48	
M44 ×4	P6	44.000	41.402	120	80	39.670
M44 ×3	P5	44.000	42.051	100	60	40.752
M44 ×2	P4	44.000	42.701	80	40	41.835

Think threads with YAMAWA

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Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
M 44 ×1.5	P4	44.000	43.026	80	60	42.376
M 45 ×4.5	P5	45.000	42.077	100	60	40.129
	ISO2			125	75	
M 45 ×4	P6	45.000	42.402	120	80	40.670
M 45 ×3	P5	45.000	43.051	100	60	41.752
	ISO2			106	64	
M 45 ×2	P4	45.000	43.701	80	40	42.835
	ISO2			90	54	
M 45 ×1.5	P4	45.000	44.026	80	60	43.376
	ISO2			80	48	
M 45 ×1	P3	45.000	44.350	60	40	43.917
M 48 ×5	P5	48.000	44.752	100	60	42.587
	ISO2			133	80	
M 48 ×4	P6	48.000	45.402	120	80	43.670
M 48 ×3	P6	48.000	46.051	120	80	44.752
	ISO2			112	67	
M 48 ×2	P4	48.000	46.701	80	40	45.835
	ISO2			95	57	
M 48 ×1.5	P4	48.000	47.026	80	60	46.376
	ISO2			85	51	

for Unified Threads

Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
No. 0 - 80 UNF	P1	1.524	1.318	25	10	1.181
	G5			64	51	
	2B			26	11	
	GH1			12.7	0	
No. 1 - 64 UNC	P1	1.854	1.598	25	10	1.425
	2B			28	12	
	GH1			12.7	0	
No. 1 - 72 UNF	P1	1.854	1.626	25	10	1.473
	G5			64	51	
	2B			28	12	
	GH1			12.7	0	
No. 2 - 56 UNC	P1	2.184	1.890	25	10	1.694
	G4			51	38	
	2B			30	13	
	GH1			12.7	0	
No. 2 - 64 UNF	P1	2.184	1.928	25	10	1.755
	2B			29	12	
	GH1			12.7	0	
No. 3 - 48 UNC	P1	2.515	2.172	25	10	1.941
	G4			51	38	
	2B			32	14	
	GH1			12.7	0	
No. 3 - 56 UNF	P1	2.515	2.220	25	10	2.024
	2B			31	13	
	GH1			12.7	0	
No. 4 - 40 UNC	P2	2.845	2.433	40	25	2.156
	G5			64	51	
	2B			34	16	
	GH1			12.7	0	
No. 4 - 48 UNF	P1	2.845	2.502	25	10	2.271
	G5			64	51	
	2B			32	14	
	GH1			12.7	0	
No. 4 - 36 UNS	GH1	2.845	2.387	12.7	0	2.081
No. 5 - 40 UNC	P2	3.175	2.764	40	25	2.487
	2B			35	16	
	GH1			12.7	0	
No. 5 - 44 UNF	P1	3.175	2.799	25	10	2.550
	2B			34	15	
	GH1			12.7	0	

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for Unified Threads

Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
No. 6 - 32 UNC	P2	3.505	2.990	40	20	2.647
	G5			64	51	
	2B			38	18	
	GH1			12.7	0	
No. 6 - 40 UNF	P2	3.505	3.094	40	25	2.817
	G5			64	51	
	2B			36	16	
	GH1			12.7	0	
No. 8 - 32 UNC	P2	4.166	3.650	40	20	3.307
	G6			76	64	
	2B			39	18	
	GH1			12.7	0	
No. 8 - 36 UNF	P2	4.166	3.708	40	20	3.401
	G5			64	51	
	2B			38	17	
	GH1			12.7	0	
No. 10 - 24 UNC	P2	4.826	4.138	40	20	3.680
	G6			76	64	
	2B			42	20	
	GH1			12.7	0	
No. 10 - 32 UNF	P2	4.826	4.310	40	20	3.967
	G5			64	51	
	2B			40	18	
	GH1			12.7	0	
No. 12 - 24 UNC	P2	5.486	4.798	40	20	4.341
	2B			43	20	
	GH1			12.7	0	
No. 12 - 28 UNF	P2	5.486	4.897	40	20	4.503
	2B			42	19	
	GH1			12.7	0	
No. 12 - 32 UNEF	P2	5.486	4.971	40	20	4.627
1/4 - 20 UNC	P2	6.350	5.524	40	20	4.976
	G7			89	76	
	2B			46	22	
	GH1			12.7	0	
1/4 - 28 UNF	P2	6.350	5.761	40	20	5.367
	G6			76	64	
	2B			43	19	
	GH1			12.7	0	
1/4 - 32 UNEF	P2	6.350	5.834	40	20	5.491
	2B			42	18	
5/16 - 18 UNC	P3	7.938	7.021	60	40	6.411
	2B			49	23	
	GH1			12.7	0	
5/16 - 24 UNF	P2	7.938	7.249	40	20	6.792
	2B			46	20	
	GH1			12.7	0	
5/16 - 32 UNEF	P2	7.938	7.422	40	20	7.079
	2B			44	18	
3/8 - 16 UNC	P3	9.525	8.494	60	40	7.805
	2B			53	25	
	GH1			12.7	0	
3/8 - 24 UNF	P3	9.525	8.837	60	40	8.379
	2B			48	20	
	GH2			25.4	12.7	
3/8 - 32 UNEF	P2	9.525	9.009	40	20	8.666
	2B			46	18	
7/16 - 14 UNC	P3	11.112	9.934	60	40	9.149
	2B			56	27	
	GH1			12.7	0	
7/16 - 20 UNF	P3	11.112	10.287	60	40	9.738
	2B			51	22	
	GH1			12.7	0	
7/16 - 28 UNEF	P2	11.112	10.523	40	20	10.130
1/2 - 13 UNC	P3	12.700	11.430	60	40	10.584
	2B			58	28	
	GH1			12.7	0	
1/2 - 20 UNF	P3	12.700	11.874	60	40	11.326
	2B			52	23	
	GH1			12.7	0	
1/2 - 28 UNEF	P2	12.700	12.111	40	20	11.717
9/16 - 12 UNC	P3	14.288	12.913	60	40	11.996
	2B			60	29	
	GH3			38.1	25.4	
9/16 - 18 UNF	P3	14.288	13.371	60	40	12.761
	2B			54	23	
	GH2			25.4	12.7	
9/16 - 24 UNEF	P2	14.288	13.599	40	20	13.142

Think threads with YAMAWA

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Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
5/8 - 11 UNC	P4	15.875	14.376	80	60	13.376
	2B			63	30	
	GH1			12.7	0	
5/8 - 18 UNF	P3	15.875	14.958	60	40	14.348
	2B			56	23	
	GH1			12.7	0	
5/8 - 24 UNEF	P3	15.875	15.187	60	40	14.729
11/16 - 11 UNS	GH3	17.462	15.964	38.1	25.4	14.963
11/16 - 16 UNS	GH3	17.462	16.431	38.1	25.4	15.743
3/4 - 10 UNC	P4	19.050	17.399	80	60	16.299
	2B			66	31	
	GH2			25.4	12.7	
3/4 - 16 UNF	P3	19.050	18.019	60	40	17.330
	2B			60	25	
	GH1			12.7	0	
3/4 - 20 UNEF	P3	19.050	18.224	60	40	17.676
7/8 - 9 UNC	P4	22.225	20.391	80	60	19.169
	2B			70	33	
	GH2			25.4	12.7	
7/8 - 14 UNF	P3	22.225	21.046	60	40	20.262
	2B			64	27	
	GH1			12.7	0	
7/8 - 20 UNEF	P3	22.225	21.400	60	40	20.851
1 - 8 UNC	P4	25.400	23.338	80	40	21.963
	2B			73	35	
	GH2			25.4	12.7	
1 - 12 UNF	P4	25.400	24.026	80	60	23.109
	2B			67	29	
	GH4			50.8	38.1	
1 - 14 UNS	P4	25.400	24.221	80	60	23.437
	2B			65	38	
	GH2			25.4	12.7	
1 - 20 UNEF	P3	25.400	24.574	60	40	24.026
1 1/8 - 7 UNC	P5	28.575	26.218	100	60	24.648
	GH4			50.8	25.4	
1 1/8 - 12 UNF	P3	28.575	27.201	60	40	26.284
	2B			69	29	
	GH4			50.8	25.4	
1 1/8 - 18 UNEF	P3	28.575	27.658	60	40	27.048

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
1 1/4 - 7 UNC	P5	31.750	29.393	100	60	27.823
	2B			79	38	
	GH4			50.8	25.4	
1 1/4 - 8 UN	P5	31.750	29.688	100	60	28.313
1 1/4 - 12 UNF	P4	31.750	30.376	80	60	29.459
	2B			70	29	
	GH4			50.8	25.4	
1 3/8 - 6 UNC	P5	34.925	32.174	100	60	30.343
	GH4			50.8	25.4	
1 3/8 - 8 UN	P5	34.925	32.863	100	60	31.488
1 3/8 - 12 UNF	P4	34.925	33.551	80	40	32.634
	2B			71	29	
	GH4			50.8	25.4	
1 1/2 - 6 UNC	P5	38.100	35.349	100	60	33.518
	GH4			50.8	25.4	
1 1/2 - 12 UNF	P4	38.100	36.726	80	40	35.809
	2B			73	29	
	GH4			50.8	25.4	
1 3/4 - 5 UNC	P6	44.450	41.151	120	80	38.951
1 3/4 - 12 UN	P4	44.450	43.076	80	40	42.159
2 - 4 1/2UNC	P6	50.800	47.135	120	80	44.689
2 - 12 UN	P4	50.800	49.426	80	40	48.509

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for Whitworth Threads

Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
1/8 W 40	P1	3.175	2.768	25	10	2.362
5/32 W 32	P2	3.969	3.460	40	20	2.952
3/16 W 24	P2	4.762	4.085	40	20	3.407
7/32 W 24	P2	5.556	4.879	40	20	4.201
1/4 W 20	P2	6.350	5.537	40	20	4.724
5/16 W 18	P2	7.938	7.034	40	20	6.130
3/8 W 16	P2	9.525	8.509	40	20	7.493
7/16 W 14	P3	11.112	9.950	60	40	8.788
1/2 W 12	P3	12.700	11.345	60	40	9.990
9/16 W 12	P3	14.288	12.933	60	40	11.578
5/8 W 11	P3	15.875	14.396	60	40	12.917
3/4 W 10	P3	19.050	17.424	60	40	15.798
7/8 W 9	P3	22.225	20.418	60	40	18.611
1 W 8	P3	25.400	23.367	60	20	21.334
1 1/8 W 7	P4	28.575	26.252	80	40	23.929
1 1/4 W 7	P4	31.750	29.427	80	40	27.104
1 3/8 W 6	P4	34.925	32.214	80	40	29.503
1 1/2 W 6	P4	38.100	35.389	80	40	32.678
1 5/8 W 5	P4	41.275	38.022	80	40	34.769
1 3/4 W 5	P4	44.450	41.197	80	40	37.944
1 7/8 W 4 1/2	P4	47.625	44.011	80	40	40.397
2 W 4 1/2	P4	50.800	47.186	80	40	43.572

for Sewing Machine Screw Threads

Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
1/16 SM 80	P1	1.588	1.382	25	10	1.176
5/64 SM 64	P1	1.984	1.726	25	10	1.468
3/32 SM 56	P1	2.381	2.086	25	10	1.791
3/32 SM 100	P1	2.381	2.216	25	10	2.051
1/8 SM 40	P2	3.175	2.763	40	25	2.351
1/8 SM 44	P2	3.175	2.800	40	25	2.425
9/64 SM 40	P2	3.572	3.160	40	25	2.748
11/64 SM 40	P2	4.366	3.954	40	25	3.542
3/16 SM 24	P2	4.762	4.075	40	20	3.388
3/16 SM 28	P2	4.762	4.173	40	20	3.584
3/16 SM 32	P2	4.762	4.246	40	20	3.730
3/16 SM 40	P2	4.762	4.350	40	25	3.938
7/32 SM 32	P2	5.556	5.040	40	20	4.524
15/64 SM 28	P2	5.953	5.364	40	20	4.775
1/4 SM 24	P2	6.350	5.663	40	20	4.976
1/4 SM 40	P1	6.350	5.938	25	10	5.526

for Parallel Pipe Threads (PF·G)

Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
PF 1/16 - 28	II	7.723	7.142	40	20	6.561
PF 1/8 - 28	II	9.728	9.147	40	20	8.566
PF 1/4 - 19	II	13.157	12.301	50	25	11.445
PF 3/8 - 19	II	16.662	15.806	50	25	14.950
PF 1/2 - 14	II	20.955	19.793	55	25	18.631
PF 5/8 - 14	II	22.911	21.749	55	25	20.587
PF 3/4 - 14	II	26.441	25.279	55	25	24.117
PF 7/8 - 14	II	30.201	29.039	55	25	27.877
PF 1 - 11	II	33.249	31.770	60	30	30.291
PF 1 1/4 - 11	II	41.910	40.431	65	30	38.952
PF 1 1/2 - 11	II	47.803	46.324	65	30	44.845
PF 2 - 11	II	59.614	58.135	75	35	56.656
PF 2 1/2 - 11	II	75.184	73.705	80	40	72.226
PF 3 - 11	II	87.884	86.405	85	40	84.926
PF 3 1/2 - 11	II	100.330	98.851	85	40	97.372
PF 4 - 11	II	113.030	111.551	85	40	110.072

Think threads with YAMAWA

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for Parallel Pipe Threads (PS·Rp)

Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) −	Lower Tolerance (μm) −	Basic Size
PS 1/16 - 28	Ⅱ	7.723	7.142	30	50	6.561
PS 1/8 - 28	Ⅱ	9.728	9.147	30	50	8.566
PS 1/4 - 19	Ⅱ	13.157	12.301	50	75	11.445
PS 3/8 - 19	Ⅱ	16.662	15.806	50	75	14.950
PS 1/2 - 14	Ⅱ	20.955	19.793	85	115	18.631
PS 5/8 - 14	Ⅱ	22.911	21.749	85	115	20.587
PS 3/4 - 14	Ⅱ	26.441	25.279	85	115	24.117
PS 7/8 - 14	Ⅱ	30.201	29.039	85	115	27.877
PS 1 - 11	Ⅱ	33.249	31.770	120	150	30.291
PS 1 1/4 - 11	Ⅱ	41.910	40.431	115	150	38.952
PS 1 1/2 - 11	Ⅱ	47.803	46.324	115	150	44.845
PS 2-11	Ⅱ	59.614	58.135	105	145	56.656
PS 2 1/2 - 11	Ⅱ	75.184	73.705	140	180	72.226
PS 3 - 11	Ⅱ	87.884	86.405	135	180	84.926
PS 4 - 11	Ⅱ	113.030	111.551	135	180	110.072

for Miniature Screw Threads

Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
S 0.5 × 0.125	-	0.500	0.419	15	7	0.380
S 0.6 × 0.15	-	0.600	0.503	15	7	0.456
	GS2			23	13	
S 0.7 × 0.175	-	0.700	0.586	20	10	0.532
	GS3			28	18	
S 0.8 × 0.2	-	0.800	0.670	20	10	0.608
	GS3			28	18	
S 0.9 × 0.225	-	0.900	0.754	20	10	0.684
	GS4			33	23	

for Taper Pipe Threads (PT·Rc)

Unit : mm

Size	Major Diameter	Pitch Diameter	Minor Diameter
	Basic Size	Basic Size	Basic Size
PT 1/16 - 28	7.723	7.142	6.561
PT 1/8 - 28	9.728	9.147	8.566
PT 1/4 - 19	13.157	12.301	11.445
PT 3/8 - 19	16.662	15.806	14.950
PT 1/2 - 14	20.955	19.793	18.631
PT 5/8 - 14	22.911	21.749	20.587
PT 3/4 - 14	26.441	25.279	24.117
PT 7/8 - 14	30.201	29.039	27.877
PT 1 - 11	33.249	31.770	30.291
PT 1 1/8 - 11	37.897	36.418	34.939
PT 1 1/4 - 11	41.910	40.431	38.952
PT 1 1/2 - 11	47.803	46.324	44.845
PT 1 3/4 - 11	53.746	52.267	50.788
PT 2 - 11	59.614	58.135	56.656
PT 2 1/4 - 11	65.710	64.231	62.752
PT 2 1/2 - 11	75.184	73.705	72.226
PT 3 - 11	87.884	86.405	84.926
PT 3 1/2 - 11	100.330	98.851	97.372
PT 4 - 11	113.030	111.551	110.072

for Trapezoidal Threads

Unit : mm

Size	Major Diameter	Pitch Diameter			Minor Diameter
	Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
Tr 10 × 2	10.500	9.000	0.070	0.025	8.000
Tr 12 × 3	12.500	10.500	0.090	0.030	9.000
Tr 12 × 2	12.500	11.000	0.070	0.025	10.000
Tr 14 × 3	14.500	12.500	0.090	0.030	11.000
Tr 16 × 4	16.500	14.000	0.095	0.030	8.000
Tr 16 × 3	16.500	14.500	0.090	0.030	13.000
Tr 18 × 4	18.500	16.000	0.095	0.030	14.000
Tr 20 × 4	20.500	18.000	0.095	0.030	16.000
Tr 22 × 5	22.500	19.500	0.110	0.035	17.000
Tr 24 × 5	24.500	21.500	0.110	0.035	19.000
Tr 25 × 5	25.500	22.500	0.110	0.035	20.000
Tr 26 × 5	26.500	23.500	0.110	0.035	21.000
Tr 28 × 5	28.500	25.500	0.110	0.035	23.000
Tr 30 × 6	30.500	27.000	0.125	0.035	24.000

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for Helical Coil Wire Thread Inserts, Metric Threads

Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
STI M 2.6 × 0.45	I b	3.185	2.892	18	6	2.698
STI M 3 × 0.5	I b	3.650	3.324	18	6	3.108
	G3			38	25	
STI M 4 × 0.7	I b	4.909	4.454	18	6	4.151
	G4			51	38	
STI M 5 × 0.8	I b	6.039	5.519	18	6	5.173
	G4			51	38	
STI M 6 × 1	I b	7.299	6.649	18	6	6.216
	G4			51	38	
STI M 8 × 1.25	I b	9.624	8.812	18	6	8.271
	G4			51	38	
STI M 10 × 1.5	I b	11.948	10.974	22	7	10.324
	G5			64	51	
STI M 10 × 1.25	I b	11.624	10.812	18	6	10.271
STI M 10 × 1	I b	11.299	10.649	18	6	10.216
STI M 12 × 1.75	I b	14.273	13.136	22	7	12.379
	G6			76	64	
STI M 12 × 1.5	I b	13.948	12.974	21	7	12.324
STI M 12 × 1.25	I b	13.624	12.812	21	7	12.271
STI M 14 × 2	I b	16.598	15.299	22	7	14.433
STI M 14 × 1.5	I b	15.948	14.974	21	7	14.324
STI M 16 × 2	I b	18.598	17.299	22	7	16.433
STI M 16 × 1.5	I b	17.948	16.974	21	7	16.324
STI M 18 × 2.5	I b	21.248	19.624	30	10	18.542
STI M 18 × 1.5	I b	19.948	18.974	24	8	18.324
STI M 20 × 2.5	I b	23.248	21.624	30	10	20.542
STI M 20 × 1.5	I b	21.948	20.974	24	8	20.324
STI M 22 × 2.5	I b	25.248	23.624	30	10	22.542
STI M 22 × 1.5	I b	23.948	22.974	24	8	22.324
STI M 24 × 3	I b	27.897	25.948	30	10	24.649
STI M 24 × 1.5	I b	25.948	24.974	24	8	24.324

for Helical Coil Wire Thread Inserts, Unified Threads

Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
STI No. 2 -56 UNC	I b	2.773	2.479	18	6	2.283
	GH2			25.4	12.7	
STI No. 4 -40 UNC	I b	3.670	3.258	18	6	2.981
	GH2			25.4	12.7	
STI No. 4 -48 UNF	I b	3.532	3.189	18	6	2.958
STI No. 5 -40 UNC	I b	4.000	3.589	18	6	3.312
STI No. 6 -32 UNC	I b	4.536	4.021	18	6	3.678
	GH3			38.1	25.4	
STI No. 6 -40 UNF	I b	4.330	3.919	18	6	3.642
STI No. 8 -32 UNC	I b	5.197	4.681	18	6	4.338
	GH3			38.1	25.4	
STI No. 8 -36 UNF	I b	5.083	4.625	18	6	4.318
STI No. 10 -24 UNC	I b	6.201	5.513	18	6	5.055
	GH2			25.4	12.7	
STI No. 10 -32 UNF	I b	5.857	5.341	18	6	4.998
	GH2			25.4	12.7	
STI No. 12 -24 UNC	I b	6.861	6.173	18	6	5.716
STI 1/4 - 20 UNC	I b	8.000	7.174	22	7	6.626
	GH3			38.1	25.4	
STI 1/4 - 28 UNF	I b	7.528	6.939	18	6	6.545
	GH2			25.4	12.7	
STI 5/16 - 18 UNC	I b	9.771	8.854	22	7	8.244
	GH3			38.1	25.4	
STI 5/16 - 24 UNF	I b	9.313	8.624	18	6	8.167
STI 3/8 - 16 UNC	I b	11.587	10.556	22	7	9.867
	GH3			38.1	25.4	
STI 3/8 - 24 UNF	I b	10.900	10.212	18	6	9.754
STI 7/16 - 14 UNC	I b	13.469	12.291	30	10	11.506
	GH3			38.1	25.4	
STI 7/16 - 20 UNF	I b	12.762	11.937	18	6	11.388
	GH3			38.1	25.4	
STI 1/2 - 13 UNC	I b	15.238	13.968	30	10	13.122
	GH3			38.1	25.4	
STI 1/2 - 20 UNF	I b	14.350	13.524	18	6	12.976
STI 5/8 - 11 UNC	I b	18.875	17.376	30	10	16.376
STI 5/8 - 18 UNF	I b	17.708	16.791	21	7	16.181
STI 3/4 - 16 UNF	I b	21.112	20.081	21	7	19.392

Think threads with YAMAWA

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for Tripod Threads

Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
1/4 - 20	-	6.350	5.525	230	210	4.975

for Thick Steel Conduit Threads

Unit : mm

Size	Major Diameter	Pitch Diameter	Minor Diameter
	Basic Size	Basic Size	Basic Size
CTG 16 - 14	20.955	19.793	18.922
CTG 22 - 14	26.441	25.279	24.408
CTG 28 - 11	33.249	31.770	30.661
CTG 36 - 11	41.910	40.431	39.322
CTG 42 - 11	47.803	46.324	45.215
CTG 54 - 11	59.614	58.135	57.026
CTG 70 - 11	75.184	73.705	72.596
CTG 82 - 11	87.884	86.405	85.296
CTG 92 - 11	100.330	98.851	97.742
CTG 104 - 11	113.030	111.551	110.442

for Steel Conduit Threads

Unit : mm

Size	Major Diameter	Pitch Diameter	Minor Diameter
	Basic Size	Basic Size	Basic Size
CTC 19 - 16	19.100	18.343	17.708
CTC 25 - 16	25.400	24.643	24.008
CTC 31 - 16	31.800	31.043	30.408
CTC 39 - 16	38.100	37.343	36.708
CTC 51 - 16	50.800	50.043	49.408
CTC 63 - 16	63.500	62.743	62.108
CTC 75 - 16	76.200	75.443	74.808

for Tire Valve Threads

Unit : mm

Size	Major Diameter	Pitch Diameter	Minor Diameter
	Basic Size	Basic Size	Basic Size
5 V 1	5.334	4.869	4.597
8 V 1	7.798	7.284	7.036
8 V 2	7.938	7.250	6.782
9 V 1	9.525	9.010	8.661
10 V 1	9.800	9.380	8.750
10 V 2	10.414	9.815	9.350
11 V 1	11.113	10.287	9.729
12 V 1	12.319	11.669	11.176
13 V 1	12.700	11.875	11.328
13 V 2	12.700	12.185	11.837
15 V 1	15.137	14.380	13.750
16 V 1	15.875	15.263	14.869
17 V 1	17.137	16.380	15.750
17 V 2	17.463	16.775	16.307
17 V 3	17.463	16.432	15.748
19 V 1	19.050	18.019	17.323
20 V 1	20.642	19.885	19.250

for Bicycle Tire Valve Threads

Unit : mm

Size	Major Diameter	Pitch Diameter	Minor Diameter
	Basic Size	Basic Size	Basic Size
CTV 5 - 36	5.330	4.872	4.566
CTV 5 - 24	5.100	4.413	3.954
CTV 8 - 32	7.900	7.384	7.041
CTV 8 - 30	8.100	7.550	7.183
5 V 2	5.370	4.760	4.400
6 V 1	6.160	5.725	5.440

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for Bicycle Threads

Unit : mm

Size	Major Diameter	Pitch Diameter	Minor Diameter
	Basic Size	Basic Size	Basic Size
BC 5/16 - 26	7.94	7.42	6.90
BC 3/8 - 26	9.53	9.01	8.49
BC 7/16 - 26	11.11	10.59	10.07
BC 1/2 - 20	12.70	12.02	11.34
BC 9/16 - 20	14.29	13.61	12.93
BC 5/8 - 20	15.88	15.20	14.52
BC 11/16 - 24	17.46	16.90	16.34
BC 3/4 - 30	19.05	18.60	18.15
BC 31/32 - 30	24.61	24.16	23.71
BC 1 - 24	25.40	24.84	24.28
BC 1.29 - 24	32.77	32.21	31.65
BC 1.37 - 24	34.80	34.24	33.68
BC 1 7/16 - 24	36.51	35.95	35.39
BC 1.45 - 24	36.83	36.27	35.71
BC 1 9/16 - 24	39.69	39.13	38.57

for European Parallel Pipe Threads (G)

Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
G 1/8 - 28	-	9.728	9.147	43	21	8.566
G 1/4 - 19	-	13.157	12.301	50	25	11.445
G 3/8 - 19	-	16.662	15.806	50	25	14.950
G 1/2 - 14	-	20.955	19.793	57	28	18.631
G 5/8 - 14	-	22.911	21.749	57	28	20.587
G 3/4 - 14	-	26.441	25.279	57	28	24.117
G 7/8 - 14	-	30.201	29.039	57	28	27.877
G 1 - 11	-	33.249	31.770	72	36	30.291
G 1 1/4 - 11	-	41.910	40.431	72	36	38.952
G 1 1/2 - 11	-	47.803	46.324	72	36	44.845

for BSW Threads

Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
3/32 BSW 48	-	2.381	2.042	32	15	1.704
1/8 BSW 40	-	3.175	2.768	35	15	2.362
5/32 BSW 32	-	3.969	3.460	40	18	2.952
3/16 BSW 24	-	4.762	4.085	44	21	3.407
7/32 BSW 24	-	5.556	4.879	44	21	4.201
1/4 BSW 20	-	6.350	5.537	46	23	4.724
5/16 BSW 18	-	7.938	7.034	49	23	6.130
3/8 BSW 16	-	9.525	8.509	51	25	7.493
7/16 BSW 14	-	11.112	9.950	56	28	8.788
1/2 BSW 12	-	12.700	11.345	61	30	9.990
9/16 BSW 12	-	14.288	12.933	61	30	11.578
5/8 BSW 11	-	15.875	14.396	63	30	12.917
3/4 BSW 10	-	19.050	17.424	69	33	15.798
7/8 BSW 9	-	22.225	20.418	69	33	18.611
1 BSW 8	-	25.400	23.367	74	36	21.334

for European Steel Conduit Threads (Pg)

Unit : mm

Size	Class	Major Diameter	Pitch Diameter			Minor Diameter
		Basic Size	Basic Size	Upper Tolerance (μm) +	Lower Tolerance (μm) +	Basic Size
Pg 7 - 20	-	12.50	11.89	60	30	11.28
Pg 9 - 18	-	15.20	14.53	60	30	13.86
Pg 11 - 18	-	18.60	17.93	60	30	17.26
Pg 13.5 - 18	-	20.40	19.73	60	30	19.06
Pg 16 - 18	-	22.50	21.83	60	30	21.16
Pg 21 - 16	-	28.30	27.54	100	50	26.78
Pg 29 - 16	-	37.00	36.24	100	50	35.48
Pg 36 - 16	-	47.00	46.24	100	50	45.48

for Microscope Objective Threads

Unit : mm

Size	Class	Major Diameter	Pitch Diameter	Minor Diameter
		Basic Size	Basic Size	Basic Size
20.32W36	-	20.320	19.868	19.416
26W36	-	26.000	25.548	25.096

Think threads with YAMAWA

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15. Bored hole size before tapping (for thread cutting)

for Metric Threads

Unit : mm

Size	Minor diameter of internal threads (D1)		Bored hole size (ref.)
	Max.	Min.	
M1 ×0.25	(0.785)	(0.729)	0.77
M1 ×0.2	(0.821)	(0.783)	0.81
M1.1×0.25	(0.885)	(0.829)	0.87
M1.1×0.2	(0.921)	(0.883)	0.91
M1.2×0.25	(0.985)	(0.929)	0.97
M1.2×0.2	(1.021)	(0.983)	1.01
M1.4×0.3	(1.142)	(1.075)	1.13
M1.4×0.2	(1.221)	(1.183)	1.21
M1.6×0.35	1.321	1.221	1.30
M1.6×0.2	(1.421)	(1.383)	1.41
※1 M1.7×0.35	1.421	1.321	1.40
※1 M1.7×0.2	1.521	1.483	1.51
M1.8×0.35	1.521	1.421	1.50
M1.8×0.2	(1.621)	(1.583)	1.61
M2 ×0.4	1.679	1.567	1.65
M2 ×0.25	(1.785)	(1.729)	1.77
M2.2×0.45	1.838	1.713	1.81
M2.2×0.25	(1.985)	(1.929)	1.97
※1 M2.3×0.4	1.979	1.867	1.95
※1 M2.3×0.25	2.085	2.029	2.07
M2.5×0.45	2.138	2.013	2.11
M2.5×0.35	2.221	2.121	2.20
※1 M2.6×0.45	2.238	2.113	2.21
※1 M2.6×0.35	2.321	2.221	2.30
M3 ×0.5	2.599	2.459	2.56
※1 3M0.6	2.440	2.280	2.40
M3 ×0.35	2.721	2.621	2.70
M3.5×0.6	3.010	2.850	2.97
M3.5×0.35	3.221	3.121	3.20
M4 ×0.7	3.422	3.242	3.38
※1 4M0.75	3.326	3.106	3.27
M4 ×0.5	3.599	3.459	3.56
M4.5×0.75	3.878	3.688	3.83
M4.5×0.5	4.099	3.959	4.06
M5 ×0.8	4.334	4.134	4.28
※1 5M0.9	4.170	3.930	4.11
※2 M5 ×0.75	4.378	4.188	4.33
M5 ×0.5	4.599	4.459	4.56
※1 M5.5×0.9	4.670	4.430	4.61
M5.5×0.75	4.878	4.688	4.83
M5.5×0.5	5.099	4.959	5.06
M6 ×1	5.153	4.917	5.09
M6 ×0.75	5.378	5.188	5.33
※1 M6 ×0.5	5.599	5.459	5.56
※2 M6.5×0.5	6.099	5.959	6.06
M7 ×1	6.153	5.917	6.09
M7 ×0.75	6.378	6.188	6.33
※1 M7 ×0.5	6.599	6.459	6.56
※2 M7.5×0.5	7.099	6.959	7.06
M8 ×1.25	6.912	6.647	6.85
M8 ×1	7.153	6.917	7.09
M8 ×0.75	7.378	7.188	7.33
※1 M8 ×0.5	7.599	7.459	7.56
※2 M8.5×1	7.653	7.417	7.59
※2 M8.5×0.75	7.878	7.688	7.83
※2 M8.5×0.5	8.099	7.959	8.06

Size	Minor diameter of internal threads (D1)		Bored hole size (ref.)
	Max.	Min.	
M 9 ×1.25	7.912	7.647	7.85
M 9 ×1	8.153	7.917	8.09
M 9 ×0.75	8.378	8.188	8.33
※1 M 9 ×0.5	8.599	8.459	8.56
※2 M 9.5×1	8.653	8.417	8.59
※2 M 9.5×0.75	8.878	8.688	8.83
※2 M 9.5×0.5	9.099	8.959	9.06
M10 ×1.5	8.676	8.376	8.60
M10 ×1.25	8.912	8.647	8.85
M10 ×1	9.153	8.917	9.09
M10 ×0.75	9.378	9.188	9.33
※1 M10 ×0.5	9.599	9.459	9.56
M11 ×1.5	9.676	9.376	9.60
※1 M11 ×1.25	9.912	9.647	9.85
M11 ×1	10.153	9.917	10.09
M11 ×0.75	10.378	10.188	10.33
※1 M11 ×0.5	10.599	10.459	10.56
M12 ×1.75	10.441	10.106	10.4
M12 ×1.5	10.676	10.376	10.60
M12 ×1.25	10.912	10.647	10.85
M12 ×1	11.153	10.917	11.09
※2 M12 ×0.75	11.378	11.188	11.33
※1 M12 ×0.5	11.599	11.459	11.56
※2 M13 ×1.75	11.441	11.106	11.4
※1 M13 ×1.5	11.676	11.376	11.60
※2 M13 ×1.25	11.912	11.647	11.85
※1 M13 ×1	12.153	11.917	12.09
※2 M13 ×0.75	12.378	12.188	12.33
※1 M13 ×0.5	12.599	12.459	12.56
M14 ×2	12.210	11.835	12.1
※2 M14 ×1.75	12.441	12.106	12.4
M14 ×1.5	12.676	12.376	12.60
M14 ×1.25	12.912	12.647	12.85
M14 ×1	13.153	12.917	13.09
※2 M14 ×0.75	13.378	13.188	13.33
※1 M14 ×0.5	13.599	13.459	13.56
※2 M15 ×2	13.210	12.835	13.1
M15 ×1.5	13.676	13.376	13.60
※2 M15 ×1.25	13.912	13.647	13.85
M15 ×1	14.153	13.917	14.09
※2 M15 ×0.75	14.378	14.188	14.33
※1 M15 ×0.5	14.599	14.459	14.56
M16 ×2	14.210	13.835	14.1
M16 ×1.5	14.676	14.376	14.60
※2 M16 ×1.25	14.912	14.647	14.85
M16 ×1	15.153	14.917	15.09
※2 M16 ×0.75	15.378	15.188	15.33
※1 M16 ×0.5	15.599	15.459	15.56
※2 M17 ×2	15.210	14.835	15.1
M17 ×1.5	15.676	15.376	15.60
※2 M17 ×1.25	15.912	15.647	15.85
M17 ×1	16.153	15.917	16.09
※2 M17 ×0.75	16.378	16.188	16.33
※2 M17 ×0.5	16.599	16.459	16.56
M18 ×2.5	15.744	15.294	15.6
M18 ×2	16.210	15.835	16.1

The recommended tap drill sizes indicated above are for JIS 6H (Class 2) Metric Threads.
- D1: Minor diameter of JIS 6H (Class 2) internal thread. The Minor diameters D1 shown in ( ) are of 5H (Class 2) for coarse threads and of 4H • 5H (Class 1) for fine threads.
- Sizes marked with ※1 are already removed from JIS.
- Sizes marked with ※2 are not specified by JIS.
- ※Marked sizes have been eliminated from JIS.

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15. Bored hole size before tapping (for thread cutting)

for Metric Threads

Unit : mm

Size	Minor diameter of internal threads (D_1)		Bored hole size (ref.)
	Max.	Min.	
M18×1.5	16.676	16.376	16.60
※2 M18×1.25	16.912	16.647	16.85
M18×1	17.153	16.917	17.09
※2 M18×0.75	17.378	17.188	17.33
※1 M18×0.5	17.599	17.459	17.56
※2 M19×2.5	16.744	16.294	16.6
※2 M19×2	17.210	16.835	17.1
※2 M19×1.5	17.676	17.376	17.60
※2 M19×1	18.153	17.917	18.09
※2 M19×0.75	18.378	18.188	18.33
※2 M19×0.5	18.599	18.459	18.56
M20×2.5	17.744	17.294	17.6
M20×2	18.210	17.835	18.1
M20×1.5	18.676	18.376	18.60
※2 M20×1.25	18.912	18.647	18.85
M20×1	19.153	18.917	19.09
※2 M20×0.75	19.378	19.188	19.33
※1 M20×0.5	19.599	19.459	19.56
※2 M21×2	19.210	18.835	19.1
※2 M21×1.5	19.676	19.376	19.60
※2 M21×1	20.153	19.917	20.09
M22×2.5	19.744	19.294	19.6
M22×2	20.210	19.835	20.1
M22×1.5	20.676	20.376	20.60
※2 M22×1.25	20.912	20.647	20.85
M22×1	21.153	20.917	21.09
※2 M22×0.75	21.378	21.188	21.33
※1 M22×0.5	21.599	21.459	21.56
※2 M23×2	21.210	20.835	21.1
※2 M23×1.5	21.676	21.376	21.60
※2 M23×1	22.153	21.917	22.09
M24×3	21.252	20.752	21.1
M24×2	22.210	21.835	22.1
M24×1.5	22.676	22.376	22.60
※2 M24×1.25	22.912	22.647	22.85
M24×1	23.153	22.917	23.09
※2 M24×0.75	23.378	23.188	23.33
※1 M24×0.5	23.599	23.459	23.56
※2 M25×3	22.252	21.752	22.1
M25×2	23.210	22.835	23.1
M25×1.5	23.676	23.376	23.60
M25×1	24.153	23.917	24.09
※2 M25×0.75	24.378	24.188	24.33
※2 M26×3	23.252	22.752	23.1
※1 M26×2	24.210	23.835	24.1
M26×1.5	24.676	24.376	24.60
※1 M26×1	25.153	24.917	25.09
M27×3	24.252	23.752	24.1
M27×2	25.210	24.835	25.1
M27×1.5	25.676	25.376	25.60
M27×1	26.153	25.917	26.09
※2 M27×0.75	26.378	26.188	26.33
※2 M28×3	25.252	24.752	25.1
M28×2	26.210	25.835	26.1
M28×1.5	26.676	26.376	26.60
M28×1	27.153	26.917	27.09

Size	Minor diameter of internal threads (D_1)		Bored hole size (ref.)
	Max.	Min.	
※2 M29×1.5	27.676	27.376	27.60
M30×3.5	26.771	26.211	26.6
M30×3	27.252	26.752	27.1
M30×2	28.210	27.835	28.1
M30×1.5	28.676	28.376	28.60
M30×1	29.153	28.917	29.09
※2 M32×3.5	28.771	28.211	28.6
※2 M32×3	29.252	28.752	29.1
M32×2	30.210	29.835	30.1
M32×1.5	30.676	30.376	30.60
※1 M32×1	31.153	30.917	31.09
※2 M32×0.75	31.378	31.188	31.33
M33×3.5	29.771	29.211	29.6
M33×3	30.252	29.752	30.1
M33×2	31.210	30.835	31.1
M33×1.5	31.676	31.376	31.60
※2 M33×1	32.153	31.917	32.09
※2 M34×3	31.252	30.752	31.1
※1 M34×2	32.210	31.835	32.1
※1 M34×1.5	32.676	32.376	32.60
※1 M34×1	33.153	32.917	33.09
※2 M35×3	32.252	31.752	32.1
※2 M35×2	33.210	32.835	33.1
M35×1.5	33.676	33.376	33.60
※2 M35×1	34.153	33.917	34.09
M36×4	32.270	31.670	32.1
M36×3	33.252	32.752	33.1
M36×2	34.210	33.835	34.1
M36×1.5	34.676	34.376	34.60
※1 M36×1	35.153	34.917	35.09
※2 M37×1.5	35.676	35.376	35.60
※2 M38×3	35.252	34.752	35.1
※1 M38×2	36.210	35.835	36.1
M38×1.5	36.676	36.376	36.60
※1 M38×1	37.153	36.917	37.09
M39×4	35.270	34.670	35.1
M39×3	36.252	35.752	36.1
M39×2	37.210	36.835	37.1
M39×1.5	37.676	37.376	37.60
※2 M39×1	38.153	37.917	38.09
※2 M40×4	36.270	35.670	36.1
M40×3	37.252	36.752	37.1
M40×2	38.210	37.835	38.1
M40×1.5	38.676	38.376	38.60
※1 M40×1	39.153	38.917	39.09
M42×4.5	37.799	37.129	37.6
M42×4	38.270	37.670	38.1
M42×3	39.252	38.752	39.1
M42×2	40.210	39.835	40.1
M42×1.5	40.676	40.376	40.60
※1 M42×1	41.153	40.917	41.09
※2 M44×4	40.270	39.670	40.1
※2 M44×3	41.252	40.752	41.1
※2 M44×2	42.210	41.835	42.1
※2 M44×1.5	42.676	42.376	42.60
※2 M44×1	43.153	42.917	43.09

- D1: Minor diameter of JIS 6H (Class 2) internal thread.
- Sizes marked with ※1 are already removed from JIS.
- Sizes marked with ※2 are not specified by JIS.
- ※Marked sizes have been eliminated from JIS.

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Unit : mm

Size	Minor diameter of internal threads (D_1)		Bored hole size (ref.)
	Max.	Min.	
M45×4.5	40.799	40.129	40.6
M45×4	41.270	40.670	41.1
M45×3	42.252	41.752	42.1
M45×2	43.210	42.835	43.1
M45×1.5	43.676	43.376	43.60
※1 M45×1	44.153	43.917	44.09
※2 M46×4	42.270	41.670	42.1
※2 M46×3	43.252	42.752	43.1
※2 M46×2	44.210	44.835	44.1
※2 M46×1.5	44.676	44.376	44.60
M48×5	43.297	42.587	43.1
M48×4	44.270	43.670	44.1
M48×3	45.252	44.752	45.1
M48×2	46.210	45.835	46.1
M48×1.5	46.676	46.376	46.60
※1 M48×1	47.153	46.917	47.09
※2 M50×5	45.297	44.587	45.1
※2 M50×4	46.270	45.670	46.1
M50×3	47.252	46.752	47.1
M50×2	48.210	47.835	48.1
M50×1.5	48.676	48.376	48.60
※1 M50×1	49.153	48.917	49.09
M52×5	47.297	46.587	47.1
M52×4	48.270	47.670	48.1
M52×3	49.252	48.752	49.1
M52×2	50.210	49.835	50.1
M52×1.5	50.676	50.376	50.60
M55×4	51.270	50.670	51.1
M55×3	52.252	51.752	52.1
M55×2	53.210	52.835	53.1
M55×1.5	53.676	53.376	53.60
M56×5.5	50.796	50.046	50.6
M56×4	52.270	51.670	52.1
M56×3	53.252	52.752	53.1
M56×2	54.210	53.835	54.1
M56×1.5	54.676	54.376	54.60
M58×4	54.270	53.670	54.1
M58×3	55.252	54.752	55.1
M58×2	56.210	55.835	56.1
M58×1.5	56.676	56.376	56.60
M60×5.5	54.796	54.046	54.6
M60×4	56.270	55.670	56.1
M60×3	57.252	56.752	57.1
M60×2	58.210	57.835	58.1
M60×1.5	58.676	58.376	58.60
M62×4	58.270	57.670	58.1
M62×3	59.252	58.752	59.1
M62×2	60.210	59.835	60.1
M62×1.5	60.676	60.376	60.60
M64×6	58.305	57.505	58.1
M64×4	60.270	59.670	60.1
M64×3	61.252	60.752	61.1
M64×2	62.210	61.835	62.1
M64×1.5	62.676	62.376	62.60
※2 M65×6	59.305	58.505	59.1
M65×4	61.270	60.670	61.1
M65×3	62.252	61.752	62.1
M65×2	63.210	62.835	63.1
M65×1.5	63.676	63.376	63.60
M 68×6	62.305	61.505	62.1
M 68×4	64.270	63.670	64.1
M 68×3	65.252	64.752	65.1
M 68×2	66.210	65.835	66.1
M 68×1.5	66.676	66.376	66.60
M 70×6	64.305	63.505	64.1
M 70×4	66.270	65.670	66.1
M 70×3	67.252	66.752	67.1
M 70×2	68.210	67.835	68.1
M 70×1.5	68.676	68.376	68.60
M 72×6	66.305	65.505	66.1
M 72×4	68.270	67.670	68.1
M 72×3	69.252	68.752	69.1
M 72×2	70.210	69.835	70.1
M 72×1.5	70.676	70.376	70.60
※2 M 75×6	69.305	68.505	69.1
M 75×4	71.270	70.670	71.1
M 75×3	72.252	71.752	72.1
M 75×2	73.210	72.835	73.1
M 75×1.5	73.676	73.376	73.60
M 76×6	70.305	69.505	70.1
M 76×4	72.270	71.670	72.1
M 76×3	73.252	72.752	73.1
M 76×2	74.210	73.835	74.1
M 76×1.5	74.676	74.376	74.60
※2 M 78×3	75.252	74.752	75.1
M 78×2	76.210	75.835	76.1
M 80×6	74.305	73.505	74.1
M 80×4	76.270	75.670	76.1
M 80×3	77.252	76.752	77.1
M 80×2	78.210	77.835	78.1
M 80×1.5	78.676	78.376	78.60
M 82×2	80.210	79.835	80.1
M 85×6	79.305	78.505	79.1
M 85×4	81.270	80.670	81.1
M 85×3	82.252	81.752	82.1
M 85×2	83.210	82.835	83.1
M 90×6	84.305	83.505	84.1
M 90×4	86.270	85.670	86.1
M 90×3	87.252	86.752	87.1
M 90×2	88.210	87.835	88.1
M 95×6	89.305	88.505	89.1
M 95×4	91.270	90.670	91.1
M 95×3	92.252	91.752	92.1
M 95×2	93.210	92.835	93.1
M100×6	94.305	93.505	94.1
M100×4	96.270	95.670	96.1
M100×3	97.252	96.752	97.1
M100×2	98.210	97.835	98.1

- D1: Minor diameter of JIS 6H (Class 2) internal thread.
- Sizes marked with ※1 are already removed from JIS.
- Sizes marked with ※2 are not specified by JIS.
- ※Marked sizes have been eliminated from JIS.

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15. Bored hole size before tapping (for thread cutting)

for Unified Threads

Unit : mm

Size	Minor diameter of internal threads (D1)		Bored hole size (ref.)
	Max.	Min.	
No. 0 - 80UNF	1.305	1.182	1.27
No. 1 - 64UNC	1.582	1.425	1.54
No. 1 - 72UNF	1.612	1.474	1.58
No. 2 - 56UNC	1.871	1.695	1.83
No. 2 - 64UNF	1.912	1.756	1.87
No. 3 - 48UNC	2.146	1.941	2.09
No. 3 - 56UNF	2.197	2.025	2.15
No. 4 - 40UNC	2.385	2.157	2.33
No. 4 - 48UNF	2.458	2.271	2.41
No. 5 - 40UNC	2.697	2.487	2.64
No. 5 - 44UNF	2.740	2.551	2.69
No. 6 - 32UNC	2.895	2.642	2.83
No. 6 - 40UNF	3.022	2.820	2.97
No. 8 - 32UNC	3.530	3.302	3.47
No. 8 - 36UNF	3.606	3.404	3.56
No.10 - 24UNC	3.962	3.683	3.89
No.10 - 32UNF	4.165	3.963	4.11
No.12 - 24UNC	4.597	4.344	4.53
No.12 - 28UNF	4.724	4.496	4.67
No.12 - 32UNEF	4.826	4.623	4.78
1/4 - 20UNC	5.257	4.979	5.19
1/4 - 28UNF	5.588	5.360	5.53
1/4 - 32UNEF	5.689	5.487	5.64
1/4 - 36UNS	5.766	5.588	5.72
5/16 - 18UNC	6.731	6.401	6.65
5/16 - 24UNF	7.035	6.782	6.97
5/16 - 32UNEF	7.264	7.087	7.22
3/8 - 16UNC	8.153	7.798	8.06
3/8 - 24UNF	8.636	8.382	8.57
3/8 - 32UNEF	8.864	8.662	8.81
7/16 - 14UNC	9.550	9.144	9.4
7/16 - 20UNF	10.033	9.729	9.96
7/16 - 24UNS	10.210	9.957	10.15
7/16 - 28UNEF	10.337	10.135	10.29
1/2 - 13UNC	11.023	10.592	10.9
1/2 - 20UNF	11.607	11.329	11.54
1/2 - 24UNS	11.811	11.557	11.75
1/2 - 28UNEF	11.938	11.710	11.88
1/2 - 32UN	12.039	11.837	11.99
9/16 - 12UNC	12.446	11.989	12.3
9/16 - 18UNF	13.081	12.751	13.00
9/16 - 20UN	13.208	12.904	13.13
9/16 - 24UNEF	13.385	13.132	13.32
5/8 - 11UNC	13.868	13.386	13.7
5/8 - 18UNF	14.681	14.351	14.60

Size	Minor diameter of internal threads (D1)		Bored hole size (ref.)
	Max.	Min.	
5/8 - 20UN	14.782	14.504	14.71
5/8 - 24UNEF	14.986	14.732	14.92
3/4 - 10UNC	16.840	16.307	16.7
3/4 - 16UNF	17.678	17.323	17.59
3/4 - 20UNEF	17.957	17.679	17.89
7/8 - 9UNC	19.761	19.177	19.6
7/8 - 14UNF	20.675	20.270	20.6
7/8 - 20UNEF	21.132	20.854	21.06
1 - 8UNC	22.606	21.971	22.4
1 - 12UNF	23.571	23.114	23.5
1 - 14UNS	23.825	23.445	23.7
1 - 20UNEF	24.307	24.029	24.24
1 1/16 - 12UN	25.146	24.689	25.0
1 1/16 - 14UNS	25.412	25.032	25.3
1 1/8 - 7UNC	25.349	24.638	25.2
1 1/8 - 8UN	25.781	25.146	25.6
1 1/8 - 12UNF	26.746	26.289	26.6
1 1/8 - 14UNS	27.000	26.620	26.9
1 3/16 - 12UN	28.321	27.864	28.2
1 1/4 - 7UNC	28.524	27.813	28.3
1 1/4 - 8UN	28.956	28.321	28.8
1 1/4 - 12UNF	29.921	29.464	29.8
1 5/16 - 12UN	31.496	31.039	31.4
1 3/8 - 6UNC	31.115	30.353	30.9
1 3/8 - 8UN	32.131	31.496	32.0
1 3/8 - 12UNF	33.096	32.639	33.0
1 1/2 - 6UNC	34.290	33.528	34.1
1 1/2 - 8UN	35.306	34.671	35.1
1 1/2 - 12UNF	36.271	35.814	36.2
1 5/8 - 5UNS	36.652	35.789	36.4
1 5/8 - 8UN	38.481	37.846	38.3
1 5/8 - 12UN	39.446	38.989	39.3
1 3/4 - 5UNC	39.827	38.964	39.6
1 3/4 - 8UN	41.656	41.021	41.5
1 3/4 - 12UN	42.621	42.164	42.5
1 7/8 - 8UN	44.831	44.196	44.7
1 7/8 - 12UN	45.796	45.339	45.7
2 - 4 1/2UNC	45.593	44.679	45.4
2 - 8UN	48.006	47.371	47.8
2 - 12UN	48.971	48.514	48.9
2 1/4 - 8UN	54.356	53.721	54.2
2 1/2 - 8UN	60.706	60.071	60.5
2 3/4 - 8UN	67.056	66.421	66.9
3 - 8UN	73.406	72.771	73.2

• The recommended tap drill sizes indicated above are for JIS Class 2B UNC & UNF threads, and ANSI B1.1 Class 2B UNEF, UN & UNS threads.

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for Helical Coil Wire Thread Inserts, Metric Threads

Unit : mm

Nominal size	Bored hole size		Bored hole size (ref.)
	Max.	Min.	
STI M2.6 × 0.45	2.798	2.698	2.77
STI M 3 × 0.5	3.221	3.109	3.19
STI M 4 × 0.7	4.291	4.151	4.26
STI M 5 × 0.8	5.333	5.173	5.29
STI M 6 × 1	6.406	6.216	6.36
STI M 8 × 1.25	8.483	8.271	8.43
STI M10 × 1.5	10.561	10.325	10.50
STI M10 × 1.25	10.483	10.271	10.43
STI M10 × 1	10.406	10.216	10.36
STI M12 × 1.75	12.644	12.379	12.6
STI M12 × 1.5	12.561	12.325	12.50
STI M12 × 1.25	12.483	12.271	12.43
STI M14 × 2	14.733	14.433	14.7
STI M14 × 1.5	14.561	14.325	14.50
STI M14 × 1.25	14.483	14.271	14.43
STI M16 × 2	16.733	16.433	16.7
STI M16 × 1.5	16.561	16.325	16.50
STI M18 × 2.5	18.897	18.542	18.8
STI M18 × 1.5	18.561	18.325	18.50
STI M20 × 2.5	20.897	20.542	20.8
STI M20 × 1.5	20.561	20.325	20.50
STI M22 × 2.5	22.897	22.542	22.8
STI M22 × 1.5	22.561	22.325	22.50
STI M24 × 3	25.049	24.649	24.9
STI M24 × 2	24.733	24.433	24.7
STI M24 × 1.5	24.561	24.325	24.50

for Helical Coil Wire Thread Inserts, Unified Threads

Unit : mm

Size	Minor diameter of internal threads (D_1)		Bored hole size (ref.)
	Max.	Min.	
STI No. 4 - 40 UNC	3.180	2.985	3.13
STI No. 4 - 48 UNF	3.121	2.962	3.08
STI No. 5 - 40 UNC	3.487	3.315	3.44
STI No. 6 - 32 UNC	3.878	3.678	3.83
STI No. 6 - 40 UNF	3.817	3.645	3.77
STI No. 8 - 32 UNC	4.523	4.339	4.48
STI No. 8 - 36 UNF	4.498	4.321	4.45
STI No. 10 - 24 UNC	5.283	5.055	5.23
STI No. 10 - 32 UNF	5.184	4.999	5.14
STI No. 12 - 24 UNC	5.943	5.715	5.89
STI 1/4 - 20 UNC	6.868	6.625	6.81
STI 1/4 - 28 UNF	6.720	6.546	6.68
STI 5/16 - 18 UNC	8.488	8.243	8.43
STI 5/16 - 24 UNF	8.351	8.167	8.31
STI 3/8 - 16 UNC	10.126	9.868	10.06
STI 3/8 - 24 UNF	9.931	9.754	9.89
STI 7/16 - 14 UNC	11.783	11.507	11.7
STI 7/16 - 20 UNF	11.584	11.387	11.53
STI 1/2 - 13 UNC	13.393	13.122	13.3
STI 1/2 - 20 UNF	13.172	12.975	13.12
STI 5/8 - 11 UNC	16.672	16.376	16.60
STI 5/8 - 18 UNF	16.385	16.180	16.33
STI 3/4 - 10 UNC	19.908	19.599	19.8
STI 3/4 - 16 UNF	19.608	19.393	19.55

• The figures listed above are according to the data provided by helical coil wire insert manufacturers.

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15. Bored hole size before tapping (for thread cutting)

for Whitworth Threads

Unit : mm

Size	Minor diameter of internal threads (D_1)		Bored hole size (ref.)
	Max.	Min.	
※ 1/16 W 60	1.230	1.107	1.20
※ 3/32 W 48	1.914	1.785	1.88
※ 1/8 W 40	2.591	2.456	2.56
※ 5/32 W 32	3.214	3.071	3.18
※ 3/16 W 24	3.745	3.563	3.70
※ 7/32 W 24	4.540	4.358	4.49
1/4 W 20	5.204	4.914	5.13
5/16 W 18	6.670	6.340	6.59
3/8 W 16	8.113	7.733	8.02
7/16 W 14	9.508	9.048	9.4
1/2 W 12	10.830	10.310	10.7
9/16 W 12	12.418	11.898	12.3
5/8 W 11	13.817	13.257	13.7
3/4 W 10	16.778	16.178	16.6
7/8 W 9	19.691	19.031	19.5
1 W 8	22.514	21.814	22.3
1 1/8 W 7	25.229	24.469	25.0
1 1/4 W 7	28.404	27.644	28.2
1 3/8 W 6	30.923	30.123	30.7
1 1/2 W 6	34.098	33.298	33.9
1 5/8 W 5	36.409	35.529	36.2
1 3/4 W 5	39.584	38.704	39.4
1 7/8 W 4 1/2	42.227	41.237	42.0
2 W 4 1/2	45.402	44.412	45.2
2 1/4 W 4	51.068	49.958	50.8
2 1/2 W 4	57.418	56.308	57.1
2 3/4 W 3 1/2	62.816	61.636	62.5
3 W 3 1/2	69.166	67.986	68.9
3 1/4 W 3 1/4	74.902	73.702	74.6
3 1/2 W 3 1/4	81.252	80.052	81.0
3 3/4 W 3	86.908	85.668	86.6
4 W 3	93.258	92.018	92.9

- D1: Minor diameter of JIS Class 2 internal thread.
- Whitworth Threads have been eliminated from JIS.
- ※Marked sizes are in accordance with BSW.

for Sewing Machine Threads

Unit : mm

Size	Minor diameter of internal threads (D_1)		Bored hole size (ref.)
	Max.	Min.	
1/16 SM 80	1.281	1.211	1.26
5/64 SM 64	1.593	1.513	1.57
3/32 SM 56	1.936	1.841	1.91
3/32 SM 100	2.156	2.081	2.14
1/8 SM 40	2.551	2.421	2.52
1/8 SM 44	2.605	2.485	2.58
9/64 SM 40	2.948	2.818	2.92
11/64 SM 32	3.584	3.424	3.54
11/64 SM 40	3.742	3.612	3.71
3/16 SM 24	3.658	3.498	3.62
3/16 SM 28	3.844	3.684	3.80
3/16 SM 32	3.980	3.820	3.94
3/16 SM 40	4.138	4.008	4.11
7/32 SM 32	4.774	4.614	4.73
15/64 SM 28	5.055	4.875	5.01
1/4 SM 24	5.266	5.086	5.22
1/4 SM 28	5.452	5.272	5.41
1/4 SM 40	5.726	5.596	5.69
9/32 SM 28	6.256	6.066	6.21
5/16 SM 24	6.864	6.674	6.82
11/32 SM 28	7.843	7.653	7.80

for Pipe Threads

○PS

Unit : mm

Size	Minor Diameter of JIS internal thread (D_1)		Bored hole size (ref.)
	Max.	Min.	
PS 1/16 - 28	6.632	6.490	6.50
PS 1/8 - 28	8.637	8.495	8.50
PS 1/4 - 19	11.549	11.341	11.30
PS 3/8 - 19	15.054	14.846	14.80
PS 1/2 - 14	18.773	18.489	18.5
PS 5/8 - 14	20.729	20.445	20.4
PS 3/4 - 14	24.259	23.975	24.0
PS 7/8 - 14	28.019	27.735	27.7
PS 1 - 11	30.472	30.110	30.1
PS 1 1/8 - 11	35.120	34.758	34.7
PS 1 1/4 - 11	39.133	38.771	38.8
PS 1 1/2 - 11	45.026	44.664	44.7
PS 1 3/4 - 11	50.969	50.607	50.6
PS 2 - 11	56.837	56.475	56.5
PS 2 1/4 - 11	62.933	62.571	62.5
PS 2 1/2 - 11	72.442	72.010	72.0
PS 3 - 11	85.142	84.710	84.7
PS 3 1/2 - 11	97.588	97.156	97.2
PS 4 - 11	110.288	109.856	109.9

· For taps with the product symbol of "PS" or "Rp", see the list above.

○Rp

Unit : mm

Size	Minor diameter of internal threads (D_1)		Bored hole size (ref.)
	Max.	Min.	
Rp 1/8 - 28	8.637	8.495	8.50
Rp 1/4 - 19	11.549	11.341	11.40
Rp 3/8 - 19	15.054	14.846	14.90
Rp 1/2 - 14	18.773	18.489	18.5
Rp 3/4 - 14	24.259	23.975	24.0
Rp 1 - 11	30.472	30.110	30.2

· For the product symbol of "AUSP Rp", see the list above.

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for Pipe Threads

○PF, G

Unit : mm

Size	Minor Diameter of JIS internal thread (D_1)		Bored hole size (ref.)
	Max.	Min.	
PF 1/16 - 28	6.843	6.561	6.77
PF 1/8 - 28	8.848	8.566	8.78
PF 1/4 - 19	11.890	11.445	11.78
PF 3/8 - 19	15.395	14.950	15.28
PF 1/2 - 14	19.172	18.631	19.0
PF 5/8 - 14	21.128	20.587	21.0
PF 3/4 - 14	24.658	24.117	24.5
PF 7/8 - 14	28.418	27.877	28.3
PF 1 - 11	30.931	30.291	30.8
PF 1 1/8 -11	35.579	34.939	35.4
PF 1 1/4 -11	39.592	38.952	39.4
PF 1 1/2 -11	45.485	44.845	45.3
PF 1 3/4 -11	51.428	50.788	51.3
PF 2 - 11	57.296	56.656	57.1
PF 2 1/2 -11	72.866	72.226	72.7
PF 3 - 11	85.566	84.926	85.4
PF 3 1/2 -11	98.012	97.372	97.9
PF 4 - 11	110.712	110.072	110.6

for American Standard Pipe Thread

Unit : mm

Size	Minor diameter of internal threads		Bored hole size (ref.)
	Max.	Min.	
1/16 - 27 NPSC	6.426	6.300	6.39
1/8 - 27 NPSC	8.763	8.636	8.73
1/4 - 18 NPSC	11.379	11.227	11.34
3/8 - 18 NPSC	14.808	14.656	14.77
1/2 - 14 NPSC	18.313	18.161	18.3
3/4 - 14 NPSC	23.672	23.495	23.6
1 - 11 1/2 NPSC	29.667	29.490	29.6
1 1/4 - 11 1/2 NPSC	38.404	38.253	38.4
1 1/2 - 11 1/2 NPSC	44.475	44.323	44.4
2 - 11 1/2 NPSC	56.515	56.363	56.5

Unit : mm

Size	Minor diameter of internal threads		Bored hole size (ref.)
	Max.	Min.	
1/16 - 27 NPSM	6.908	6.731	6.86
1/8 - 27 NPSM	9.245	9.094	9.21
1/4 - 18 NPSM	12.217	11.888	12.13
3/8 - 18 NPSM	15.544	15.317	15.49
1/2 - 14 NPSM	19.278	18.974	19.2
3/4 - 14 NPSM	24.638	24.334	24.6
1 - 11 1/2 NPSM	30.759	30.506	30.7
1 1/4 - 11 1/2 NPSM	39.497	39.269	39.4
1 1/2 - 11 1/2 NPSM	45.567	45.339	45.5
2 - 11 1/2 NPSM	57.607	57.379	57.6

for Dryseal American Standard Pipe Thread

Unit : mm

Size	Minor diameter of internal threads		Bored hole size (ref.)
	Max.	Min.	
1/16 - 27 NPSF	6.393	6.305	6.37
1/8 - 27 NPSF	8.740	8.652	8.72
1/4 - 18 NPSF	11.320	11.232	11.30
3/8 - 18 NPSF	14.757	14.672	14.74
1/2 - 14 NPSF	18.204	18.118	18.2
3/4 - 14 NPSF	23.550	23.465	23.5
1 - 11 1/2 NPSF	29.552	29.464	29.5
1 1/4 - 11 1/2 NPSF	38.308	38.222	38.3
1 1/2 - 11 1/2 NPSF	44.378	44.293	44.3
2 - 11 1/2 NPSF	56.415	56.330	56.4

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15. Bored hole size before tapping (for thread cutting)

Recommended Bored Hole Size Table for Taper Pipe Threads (PT) (refer to JIS B 0203)

<Remarks during tapping>

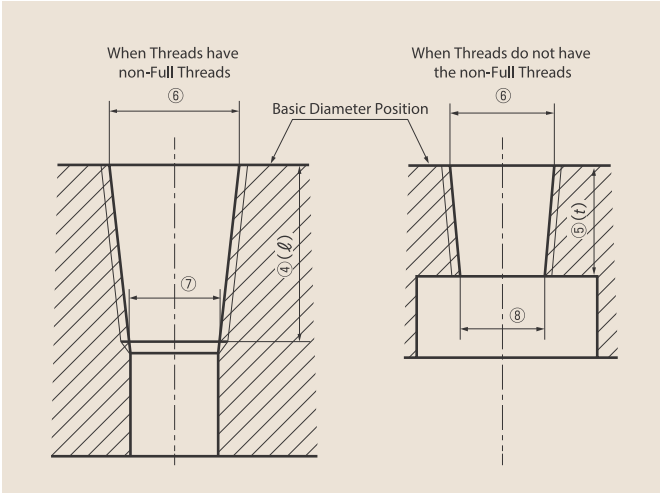
· PT internal threads have R design on their crests. The taps should cut threads with their thread root.

· On thread having non-full threads, if you are going to cut effective thread length ℓ , use the tap of long type.

Unit : mm

Size	Thread Standards				Minor Diameter			Recommended Bored Hole Sizes (reference)		reference		
	Basic Diameter	Basic Diameter Position	Effective Thread Length (Minimum)		Pipe End (Workpiece Face) (Basic Diameter)	When Threads have non-Full Threads	When Threads do not have the non-Full Threads	Maximum Size of Straight Bored Hole		Tap		
		Pipe End	When Threads have non-Full Threads[1] ℓ	When Threads do not have the non-Full Threads[1] t		Position away from Pipe End by ℓ	Position away from Pipe End by t			Basic Diameter Position, ℓ g		
	Tolerance in radial direction	Tolerance in axial direction c			Basic Size	Basic Size	Basic Size	When Threads have non-Full Threads	When Threads do not have the non-Full Threads	Long Thread Type	Short Thread Type	Rc
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬
PT 1/16 - 28	± 0.071	± 1.13	6.2	4.4	6.561	6.174	6.286	6.1	6.2	13.0	10.5	10.1
PT 1/8 - 28	± 0.071	± 1.13	6.2	4.4	8.566	8.179	8.291	8.1	8.2	13.0	10.5	10.1
PT 1/4 - 19	± 0.104	± 1.67	9.4	6.7	11.445	10.858	11.026	10.7	10.9	21.0	12.5	15.0
PT 3/8 - 19	± 0.104	± 1.67	9.7	7.0	14.950	14.344	14.513	14.2	14.4	21.0	14.0	15.4
PT 1/2 - 14	± 0.142	± 2.27	12.7	9.1	18.631	17.837	18.062	17.6	17.9	25.0	17.0	20.5
PT 5/8 - 14	± 0.142	± 2.27	(13.4)	(9.65)	20.587	19.750	19.984	19.6	19.8	25.0	-	-
PT 3/4 - 14	± 0.142	± 2.27	14.1	10.2	24.117	23.236	23.480	23.0	23.3	25.0	19.0	21.8
PT 7/8 - 14	± 0.142	± 2.27	(15.2)	(10.9)	27.877	26.930	27.196	26.7	27.0	28.0	-	-
PT 1 - 11	± 0.181	± 2.89	16.2	11.6	30.291	29.279	29.566	29.0	29.3	32.0	22.0	26.0
PT 1 1/8 - 11	± 0.181	± 2.89	(17.4)	(12.5)	34.939	33.855	34.158	33.6	33.9	32.0	-	-
PT 1 1/4 - 11	± 0.181	± 2.89	18.5	13.4	38.952	37.796	38.115	37.6	37.9	32.0	24.5	28.3
PT 1 1/2 - 11	± 0.181	± 2.89	18.5	13.4	44.845	43.689	44.008	43.5	43.8	32.0	25.5	28.3
PT 1 3/4 - 11	± 0.181	± 2.89	(18.5)	(13.4)	50.788	49.632	49.951	49.4	49.7	32.0	-	-
PT 2 - 11	± 0.181	± 2.89	22.8	16.9	56.656	55.231	55.600	55.0	55.4	35.0	27.5	32.7
PT 2 1/4 - 11	± 0.216	± 3.46	(26.7)	(18.6)	62.752	61.083	61.590	60.8	61.3	50.0	-	-
PT 2 1/2 - 11	± 0.216	± 3.46	26.7	18.6	72.226	70.557	71.064	70.3	70.8	50.0	32.0	37.1
PT 3 - 11	± 0.216	± 3.46	29.8	21.1	84.926	83.064	83.607	82.8	83.3	52.0	36.0	40.2
PT 3 1/2 - 11	± 0.216	± 3.46	31.4	22.4	97.372	95.410	95.972	95.1	95.7	52.0	-	46.2
PT 4 - 11	± 0.216	± 3.46	35.8	25.9	110.072	107.835	108.453	107.6	108.2	55.0	-	46.2

Note 1) Length toward End of Smaller Diameter from Basic Diameter Position



Remarks 1. Opening of Internal Thread (Face of workpiece) is Basic Diameter Position.

Remarks 2. Effective Thread Length has 2 types, with non-Full Thread Type and without non-Full Thread Type.

Remarks 3. Concerning bored hole shape, considering load on taps, taper bored hole is recommended.

Remarks 4. When a prepared hole is tapered, use a synchronized feed tapping machine.

Remarks 5. When applying taper bored hole, by referring to values shown in columns ② · ⑥~⑧, prepare the taper hole by using pipe reamer (1/16 taper). By referring to values shown in columns ⑨ and ⑩, select the drill diameter before reaming by taking reamer's margin into account.

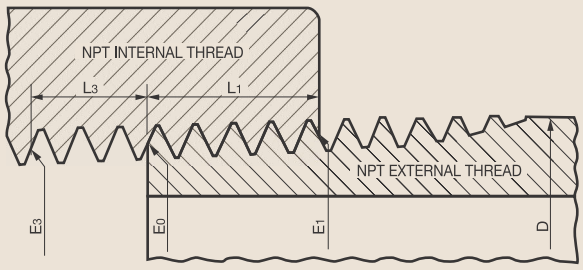
Remarks 6. When preparing straight bored hole, by referring to values shown in columns ⑨ and ⑩, select drill diameter.

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Recommended Bored Hole Size Table for American Taper Pipe Threads (NPT) (Refer to ANSI/ASME B1.20.1-1983)

Unit : mm

Size	L1	L3	L1+L3	Minor Diameter						Bored Hole Size (reference)	reference Tap
				Pipe End (Basic Diameter Position)			Position away from Pipe End by (L1+L3)			Maximum Size of Straight Bored Hole	Basic Diameter Position ℓg
				Maximum Value	Minimum Value	Tolerance	Maximum Value	Minimum Value	Tolerance		
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫
1/16 - 27 NPT	4.064	2.822	6.886	6.510	6.388	0.122	6.080	5.958	0.122	6.05	12.00
1/8 - 27 NPT	4.102	2.822	6.924	8.857	8.736	0.122	8.425	8.303	0.122	8.39	12.05
1/4 - 18 NPT	5.786	4.234	10.020	11.514	11.357	0.157	10.888	10.730	0.157	10.85	17.45
3/8 - 18 NPT	6.096	4.234	10.330	14.953	14.796	0.157	14.308	14.150	0.157	14.27	17.65
1/2 - 14 NPT	8.128	5.443	13.571	18.485	18.323	0.163	17.637	17.475	0.163	17.60	22.85
3/4 - 14 NPT	8.611	5.443	14.054	23.831	23.668	0.163	22.952	22.790	0.163	22.91	22.95
1 - 11 1/2 NPT	10.160	6.627	16.787	29.868	29.696	0.173	28.819	28.647	0.173	28.78	27.40
1 1/4 - 11 1/2 NPT	10.668	6.627	17.295	38.625	38.452	0.173	37.544	37.372	0.173	37.50	28.10
1 1/2 - 11 1/2 NPT	10.668	6.627	17.295	44.695	44.522	0.173	43.614	43.441	0.173	43.57	28.40
2 - 11 1/2 NPT	11.074	6.627	17.701	56.732	56.560	0.173	55.626	55.454	0.173	55.58	28.00
2 1/2 - 8 NPT	17.323	6.350	23.673	67.806	67.618	0.188	66.326	66.138	0.188	66.28	40.80
3 - 8 NPT	19.456	6.350	25.806	83.715	83.527	0.188	82.102	81.914	0.188	82.05	42.95



Remarks 1. Pipe End is Basic Diameter Position (E1).

Remarks 2. Effective Thread Length is the length away from Pipe End by (L1+L3).

Remarks 3. Concerning bored hole shape, considering load on taps, taper bored hole is recommended.

Remarks 4. When applying taper bored hole, by referring to values in shown columns ⑤, ⑥ and ⑧, ⑨, prepare the taper hole by using pipe reamer (1/16 taper). By referring to values shown in column ⑪, select the drill diameter before reaming by taking reamer's margin into account.

Remarks 5. When preparing straight bored hole, by referring to values shown in column ⑪, select drill diameter.

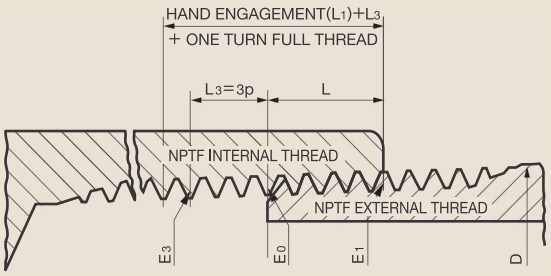
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15. Bored hole size before tapping (for thread cutting)

Recommended Bored Hole Size Table for American Dryseal Taper Pipe Threads (NPTF)
(Refer to ANSI B1.20.3-1976, re-confirmed in 1982)

Unit : mm

Size	L1	L3 (3P)	L1+L3+1P	Minor Diameter						Bored Hole Size (reference)	reference Tap
				Pipe End (Basic Diameter Position)			Position of (L1+L3+1P)			Maximum Size of Straight Bored Hole	Basic Diameter Position ℓ g
				Maximum Value	Minimum Value	Tolerance	Maximum Value	Minimum Value	Tolerance		
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫
1/16 - 27 NPTF	4.064	2.822	7.827	6.505	6.414	0.091	6.015	5.923	0.091	5.99	12.00
1/8 - 27 NPTF	4.102	2.822	7.865	8.852	8.761	0.091	8.362	8.270	0.091	8.34	12.05
1/4 - 18 NPTF	5.786	4.234	11.431	11.484	11.397	0.086	10.770	10.684	0.086	10.75	17.45
3/8 - 18 NPTF	6.096	4.234	11.741	14.923	14.836	0.086	14.189	14.103	0.086	14.17	17.65
1/2 - 14 NPTF	8.128	5.443	15.386	18.419	18.333	0.086	17.459	17.373	0.086	17.44	22.85
3/4 - 14 NPTF	8.611	5.443	15.868	23.764	23.678	0.086	22.773	22.687	0.086	22.75	22.95
1 - 11 1/2 NPTF	10.160	6.627	18.996	29.812	29.726	0.086	28.625	28.538	0.086	28.60	27.40
1 1/4 - 11 1/2 NPTF	10.668	6.627	19.504	38.569	38.483	0.086	37.350	37.263	0.086	37.33	28.10
1 1/2 - 11 1/2 NPTF	10.668	6.627	19.504	44.639	44.552	0.086	43.420	43.334	0.086	43.40	28.40
2 - 11 1/2 NPTF	11.074	6.627	19.910	56.677	56.590	0.086	55.432	55.345	0.086	55.41	28.00



Remarks 1. Pipe End is Basic Diameter Position (E1).
Remarks 2. Effective Thread Length is the length away from Pipe End by (L1+L3+1P).
Remarks 3. Concerning bored hole shape, considering load on taps, taper bored hole is recommended.
Remarks 4. When applying taper bored hole, by referring to values shown in columns ⑤, ⑥ and ⑧, ⑨, prepare the taper hole by using pipe reamer (1/16 taper). By referring to values in shown column ⑪, select the drill diameter before reaming by taking reamer's margin into account.
Remarks 5. When preparing straight bored hole, by referring to values shown in column ⑪, select drill diameter.

Percentage of Thread Height & Relation between Percentage of Thread Height and Area Removed at A Thread Height

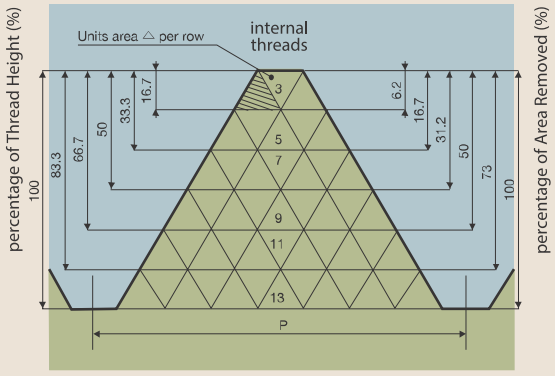
Percentage of Thread Engagement

$$\frac{\text{Basic Major Dia.} - \text{Hole Size Before Tapping}}{2\times(\text{Basic Thread Overlap})} \times 100$$

Basic Thread Overlap

Metric & Unified Thread	0.5413P
Whitworth Thread	0.5664P
Pipe Thread (Rc, Rp, G, PT, PS, PF)	0.6403P

P=Pitch



As shown above, when the thread height increases, the amount of material to be removed increases rapidly, so it is an advantage to tap users to keep the hole size (thread minor diameter) as large as possible.

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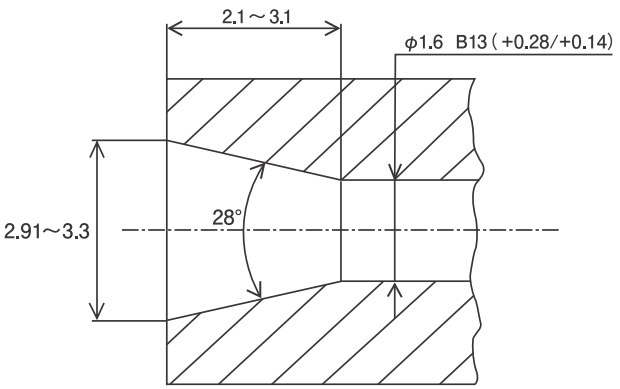
for Camera Tripod Mounting Threads

Unit : mm

Size	Minor diameter of internal threads (D_1)		Tap drill hole size (reference)
	Max.	Min.	
1/4 - 20	5.267	4.975	5.19

for Camera Release Mounting Taper Internal Threads

Unit : mm



for Automobile Tire Valve Threads

Unit : mm

Size	Minor diameter of internal threads (D_1)		Tap drill hole size (reference)
	Max.	Min.	
5 V 1	4.801	4.597	4.75
8 V 1	7.239	7.036	7.19
8 V 2	7.035	6.782	6.97
9 V 1	8.865	8.661	8.81
10 V 1	8.900	8.750	8.86
10 V 2	9.550	9.350	9.50
11 V 1	10.033	9.729	9.96
12 V 1	11.379	11.176	11.33
13 V 1	11.608	11.328	11.54
13 V 2	12.039	11.837	11.99
15 V 1	13.950	13.750	13.90
16 V 1	15.088	14.859	15.03
17 V 1	15.950	15.750	15.90
17 V 2	16.560	16.307	16.50
17 V 3	16.103	15.748	16.01
19 V 1	17.678	17.323	17.59
20 V 1	19.450	19.250	19.40

for Bicycle Tire Valve Threads

Unit : mm

Size	Minor diameter of internal threads (D_1)		Tap drill hole size (reference)
	Max.	Min.	
CTV 5 - 36	4.732	4.630	4.71
CTV 5 - 24	4.214	3.954	4.15
CTV 8 - 32	7.192	7.040	7.15
CTV 8 - 30	7.344	7.183	7.30
5 V 2	4.600	4.400	4.55
6 V 1	5.540	5.440	5.52

for Steel Conduit Threads (CTC)

Unit : mm

Size	Minor diameter of internal threads(D_1)		Tap drill hole size (reference)
	Max.	Min.	
CTC 19 - 16	18.208	17.808	18.11
CTC 25 - 16	24.508	24.108	24.41
CTC 31 - 16	30.908	30.508	30.81
CTC 39 - 16	37.208	36.808	37.11

for Thick Steel Conduit Threads (CTG)

Unit : mm

Size	Minor diameter of internal threads(D_1)		Tap drill hole size (reference)
	Max.	Min.	
CTG 16 - 14	19.522	19.022	19.4
CTG 22 - 14	25.008	24.508	24.9
CTG 28 - 11	31.361	30.761	31.2
CTG 36 - 11	40.022	39.422	39.9
CTG 42 - 11	45.915	45.315	45.8

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15. Bored hole size before tapping (for thread cutting)

for General Bicycle Threads (BC)

Unit : mm

Size	Minor diameter of internal threads(D_1)		Tap drill hole size (reference)
	Max.	Min.	
BC 5/16 - 26	7.16	7.06	7.14
BC 3/8 - 26	8.75	8.65	8.73
BC 7/16 - 26	10.33	10.23	10.31
BC 1/2 - 20	11.66	11.55	11.63
BC 9/16 - 20	13.25	13.14	13.22
BC 5/8 - 20	14.84	14.73	14.81
BC 11/16 - 24	16.59	16.48	16.56
BC 3/4 - 30	18.40	18.29	18.37
BC 31/32 - 30	23.96	23.85	23.93
BC 1 - 24	24.58	24.46	24.55
BC 1.29 - 24	31.96	31.83	31.93
BC 1.37 - 24	33.99	33.86	33.96
BC 1 7/16 - 24	35.70	35.57	35.67
BC 1.45 - 24	36.02	35.89	35.99
BC 1 9/16 - 24	38.88	38.75	38.85

for European Steel Conduit Threads (Pg)

Unit : mm

Size	Minor diameter of internal threads(D_1)		Tap drill hole size (reference)
	Max.	Min.	
Pg 7 - 20	11.43	11.28	11.39
Pg 9 - 18	14.01	13.86	13.97
Pg 11 - 18	17.41	17.26	17.37
Pg 13.5 - 18	19.21	19.06	19.17
Pg 16 - 18	21.31	21.16	21.27
Pg 21 - 16	27.03	26.78	26.97
Pg 29 - 16	35.73	35.48	35.67
Pg 36 - 16	45.73	45.48	45.67

For miniature threads

Unit : mm

Size	Minor diameter of internal threads(D_1)		Tap drill hole size (reference)
	Max.	Min.	
S0.4 × 0.1	0.330	0.304	0.32
S0.5 × 0.125	0.415	0.380	0.41
S0.6 × 0.15	0.502	0.456	0.49
S0.7 × 0.175	0.585	0.532	0.57
S0.8 × 0.2	0.665	0.608	0.65
S0.9 × 0.225	0.745	0.684	0.73

For trapezoidal threads

Unit : mm

Size	Minor diameter of internal threads(D_1)		Tap drill hole size (reference)
	Max.	Min.	
Tr 10 × 2	8.236	8.000	8.2
Tr 12 × 3	9.315	9.000	9.2
Tr 12 × 2	10.236	10.000	10.2
Tr 14 × 3	11.315	11.000	11.2
Tr 16 × 4	12.375	12.000	12.3
Tr 16 × 3	13.315	13.000	13.2
Tr 18 × 4	14.375	14.000	14.3
Tr 20 × 4	16.375	16.000	16.3
Tr 22 × 5	17.450	17.000	17.3
Tr 24 × 5	19.450	19.000	19.3
Tr 25 × 5	20.450	20.000	20.3
Tr 26 × 5	21.450	21.000	21.3
Tr 28 × 5	23.450	23.000	23.3
Tr 30 × 6	24.500	24.000	24.4

For microscope objective lenses

Unit : mm

Size	Minor diameter of internal threads(D_1)		Tap drill hole size (reference)
	Max.	Min.	
20.32W36	19.550	19.474	19.53
26W36	25.300	25.200	25.28

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16. Bored hole size before tapping (for thread forming)

for Metric Threads

Unit : mm

Size	Class	Bored Hole Size	Expected minor Diameter of Internal Thread Size
M1 × 0.25	G4	0.91	0.76
	G5	0.92	
M1.2 × 0.25	G4	1.11	0.96
	G5	1.12	
M1.4 × 0.3	G4	1.28	1.12
	G5	1.30	
M1.4 × 0.2	G3	1.32	1.21
M1.6 × 0.35	G4	1.46	1.28
	G5	1.47	
	G6	1.48	
M1.6 × 0.2	G3	1.52	1.41
※ M1.7 × 0.35	G4	1.56	1.38
	G5	1.57	
	G6	1.58	
M1.8 × 0.35	G4	1.66	1.48
	G5	1.67	
M2 × 0.4	G4	1.82	1.64
	G5	1.83	
	G6	1.85	
M2 × 0.25	G4	1.90	1.76
	G5	1.92	
M2.2 × 0.45	G5	2.01	1.79
※ M2.3 × 0.4	G4	2.12	1.94
	G5	2.13	
	G6	2.15	
M2.5 × 0.45	G5	2.31	2.09
	G6	2.33	
M2.5 × 0.35	G4	2.35	2.18
	G5	2.37	
※ M2.6 × 0.45	G5	2.41	2.19
	G6	2.43	
※ M2.6 × 0.35	G5	2.47	2.28
	G6	2.48	
M3 × 0.5	G5	2.79	2.55
	G6	2.81	
	G7	2.82	
	G8	2.83	
M3 × 0.35	G5	2.85	2.68
	G6	2.87	
M3.5 × 0.6	G5	3.24	2.95
	G6	3.25	
	G7	3.26	
M3.5 × 0.35	G5	3.35	3.18
	G6	3.36	
M4 × 0.7	G5	3.69	3.35
	G6	3.70	
	G7	3.72	
	G8	3.73	
M4 × 0.5	G5	3.79	3.55
	G6	3.80	
	G7	3.82	
M5 × 0.8	G5	4.63	4.26
	G6	4.65	
	G7	4.66	
	G8	4.67	
M5 × 0.5	G6	4.80	4.55
	G7	4.81	
M6 × 1	G5	5.53	5.06
	G6	5.55	
	G7	5.56	
	G8	5.57	
M6 × 0.75	G6	5.67	5.31
	G7	5.68	
※ M6 × 0.5	G6	5.79	5.55
M7 × 1	G6	6.54	6.06
	G7	6.56	
M7 × 0.75	G7	6.68	6.31
M8 × 1.25	G7	7.44	6.81
	G8	7.45	
M8 × 1	G7	7.55	7.06
M8 × 0.75	G7	7.68	7.31
M10 × 1.5	G7	9.31	8.56
	G8	9.33	
M10 × 1.25	G7	9.44	8.81
	G8	9.45	
M10 × 1	G7	9.55	9.06
M12 × 1.75	G8	11.20	10.32
	G9	11.21	
M12 × 1.5	G8	11.31	10.56
	G9	11.32	
M12 × 1.25	G8	11.43	10.81
	G9	11.45	
M12 × 1	G7	11.55	11.06
M14 × 2	G9	13.08	12.07
	G10	13.10	
M14 × 1.5	G9	13.32	12.56
M14 × 1	G8	13.55	13.06
M16 × 2	G9	15.08	14.07
	G10	15.09	
M16 × 1.5	G9	15.31	14.56
M16 × 1	G8	15.55	15.06
M18 × 1.5	G9	17.31	16.56
	G10	17.32	
M20 × 2.5	G11	18.86	17.58
M20 × 1.5	G9	19.31	18.56
	G10	19.32	

Sizes with ※ mark are deleted from JIS.

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16. Bored hole size before tapping (for thread forming)

for Unified Threads

Unit : mm

Size	Class	Bored Hole Size	Expected minor Diameter of Internal Thread Size
No.0-80UNF	G5	1.43	1.26
No.1-72UNF	G5	1.75	1.56
No.2-56UNC	G4	2.01	1.81
	G5	2.03	
	G6	2.04	
	G7	2.05	
No.2-64UNF	G4	2.03	1.85
No.3-48UNC	G4	2.31	2.07
	G5	2.33	
No.3-56UNF	G4	2.34	2.13
No.4-40UNC	G5	2.61	2.30
	G6	2.62	
	G7	2.64	
No.4-48UNF	G5	2.65	2.39
	G6	2.66	
No.5-40UNC	G5	2.94	2.62
No.5-44UNF	G5	2.96	2.67
	G6	2.97	
No.6-32UNC	G5	3.19	2.80
	G6	3.20	
	G7	3.21	
No.6-40UNF	G5	3.25	2.95
No.8-32UNC	G6	3.85	3.44
	G7	3.86	
	G8	3.88	
No.8-36UNF	G5	3.88	3.53
	G6	3.89	
No.10-24UNC	G6	4.39	3.86
	G7	4.40	
No.10-32UNF	G6	4.50	4.09
	G7	4.51	
No.12-24UNC	G6	5.04	4.50
No.12-28UNF	G6	5.10	4.64
1/4-20UNC	G6	5.80	5.15
	G7	5.82	
	G8	5.83	
1/4-28UNF	G6	5.96	5.50
	G7	5.97	
5/16-18UNC	G7	7.33	6.61
3/8-24UNF	G7	9.07	8.54
7/16-14UNC	G8	10.32	9.40
7/16-20UNF	G8	10.57	9.92
1/2-13UNC	G8	11.84	10.86
1/2-20UNF	G8	12.15	11.50

for Helical Coil Wire Screw Thread Inserts

Unit : mm

Size	Class	Bored Hole Size	Expected minor Diameter of Internal Thread Size
STI M3 × 0.5	G3	3.41	3.18
STI M4 × 0.7	G4	4.57	4.24
STI M5 × 0.8	G4	5.65	5.27
STI M6 × 1	G4	6.80	6.33
STI M8 × 1.25	G4	9.01	8.40
STI M10 × 1.5	G5	11.21	10.47
STI M10 × 1.25	G5	11.02	10.40
STI M12 × 1.75	G6	13.42	12.54
STI M12 × 1.5	G6	13.21	12.47
STI M12 × 1.25	G6	13.01	12.40

for Miniature Screw Threads

Unit : mm

Size	Class	Bored Hole Size
S0.6 × 0.15	GS2	0.55
S0.7 × 0.175	GS3	0.63
S0.8 × 0.2	GS3	0.72
S0.9 × 0.225	GS4	0.81

Concerning bored hole sizes for metric extra fine screw series, please contact Yamawa or The Japan Research Institute for Screw Thread and Fastener.

SURZ

SURZ adopts special design on the thread root of tap, and is applicable to the control of minor diameter of internal threads and seams of thread crests.

Unit : mm

Size	Class	Recommended bored hole sizes
M1 × 0.25	G4	0.90
M1.2 × 0.25	G4	1.10
M1.4 × 0.3	G4	1.28
M1.6 × 0.35	G4	1.46
M1.6 × 0.2	G3	1.52
M1.7 × 0.35	G4	1.56
M2 × 0.4	G4	1.82
M2.3 × 0.4	G4	2.12
M2.5 × 0.45	G4	2.30
M2.6 × 0.45	G5	2.40
M3 × 0.5	G5	2.77
No. 2 - 56UNC	G4	1.98
No. 4 - 40UNC	G5	2.55
No. 6 - 32UNC	G5	3.14

*Recommended bored hole sizes shown above aim at 90% percentage of thread engagement, and are decided by paying attention to tap breakage possibility based on our test results.

*Material deformation can slightly change depending on material, hardness and shape of workpiece and cutting condition, and hole sizes should be changed accordingly.

Please choose the suitable bored hole size.

Think threads with YAMAWA

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17. Bar diameter for external threads (for cutting type dies)

Metric threads

Unit : mm

Size	Outside diameter of external thread				Bar diameter	
	Current JIS		Old JIS			
	Max.	Min.	Max.	Min.	Current JIS	Old JIS
M1X0.25	1.000	0.933	0.985	0.940	0.95	0.95
M1X0.2	1.000	0.944	0.980	0.930	0.96	0.94
M1.1X0.25	1.100	1.033	1.100	1.033	1.05	1.05
M1.2X0.25	1.200	1.133	1.185	1.140	1.15	1.15
M1.2X0.2	1.200	1.144	1.180	1.130	1.16	1.14
M1.4X0.3	1.400	1.325	1.380	1.320	1.34	1.34
M1.4X0.2	1.400	1.344	1.380	1.330	1.36	1.34
M1.6X0.35	1.581	1.496	1.581	1.496	1.52	1.52
M1.6X0.2	1.583	1.527	1.583	1.527	1.54	1.54
※1 M1.7X0.35	1.681	1.596	1.680	1.610	1.62	1.63
※1 M1.7X0.2	1.683	1.627	1.680	1.630	1.64	1.64
M1.8X0.35	1.781	1.696	1.781	1.696	1.72	1.72
M1.8X0.2	1.783	1.727	1.783	1.727	1.74	1.74
M2X0.4	1.981	1.886	1.980	1.890	1.91	1.91
M2X0.25	1.982	1.915	1.980	1.930	1.93	1.94
M2.2X0.45	2.180	2.080	2.180	2.080	2.11	2.11
M2.2X0.25	2.182	2.115	2.182	2.115	2.13	2.13
※1 M2.3X0.4	2.281	2.186	2.280	2.190	2.21	2.21
※1 M2.3X0.25	2.282	2.215	2.280	2.230	2.23	2.24
M2.5X0.45	2.480	2.380	2.480	2.380	2.41	2.41
M2.5X0.35	2.481	2.396	2.481	2.396	2.42	2.42
※1 M2.6X0.45	2.580	2.480	2.580	2.480	2.51	2.51
※1 M2.6X0.35	2.581	2.496	2.580	2.480	2.52	2.51
M3X0.5	2.980	2.874	2.980	2.874	2.90	2.90
※1 3M0.6	-	-	2.970	2.860	-	2.89
M3X0.35	2.981	2.896	2.980	2.880	2.92	2.91
M3.5X0.6	3.479	3.354	3.470	3.360	3.39	3.39
※2 M3.5X0.5	3.480	3.374	3.470	3.360	3.40	3.39
M3.5X0.35	3.481	3.396	3.480	3.380	3.42	3.41
M4X0.7	3.978	3.838	3.978	3.838	3.87	3.87
※1 4M0.75	-	-	3.970	3.840	-	3.87
M4X0.5	3.980	3.874	3.970	3.860	3.90	3.89
※2 M4X0.35	3.981	3.896	3.980	3.880	3.92	3.91
M4.5X0.75	4.478	4.338	4.470	4.340	4.37	4.37
M4.5X0.5	4.480	4.374	4.470	4.360	4.40	4.39
M5X0.8	4.976	4.826	4.976	4.826	4.86	4.86
※1 5M0.9	-	-	4.970	4.830	-	4.87
※2 M5X0.75	4.978	4.838	4.970	4.850	4.87	4.88
M5X0.5	4.980	4.874	4.970	4.860	4.90	4.89
※1 M5.5X0.9	-	-	5.470	5.330	-	5.37
M5.5X0.5	5.480	5.374	5.470	5.360	5.40	5.39
M6X1	5.974	5.794	5.970	5.820	5.84	5.86
M6X0.75	5.978	5.838	5.970	5.850	5.87	5.88
※1 M6X0.5	5.980	5.874	5.970	5.880	5.90	5.90

Size	Outside diameter of external thread				Bar diameter	
	Current JIS		Old JIS			
	Max.	Min.	Max.	Min.	Current JIS	Old JIS
M7X1	6.974	6.794	6.970	6.820	6.84	6.86
M7X0.75	6.978	6.838	6.970	6.850	6.87	6.88
※1 M7X0.5	6.980	6.874	6.970	6.880	6.90	6.90
M8X1.25	7.972	7.760	7.960	7.790	7.81	7.83
M8X1	7.974	7.794	7.970	7.830	7.84	7.87
M8X0.75	7.978	7.838	7.970	7.830	7.87	7.87
※1 M8X0.5	7.980	7.874	7.990	7.910	7.90	7.93
M9X1.25	8.972	8.760	8.960	8.790	8.81	8.83
M9X1	8.974	8.794	8.970	8.830	8.84	8.87
M9X0.75	8.978	8.838	8.970	8.830	8.87	8.87
※1 M9X0.5	8.980	8.874	8.990	8.910	8.90	8.93
M10X1.5	9.968	9.732	9.960	9.770	9.79	9.82
M10X1.25	9.972	9.760	9.960	9.810	9.81	9.85
M10X1	9.974	9.794	9.970	9.820	9.84	9.86
M10X0.75	9.978	9.838	9.978	9.838	9.87	9.87
※1 M10X0.5	9.980	9.874	9.990	9.910	9.90	9.93
M11X1.5	10.968	10.732	10.968	10.732	10.79	10.79
※1 M11X1.25	10.972	10.760	10.960	10.810	10.81	10.85
M11X1	10.974	10.794	10.970	10.820	10.84	10.86
M11X0.75	10.978	10.838	10.978	10.838	10.87	10.87
※1 M11X0.5	10.980	10.874	10.990	10.910	10.90	10.93
M12X1.75	11.966	11.701	11.950	11.760	11.8	11.8
M12X1.5	11.968	11.732	11.960	11.790	11.79	11.83
M12X1.25	11.972	11.760	11.972	11.760	11.81	11.81
M12X1	11.974	11.794	11.960	11.810	11.84	11.85
※2 M12X0.75	11.978	11.838	11.970	11.850	11.87	11.88
※1 M12X0.5	11.980	11.874	11.990	11.910	11.90	11.93
※1 M13X1.5	12.968	12.732	12.960	12.790	12.79	12.83
※2 M13X1.25	12.972	12.760	12.960	12.810	12.81	12.85
※1 M13X1	12.974	12.794	12.960	12.810	12.84	12.85
※2 M13X0.75	12.978	12.838	12.970	12.850	12.87	12.88
※1 M13X0.5	12.980	12.874	12.990	12.910	12.90	12.93
M14X2	13.962	13.682	13.950	13.740	13.8	13.8
M14X1.5	13.968	13.732	13.960	13.790	13.79	13.83
M14X1.25	13.972	13.760	13.960	13.810	13.81	13.85
M14X1	13.974	13.794	13.960	13.810	13.84	13.85
※2 M14X0.75	13.978	13.838	13.970	13.850	13.87	13.88
※1 M14X0.5	13.980	13.874	13.990	13.910	13.90	13.93
※2 M15X2	14.962	14.682	14.950	14.740	14.8	14.8
M15X1.5	14.968	14.732	14.960	14.790	14.79	14.83
※2 M15X1.25	14.972	14.760	14.960	14.810	14.81	14.85
M15X1	14.974	14.794	14.960	14.810	14.84	14.85
※2 M15X0.75	14.978	14.838	14.970	14.850	14.87	14.88
※1 M15X0.5	14.980	14.874	14.990	14.910	14.90	14.93

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17. Bar diameter for external threads (for cutting type dies)

Unit : mm

Size	Outside diameter of external thread				Bar diameter	
	Current JIS		Old JIS			
	Max.	Min.	Max.	Min.	Current JIS	Old JIS
M16X2	15.962	15.682	15.950	15.740	15.8	15.8
M16X1.5	15.968	15.732	15.960	15.790	15.79	15.83
※2 M16X1.25	15.972	15.760	15.960	15.810	15.81	15.85
M16X1	15.974	15.794	15.960	15.810	15.84	15.85
※2 M16X0.75	15.978	15.838	15.970	15.850	15.87	15.88
※1 M16X0.5	15.980	15.874	15.990	15.910	15.90	15.93
※2 M17X2	16.962	16.682	16.950	16.740	16.8	16.8
M17X1.5	16.968	16.732	16.968	16.732	16.79	16.79
M17X1	16.974	16.794	16.974	16.794	16.84	16.84
※2 M17X0.5	16.980	16.874	16.990	16.910	16.90	16.93
M18X2.5	17.958	17.623	17.950	17.710	17.7	17.8
M18X2	17.962	17.682	17.950	17.650	17.8	17.7
M18X1.5	17.968	17.732	17.950	17.780	17.79	17.82
M18X1	17.974	17.794	17.960	17.810	17.84	17.85
※1 M18X0.5	17.980	17.874	17.990	17.910	17.90	17.93
※2 M19X1.5	18.968	18.732	18.950	18.780	18.79	18.82
※2 M19X1	18.974	18.794	18.960	18.810	18.84	18.85
M20X2.5	19.958	19.623	19.950	19.710	19.7	19.8
M20X2	19.962	19.682	19.950	19.650	19.8	19.7
M20X1.5	19.968	19.732	19.950	19.780	19.79	19.82
※2 M20X1.25	19.972	19.760	19.960	19.810	19.81	19.85
M20X1	19.974	19.794	19.960	19.810	19.84	19.85
※1 M20X0.5	19.980	19.874	19.990	19.910	19.90	19.93
※2 M21X1.5	20.968	20.732	20.950	20.780	20.79	20.82
※2 M21X1	20.974	20.794	20.960	20.810	20.84	20.85
M22X2.5	21.958	21.623	21.950	21.710	21.7	21.8
M22X2	21.962	21.682	21.950	21.650	21.8	21.7
M22X1.5	21.968	21.732	21.950	21.780	21.79	21.82
※2 M22X1.25	21.972	21.760	21.960	21.810	21.81	21.85
M22X1	21.974	21.794	21.960	21.810	21.84	21.85
※1 M22X0.5	21.980	21.874	21.990	21.910	21.90	21.93
※2 M23X1.5	22.968	22.732	22.950	22.780	22.79	22.82
※2 M23X1	22.974	22.794	22.960	22.810	22.84	22.85
M24X3	23.952	23.577	23.940	23.680	23.7	23.7
M24X2	23.962	23.682	23.940	23.640	23.8	23.7
M24X1.5	23.968	23.732	23.950	23.780	23.79	23.82
※2 M24X1.25	23.972	23.760	23.960	23.810	23.81	23.85
M24X1	23.974	23.794	23.960	23.810	23.84	23.85
※2 M25X3	24.952	24.577	24.940	24.680	24.7	24.7
M25X2	24.962	24.682	24.940	24.640	24.8	24.7
M25X1.5	24.968	24.732	24.950	24.780	24.79	24.82
※2 M25X1.25	24.972	24.760	24.960	24.810	24.81	24.85
M25X1	24.974	24.794	24.960	24.810	24.84	24.85
※1 M26X2	25.962	25.682	25.940	25.640	25.8	25.7

Size	Outside diameter of external thread				Bar diameter	
	Current JIS		Old JIS			
	Max.	Min.	Max.	Min.	Current JIS	Old JIS
M26X1.5	25.968	25.732	25.950	25.780	25.79	25.82
※2 M26X1	25.974	25.794	25.960	25.810	25.84	25.85
M27X3	26.952	26.577	26.940	26.680	26.7	26.7
M27X2	26.962	26.682	26.962	26.682	26.8	26.8
M27X1.5	26.968	26.732	26.950	26.780	26.79	26.82
M27X1	26.974	26.794	26.974	26.794	26.84	26.84
M28X2	27.962	27.682	27.940	27.640	27.8	27.7
M28X1.5	27.968	27.732	27.950	27.780	27.79	27.82
M28X1	27.974	27.794	27.960	27.810	27.84	27.85
M30X3.5	29.947	29.522	29.940	29.660	29.6	29.7
M30X3	29.952	29.577	29.952	29.577	29.7	29.7
M30X2	29.962	29.682	29.940	29.640	29.8	29.7
M30X1.5	29.968	29.732	29.950	29.780	29.79	29.82
M30X1	29.974	29.794	29.960	29.810	29.84	29.85
※1 M30X0.5	29.980	29.874	29.990	29.910	29.90	29.93
※2 M32X3	31.952	31.577	31.952	31.577	31.7	31.7
M32X2	31.962	31.682	31.940	31.640	31.8	31.7
M32X1.5	31.968	31.732	31.950	31.780	31.79	31.82
※1 M32X1	31.974	31.794	31.950	31.800	31.84	31.84
※1 M32X0.5	31.980	31.874	31.990	31.910	31.90	31.93
M33X3.5	32.947	32.522	32.940	32.660	32.6	32.7
M33X3	32.952	32.577	32.952	32.577	32.7	32.7
M33X2	32.962	32.682	32.962	32.682	32.8	32.8
M33X1.5	32.968	32.732	32.950	32.780	32.79	32.82
※2 M33X1	32.974	32.794	32.950	32.800	32.84	32.84
※2 M34X3	33.952	33.577	33.952	33.577	33.7	33.7
※1 M34X2	33.962	33.682	33.940	33.640	33.8	33.7
※1 M34X1.5	33.968	33.732	33.950	33.780	33.79	33.82
※1 M34X1	33.974	33.794	33.950	33.800	33.84	33.84
※2 M35X3	34.952	34.577	34.952	34.577	34.7	34.7
※2 M35X2	34.962	34.682	34.940	34.640	34.8	34.7
M35X1.5	34.968	34.732	34.950	34.780	34.79	34.82
※2 M35X1.25	34.972	34.760	34.960	34.810	34.81	34.85
※2 M35X1	34.974	34.794	34.950	34.800	34.84	34.84
M36X4	35.940	35.465	35.930	35.630	35.6	35.7
M36X3	35.952	35.577	35.952	35.577	35.7	35.7
M36X2	35.962	35.682	35.940	35.640	35.8	35.7
M36X1.5	35.968	35.732	35.950	35.780	35.79	35.82
※1 M36X1	35.974	35.794	35.950	35.800	35.84	35.84
※1 M36X0.5	35.980	35.874	35.990	35.910	35.90	35.93
※2 M37X1.5	36.968	36.732	36.950	36.780	36.79	36.82
※2 M37X1	36.974	36.794	36.950	36.800	36.84	36.84
※2 M38X4	37.940	37.465	37.930	37.630	37.6	37.7
※2 M38X3	37.952	37.577	37.952	37.577	37.7	37.7

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Unit : mm

Size	Outside diameter of external thread				Bar diameter	
	Current JIS		Old JIS			
	Max.	Min.	Max.	Min.	Current JIS	Old JIS
※1 M38X2	37.962	37.682	37.940	37.640	37.8	37.7
M38X1.5	37.968	37.732	37.950	37.780	37.79	37.82
※1 M38X1	37.974	37.794	37.950	37.800	37.84	37.84
M39X4	38.940	38.465	38.930	38.630	38.6	38.7
M39X3	38.952	38.577	38.952	38.577	38.7	38.7
M39X2	38.962	38.682	38.962	38.682	38.8	38.8
M39X1.5	38.968	38.732	38.968	38.732	38.79	38.79
※2 M39X1	38.974	38.794	38.950	38.800	38.84	38.84
※2 M40X4	39.940	39.465	39.930	39.630	39.6	39.7
M40X3	39.952	39.577	39.952	39.577	39.7	39.7
M40X2	39.962	39.682	39.940	39.640	39.8	39.7
M40X1.5	39.968	39.732	39.950	39.780	39.79	39.82
※1 M40X1	39.974	39.794	39.950	39.800	39.84	39.84
M42X4.5	41.937	41.437	41.930	41.610	41.6	41.7
M42X4	41.940	41.465	41.940	41.465	41.6	41.6
M42X3	41.952	41.577	41.952	41.577	41.7	41.7
M42X2	41.962	41.682	41.940	41.640	41.8	41.7
M42X1.5	41.968	41.732	41.950	41.780	41.79	41.82
※1 M42X1	41.974	41.794	41.950	41.800	41.84	41.84
※2 M44X2	43.962	43.682	43.940	43.640	43.8	43.7
※2 M44X1.5	43.968	43.732	43.950	43.780	43.79	43.82
M45X4.5	44.937	44.437	44.930	44.610	44.6	44.7
M45X4	44.940	44.465	44.940	44.465	44.6	44.6
M45X3	44.952	44.577	44.952	44.577	44.7	44.7
M45X2	44.962	44.682	44.940	44.640	44.8	44.7
M45X1.5	44.968	44.732	44.950	44.780	44.79	44.82
※1 M45X1	44.974	44.794	44.950	44.800	44.84	44.84
※2 M46X4	45.940	45.465	45.940	45.465	45.6	45.6
※2 M46X3	45.952	45.577	45.952	45.577	45.7	45.7
※2 M46X2	45.962	45.682	45.940	45.640	45.8	45.7
※2 M46X1.5	45.968	45.732	45.950	45.780	45.79	45.82
M48X5	47.929	47.399	47.930	47.590	47.5	47.7
M48X4	47.940	47.465	47.940	47.465	47.6	47.6
M48X3	47.952	47.577	47.952	47.577	47.7	47.7
M48X2	47.962	47.682	47.940	47.640	47.8	47.7
M48X1.5	47.968	47.732	47.950	47.780	47.79	47.82
※2 M48X1.25	47.972	47.760	47.960	47.810	47.81	47.85
※1 M48X1	47.974	47.794	47.950	47.800	47.84	47.84
※2 M50X4	49.940	49.465	49.940	49.465	49.6	49.6
M50X3	49.952	49.577	49.952	49.577	49.7	49.7
M50X2	49.962	49.682	49.940	49.640	49.8	49.7
M50X1.5	49.968	49.732	49.950	49.780	49.79	49.82
※1 M50X1	49.974	49.794	49.950	49.800	49.84	49.84
M52X5	51.929	51.399	51.929	51.399	51.5	51.5

Size	Outside diameter of external thread				Bar diameter	
	Current JIS		Old JIS			
	Max.	Min.	Max.	Min.	Current JIS	Old JIS
M52X4	51.940	51.465	51.940	51.465	51.6	51.6
M52X3	51.952	51.577	51.952	51.577	51.7	51.7
M52X2	51.962	51.682	51.940	51.640	51.8	51.7
M52X1.5	51.968	51.732	51.950	51.700	51.79	51.76
M55X4	54.940	54.465	54.940	54.465	54.6	54.6
M55X3	54.952	54.577	54.952	54.577	54.7	54.7
M55X2	54.962	54.682	54.940	54.640	54.8	54.7
M55X1.5	54.968	54.732	54.950	54.700	54.79	54.76
M56X5.5	55.925	55.365	55.925	55.365	55.5	55.5
M56X4	55.940	55.465	55.940	55.465	55.6	55.6
M56X3	55.952	55.577	55.952	55.577	55.7	55.7
M56X2	55.962	55.682	55.962	55.682	55.8	55.8
M56X1.5	55.968	55.732	55.968	55.732	55.79	55.79
M58X4	57.940	57.465	57.940	57.465	57.6	57.6
M58X3	57.952	57.577	57.952	57.577	57.7	57.7
M58X2	57.962	57.682	57.940	57.640	57.8	57.7
M58X1.5	57.968	57.732	57.950	57.700	57.79	57.76
M60X5.5	59.925	59.365	59.925	59.365	59.5	59.5
M60X4	59.940	59.465	59.940	59.465	59.6	59.6
M60X3	59.952	59.577	59.952	59.577	59.7	59.7
M60X2	59.962	59.682	59.940	59.640	59.8	59.7
M60X1.5	59.968	59.732	59.950	59.700	59.79	59.76
M62X4	61.940	61.465	61.940	61.465	61.6	61.6
M62X3	61.952	61.577	61.952	61.577	61.7	61.7
M62X2	61.962	61.682	61.940	61.640	61.8	61.7
M62X1.5	61.968	61.732	61.950	61.700	61.79	61.76
M64X6	63.920	63.320	63.920	63.320	63.5	63.5
M64X4	63.940	63.465	63.940	63.465	63.6	63.6
M64X3	63.952	63.577	63.952	63.577	63.7	63.7
M64X2	63.962	63.682	63.962	63.682	63.8	63.8
M64X1.5	63.968	63.732	63.968	63.732	63.79	63.79
※2 M65X6	64.920	64.320	64.920	64.320	64.5	64.5
M65X4	64.940	64.465	64.920	64.465	64.6	64.6
M65X3	64.952	64.577	64.952	64.577	64.7	64.7
M65X2	64.962	64.682	64.940	64.640	64.8	64.7
M65X1.5	64.968	64.732	64.950	64.700	64.79	64.76
M68X6	67.920	67.320	67.920	67.320	67.5	67.5
M68X4	67.940	67.465	67.940	67.465	67.6	67.6
M68X3	67.952	67.577	67.952	67.577	67.7	67.7
M68X2	67.962	67.682	67.940	67.640	67.8	67.7
M68X1.5	67.968	67.732	67.950	67.700	67.79	67.76
M70X6	69.920	69.320	69.920	69.320	69.5	69.5
M70X4	69.940	69.465	69.940	69.465	69.6	69.6
M70X3	69.952	69.577	69.952	69.577	69.7	69.7

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17. Bar diameter for external threads (for cutting type dies)

Unit : mm

Size	Outside diameter of external thread				Bar diameter	
	Current JIS		Old JIS			
	Max.	Min.	Max.	Min.	Current JIS	Old JIS
M70X2	69.962	69.682	69.940	69.640	69.8	69.7
M70X1.5	69.968	69.732	69.950	69.700	69.79	69.76
M72X6	71.920	71.320	71.920	71.320	71.5	71.5
M72X4	71.940	71.465	71.940	71.465	71.6	71.6
M72X3	71.952	71.577	71.952	71.577	71.7	71.7
M72X2	71.962	71.682	71.940	71.640	71.8	71.7
M72X1.5	71.968	71.732	71.950	71.700	71.79	71.76
※2 M75X6	74.920	74.320	74.920	74.320	74.5	74.5
M75X4	74.940	74.465	74.940	74.465	74.6	74.6
M75X3	74.952	74.577	74.952	74.577	74.7	74.7
M75X2	74.962	74.682	74.940	74.640	74.8	74.7
M75X1.5	74.968	74.732	74.950	74.700	74.79	74.76
M76X6	75.920	75.320	75.920	75.320	75.5	75.5
M76X4	75.940	75.465	75.940	75.465	75.6	75.6
M76X3	75.952	75.577	75.952	75.577	75.7	75.7
M76X2	75.962	75.682	75.962	75.682	75.8	75.8
M76X1.5	75.968	75.732	75.968	75.732	75.79	75.79
M78X2	77.962	77.682	77.940	77.640	77.8	77.7
M80X6	79.920	79.320	79.920	79.320	79.5	79.5
M80X4	79.940	79.465	79.940	79.465	79.6	79.6
M80X3	79.952	79.577	79.952	79.577	79.7	79.7
M80X2	79.962	79.682	79.940	79.640	79.8	79.7
M80X1.5	79.968	79.732	79.950	79.700	79.79	79.76

Current JIS: Tolerance class 6g (M1.6 or larger), 6h (M1.4 or smaller)
Old JIS: Class 2

- Current JIS: JIS B 0209-2 and JIS B 0209-3
- Old JIS: JIS B 0209-1959 and JIS B 0211-1959
- Nominal sizes marked with ※ 1 have been removed from the current JIS.
- Nominal sizes marked with ※ 2 are not specified in the current JIS nor in the old JIS.

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Unified threads (for 2A class)

Unit : mm

Size	Outside diameter of external thread		Bar diameter
	Max.	Min.	
No.0-80UNF	1.511	1.431	1.45
No.1-64UNC	1.838	1.743	1.77
No.1-72UNF	1.838	1.751	1.77
No.2-56UNC	2.169	2.066	2.09
No.2-64UNF	2.169	2.073	2.10
No.3-48UNC	2.496	2.383	2.41
No.3-56UNF	2.496	2.393	2.42
No.4-40UNC	2.824	2.695	2.73
No.4-48UNF	2.827	2.713	2.74
No.5-40UNC	3.154	3.026	3.06
No.5-44UNF	3.157	3.036	3.07
No.6-32UNC	3.484	3.333	3.37
No.6-40UNF	3.484	3.356	3.39
No.8-32UNC	4.142	3.991	4.03
No.8-36UNF	4.145	4.006	4.04
No.10-24UNC	4.800	4.618	4.66
No.10-32UNF	4.803	4.651	4.69
No.12-24UNC	5.461	5.279	5.32
No.12-28UNF	5.461	5.296	5.34
1/4-20UNC	6.322	6.117	6.17
1/4-28UNF	6.324	6.160	6.20
1/4-32UNEF	6.324	6.173	6.21
1/4-36UNS	6.327	6.187	6.22
5/16-18UNC	7.907	7.687	7.74
5/16-24UNF	7.909	7.727	7.77
5/16-32UNEF	7.912	7.760	7.80
3/8-16UNC	9.491	9.254	9.31
3/8-24UNF	9.497	9.315	9.36
3/8-32UNEF	9.499	9.348	9.39
7/16-14UNC	11.076	10.816	10.9
7/16-20UNF	11.079	10.874	10.93
7/16-24UNS	11.082	10.900	10.95
7/16-28UNEF	11.084	10.920	10.96
1/2-13UNC	12.661	12.386	12.5
1/2-20UNF	12.666	12.462	12.51
1/2-28UNEF	12.672	12.507	12.55
9/16-12UNC	14.246	13.958	14.0
9/16-18UNF	14.251	14.031	14.09
9/16-20UN	14.254	14.049	14.10
9/16-24UNEF	14.257	14.075	14.12
5/8-11UNC	15.834	15.528	15.6
5/8-18UNF	15.839	15.619	15.67
5/8-24UNEF	15.844	15.662	15.71
3/4-10UNC	19.004	18.677	18.8
3/4-16UNF	19.011	18.774	18.83
3/4-20UNEF	19.017	18.812	18.86
7/8-9UNC	22.176	21.824	21.9
7/8-14UNF	22.184	21.923	22.0
1 -8UNC	25.349	24.969	25.1
1 -12UNF	25.354	25.065	25.1
1 -14UNS	25.359	25.098	25.2
1 -20UNEF	25.364	25.159	25.21
1 1/8-7UNC	28.519	28.103	28.2
1 1/8-8UN	28.521	28.141	28.2
1 1/8-12UNF	28.529	28.240	28.3
1 1/4-7UNC	31.694	31.278	31.4
1 1/4-8UN	31.696	31.316	31.4
1 1/4-12UNF	31.704	31.415	31.5
1 3/8-6UNC	34.864	34.402	34.5
1 3/8-12UNF	34.876	34.588	34.7
1 1/2-6UNC	38.039	37.577	37.7
1 1/2-8UN	38.044	37.664	37.8
1 1/2-12UNF	38.051	37.763	37.8
1 5/8-12UN	41.229	40.940	41.0
1 3/4-5UNC	44.381	43.861	44.0
1 3/4-12UN	44.404	44.115	44.2
2 -12UN	50.754	50.465	50.5

· UNC, UNF: JIS B 0210 and JIS B 0212
· UNEF, UN, UNS: ASME B1.1

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17. Bar diameter for external threads (for cutting type dies)

■Sewing machine screw threads (for 2nd class)

Unit : mm

Size	Outside diameter of external thread		Bar diameter
	Max.	Min.	
3/32 SM 56	2.381	2.286	2.31
1/8 SM 40	3.175	3.045	3.08
1/8 SM 44	3.175	3.055	3.09
9/64 SM 40	3.572	3.442	3.47
11/64 SM 40	4.366	4.236	4.27
3/16 SM 28	4.762	4.602	4.64
3/16 SM 32	4.762	4.602	4.64
7/32 SM 32	5.556	5.396	5.44
15/64 SM 28	5.953	5.773	5.82
1/4 SM 24	6.350	6.170	6.22
1/4 SM 40	6.350	6.220	6.25

Sewing machine screw threads have been removed from the current JIS.

■Whitworth thread (for 2nd class)

Unit : mm

Size	Outside diameter of external thread		Bar diameter
	Max.	Min.	
※ 1/16 W 60	1.525	1.427	1.45
※ 3/32 W 48	2.304	2.201	2.23
※ 1/8 W 40	3.081	2.972	3.00
※ 5/32 W 32	3.851	3.734	3.76
※ 3/16 W 24	4.606	4.475	4.51
※ 7/32 W 24	5.401	5.270	5.30
1/4 W 20	6.260	6.140	6.17
5/16 W 18	7.838	7.708	7.74
3/8 W 16	9.405	9.265	9.30
7/16 W 14	10.982	10.842	10.9
1/2 W 12	12.540	12.380	12.4
9/16 W 12	14.128	13.968	14.0
5/8 W 11	15.705	15.535	15.6
3/4 W 10	18.860	18.680	18.7
7/8 W 9	22.015	21.815	21.9
1 W 8	25.160	24.950	25.0
1 1/8 W 7	28.305	28.075	28.1
1 1/4 W 7	31.480	31.250	31.3
1 3/8 W 6	34.615	34.365	34.4
1 1/2 W 6	37.790	37.540	37.6

· Whitworth threads are deleted from JIS.
· The nominal size with ※ is based on BSW.

■Taper pipe threads (PT, R)

Unit : mm

Size	Bar diameter	
	taper (dia. of thread end)	Straight
PT 1/16 - 28	7.48	7.88
PT 1/8 - 28	9.48	9.89
PT 1/4 - 19	12.86	13.39
PT 3/8 - 19	16.34	16.90
PT 1/2 - 14	20.5	21.3
※ PT 5/8 - 14	22.4	23.3
PT 3/4 - 14	25.9	26.8
※ PT 7/8 - 14	29.6	30.6
PT 1 - 11	32.7	33.7
PT 1 1/4 - 11	41.2	42.3
PT 1 1/2 - 11	47.1	48.2
PT 2 - 11	58.7	60.1

Nominal sizes marked with ※ are not specified in the current JIS nor in the old JIS.

■Parallel pipe threads (PF · G)(for A class)

Unit : mm

Size	Outside diameter of external thread		Bar diameter
	Max.	Min.	
PF 1/16 - 28	7.723	7.509	7.56
PF 1/8 - 28	9.728	9.514	9.57
PF 1/4 - 19	13.157	12.907	12.97
PF 3/8 - 19	16.662	16.412	16.47
PF 1/2 - 14	20.955	20.671	20.7
PF 5/8 - 14	22.911	22.627	22.7
PF 3/4 - 14	26.441	26.157	26.2
PF 7/8 - 14	30.201	29.917	30.0
PF 1 - 11	33.249	32.889	33.0
PF 1 1/4 - 11	41.910	41.550	41.6
PF 1 1/2 - 11	47.803	47.443	47.5
PF 2 - 11	59.614	59.254	59.3

Think threads with YAMAWA
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For American taper pipe threads (NPT)

Unit : mm

Size	Bar diameter		Outside diameter of pipe (for reference)
	Taper (tip diameter)	Straight	
1/16-27 NPT	7.64	7.93	7.938
1/8-27 NPT	9.98	10.28	10.287
1/4-18 NPT	13.25	13.71	13.716
3/8-18 NPT	16.67	17.14	17.145
1/2-14 NPT	20.7	21.3	21.336
3/4-14 NPT	26.0	26.6	26.670
1 -11 NPT	32.5	33.3	33.401
1 1/4-11 1/2 NPT	41.3	42.1	42.164

For American Dryseal taper pipe threads (NPTF)

Unit : mm

Size	Bar diameter		Outside diameter of pipe (for reference)
	Taper (tip diameter)	Straight	
1/16-27 NPTF	7.61	7.93	7.938
1/8-27 NPTF	9.95	10.28	10.287
1/4-18 NPTF	13.20	13.71	13.716
3/8-18 NPTF	16.63	17.14	17.145
1/2-14 NPTF	20.7	21.3	21.336
3/4-14 NPTF	26.0	26.6	26.670
1 -11 NPTF	32.5	33.4	33.401
1 1/4-11 1/2 NPTF	41.3	42.1	42.164

For American parallel pipe threads (NPSM)

Unit : mm

Size	Outside diameter of external thread		Bar diameter	Outside diameter of pipe (for reference)
	Max.	Min.		
1/16-27 NPSM	7.721	7.544	7.59	7.938
1/8-27 NPSM	10.083	9.906	9.95	10.287
1/4-18 NPSM	13.360	13.132	13.19	13.716
3/8-18 NPSM	16.814	16.587	16.64	17.145
1/2-14 NPSM	20.904	20.651	20.7	21.336
3/4-14 NPSM	26.263	26.010	26.1	26.670
1 -11 1/2 NPSM	32.842	32.538	32.6	33.401
1 1/4-11 1/2 NPSM	41.605	41.301	41.4	42.164

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18. Bar diameter of external threads (for thread rolling dies)

Recommended bar diameters for MS-R-SD Miniature external threads

Unit : mm

size	Class	Recommended bar diameter	Major diameter of external thread	
			Max.	Min.
S0.5X0.125	R2	0.410	0.500	0.480
S0.6X0.15	R2	0.495	0.600	0.575
S0.7X0.175	R3	0.570	0.700	0.675
S0.8X0.2	R3	0.655	0.800	0.770
S0.9X0.225	R3	0.740	0.900	0.870

The major diameters of external threads are based on the tolerance class 5h3 of JIS B 0201.

Recommended bar diameters for RS-D Metric external threads

Unit : mm

size	Class	Recommended bar diameter		Major diameter of external thread			
				Current JIS		Old JIS	
		Current JIS	Old JIS	Max.	Min.	Max.	Min.
M1X0.25	R2	0.815	0.815	1.000	0.933	0.985	0.940
	R3	0.800	0.800				
	R4	0.780	0.780				
M1.1X0.25	R1	0.930	0.930	1.100	1.033	1.100	1.033
	R2	0.915	0.915				
	R3	0.900	0.900				
M1.2X0.25	R2	1.015	1.015	1.200	1.133	1.185	1.140
	R3	0.995	0.995				
	R4	0.980	0.980				
M1.4X0.3	R2	1.180	1.180	1.400	1.325	1.380	1.320
	R3	1.165	1.165				
	R4	1.150	1.145				
M1.6X0.35	R2	1.345	1.345	1.581	1.496	1.581	1.496
	R3	1.330	1.330				
	R4	1.315	1.315				
※ M1.7X0.35	R2	1.445	1.450	1.681	1.596	1.680	1.610
	R3	1.430	1.430				
	R4	1.415	1.415				
M1.8X0.35	R2	1.545	1.545	1.781	1.696	1.781	1.696
	R3	1.530	1.530				
	R4	1.515	1.515				
M2X0.4	R2	1.715	1.715	1.981	1.886	1.980	1.890
	R3	1.700	1.700				
	R4	1.680	1.680				
M2X0.25	R2	1.810	1.810	1.982	1.915	1.980	1.930
	R3	1.790	1.795				
	R4	1.775	1.775				
M2.2X0.45	R2	1.88	1.88	2.180	2.080	2.180	2.080
	R3	1.87	1.87				
	R4	1.85	1.85				
※ M2.3X0.4	R2	2.01	2.01	2.281	2.186	2.280	2.190
	R3	2.00	2.00				
	R4	1.98	1.98				
※ M2.3X0.25	R2	2.11	2.11	2.282	2.215	2.280	2.230
	R3	2.09	2.09				
	R4	2.07	2.07				
M2.5X0.45	R2	2.18	2.18	2.480	2.380	2.480	2.380
	R4	2.15	2.15				
	R5	2.13	2.13				
M2.5X0.35	R2	2.24	2.24	2.481	2.396	2.481	2.396
	R3	2.23	2.23				
	R4	2.21	2.21				
※ M2.6X0.45	R2	2.28	2.28	2.580	2.480	2.580	2.480
	R4	2.25	2.25				
	R5	2.23	2.23				
※ M2.6X0.35	R2	2.34	2.34	2.581	2.496	2.580	2.480
	R4	2.31	2.31				
	R5	2.29	2.29				
M3X0.5	R2	2.65	2.65	2.980	2.874	2.980	2.874
	R4	2.62	2.62				
	R5	2.60	2.60				
M3X0.35	R2	2.74	2.74	2.981	2.896	2.980	2.880
	R4	2.71	2.71				
	R5	2.69	2.69				
M3.5X0.35	R2	3.24	3.24	3.481	3.396	3.480	3.380
	R4	3.21	3.21				
	R5	3.19	3.19				
M4X0.5	R3	3.63	3.63	3.980	3.874	3.970	3.860
	R5	3.60	3.59				
	R6	3.58	3.58				
M5X0.5	R3	4.63	4.63	4.980	4.874	4.970	4.860
	R4	4.61	4.61				
	R5	4.59	4.59				
	R6	4.58	4.58				

Current JIS: Tolerance class 6g (M1.6 or larger), 6h (M1.4 or smaller)
· JIS: Class 2
· The column of class ▭ shows the recommended classes.
· Nominal sizes marked with ※ have been removed from the current JIS.

Recommended bar diameters for N-RSD Metric external threads

Unit : mm

size	Class	Recommended bar diameter		Major diameter of external thread			
				Current JIS		Old JIS	
		Current JIS	Old JIS	Max.	Min.	Max.	Min.
M3X0.5	R4	2.62	2.62	2.980	2.874	2.980	2.874
M4X0.7	R4	3.49	3.49	3.978	3.838	3.978	3.838
M5X0.8	R5	4.41	4.41	4.976	4.826	4.976	4.826
M6X1	R5	5.28	5.28	5.974	5.794	5.970	5.820
M8X1.25	R6	7.10	7.11	7.972	7.760	7.960	7.790

Current JIS: Tolerance class 6g
Old JIS: Class 2

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19. Surface Treatment

The best surface treatment is applied to each tap depending on the tapping purpose.
Characteristics and effectiveness of surface treatment are introduced at next section.

■Oxidizing

○This treatment was processed by using HOMO furnace being made by LEED AND NORTHUP company USA in 1938, and it is called HOMO treatment. This treatment is also called vapor treatment and steam treatment. Through this treatment, Fe_3O_4 layer of blue black color is produced over the tool surface.

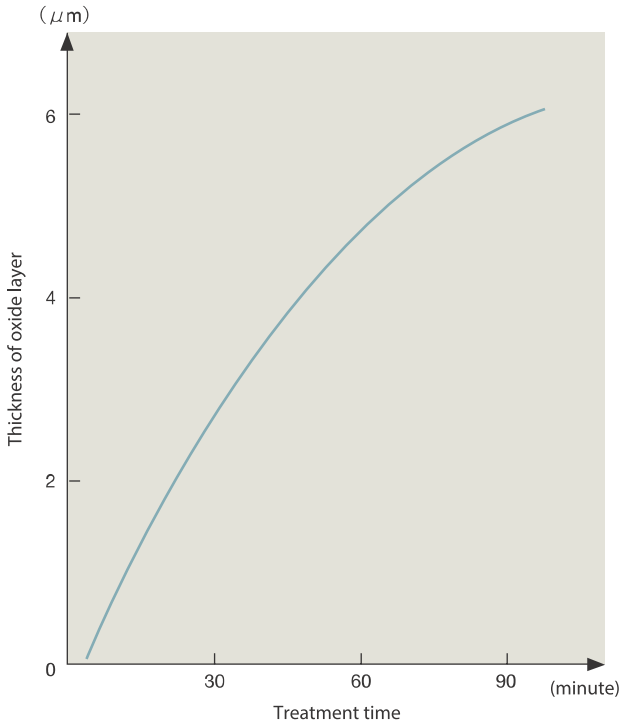
○Oxidization treatment produces porous layer on tool's surface. This porous layer works as oil pocket to reduce friction, to avoid welding and to improve the surface roughness of internal screw. Moreover, longer tool life is expected because the treatment reduces the remaining stress of HSS tools.

○This treatment does not increase the hardness on tool surface. Using the furnace of YAMAWA original design and choosing the proper treatment time, we have marked good result of oxidizing for YAMAWA HSS tools.

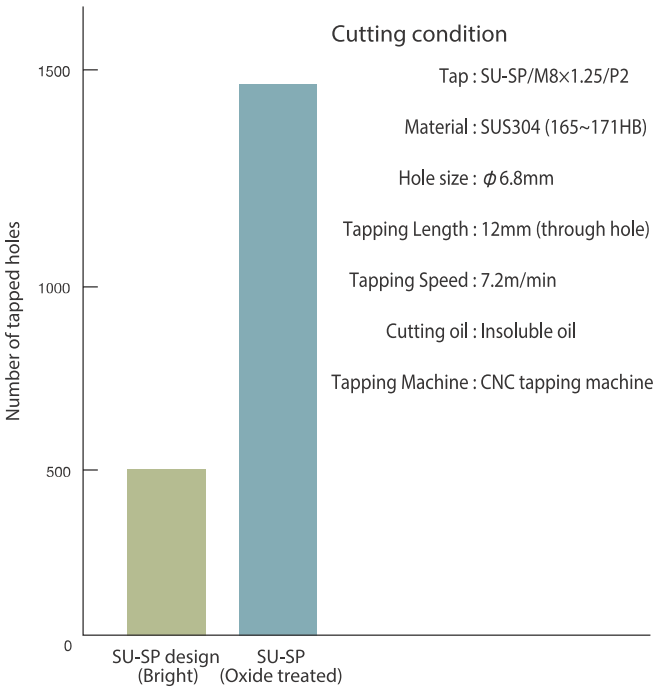
○Stainless steel and low carbon steel are the materials that are easy to get welding. We are applying this treatment to the special purpose taps for these materials to get good result. Further due to the reduction of friction force, this treatment has good result for wide range of steel type material.

○We combine oxidizing with nitriding for the taps designed for thermal refined steels of high carbon steels and alloy steels. This double treatment wins good reputation of the market.

■Thickness of oxide layer and the time of treatment



■Comparison between bright and oxide treated



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Nitriding

○In this treatment, we have Nitrogen and Carbon soak into the surface of HSS tools, and react with chemical of HSS material to produce hard nitride. There are 3 methods in the treatment, composition gas method, salt bath nitride method and ion nitride method.

○Salt bath nitride treatment is shifted into gas nitride treatment method because of cyanic environmental pollution.

○The temperature of treatment is 500 to 550 degree. Hardness and depth of the treatment can be controlled by active nitrogen concentration and reaction time.

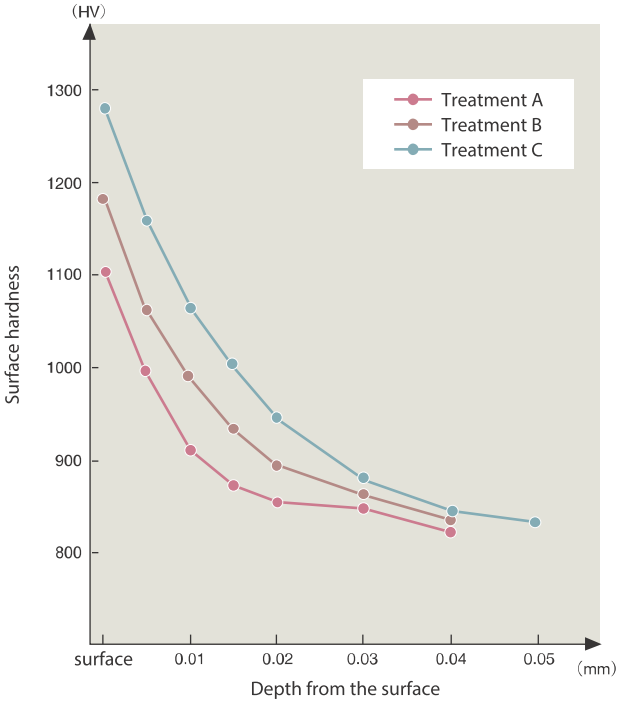
○The high hardness of tool surface minimizes chemical attraction. Result is less welding and friction reduction. Great improvement is expected in tool's performance.

○We have found out the best combinations of hardness and toughness through our treatment technology

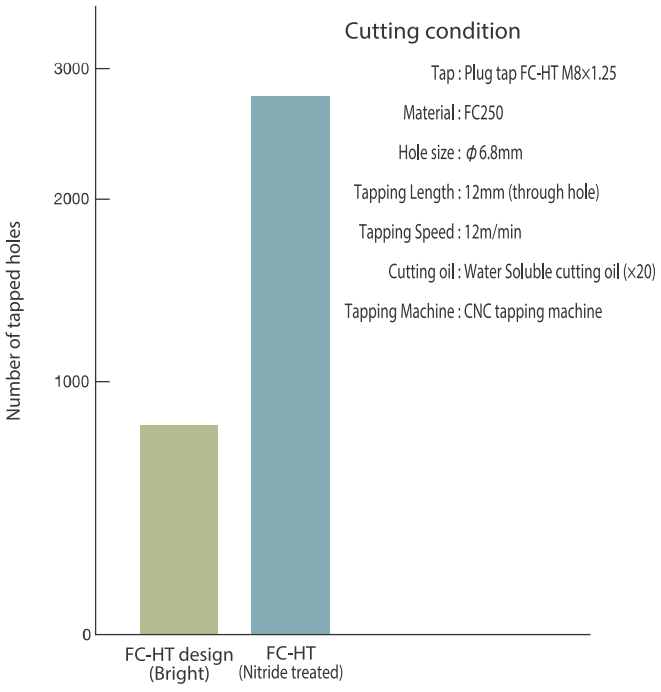
○The nitride treatment will be widely applicable to the taps for such workpiece materials as gray cast irons, special cast irons, aluminum diecastings with higher silicone content, copper alloys, and resinoids (plastics). These materials produce small segmental chips and are very abrasive.

○We combine nitrogen and oxidizing for comparatively sticky material such as thermal refined steels of high carbon steel and alloy steel. This double treatment improves the chipping resistance and have won good reputation.

Depth and hardness of Nitride Surface Treatment



Comparison between bright and nitride treated



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High speed cutting and hard-to-machine material cutting are the recent technology. To meet this tendency, the hard layer coating by vapor deposition over tool's surface has become popular. There are two coating methods, CVD and PVD. PVD is mainly used for tap.

Physical Vapor Deposition

○Inside of the container of high vacuum, are vapor deposition materials heated. And we vapor-deposit particles ionized by electric discharge on tool's surface.

○Due to its low reaction temperature (lower than 500˚C), PVD makes little change in shape and hardness of HSS tools.

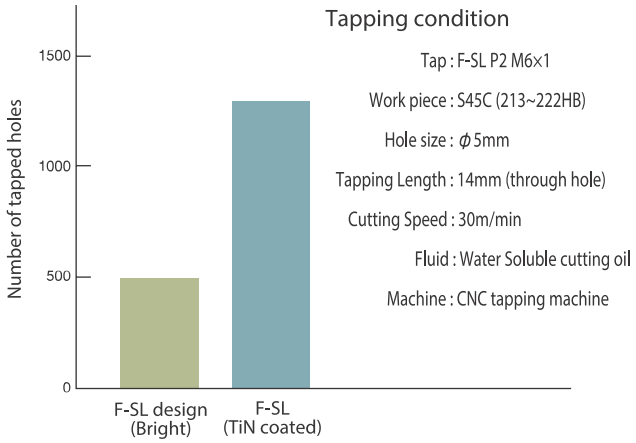
○We have adopted iron plating method, and are coating thin layer (1-4um) over our HSS and carbide tools. The layer processed by this method is very high in its adherence and its wear resistance.

The features and classification of coating

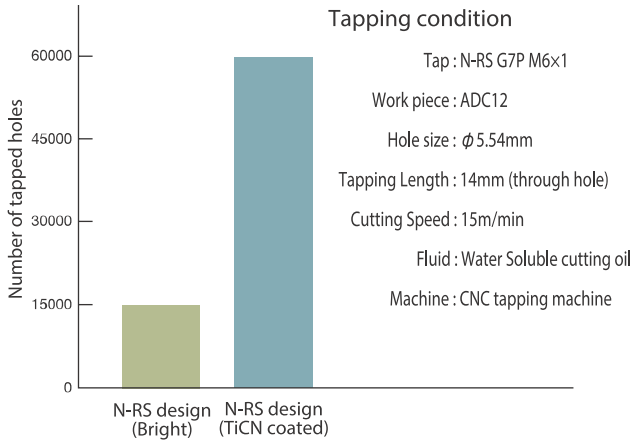
Classification / Features	Titanium nitride (TiN)	Titanium carbonitride (TiCN)	Titanium nitride aluminum (TiAlN)	Chromium nitride (CrN)
Vickers Hardness	2000～2400	3000～3500	2300～2700	1800～2200
Wear resistance	Good	Excellent	Excellent	Normal
Welding resistance	Good	Good	Good	Excellent
Heat resistance	Good	Normal	Excellent	Excellent
Acid resistance	Good	Normal	Excellent	Good
Slippery	Good	Excellent	Good	Excellent
Color	Gold	Blue Dray Violet	Violet	Silver
Workpiece materials	Carbon Steels Aluminum forging	Carbon Steels Hard Steels Stainless Steels Aluminum forging Cast Irons Brass・Bronze	Stainless Steels Cast Irons	Copper

Note: Evaluation (tri-level) of characteristic features is just comparative of these four coatings, TiN, TiCN, TiAlN, and CrN, in the table. These coatings have great advantages of wear resistance, welding resistance, and friction reduction. The values of vickers hardness are also higher than the heat treatment or nitriding of HSS cutting tools from the table.

Comparison between bright and TiN coated



Comparison between bright and TiCN coated



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20. Carbide Taps

Technological advances in CNC machines and machining centers, and machining automation have helped improve the overall tapping process. YAMAWA was quick to respond to evolving customer needs resulting from technological innovations.
We can now recommend carbide taps, which provide tremendous improvements in mass-production and in reducing costs. It is estimated that carbide taps have 50 times more durability than HSS taps in tapping, when used properly. YAMAWA engineering believes the best carbide materials suitable for taps are ultramicro grain tungsten carbide, or ultrafine grain carbide made of high cobalt.

Features of Carbide Taps

(1)Excellent durability with high toughness is obtainable.
(2)High anti-friction features are provided by the material's high hardness and comparatively high toughness, which ultimately results in a longer tool life.
(3)Specially designed cutting angle and other dimensional features produce the internal threads with high tolerance accuracy and consistency.
(4)Under certain tapping condition, YAMAWA carbide taps can be used even for tapping hard-to-machine materials.

Points to note during tapping with Carbide taps:

(1) Machine vibration, or run-out, can lead to Carbide tap chipping and premature failure. Tapping vibrations need to be kept to a minimum.
(2) Tap holder should be a rigid type for a Carbide tap. A holder attachment with axial float, or radial float tends to promote Carbide tap breakage and chipping.
(3) The hole to be tapped must be located correctly and on center ; any centering off or non-straight drilled hole tends to cause Carbide tap breakage due to deflection. Select correct hole depth with respect to tapping length (for blind hole only). It is especially important to prevent tap damage from chip packing and bottom thrusting in blind hole tapping.
(4) Cutting lubricants - select grade of lubricant. Improper flow of coolant, or lack of sufficient amount of lubricant, or cooling can increase the likelihood of Carbide tap chipping due to work material welding. Caution must be taken during dry machining to prevent chip welding to the tap.
(5) Work pieces - we provide Carbide taps with increased toughness, but Carbide taps are inferior to High Speed Steel (HSS) in the area of toughness. As a matter of fact Carbide taps have limited application due to this difference in toughness to HSS.

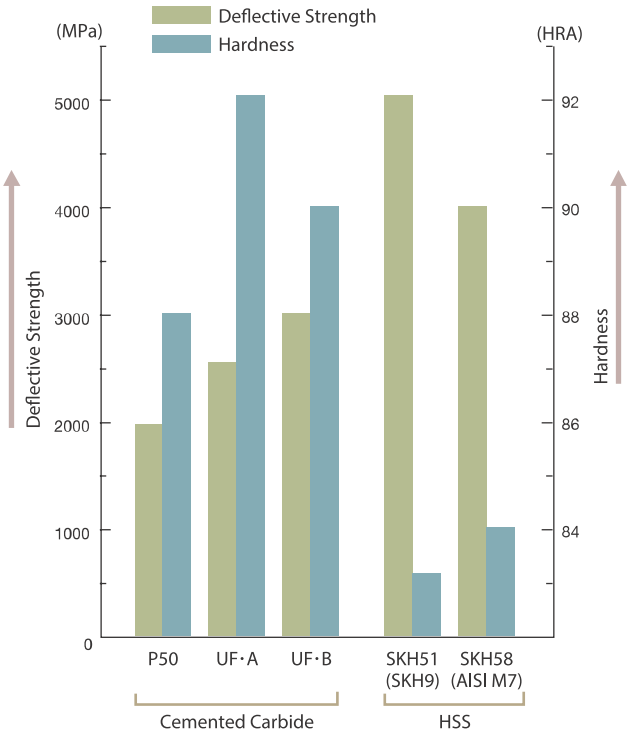
Commonly used materials and cutting conditions.

Work Materials		Cutting Speed (m/min)	Cutting Fluid (General recommendation)	Soluble cutting oil (JIS display lectotype)
Cast Iron	Ordinary	15~25	Dry, light oil, water soluble oil	Not water soluble N4 type 5 issue, 7 issue Water soluble A1 type 1 issue, A2 type 1 issue
	Nodular Graphite	10~20	Light oil, water soluble oil	
	Malleable	10~20	Water soluble oil	
Aluminum		20~40	Light oil, water soluble oil	Not water soluble N1 type 3 issue, 4 issue Not water soluble N3 type 8 issue Water soluble A1 type 1 issue
Copper		15~30	Light oil, water soluble oil	
Copper Alloy	Brass	20~30	Light oil, water soluble oil	
	Phosphor Bronze	15~30	Light oil, water soluble oil	
Die-Cast	Aluminum Alloy	15~25	Mixed oil of lard oil and kerosene	Not water soluble N3 type 8 issue Water soluble A1 type 1 issue
	Zinc Alloy	12~20	Mixed oil of lard oil and kerosene	
Plastic	Thermosetting	15~25	Water soluble oil, air	Water soluble A2 type 2 issue
	Thermoplastic	15~25	Water soluble oil, air	
Hard Rubber		15~30	Dry, air	

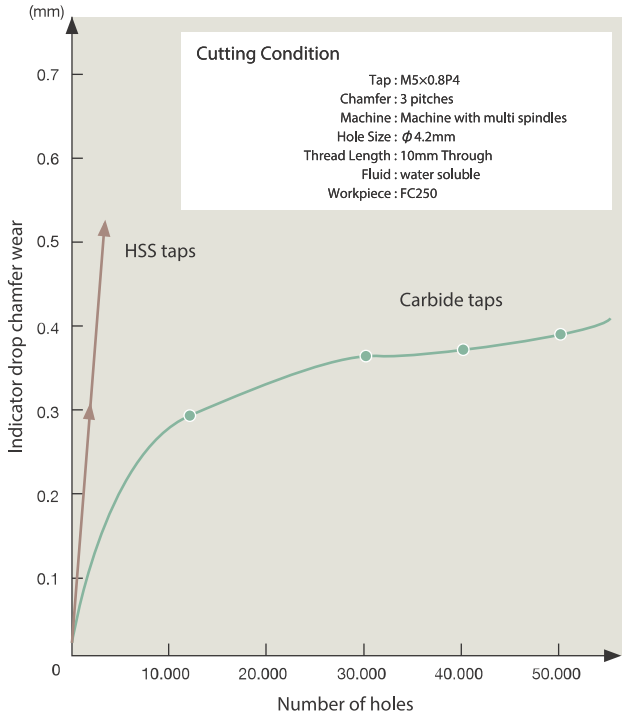
Note : The table shows only general conditions. As for actual cutting operation, please consider the following points : (1) Machine Capacity, (2) Work piece(s), (3) Work Shape, (4) Setup (5) other factors.

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Toughness and Hardness of Cemented Carbide and HSS



Chamfer wear and number of holes of Carbide taps and HSS taps



Carbide Tap examples and comparison of tool life

Classification \ Size		M2×0.4	M8×1.25	M6×1	M8×1.25	M10×1.25
Workpiece	Material	Plastic with glass fiber	ADC12	FC250	FC250	FC250
	Part's name	Electric Parts	Car Parts	Electric Parts	Car Parts	Car Parts
Thread Condition	Tapping Hole. condition	ϕ1.6 Through	ϕ6.7 Blind	ϕ5.0 Blind	ϕ6.7 Blind	ϕ8.7 Blind
	Tapping Length	4mm	18mm	10mm	16mm	18mm
Condition of Use	Machine	Special Machine	Special Machine	4 spindle Machine	Multi Spindle Machine	Special Machine
	Cutting Speed	6.3m/min	8.5m/min	8m/min	6m/min	5.7m/min
	Fluid	Dry	Water soluble	Water soluble	Water soluble	Water soluble
Number of Holes	Carbide Tap	10.000	75.400	53.000	18.860	38.500
	HSS Tap	200	1.000	1.000	300	500
	Comparison of Life	50	75.4	53	62.9	77

Note : In all situations, HSS taps being used are standard ones.
Carbide taps, when used properly, bring out a long tool life.
These datum have come from end users of carbide taps.

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21. Taps for Pipe Threads

1. JIS Pipe Taps

The pipe thread standard (JIS B 0202,0203) was revised in 1982 to meet ISO standard. In the same year, JIS B 4445 (straight pipe thread taps) and JIS B 4446 (taper pipe thread taps) were also revised.

○A part of the pipe thread standard was revised in 1966 to meet ISO, but in the 1982 revision, the ISO standard was defined in the main book of JIS and the old 1966 standard was defined in JIS Appendix. For Pipe Threads specified in the main book of JIS and JIS Appendix, thread symbols are different but the nominal size 1/8 to 6 inch are same. In the 1998 revision, the contents of the main book of JIS and JIS Appendix are not changed.

○ISO tap standard for pipe threads is different from the JIS tap standard in style, size and thread limit. Like the pipe thread standard, in JIS tap standards for pipe threads, style, size and thread limits of ISO standard are adopted in the main book of JIS and those of old JIS standard are in the JIS Appendix. For ISO standard (style and size), please refer to the next page.

○Thread limits of Rp and G taps are the same as the ISO standard. The thread limit of Rc taps is the same as the JIS class 2 of PT taps shown in JIS Appendix because Rc is not specified in the ISO standard. Therefore, both Rc taps and PT taps can be used interchangeably. For the relation between thread limit of internal threads and tap thread limit, please refer to the table below.

○Pipe Tap standard was revised in 1987. And tap designations shown in JIS Appendix were changed to PF taps for Parallel Pipe Thread, PT taps for Taper Pipe Thread, and PS taps for Parallel Pipe Thread.

■Symbol of Pipe threads

Type	Classification		Standard	JIS (ISO)	JIS Appendix
Taper Thread	Taper Thread	Internal Thread	JIS B 0203—1982	Rc	PT
		External Thread		R	PT
	Parallel Thread	Internal Thread		Rp	PS
		External Thread		—	—
Parallel Thread	Parallel Thread	Internal Thread	JIS B 0202—1982	G	PF, A class
				—	PF, B class
		External Thread		G, A class	PF, A class
				G, B class	PF, B class

■ Relation between classification/engagement of pipe threads and taps

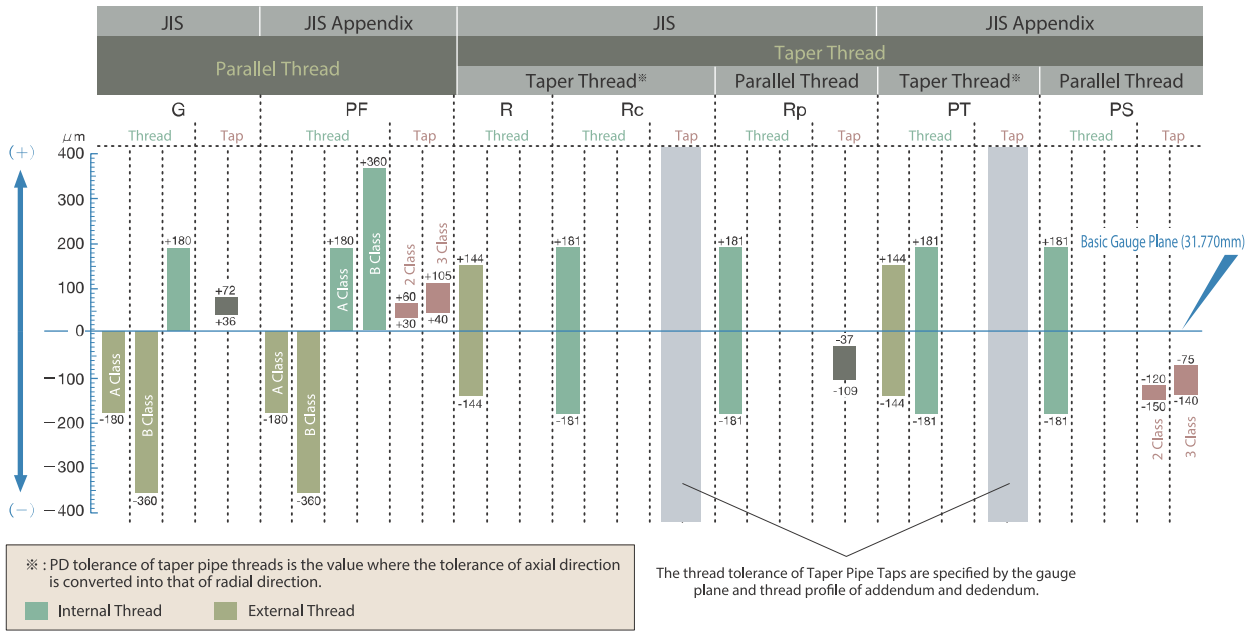
Kind of thread	Classification	Main usage	type		Engagement	Pipe taps
Pipe thread	Taper pipe threads	In connection of pips, pipe parts and fluid parts they are used mainly for the purpose of pressure type joints.	Internal threads	Parallel PS (Rp)	Parallel internal thread	PS
				Taper PT (Rc)	Basic diameter position; Taper internal thread; Taper internal thread	PT
			External threads	Taper PT (R)	Taper external thread	S-PT
	Parallel pipe threads	In connection of pipes, pipe parts and fluid parts, they are used mainly for the purpose of mechanical type joints.	Internal threads	PF (G)	Parallel internal thread	PF
			External threads	PF (G)	Parallel external thread	

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Relation of pitch diameter tolerance zone between thread and tap

Example.1-11

Parallel Pipe Thread : JIS B 0202
Taper Pipe Thread : JIS B 0203
Straight Pipe Thread Taps : JIS B 4445
Taper Pipe Thread Taps : JIS B 4446



※ : PD tolerance of taper pipe threads is the value where the tolerance of axial direction is converted into that of radial direction.

Internal Thread　External Thread

The thread tolerance of Taper Pipe Taps are specified by the gauge plane and thread profile of addendum and dedendum.

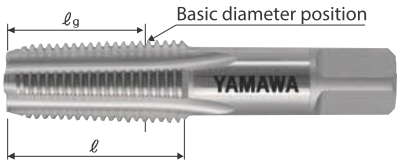
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■Comparison of the thread limit of taper pipe tap

Rc



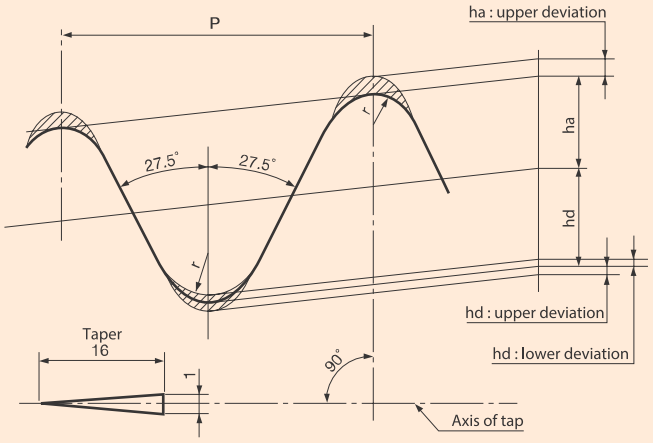
PT



S-PT



P = 25.4/n
n = Number of threads



Unit : mm

Size	Basic major Dia. of Gauge Plane	Number of Threads※	ISO (Rc)		Appendix (PT)				Thread Limit			
					PT Thread		S-PT Thread		ha		hd	
			Thread Length ℓ	Basic Diameter Position ℓg	Thread Length ℓ	Basic Diameter Position ℓg	Thread Length ℓ	Basic Diameter Position ℓg	Basic Size	Tolerance (μm)	Basic Size	Tolerance (μm)
1/16	7.723	28	14	10.1	—	—	—	—	0.291	0～+30	0.291	±15
1/8	9.728	28	15	10.1	19	13	16.5	10.5	0.291	0～+30	0.291	±15
1/4	13.157	19	19	15	28	21	19.5	12.5	0.428	0～+40	0.428	±20
3/8	16.662	19	21	15.4	28	21	21	14	0.428	0～+40	0.428	±20
1/2	20.955	14	26	20.5	35	25	27	17	0.581	0～+50	0.581	±25
3/4	26.441	14	28	21.8	35	25	29	19	0.581	0～+50	0.581	±25
1	33.249	11	33	26	45	32	35	22	0.740	0～+60	0.740	±30
1 1/4	41.910	11	36	28.3	45	32	37.5	24.5	0.740	0～+60	0.740	±30
1 1/2	47.803	11	37	28.3	45	32	38.5	25.5	0.740	0～+60	0.740	±30
2	59.614	11	41	32.7	50	35	42.5	27.5	0.740	0～+60	0.740	±30
2 1/2	75.184	11	45	37.1	—	—	—	—	0.740	0～+60	0.740	±30
3	87.884	11	48	40.2	—	—	—	—	0.740	0～+70	0.740	±35
4	113.030	11	53	46.2	—	—	—	—	0.740	0～+70	0.740	±35

Note : JIS standard has 2 types of Taper pipe thread, PT and S-PT taps. ISO standard has one type of Taper pipe thread Rc.

※ : No. of threads: Every 25.4 mm.

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Comparison of the thread limit for straight pipe taps

Unit : μm

Size	Number of Threads※	Pitch (mm)	The Thread Limit of ISO (G)								The Thread Limit of Appendix of PF							
			Major Dia.		Pitch Dia.				Minor Dia.		Major Dia.		Pitch Dia.				Minor Dia.	
			Basic Size (mm)	LT (+)	Basic Size (mm)	UT (+)	LT (+)	Tolerance	Basic Size (mm)	UT	Basic Size (mm)	LT (+)	Basic Size (mm)	UT (+)	LT (+)	Tolerance	Basic Size (mm)	UT (+)
1/16	28	0.9071	7.723	32	7.142	43	21	22	6.561	Not Specified	—		—				—	
1/8	28	0.9071	9.728	32	9.147	43	21	22	8.566		9.728	65	9.147	40	20	20	8.566	40
1/4	19	1.3368	13.157	37	12.301	50	25	25	11.445		13.157	90	12.301	50	25	25	11.445	50
3/8	19	1.3368	16.662	37	15.806	50	25	25	14.950		16.662	90	15.806	50	25	25	14.950	50
1/2	14	1.8143	20.955	43	19.793	57	28	29	18.631		20.955	115	19.793	55	25	30	18.631	55
5/8	14	1.8143	22.911	43	21.749	57	28	29	20.587		22.911	115	21.749	55	25	30	20.587	55
3/4	14	1.8143	26.441	43	25.279	57	28	29	24.117		26.441	115	25.279	55	25	30	24.117	55
7/8	14	1.8143	30.201	43	29.039	57	28	29	27.877		30.201	115	29.039	55	25	30	27.877	55
1	11	2.3091	33.249	54	31.770	72	36	36	30.291		33.249	145	31.770	60	30	30	30.291	60
1 1/8	11	2.3091	37.897	54	36.418	72	36	36	34.939		37.897	145	36.418	60	30	30	34.939	60
1 1/4	11	2.3091	41.910	54	40.431	72	36	36	38.952		41.910	145	40.431	65	30	35	38.952	65
1 1/2	11	2.3091	47.803	54	46.324	72	36	36	44.845		47.803	145	46.324	65	30	35	44.845	65
1 3/4	11	2.3091	53.746	54	52.267	72	36	36	50.788		53.746	145	52.267	65	30	35	50.788	65
2	11	2.3091	59.614	54	58.135	72	36	36	56.656		59.614	150	58.135	75	35	40	56.656	75
2 1/4	11	2.3091	65.710	65	64.231	87	43	44	62.752									
2 1/2	11	2.3091	75.184	65	73.705	87	43	44	72.226									
2 3/4	11	2.3091	81.534	65	80.055	87	43	44	78.576									
3	11	2.3091	87.884	65	86.405	87	43	44	84.926									
3 1/2	11	2.3091	100.330	65	98.851	87	43	44	97.372									
4	11	2.3091	113.030	65	111.551	87	43	44	110.072									

※ : No. of ridges: Every 25.4 mm.
UT : The upper deviation
LT : The lower deviation

Comparison of the thread limit of taper pipe taps

Unit : μm

Size	Number of Threads※	Pitch (mm)	The Thread Limit of ISO (Rp)								The Thread Limit of Appendix of PS								
			Major Dia.		Pitch Dia.				Minor Dia.		Major Dia.			Pitch Dia.				Minor Dia.		
			Basic Size (mm)	LT (−)	Basic Size (mm)	UT (−)	LT (−)	Tolerance	Basic Size (mm)	UT	Basic Size (mm)	UT	LT (−)	Basic Size (mm)	UT (−)	LT (−)	Tolerance	Basic Size (mm)	UT	LT (−)
1/16	28	0.9071	7.723	43	7.142	14	43	29	6.561	Not Specified	—			—				—		
1/8	28	0.9071	9.728	43	9.147	14	43	29	8.566		9.728	+10	50	9.147	30	50	20	8.566	+10	50
1/4	19	1.3368	13.157	63	12.301	21	63	42	11.445		13.157	+ 5	75	12.301	50	75	25	11.445	+ 5	75
3/8	19	1.3368	16.662	63	15.806	21	63	42	14.950		16.662	+ 5	75	15.806	50	75	25	14.950	+ 5	75
1/2	14	1.8143	20.955	86	19.793	29	86	57	18.631		20.955	- 25	115	19.793	85	115	30	18.631	- 25	115
3/4	14	1.8143	26.441	86	25.279	29	86	57	24.117		26.441	- 25	115	25.279	85	115	30	24.117	- 25	115
1	11	2.3091	33.249	109	31.770	37	109	72	30.291		33.249	- 50	150	31.770	120	150	30	30.291	- 50	150
1 1/4	11	2.3091	41.910	109	40.431	37	109	72	38.952		41.910	- 50	150	40.431	115	150	35	38.952	- 50	150
1 1/2	11	2.3091	47.803	109	46.324	37	109	72	44.845		47.803	- 50	150	46.324	115	150	35	44.845	- 50	150
2	11	2.3091	59.614	109	58.135	37	109	72	56.656		59.614	- 45	145	58.135	105	145	40	56.656	- 45	145
2 1/2	11	2.3091	75.184	130	73.705	43	130	87	72.226											
3	11	2.3091	87.884	130	86.405	43	130	87	84.926											
4	11	2.3091	113.030	130	111.551	43	130	87	110.072											

※ : No. of ridges: Every 25.4 mm.
UT : The upper deviation
LT : The lower deviation

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2. American Pipe Thread Taps

American standard pipe thread has various types. We show their symbols and engagement of threads as follows.

■Pair groups of external thread and internal thread.

Standard	Symbol	Internal Thread	Mating Thread	External Thread	Mating Thread
Pipe Threads, General Purpose (ANSI/ASME B1.20.1)	American Standard Taper Pipe Thread for General Use	NPT	NPT	NPT	NPT NPSC
	American Standard Straight Pipe Thread in Pipe Couplings	NPSC	NPT	–	–
	American Standard Taper Pipe Threads for Railing Joints	NPTR	NPTR	NPTR	NPTR
	American Standard Straight Pipe Thread for Free-Fitting Mechanical Joints for Fixtures	NPSM	NPSM	NPSM	NPSM
	American Standard Straight Pipe Thread for Loose-Fitting Mechanical Joints with Locknuts	NPSL	NPSL	NPSL	NPSL
	American Standard Straight Pipe Threads for Loose-Fitting Mechanical Joints for Hose Couplings	NPSH	NPSH	NPSH	NPSH
Dryseal Pipe Threads (ANSI B1.20.3)	Dryseal American Standard Taper Pipe Thread	NPTF	NPTF PTF-SAE-SHORT	NPTF	NPTF,NPSF,NPSI PTF-SAE-SHORT
	Dryseal SAE Short Taper Pipe Thread	PTF-SAE-SHORT	NPTF	PTF-SAE-SHORT	NPTF NPSI
	Dryseal American Standard Fuel Internal Straight Pipe Thread	NPSF	NPTF	–	–
	Dryseal American Standard Intermediate Internal Straight Pipe Thread	NPSI	NPTF PTF-SAE-SHORT	–	–

Note : These symbols correspond to the name of American pipe thread.

These threads are

(1) Thread angle is 60°

(2) Taper of Taper Thread is 3/4" per foot.

(3) Fundamental height of triangle : H=Height of triangle thread profile H=0.866025P

(4) The difference between American Standard Pipe Thread for general use and Dryseal American Standard Pipe

- Crests and roots truncation of thread is different.
- The length of engagement for pipe thread is different by types.
- With regard to standard, Dryseal American Standard Pipe Thread is available in right hand.

In accordance with ANSI B 94.9, 4 types of pipe thread are specified in American Pipe Thread Standard.

Please refer to next page about the relation between taps and threads and about thread tolerance.

Think threads with YAMAWA

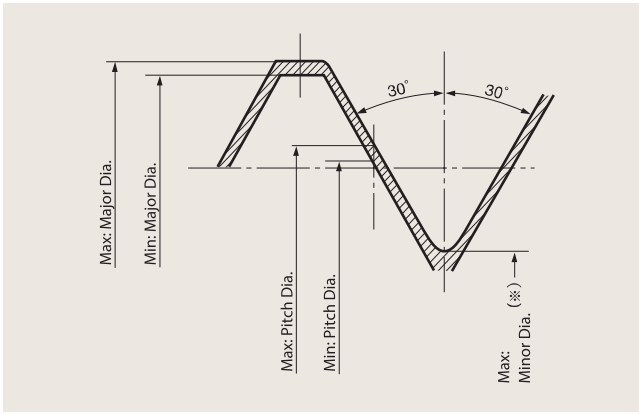
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○Classification of American pipe thread taps

Designation	Symbol	Class	Material	Threads to be cut	Range
Straight Pipe Thread Tap	NPS	Ground Thread	HSS	NPSC,NPSM	1/8～1
Dryseal Straight Pipe Thread Tap	NPSF	Ground Thread	HSS	NPSF	1/8～3/4
Taper Pipe Thread Tap	NPT	Ground Thread	HSS	NPT	1/16～2
Dryseal Taper Pipe Thread Tap	NPTF	Ground Thread	HSS	NPTF	1/16～2

■Thread limit of American Pipe Thread Taps

○Straight pipe thread taps for (NPS) G Class



Unit : mm

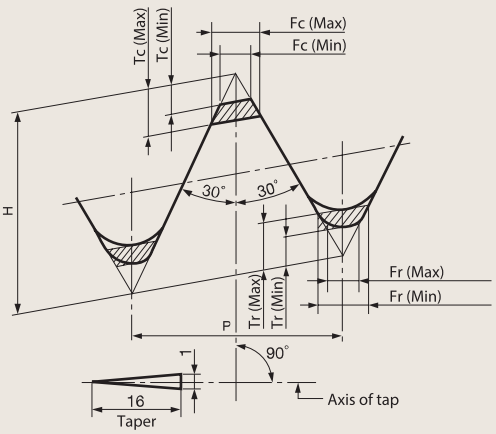
Size	Major diameter			Pitch diameter			Minor diameter※
	Max.	Min.	Tolerance	Max.	Min.	Tolerance	Max.
1/8 - 27 NPS	10.241	10.216	0.025	9.527	9.515	0.012	M−0.653
1/4 - 18 NPS	13.606	13.582	0.024	12.542	12.530	0.012	M−1.019
3/8 - 18 NPS	17.045	17.021	0.024	15.981	15.969	0.012	M−1.019
1/2 - 14 NPS	21.226	21.202	0.024	19.840	19.828	0.012	M−1.334
3/4 - 14 NPS	26.560	26.536	0.024	25.186	25.162	0.024	M−1.334
1 - 11 1/2 NPS	33.215	33.178	0.037	31.526	31.502	0.024	M−1.644

※ : Above dimensions change depending on actually measured.

○Taper pipe thread taps (NPT) G Class

p = 25.4/n
n = Number of threads

H = 0.866025P



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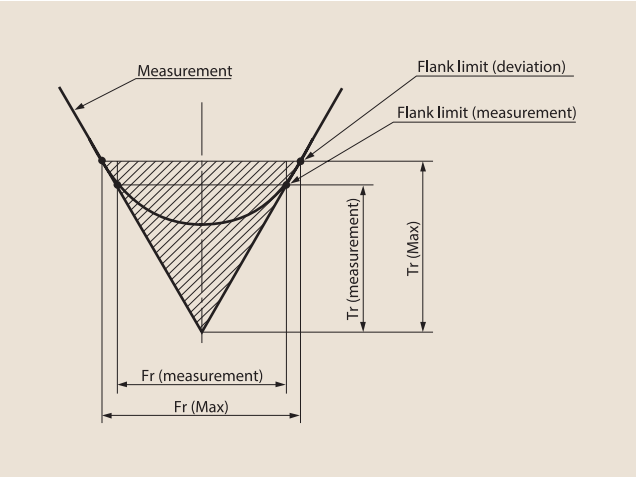
21. Taps for Pipe Threads

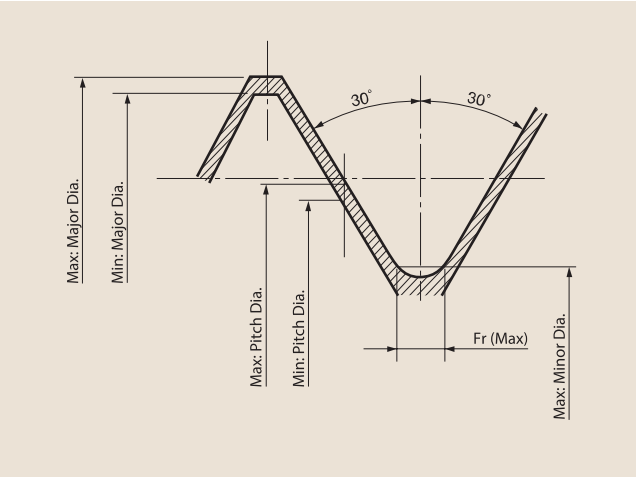
Unit : μm

Size	Crest				Root			
	Tc		Fc		Tr		Fr	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1/16 - 27 NPT	68	32	78	37	80	32	92	37
1/8 - 27 NPT	68	32	78	37	80	32	92	37
1/4 - 18 NPT	92	48	106	56	101	48	116	56
3/8 - 18 NPT	92	48	106	56	101	48	116	56
1/2 - 14 NPT	106	61	122	71	118	61	136	71
3/4 - 14 NPT	106	61	122	71	118	61	136	71
1 - 11 1/2 NPT	120	74	138	85	134	74	154	85
1 1/4-11 1/2 NPT	120	74	138	85	134	74	154	85
1 1/2-11 1/2 NPT	120	74	138	85	134	74	154	85
2 - 11 1/2 NPT	120	74	138	85	134	74	154	85
2 1/2 - 8 NPT	147	105	169	122	173	105	199	122
3 - 8 NPT	147	105	169	122	173	105	199	122

■Thread limit of Dryseal American Pipe Thread Taps

○Straight pipe thread taps (NPSF) G Class





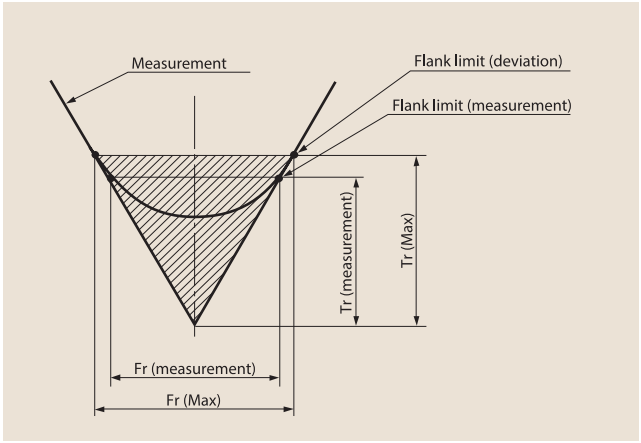
Unit : mm

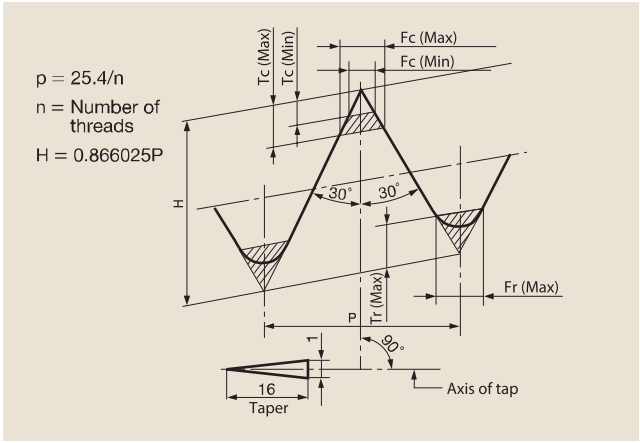
Size	Major diameter			Pitch diameter			Minor diameter※		
	Max.	Min.	Tolerance	Max .	Min.	Tolerance	Max.	Fr (Max)	Tr (Max)
1/16 - 27 NPSF	7.665	7.641	0.024	7.053	7.041	0.012	M−0.638	0.101	0.086
1/8 - 27 NPSF	10.012	9.988	0.024	9.400	9.388	0.012	M−0.638	0.101	0.086
1/4 - 18 NPSF	13.332	13.308	0.024	12.354	12.342	0.012	M−1.004	0.127	0.109
3/8 - 18 NPSF	16.771	16.747	0.024	15.793	15.781	0.012	M−1.004	0.127	0.109
1/2 - 14 NPSF	20.929	20.905	0.024	19.601	19.589	0.012	M−1.354	0.127	0.109
3/4 - 14 NPSF	26.276	26.251	0.025	24.947	24.936	0.011	M−1.354	0.127	0.109

※ : Above dimensions change depending on actually measured.

Think threads with YAMAWA
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○Taper pipe thread taps (NPTF) G Class





Unit : μm

Size	Crest				Root	
	Tc		Fc		Tr	Fr
	Max.	Min.	Max.	Min.	Max.	Min.
1/16 - 27 NPTF	110	89	127	103	86	101
1/8 - 27 NPTF	110	89	127	103	86	101
1/4 - 18 NPTF	132	110	152	127	109	125
3/8 - 18 NPTF	132	110	152	127	109	125
1/2 - 14 NPTF	131	109	151	126	108	124
3/4 - 14 NPTF	131	109	151	126	108	124
1 - 11 1/2 NPTF	176	133	203	154	132	152
1 1/4-11 1/2 NPTF	176	133	203	154	132	152
1 1/2-11 1/2 NPTF	176	133	203	154	132	152
2 - 11 1/2 NPTF	176	133	203	154	132	152

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3. Troubles on taper pipe thread tapping, and their solution

Taper pipe thread tapping such as for PT thread and for NPT thread is quite different from parallel thread tapping such as for metric thread. There, the trouble particularly special in taper thread tapping tends to happen.
Following is the explanation about tapping troubles on taper pipe thread tapping and their solution:

Materials and troubles

material / trouble	low carbon steel	middle carbon steel	tool steel, alloy steel, high carbon steel, heat treated steel of lower than 35HRC	stainless steel	cast iron, tough cast iron	aluminum alloy, zinc alloy, brass	thermosetting resin, thermoplastic resin	nickel base alloy, titanium alloy, heat treated steel of lower than 35HRC
tap wear, cutting performance decreased		▲	●	▲	●			—
welding on tap	●			●	▲	●	●	—
chipping on tap	▲	▲	●	●				—
rough surface	▲	▲	▲	▲	●	▲	▲	—
torn threads	●			●	▲	●	▲	—
chip clogging	●			●			▲	—

● Trouble occurs quite frequently ▲ Trouble occurs rather frequently — Hard-to-machine material

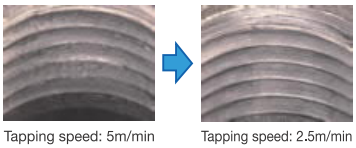
Trouble shooting

check point / trouble		Over-cutting of internal threads	Shrinkage of internal threads	Rough surface, Torn threads	Stop line	tap wear, cutting performance decreased	welding on tap	chipping on tap	chip clogging
Used machine		Select machine suitable for tapping size		Use machine with more power		Use machine with more power			
Jigs, Holders		Fix workpiece firmly			Use tap holder of floating type, Prevent vibrating of axis of tap, Prevent centering-off with workpiece				
Cutting condition		Adjust properly the stroke of tapping / Reduce cutting speed, Adjust a feed		Reduce cutting speed		Reduce cutting speed			
Lubricant			Change to insoluble oil from water soluble, Use other cutting oil which prevents cold welding			Change to insoluble oil from water soluble, Use other cutting oil when prevents cold welding		Adjust oil volume, supply oil properly	
On process					Prevent slanting of hole		Use taper reamer for boring hole	Provide deeper tapping hole, Remove unnecessary chips during tapping	Provide deeper tapping hole, Check the viscosity, Use taper reamer for boring hole
Tap	Selection			Use spiral fluted tap, Use interrupted tap	Use thread mill cutters	Use carbide tap (depending on materials being cut)	Use interrupted taps	Use spiral fluted tap, Use interrupted tap	
	Design				Reconsider of number of flutes of tap	Change material of tap	Provide oxide surface treatment, Provide TiN or TiCN on taps, Provide larger cutting angle	Select long shank tap when ejecting chips interferes with tap holder in the case of SP tapping	

Examples of trouble shooting

1) Torn thread trouble was solved by changing cutting speed

Tapping condition
size : PT1/4-19
tap : Straight flute tap
material : SS400
machine : Machining center
holder : fixed type
lubricant : water soluble

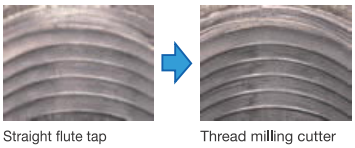


Tapping speed: 5m/min
Torn threads

Tapping speed: 2.5m/min
No torn threads

2) Stop line trouble was solved by using Thread milling cutter

Cutting condition
size : PT1/4-19
tap : Straight flute tap
milling cutter : 08153X19G
material : SS400
machine : Machining center
holder : fixed
lubricant : water soluble



Straight flute tap
There is the stop line

Thread milling cutter
There is no stop line

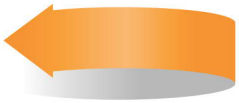
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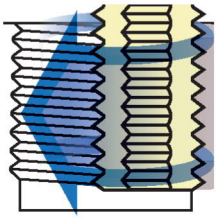
Cutting principles

The edge of an MC-helical thread mill does not have lead, like a tap. To tap internal threads with an MC-helical thread mill, you need to use "helical interpolation" on an MC machine. Helical interpolation moves a tool in a helical manner using simultaneous 3-axis control. Right-hand or left-hand is determined by combining the vertical and horizontal moving directions of the shaft (X-axis) as shown in the figure below. The shaft itself rotates clockwise.

【Meanings of arrows】



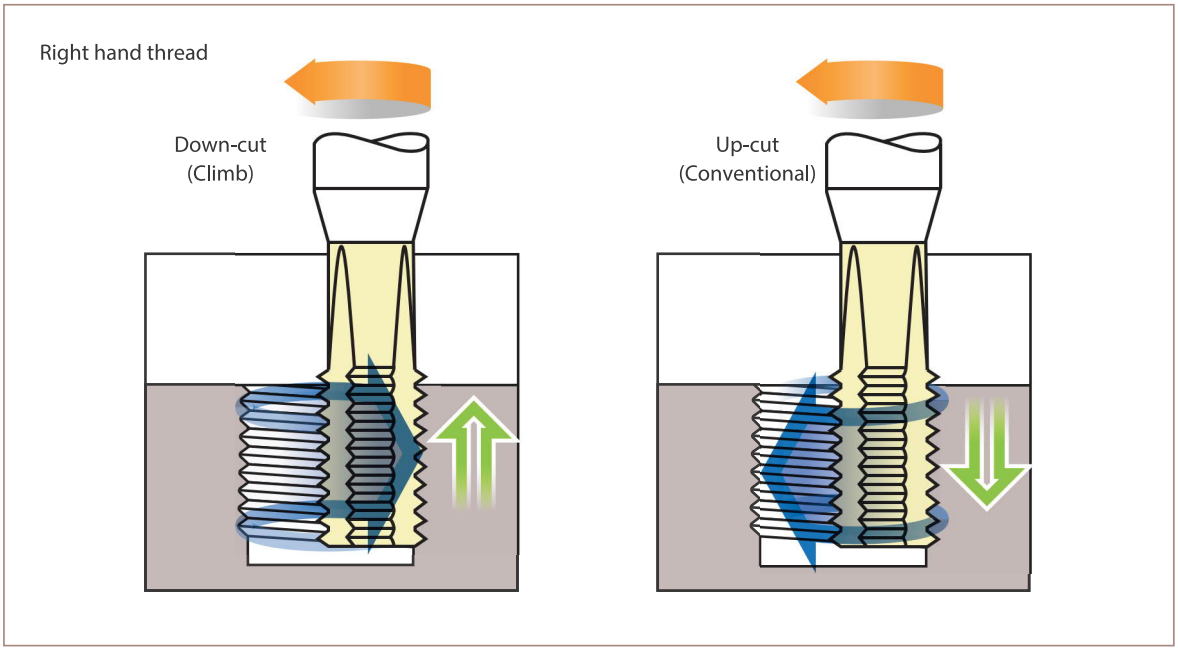
Rotation direction of the tool

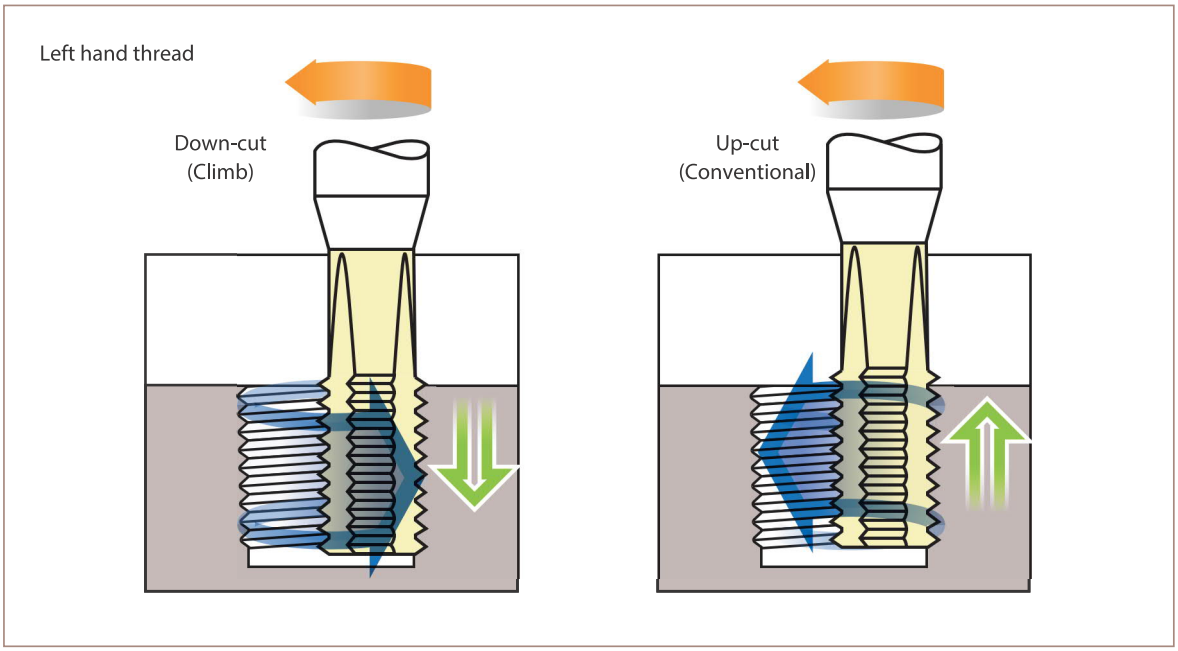


Horizontal moving direction of the tool



Vertical moving direction of the shaft





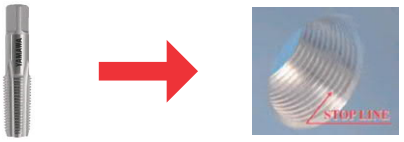
Note : Basically, conventional milling is recommended due to excellent chip ejection. However, climb milling is recommended in the case of poor horse power and poor rigidity of the machine.

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■Comparison of internal threads cut by helical cutter and by PT tap

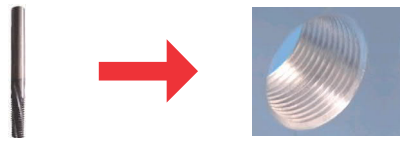
■Pipe thread cutting by tap

When PT tap cuts internal threads, the tap cuts the threads with all cutting edges and the tap reverses from the position where each cutting edge on lands sticks into the material wall of internal threads. This results in the stop line due to a step caused by this sticking.



■Pipe thread cutting by helical cutter

Due to the thread cutting of 3 axis movement without reversing, the internal thread has no stop line.



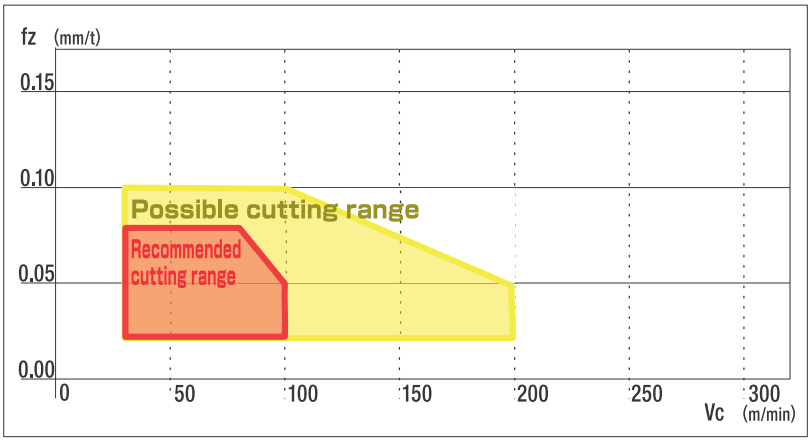
■Selection of tool diameter against the size of the internal threads

When cutting internal threads with MC-HLC, please choose the tool which diameter is smaller than 70% of internal threads diameter. The cutter having larger outside diameter is preferable due to its high rigidity.
Thread milling cutters do not have screw lead. Please select thread milling cutters by referring to product specification table to avoid poor threads caused by interference.

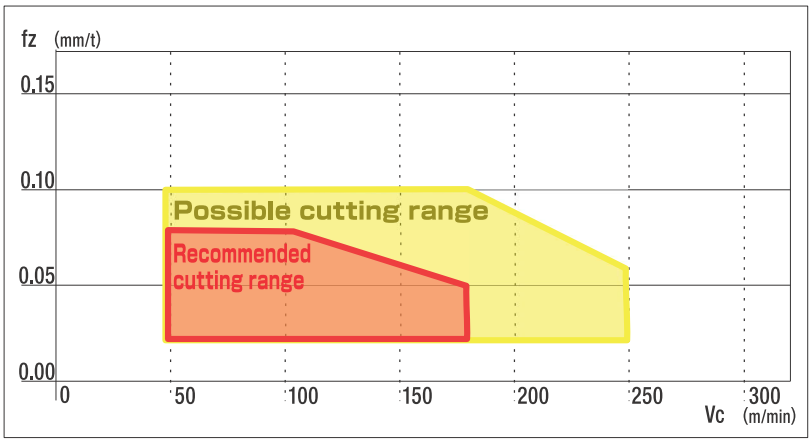
■Cutting conditions

○For MC-CSLC

—Stainless steel—



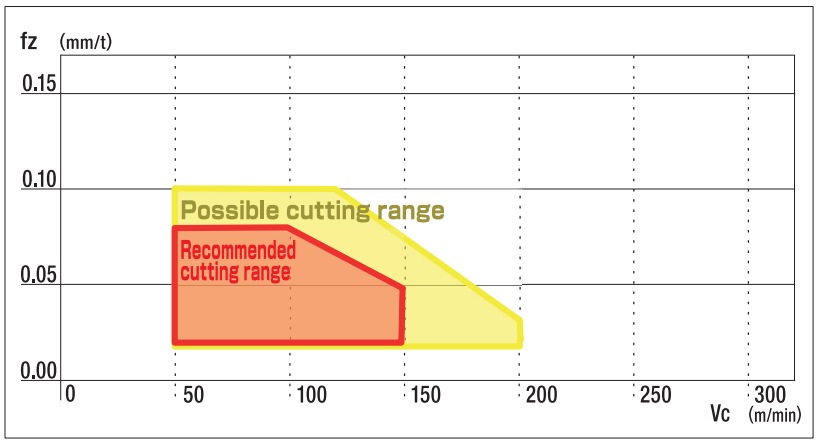
—Structural steel —



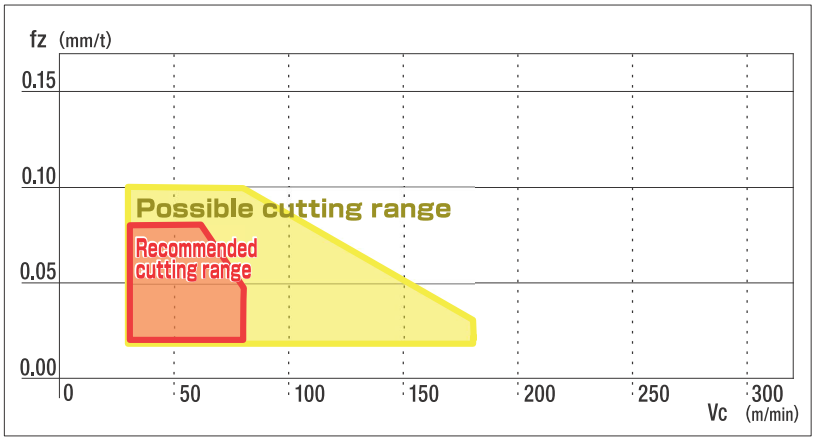
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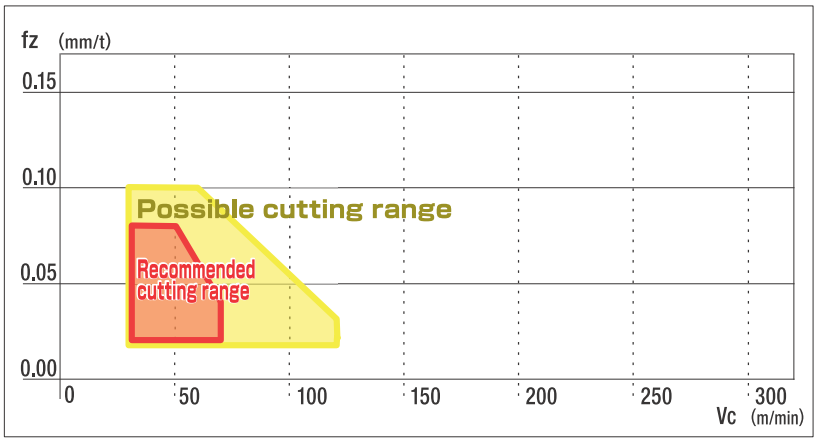
—Carbon steel—



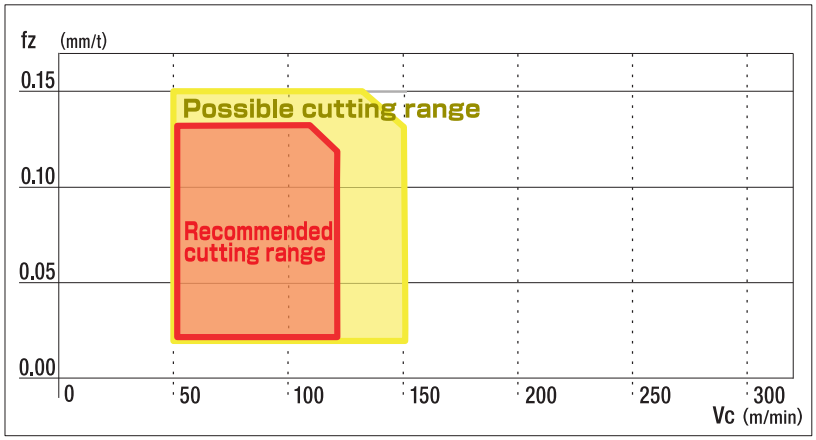
—Alloy steel—



—Tool steel —

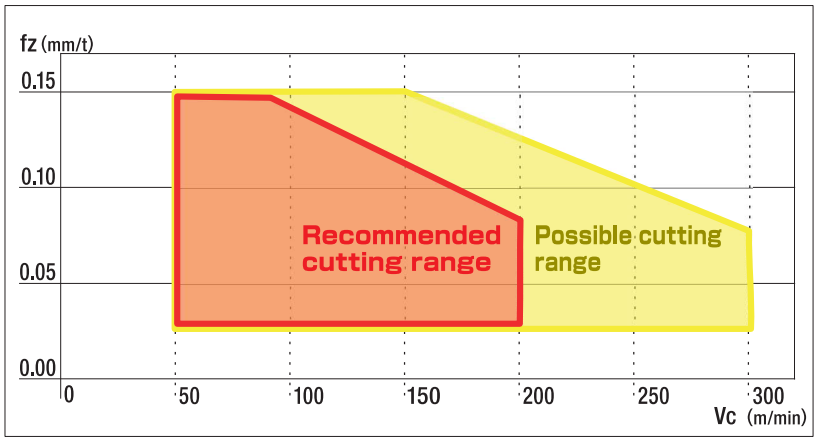


—Cast iron—



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—Aluminum / Aluminum alloy—



—Copper / Copper alloy—

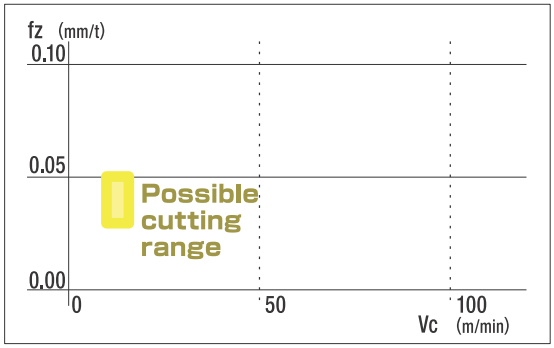


Think threads with YAMAWA

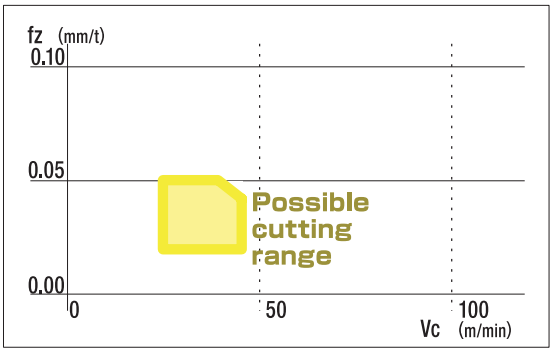
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○For MC-HLC

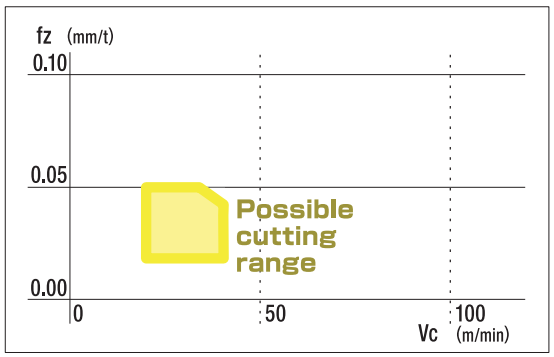
— Stainless steel—



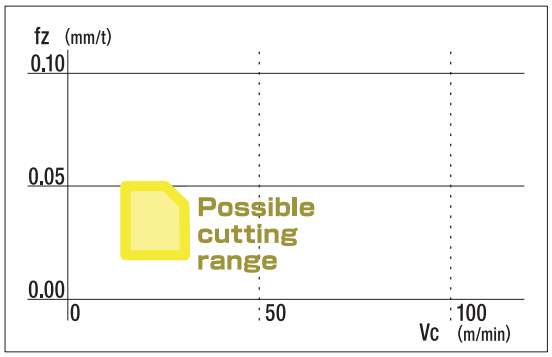
—Structural steel—



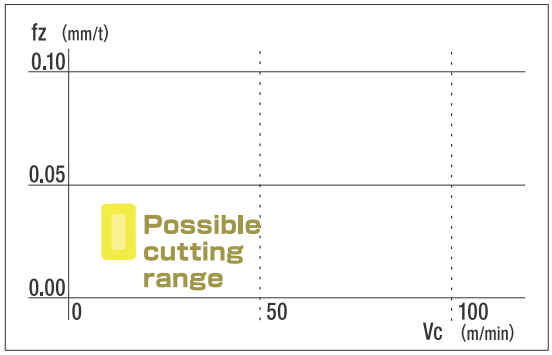
—Carbon steel —



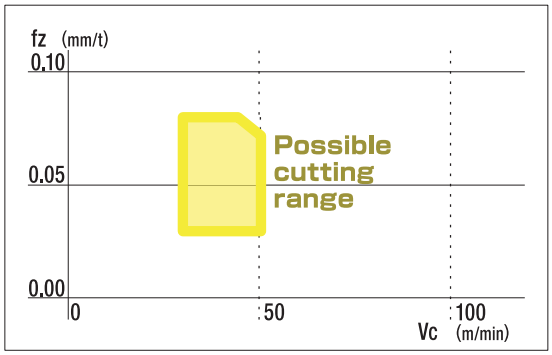
—Alloy steel—



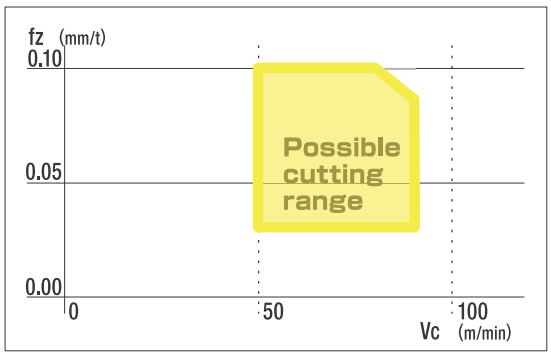
—Tool steel —



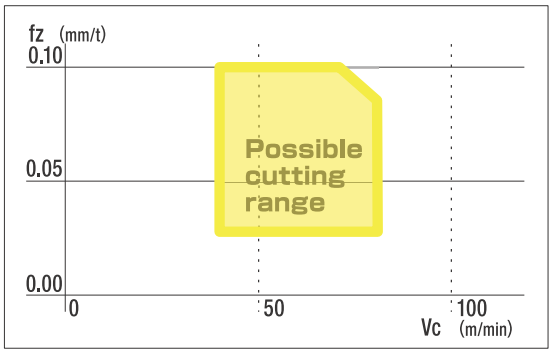
—Cast iron—



—Aluminum / Aluminum alloy—



—Copper / Copper alloy —



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Feed speed

Feed speed is decided by the characteristic of work materials. Feed speed is an important factor because machining time, thread finish and tool durability are getting influenced by the feed speed.
In the material of low tensile strength, feed per tooth can be set up rather large. However, if you set up feed per one tooth too large, thread milling cutters can cause deflection and may badly cause thread limit.

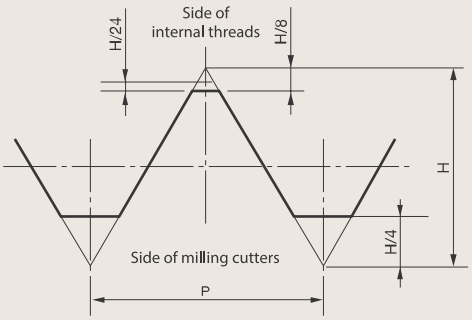
Feed speed of tool

$$Vf = fz \cdot Z \cdot n \cdot (D-Dc)/D \ (mm/min)$$

fz : Feed per tooth(mm/t)
z : Number of tooth
n : Spindle RPM Revolution Speed (min^{-1})
Dc : Outer diameter of tool (mm)
D : Nominal size of internal thread (mm)

Cut of cutters

Generally, Cut of cutter is decided by the machine programming in which the machine enables the cutter to cut the thread height in one revolution. MC helical cutter is so designed that its minor diameter does not cut, and the same bored hole size as that for cutting tap is adopted.



—Metric thread

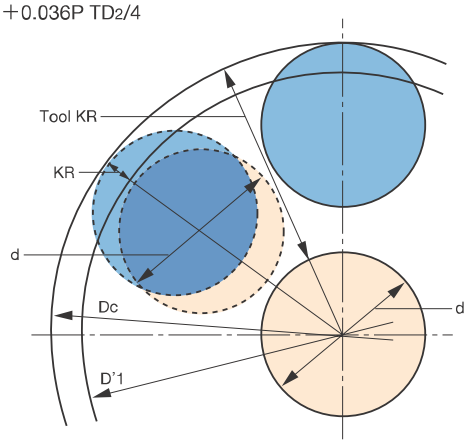
[Minor dia. basis]
Tool cut

$$KR = H-(H/8+H/4)+H/24+TD_2/4-(D'_1-D_1)/2$$
$$=(D_1-D'_1)/2+2H/3+TD_2/4$$
$$=(D_1-D'_1)/2+0.577P+TD_2/4$$

—Metric thread

[Tool basis]
Tool transverse

$$\text{Tool } KR = Dc/2-d/2+H/24+TD_2/4$$
$$=(Dc-d)/2+H/24+TD_2/4$$
$$=(Dc-d)/2+0.036P\ TD_2/4$$



where,

Dc : Nominal size of internal threads
D_1 : Basic minor diameter of internal threads
D'_1 : Minor diameter before cutting
d : Outside diameter of tool
H : 0.866025P
P : Pitch
TD_2 : Tolerance of pitch diameter for producing internal thread
$TD_2/4$: Shrinkage after cutting
(Set up in the middle of pitch diameter tolerance)

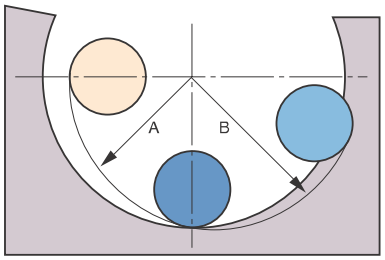
H/24 : Difference between of basic thread profile and O.D. of the cutters.

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Approaching and leaving to and from work material

On approaching and leaving to and from work material, the cutter must always be traversed in helical interpolating movement so that the cutter enables smooth cutting in and out. And it is necessary to cut the material gradually by the lead of screw thread. Otherwise, threads can be thinned.



Initial cutting A<B

Helical cutting trouble countermeasure

Trouble location		Finished internal thread	Finished internal thread	Finished internal thread	Finished internal thread	Tool	Environment
Trouble contents / Check section		Chattering	Gouges	Burrs	Taper	Chipping	Cutting sound, mechanical vibration
Work material	Hardness	Pay attention to variations.					
	Shape	· Pay attention to cutting position, material thickness, etc.					
	Prepared hole	· Pay attention to work hardening and inclination.		· Increase prepared hole size as much as possible.		· Pay attention to work hardening and inclination.	
Machine tool		· Pay attention to rigidity.					
Tooling		· Pay attention to rigidity and grip.					
Jig		· Pay attention to rigidity.					
Cutting conditions		· Lower cutting speed and feed.					
Cutting fluid		· Use insoluble oil instead of water-soluble oil. Use insoluble oil with extreme pressure additive.					
Processing method		· Add zero-cut process. · Perform rough cutting and finish cutting in the radial direction.			· Add zero-cut process. · Perform rough cutting and finish cutting in the radial direction. Perform rough cutting and finish cutting in the depth direction.	· Perform rough cutting and finish cutting in the radial direction.	· Perform rough cutting and finish cutting in the radial direction. Perform rough cutting and finish cutting in the depth direction.
Helical thread mills	Selection	· Use MC-HLC.	· Use MC-CSLC.			· Use MC-HLC.	
	Design	· Use smaller rake.	· Use larger rake.		· Use proper rake.	· Use smaller rake.	· Use proper rake.
	Resharpening	· Use proper rake.					

Thread Milling Programmer NC program application for thread mill



It's easy to create a program with Thread Milling Programmer.
Simply select a tool to use and input a "nominal diameter", "pitch", "tapping length" and other necessary information to create a program.
You can output the created program as an NC program file or text file and send it directly to your machining center.

Download Thread Milling Programmer from our website.
An instruction manual describing the installation procedure and basic instructions for use is also available.

Notes
We do not guarantee the accuracy of internal threads of NC programs created in Thread Milling Programmer.
Thread Milling Programmer has been tested and verified on Windows 10.
We cannot be held liable for any problems resulting from the use of NC programs created in Thread Milling Programmer.
Thread Milling Programmer cannot be used on smart devices.
(It works on Windows 10 only.)

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23. Selecting different tap holder combinations by machine feed system

The function of machine feed systems

Fully synchronous feed (Rigid) tapping system

Spindle revolution and machine feed are synchronized, a perfect thread lead and feed per revolution are realized.

Feed by lead screws

A better-feed condition is realized because the tap is fed by a master lead screw shaft that has the same thread lead as this tap.

Feed by gear

The tap is fed at the same thread lead by a combinations of gears. This creates a better-feed to thread lead condition.

Asynchronous feed system

Best used when the spindle rotation and the machine feed are set independently, especially, if the machine feed value cannot be accurately predicted to be that of the tap thread lead.

Hydraulic or Pneumatic pressure feed system

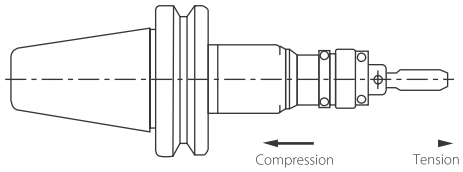
Feed is controlled by a pressure regulation system which normally results in an inaccurate feed per revolution compared to the tap thread lead.

Manual feed

Feed is controlled by operator which is difficult to keep a stable amount of feed per revolution.

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Holders aspects



Spring direction

Completely rigid holder type

The tap is held with no axial or radial adjustment in the collet and holder.

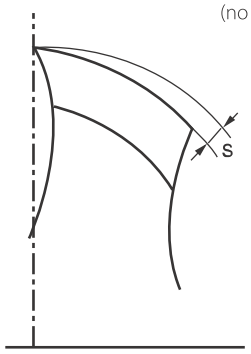
Adjustable spring floating holder (Tension & Compression)

Machine feed and tap's thread lead errors are corrected by two types of spring system in the holder, the axial tension direction of the tap and the axial compression direction of the tap.

Characteristics of tap self-guiding behavior

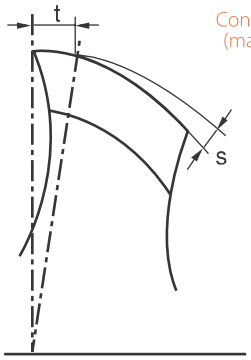
r=tap's radius, s=thread relief, t=margin width

Eccentric thread relief
(no width of margin)



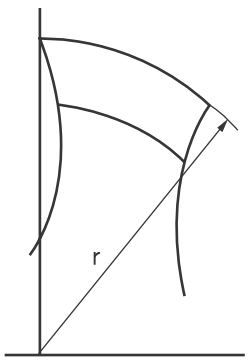
Tap characteristics ; high cutting performance and machining performance, with little to no self-guiding features.
Operation ; A fully synchronous machining system with fixed rigid holder is needed.
Example : "High speed tapping" and "fully synchronous tapping."

Con-eccentric thread relief
(margin and thread relief)



Tap ; High level of self-guidance due to suitable tap diameter margin and thread relief. The combination of nice portion of margin and chamfer relief helps to make appropriate tap guidance.

Concentric (No relief)



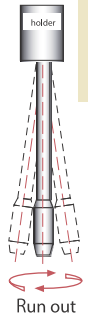
Tap ; A full thread land stays in contact with the thread major diameter at all times. Tap has no thread relief on major diameter, creating a high level of self-guidance even with unbalanced feeding conditions.

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24. The mechanism for a tap to cut oversize on an internal thread

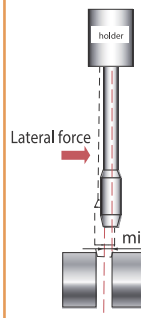
1. Run out, misalignment and tap cutting in non perpendicular to holes → Over-cutting at radial direction

Tool run out during tapping



Holder needs to be adjusted. Tapping with run out can be observed and checked when idle running.

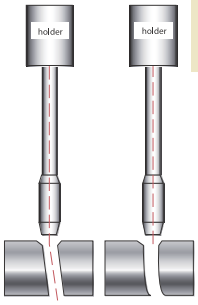
Misalignment during tapping



Axis of tapping process and bored hole should be lined up correctly. The use of adjustable holder with floating features will reduce this problem.

Solutions

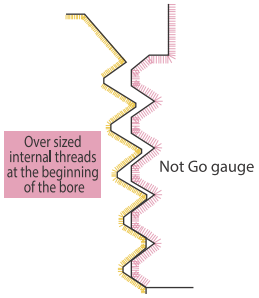
Tapping a non-parallel or non-perpendicular thread to the axis of the hole.



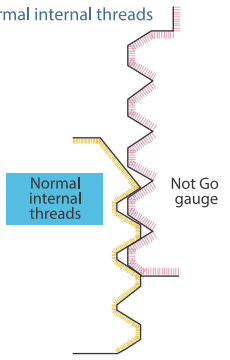
Verification of prepared hole condition.

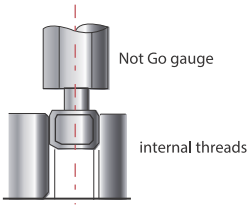
Excessive cutting in radial direction causes oversized internal threads. Since tapping proceeds along bored hole, in the depth of hole, oversize cutting is minimized, that is, oversize cutting in the beginning of the hole and normal cutting in the depth of the hole.

Excessive-cutting in the radial direction



Normal internal threads





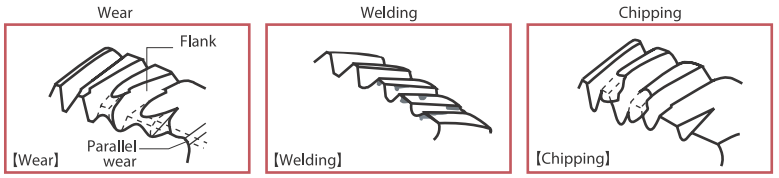
2. Using a tap not suitable for the operation or a tap with dull cutting edge may cause galling and result in over-cutting. → Over-cutting caused by galling and excess cutting

Using an incorrect tap for a specific workpiece material can cause problems

Select the correct Tap
- Straight fluted tap
- Spiral fluted tap
- Spiral pointed tap
- Roll tap

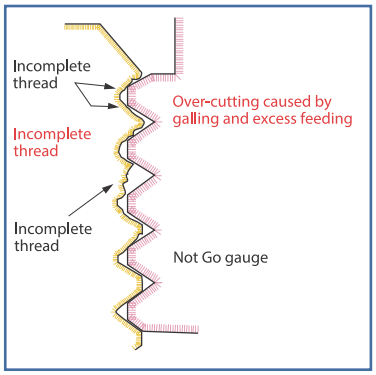
Selection of correct taps suitable for material being tapped is strongly recommended.

Tapping process with dull edge



Solution: Proper use of cutting oil, confirmation of a constant for tool life

Torn threads occur on the thread flanks. If this situation gets worse, there occur large thread collapses or incomplete threads finally bringing out oversized internal threads.
Depending on the condition of collapsed threads such trouble tends to occur discontinuously as NOT-GO gouge enters.
Special attention needs to be taken so that random inspection should not miss this kind of trouble.

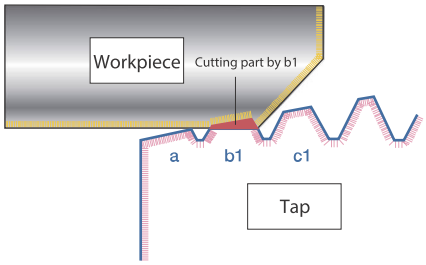


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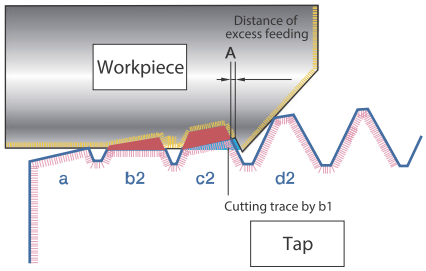
3. Tapping with an improper feed condition → over-cutting at axial direction

Process of over-cutting due to excessive feed

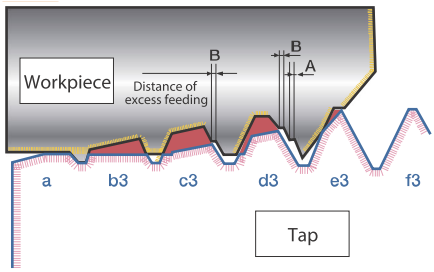
① With cutting edge b1, cutting starts.



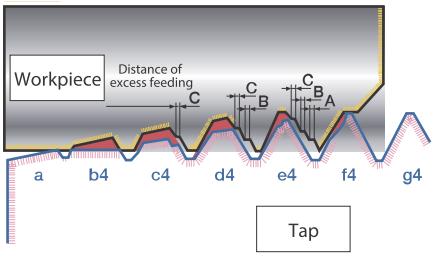
② Position between workpiece and tap after the tap rotates 1 turn.



③ Position between workpiece and tap after the tap rotates 2 turns.



④ The position between workpiece and tap after 3 rotations of tap.



Solutions

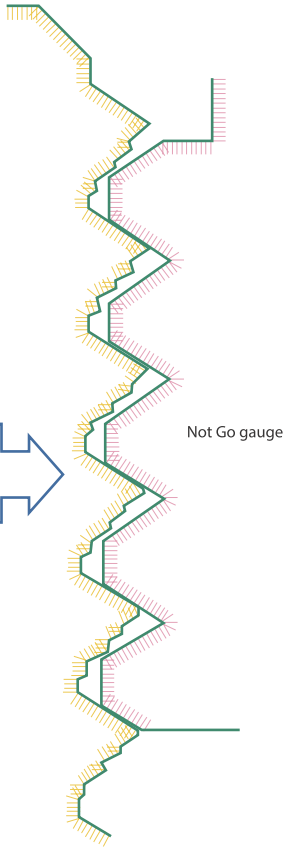
Feed adjustment is strongly recommanded.

* (Use fully synchronous feed system and fixing holder)

When using machines that do not have the synchronous feed system, such as drilling machine.

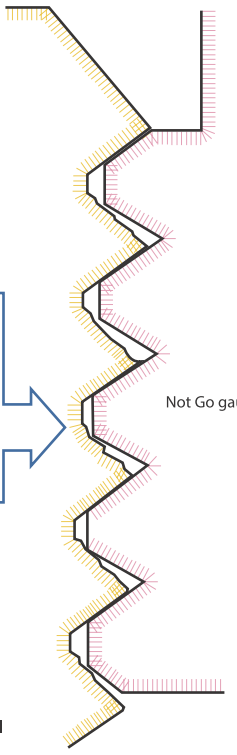
* Adjust the correct weight balance of main spindle properly.
* Use an axial/radial floating holder for adjustment.

Excessive-cutting of the thread with excessive feeding



Over-cutting of the thread by too slow feeding

Process Opposite of excessive feeding Factors in fluencing extra material is cut at back frank.



over-cutting during tapping

① The tap mounting condition in the holder.
② The condition of bored hole.
③ The cutting oil selection.
④ Incorrect adjustment of feed balance.
⑤ Selection of the tap depending on material being cut.

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25. Trouble Shooting

Troubles / Check point / Segments		Breakage			Excessive wear	
		Prevent excessive cutting torque	Prevent clogging of chips	Tap	Workpiece	Tap
Workpiece	Hardness	●Use workpiece which has even structure and hardness.			○Use workpiece which has even structure and hardness.	
	Shape	●Pay attention to tapping position and material thickness.			●Pay attention to tapping position and material thickness.	
	Bored hole	◎Provide bigger bored holes. ●Prevent work hardening.			○Provide bigger bored holes. ●Provide countersinking on hole entrance. ○Prevent work hardening.	
		◎Provide deeper tapping hole. ●Prevent slanting of hole.				
Machine		●Avoid inconsistent feed. ●Adjust feed stroke.				
Jigs, Holders		●Use tap holder of floating type. ◎Use tap holder with torque limiter.				
Cutting condition		○Reduce cutting speed.			○Reduce cutting speed.	
Lubricant		●Use the other cutting oil which prevents cold welding. ●Use insoluble type cutting oil.			●Provide proper timing for changing or filling-up of cutting oil. ●Prevent mixing of other oil into cutting oil. ●Use other cutting oil which prevents cold welding. ●Use cutting oil of insoluble type. ●Adjust flow of cutting oil and method of lubrication.	
On process			●Remove unnecessary chips during tapping. ●Provide bigger space for chips disposal.			
Tap	Selection			●Use PO tap(through hole). ●Use SP tap(blind hole). ●Use Roll tap.		
	Design		●Provide bigger chiproom.	●Change material of taps. ●Provide proper hardness on taps.		●Use serial set tap. ●Change material of taps. ●Provide proper hardness on taps.
		●Reconsider length of cutting chamfer. ●Use set tap.			●Reconsider length of cutting chamfer. ●Provide nitride on taps.	
	Re-grind	●Be careful about burning during re-sharpening. ●Provide proper land.			●Be careful about burning during re-sharpening. ●Increase re-sharpening frequency.	

◎ : Most suitable solution ○ : Second most suitable solution

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Undersize cutting of internal thread			Bad surface, surface damaged		
Improve cutting performance	Selection and design of tap	Work material	Improve cutting performance	Prevent welding	Check cutting condition
		●Check workmaterial.			●Use workpiece which has even structure and hardness.
		●Pay attention to tapping position and material thickness.			●Pay attention to tapping position and material thickness.
●Adopt bigger bored hole. ●Prevent work hardening of material.					
			●Prevent work hardening.	●Provide bigger bored holes.	○Prevent slanting of hole.
					○Feed according to pitch.
					●Use the tap holder of floating type. ●Prevent vibrating of axis of tap ●Prevent centering-off with work piece.
			●Reduce cutting speed.		
			●Provide proper timing for changing or filling-up of cutting oil. ●Prevent mixing of other oil into cutting oil. ●Use other cutting oil which prevents cold welding. ●Use cutting oil of insoluble type. ●Adjust flow of cutting oil and method of lubrication.		
				●Remove unnecessary chips	
●Provide Nitride on taps.	◎Use oversize taps.		●Use spiral pointed taps (for through hole).	◎Provide oxide coating on taps.	◎Use oil hole taps.
○Provide larger cutting angle.	●Adjust relief angle on cutting chamfer. ○Provide thread relief.		◎Provide larger cutting angle. ●Adjust relief angle on cutting chamfer. ○Provide more narrow margin.	●Change of no. of flutes on taps.	●Reconsider length of cutting chamfer.
●Increase re-sharpening frequency.			●Increase re-sharpening frequency.	●Provide better surface finishing on flutes.	
			●Provide precise re-sharpening. ●Be careful about burning during re-sharpening.		

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25. Trouble Shooting

Troubles / Check point / Segments		Over-cutting of internal thread				
		Prevent uneven in feed of tap	Prevent over cutting on thread	Prevent welding	Check cutting condition	Prevent unbalance on entering
Workpiece	Hardness	●Pay attention to unevenness, and variation of materials.				
	Shape					
	Bored hole			●Provide bigger bored hole.	●Prevent slanting of hole.	●Provide countersinking on the hole entrance.
Machine		●Adjust a feed. ◎Feed according to pitch.				
Jigs, Holders					○Use tap holder of floating type.	◎Prevent vibrating of axis of tap. ○Prevent centering-off with work piece. ●Use tap holder of floating type.
Cutting condition				●Reduce cutting speed.		
Lubricant				●Use other cutting lubricant which prevents cold welding. ●Check the viscosity.		
On process						
Tap	Selection			◎Provide oxide surface treatment. ○Use tap with oil hole.		
	Design		○Provide small cutting angle. ●Adjust chamfer relief angle. ◎Check the width of thread margin.	●Provide short thread length.	●Reconsider number of flutes of tap.	●Reconsider length of cutting chamfer.
	Re-grind		●Remove burrs on teeth after re-grinding. ●Provide proper land.		●Provide precise re-sharpening.	◎Care for vibration.

◎ : Most suitable solution ○ : Second most suitable solution

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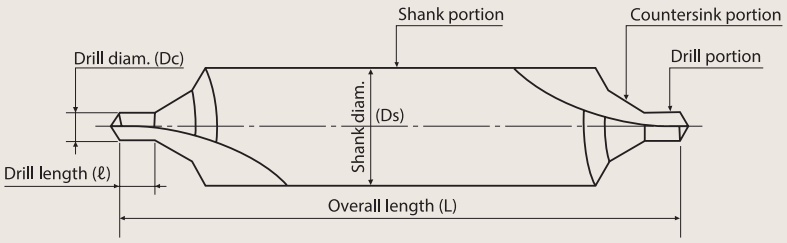
Chipping				Tapping operation	
Prevent clogging of chips	Prevent excessive cutting torque	Improve tapping method	Tap	Prevent clogging of chips	Tap
	●Use workpiece material which has even structure and hardness.				
		○Pay attention to tapping position and material thickness.		●If possible, use finer pitch tap or shorter tapping length.	
Provide deeper tapping hole (Blind hole).	◎Provide bigger bored hole. ●Prevent work hardening.	●Prevent slanting of holes.		○Provide bigger bored hole. ◎Provide deeper tapping hole (Blind hole).	
●Provide countersinking on hole the entrance.					
	●Avoid inconsistent feed.				
	○Use tapping holder with torque limiter.	●Prevent centering-off with workpiece. ●Prevent vibration of axis of tap. ●Use the tap holder of floating type.			●Use the tap holder of floating type. ●Prevent vibration of axis of tap. ●Prevent centering-off with workpiece.
●Reduce cutting speed.				●Reduce cutting speed.	
	●Use the other cutting oil which prevent cold welding.			●Check the viscosity.	
●Remove unnecessary chips during tapping. ●Provide bigger space for chip disposal.				●Remove unnecessary chips during tapping. ●Provide bigger space for chip disposal.	
			●Use PO taps (Through hole). ●Use SP taps (Blind hole). ●Use Roll tap.		●Use PO taps (Through hole). ●Use SP taps (Blind hole). ●Use Roll tap.
●Provide bigger chip room.			●Change material of tap. ●Provide smaller cutting angle. ●Provide proper hardness.	●Provide bigger chip room. ●Reconsider length of cutting chamfer. ◎Use oil hole tap. ●Provide shorter thread length to tap.	
●Reconsider length of cutting chamfer. ●Use set tap(Serial or conventional). ●Adjust relief angle on cutting chamfer.					
●Be careful about burning during re-sharpening.					

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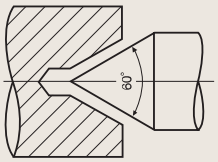
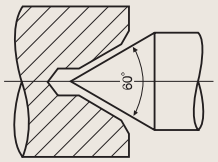
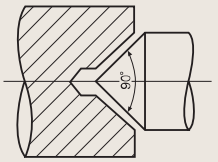
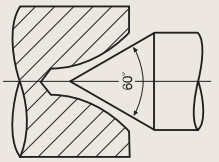
26. Center Drills

Center Drills are the tool for making center hole. Center Drills are also used for positioning before drilling, and for chamfering of the hole.

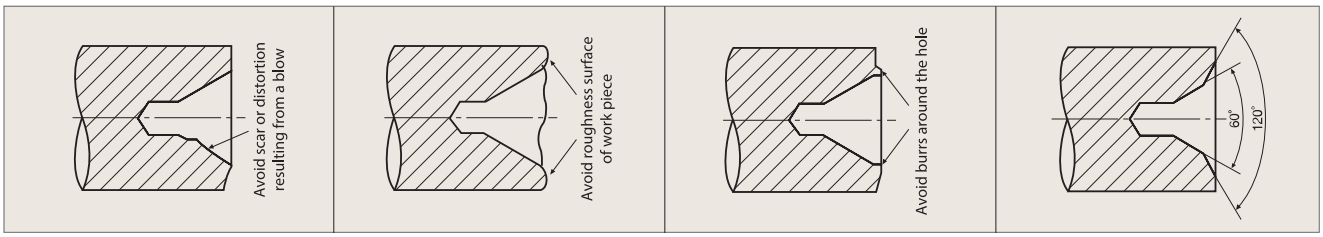
Names of each part



Shape of center hole and center

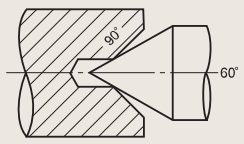
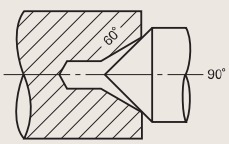
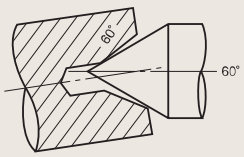
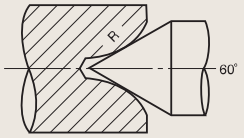
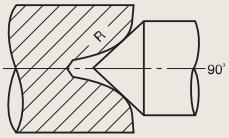
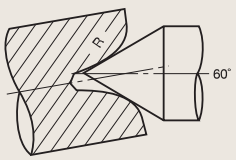
Type A (60°) Center hole & 60°center	Type B (60°) Center hole & 60°center	Type A (90°) Center hole & 90°center	Type R Center hole & 60°center
			

Advantage of Type B Center holes



Note : Advantage of Type B center holes : B type center drill protect the 60° conical bearing surface from scar or distortion resulting from a blow, roughness of workpiece surface or burrs around the hole.

Advantage of Type R Center holes

	Angle of center hole is higher than that of center.	Angle of center hole is lower than that of center.	Center hole and center are misaligned.
A type			
R type			

Note : R type center hole stably holds the center. It also some of advantage of B type center hole.

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27. Table of recommend centering condition

■Table of Recommended Cutting Conditions for High Helix Center Drills (CE Series)

《Uncoated products with standard overall length》

Drill size Dc mm ( )is Shank Dia Ds	Workpiece material	Low carbon steels		Medium carbon steels		Stainless steels		Brass		Brass castings		Wrought aluminums		Aluminum alloy castings	
	Cutting speed v_c	15~30 m/min		15~30 m/min		5~12 m/min		25~50 m/min		25~50 m/min		20~40 m/min		20~40 m/min	
	Workpiece end-face Hole size[1] D_x mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
CESA, CEIR															
0.5 (3.15)	1.06	4500	0.01~0.02	4500	0.01~0.02	1500	0.01~0.02	7500	0.01~0.02	7500	0.01~0.02	6000	0.01~0.02	6000	0.01~0.02
0.63 (3.15)	1.32	3900	0.01~0.03	3900	0.01~0.03	1300	0.01~0.03	6400	0.01~0.03	6400	0.01~0.03	5100	0.01~0.03	5100	0.01~0.03
0.8 (3.15)	1.7	3200		3200		1100		5400		5400		4300		4300	
1 (3.15)	2.12	2800	0.02~0.04	2800	0.02~0.04	1000	0.02~0.04	4700	0.02~0.04	4700	0.02~0.04	3800	0.02~0.04	3800	0.02~0.04
1.25 (3.15)	2.65	2500		2500		920		4100		4100		3300		3300	
1.6 (4)	3.35	2200	0.02~0.05	2200	0.02~0.05	840	0.02~0.05	3700	0.02~0.05	3700	0.02~0.05	2900	0.02~0.05	2900	0.02~0.05
2 (5)	4.25	2000	0.03~0.06	2000	0.03~0.06	770		3300	0.03~0.06	3300	0.03~0.06	2600	0.03~0.06	2600	0.03~0.06
2.5 (6.3)	5.3	1800	0.03~0.07	1800	0.03~0.07	720	0.03~0.06	3000	0.03~0.07	3000	0.03~0.07	2400	0.03~0.07	2400	0.03~0.07
3.15 (8)	6.7	1400		1400		570		2400		2400		1900		1900	
4 (10)	8.5	1100	0.05~0.1	1100	0.05~0.1	450	0.04~0.08	1900	0.05~0.1	1900	0.05~0.1	1500	0.05~0.1	1500	0.05~0.1
5 (12.5)	10.6	900	0.08~0.13	900	0.08~0.13	360	0.05~0.1	1500	0.08~0.13	1500	0.08~0.13	1200	0.08~0.13	1200	0.08~0.13
6.3 (16)	13.2	720	0.1~0.15	720	0.1~0.15	290		1200	0.1~0.15	1200	0.1~0.15	970	0.1~0.15	970	0.1~0.15
8 (20)	17	560	0.13~0.18	560	0.13~0.18	220	0.06~0.11	940	0.13~0.18	940	0.13~0.18	750	0.13~0.18	750	0.13~0.18
10 (25)	21.2	450	0.19~0.24	450	0.19~0.24	180		750	0.19~0.24	750	0.19~0.24	600	0.19~0.24	600	0.19~0.24
CE-S, CE-T															
0.3 (3)	1	3200		3200		1100		5300		5300		4200		4200	
0.4 (3)	1	3200	0.01~0.02	3200	0.01~0.02	1100	0.01~0.02	5300	0.01~0.02	5300	0.01~0.02	4200	0.01~0.02	4200	0.01~0.02
0.5 (3.5)	1.5	3200		3200		1100		5300		5300		4200		4200	
0.6 (3.5)	1.5	3300		3300		1100		5600		5600		4500		4500	
0.7 (3.5)	2	2600	0.01~0.03	2600	0.01~0.03	910	0.01~0.03	4400	0.01~0.03	4400	0.01~0.03	3500	0.01~0.03	3500	0.01~0.03
0.8 (3.5)	2	2700		2700		960		4600		4600		3700		3700	
0.9 (4)	2.5	2300		2300		820		3800		3800		3100		3100	
1 (4)	2.5	2400	0.02~0.04	2400	0.02~0.04	860	0.02~0.04	4000	0.02~0.04	4000	0.02~0.04	3200	0.02~0.04	3200	0.02~0.04
1.2 (5)	3	2100		2100		790		3600		3600		2900		2900	
1.5 (5)	4	1800	0.02~0.05	1800	0.02~0.05	680	0.02~0.05	3000	0.02~0.05	3000	0.02~0.05	2400	0.02~0.05	2400	0.02~0.05
2 (6)	5	1700	0.03~0.06	1700	0.03~0.06	650		2800	0.03~0.06	2800	0.03~0.06	2200	0.03~0.06	2200	0.03~0.06
2.5 (7.7)	6.5	1500		1500		590		2400		2400		2000		2000	
3 (7.7)	6.5	1500	0.03~0.07	1500	0.03~0.07	590	0.03~0.06	2400	0.03~0.07	2400	0.03~0.07	2000	0.03~0.07	2000	0.03~0.07
3 (8)	6.5	1500		1500		590		2400		2400		2000		2000	
4 (10)	8.5	1100	0.05~0.1	1100	0.05~0.1	450	0.04~0.08	1900	0.05~0.1	1900	0.05~0.1	1500	0.05~0.1	1500	0.05~0.1
5 (11)	9	1100	0.08~0.13	1100	0.08~0.13	420	0.05~0.1	1800	0.08~0.13	1800	0.08~0.13	1400	0.08~0.13	1400	0.08~0.13
5 (12)	10	960		960		380		1600		1600		1300		1300	
6 (16)	13.5	710	0.1~0.15	710	0.1~0.15	280		1200	0.1~0.15	1200	0.1~0.15	940	0.1~0.15	940	0.1~0.15
6 (18)	15	640		640		250		1100		1100		850		850	
8 (18)	15	640	0.13~0.18	640	0.13~0.18	250	0.06~0.11	1100	0.13~0.18	1100	0.13~0.18	850	0.13~0.18	850	0.13~0.18
10 (18)	15	640	0.19~0.24	640	0.19~0.24	250		1100	0.19~0.24	1100	0.19~0.24	850	0.19~0.24	850	0.19~0.24
12 (25)	21	450	0.22~0.27	450	0.22~0.27	180		760	0.22~0.27	760	0.22~0.27	610	0.22~0.27	610	0.22~0.27
1/16 (5)	4	1800	0.02~0.05	1800	0.02~0.05	700	0.02~0.05	3100	0.02~0.05	3100	0.02~0.05	2500	0.02~0.05	2500	0.02~0.05
3/32 (7.7)	6	1500	0.03~0.07	1500	0.03~0.07	610	0.03~0.06	2600	0.03~0.07	2600	0.03~0.07	2100	0.03~0.07	2100	0.03~0.07
1/8 (7.7)	6.5	1500		1500		590		2400		2400		2000		2000	
3/16 (11)	9	1100	0.08~0.13	1100	0.08~0.13	420	0.05~0.1	1800	0.08~0.13	1800	0.08~0.13	1400	0.08~0.13	1400	0.08~0.13
1/4 (18)	15	640	0.1~0.15	640	0.1~0.15	250	0.06~0.11	1100	0.1~0.15	1100	0.1~0.15	850	0.1~0.15	850	0.1~0.15
CE-S (I)															
2.5 (8)	6.5	1500	0.03~0.07	1500	0.03~0.07	590	0.03~0.06	2400	0.03~0.07	2400	0.03~0.07	2000	0.03~0.07	2000	0.03~0.07
3 (10)	8	1200		1200		480		2000		2000		1600		1600	
4 (12)	10	960	0.05~0.1	960	0.05~0.1	380	0.04~0.08	1600	0.05~0.1	1600	0.05~0.1	1300	0.05~0.1	1300	0.05~0.1
5 (14)	12	800	0.08~0.13	800	0.08~0.13	320	0.05~0.1	1300	0.08~0.13	1300	0.08~0.13	1100	0.08~0.13	1100	0.08~0.13

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27. Table of recommend centering condition

Drill size Dc mm ( )is Shank Dia Ds	Workpiece material	Low carbon steels		Medium carbon steels		Stainless steels		Brass		Brass castings		Wrought aluminums		Aluminum alloy castings	
	Cutting speed v_c	15~30 m/min		15~30 m/min		5~12 m/min		25~50 m/min		25~50 m/min		20~40 m/min		20~40 m/min	
	Workpiece end-face Hole size[1] D_w mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
CEQA															
1 (4)	2.8	2100	0.02~0.04	2100	0.02~0.04	770	0.02~0.04	3600	0.02~0.04	3600	0.02~0.04	2800	0.02~0.04	2800	0.02~0.04
1.25 (5)	3.55	1900		1900		680		3100		3100		2500		2500	
1.6 (6.3)	4.5	1600	0.02~0.05	1600	0.02~0.05	630	0.02~0.05	2700	0.02~0.05	2700	0.02~0.05	2200	0.02~0.05	2200	0.02~0.05
2 (8)	5.6	1500	0.03~0.06	1500	0.03~0.06	580		2500	0.03~0.06	2500	0.03~0.06	2000	0.03~0.06	2000	0.03~0.06
2.5 (10)	7.1	1300	0.03~0.07	1300	0.03~0.07	540	0.03~0.06	2200	0.03~0.07	2200	0.03~0.07	1800	0.03~0.07	1800	0.03~0.07
3.15 (11.2)	9	1100		1100		420		1800		1800		1400		1400	
4 (12.5)	11.2	850	0.05~0.1	850	0.05~0.1	340	0.04~0.08	1400	0.05~0.1	1400	0.05~0.1	1100	0.05~0.1	1100	0.05~0.1
5 (16)	14	680	0.08~0.13	680	0.08~0.13	270	0.05~0.1	1100	0.08~0.13	1100	0.08~0.13	910	0.08~0.13	910	0.08~0.13
6.3 (20)	18	530	0.1~0.15	530	0.1~0.15	210	0.06~0.11	880	0.1~0.15	880	0.1~0.15	710	0.1~0.15	710	0.1~0.15
8 (25)	22.4	430	0.13~0.18	430	0.13~0.18	170		710	0.13~0.18	710	0.13~0.18	570	0.13~0.18	570	0.13~0.18
10 (31.5)	28	340	0.19~0.24	340	0.19~0.24	140		570	0.19~0.24	570	0.19~0.24	450	0.19~0.24	450	0.19~0.24
12.5 (35.5)	31.5	300	0.22~0.27	300	0.22~0.27	120		510	0.22~0.27	510	0.22~0.27	400	0.22~0.27	400	0.22~0.27
CE-Q															
0.5 (3.5)	1.5	3200	0.01~0.02	3200	0.01~0.02	1100	0.01~0.02	5300	0.01~0.02	5300	0.01~0.02	4200	0.01~0.02	4200	0.01~0.02
0.6 (3.5)	2	2500	0.01~0.03	2500	0.01~0.03	850	0.01~0.03	4200	0.01~0.03	4200	0.01~0.03	3300	0.01~0.03	3300	0.01~0.03
0.7 (3.5)	2	2600		2600		910		4400		4400		3500		3500	
0.8 (3.5)	2.5	2200		2200		770		3700		3700		2900		2900	
0.9 (4)	2.5	2300		2300		820		3800		3800		3100		3100	
1 (4)	3	2000	0.02~0.04	2000	0.02~0.04	720	0.02~0.04	3300	0.02~0.04	3300	0.02~0.04	2700	0.02~0.04	2700	0.02~0.04
1.2 (5)	3.5	1800		1800		680		3100		3100		2500		2500	
1.5 (5)	4	1800	0.02~0.05	1800	0.02~0.05	680	0.02~0.05	3000	0.02~0.05	3000	0.02~0.05	2400	0.02~0.05	2400	0.02~0.05
2 (6)	5	1700	0.03~0.06	1700	0.03~0.06	650		2800	0.03~0.06	2800	0.03~0.06	2200	0.03~0.06	2200	0.03~0.06
2.5 (7.7)	6.5	1500	0.03~0.07	1500	0.03~0.07	590	0.03~0.06	2400	0.03~0.07	2400	0.03~0.07	2000	0.03~0.07	2000	0.03~0.07
3 (7.7)	6.5	1500		1500		590		2400		2400		2000		2000	
4 (10)	8.5	1100	0.05~0.1	1100	0.05~0.1	450	0.04~0.08	1900	0.05~0.1	1900	0.05~0.1	1500	0.05~0.1	1500	0.05~0.1
5 (11)	9	1100	0.08~0.13	1100	0.08~0.13	420	0.05~0.1	1800	0.08~0.13	1800	0.08~0.13	1400	0.08~0.13	1400	0.08~0.13
6 (16)	13.5	710	0.1~0.15	710	0.1~0.15	280	0.06~0.11	1200	0.1~0.15	1200	0.1~0.15	940	0.1~0.15	940	0.1~0.15
6 (18)	15	640		640		250		1100		1100		850		850	
CESB															
0.5 (3.15)	1.6	3000	0.01~0.02	3000	0.01~0.02	1000	0.01~0.02	5000	0.01~0.02	5000	0.01~0.02	4000	0.01~0.02	4000	0.01~0.02
0.63 (3.15)	2	2500	0.01~0.03	2500	0.01~0.03	870	0.01~0.03	4200	0.01~0.03	4200	0.01~0.03	3400	0.01~0.03	3400	0.01~0.03
0.8 (3.15)	2.5	2200		2200		770		3700		3700		2900		2900	
1 (4)	3.15	1900	0.02~0.04	1900	0.02~0.04	680	0.02~0.04	3200	0.02~0.04	3200	0.02~0.04	2500	0.02~0.04	2500	0.02~0.04
1.25 (5)	4	1600		1600		610		2700		2700		2200		2200	
1.6 (6.3)	5	1500	0.02~0.05	1500	0.02~0.05	560	0.02~0.05	2500	0.02~0.05	2500	0.02~0.05	2000	0.02~0.05	2000	0.02~0.05
2 (8)	6.3	1300	0.03~0.06	1300	0.03~0.06	520		2200	0.03~0.06	2200	0.03~0.06	1800	0.03~0.06	1800	0.03~0.06
2.5 (10)	8	1200	0.03~0.07	1200	0.03~0.07	480	0.03~0.06	2000	0.03~0.07	2000	0.03~0.07	1600	0.03~0.07	1600	0.03~0.07
3.15 (11.2)	10	960		960		380		1600		1600		1300		1300	
4 (14)	12.5	760	0.05~0.1	760	0.05~0.1	310	0.04~0.08	1300	0.05~0.1	1300	0.05~0.1	1000	0.05~0.1	1000	0.05~0.1
5 (18)	16	600	0.08~0.13	600	0.08~0.13	240	0.05~0.1	1000	0.08~0.13	1000	0.08~0.13	800	0.08~0.13	800	0.08~0.13
6.3 (20)	18	530	0.1~0.15	530	0.1~0.15	210	0.06~0.11	880	0.1~0.15	880	0.1~0.15	710	0.1~0.15	710	0.1~0.15
8 (25)	22.4	430	0.13~0.18	430	0.13~0.18	170		710	0.13~0.18	710	0.13~0.18	570	0.13~0.18	570	0.13~0.18
10 (31.5)	28	340	0.19~0.24	340	0.19~0.24	140		570	0.19~0.24	570	0.19~0.24	450	0.19~0.24	450	0.19~0.24
CE-S（Ⅱ）															
1 (6)	4	1500	0.02~0.04	1500	0.02~0.04	540	0.02~0.04	2500	0.02~0.04	2500	0.02~0.04	2000	0.02~0.04	2000	0.02~0.04
1.5 (8)	6	1200	0.02~0.05	1200	0.02~0.05	450	0.02~0.05	2000	0.02~0.05	2000	0.02~0.05	1600	0.02~0.05	1600	0.02~0.05
2 (10)	8	1000	0.03~0.06	1000	0.03~0.06	410		1700	0.03~0.06	1700	0.03~0.06	1400	0.03~0.06	1400	0.03~0.06
2.5 (12)	10	960	0.03~0.07	960	0.03~0.07	380	0.03~0.06	1600	0.03~0.07	1600	0.03~0.07	1300	0.03~0.07	1300	0.03~0.07
3 (14)	12	800		800		320		1300		1300		1100		1100	
4 (18)	14	680	0.05~0.1	680	0.05~0.1	270	0.04~0.08	1100	0.05~0.1	1100	0.05~0.1	910	0.05~0.1	910	0.05~0.1

Think threads with YAMAWA

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Drill size Dc mm ( )is Shank Dia Ds	Workpiece material	Low carbon steels		Medium carbon steels		Stainless steels		Brass		Brass castings		Wrought aluminums		Aluminum alloy castings	
	Cutting speed v_c	15~30 m/min		15~30 m/min		5~12 m/min		25~50 m/min		25~50 m/min		20~40 m/min		20~40 m/min	
	Workpiece end-face Hole size[1] D_x mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
5 (22)	17	560	0.08~0.13	560	0.08~0.13	220	0.05~0.1	940	0.08~0.13	940	0.08~0.13	750	0.08~0.13	750	0.08~0.13
6 (25)	21	450	0.1~0.15	450	0.1~0.15	180	0.06~0.11	760	0.1~0.15	760	0.1~0.15	610	0.1~0.15	610	0.1~0.15
CESC															
0.5 (3.15)	1.6	3000	0.01~0.02	3000	0.01~0.02	1000	0.01~0.02	5000	0.01~0.02	5000	0.01~0.02	4000	0.01~0.02	4000	0.01~0.02
0.63 (3.15)	2	2500	0.01~0.03	2500	0.01~0.03	870	0.01~0.03	4200	0.01~0.03	4200	0.01~0.03	3400	0.01~0.03	3400	0.01~0.03
0.8 (3.15)	2.5	2200		2200		770		3700		3700		2900		2900	
1 (3.15)	3.15	1900	0.02~0.04	1900	0.02~0.04	680	0.02~0.04	3200	0.02~0.04	3200	0.02~0.04	2500	0.02~0.04	2500	0.02~0.04
1.25 (4)	4	1600		1600		610		2700		2700		2200		2200	
1.6 (5)	5	1500	0.02~0.05	1500	0.02~0.05	560	0.02~0.05	2500	0.02~0.05	2500	0.02~0.05	2000	0.02~0.05	2000	0.02~0.05
2 (6.3)	6.3	1300	0.03~0.06	1300	0.03~0.06	520		2200	0.03~0.06	2200	0.03~0.06	1800	0.03~0.06	1800	0.03~0.06
2.5 (8)	8	1200	0.03~0.07	1200	0.03~0.07	480	0.03~0.06	2000	0.03~0.07	2000	0.03~0.07	1600	0.03~0.07	1600	0.03~0.07
3.15 (10)	10	960		960		380		1600		1600		1300		1300	
4 (12.5)	12.5	760	0.05~0.1	760	0.05~0.1	310	0.04~0.08	1300	0.05~0.1	1300	0.05~0.1	1000	0.05~0.1	1000	0.05~0.1
5 (16)	16	600	0.08~0.13	600	0.08~0.13	240	0.05~0.1	1000	0.08~0.13	1000	0.08~0.13	800	0.08~0.13	800	0.08~0.13
6.3 (18)	18	530	0.1~0.15	530	0.1~0.15	210		880	0.1~0.15	880	0.1~0.15	710	0.1~0.15	710	0.1~0.15
8 (22.4)	22.4	430	0.13~0.18	430	0.13~0.18	170	0.06~0.11	710	0.13~0.18	710	0.13~0.18	570	0.13~0.18	570	0.13~0.18
10 (28)	28	340	0.19~0.24	340	0.19~0.24	140		570	0.19~0.24	570	0.19~0.24	450	0.19~0.24	450	0.19~0.24

《Long shank (including joint tool) products》

Drill size Dc mm ( )is Shank Dia Ds	Workpiece material	Low carbon steels		Medium carbon steels		Stainless steels		Brass		Brass castings		Wrought aluminums		Aluminum alloy castings	
	Cutting speed v_c	12~24 m/min		12~24 m/min		4~10 m/min		20~40 m/min		20~40 m/min		16~32 m/min		16~32 m/min	
	Workpiece end-face Hole size[1] D_x mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
CE-SL															
1 (4)	2.5	1900	0.01~0.03	1900	0.01~0.03	700	0.01~0.03	3200	0.01~0.03	3200	0.01~0.03	2500	0.01~0.03	2500	0.01~0.03
1.5 (5)	4	1400	0.02~0.04	1400	0.02~0.04	560	0.02~0.04	2400	0.02~0.04	2400	0.02~0.04	1900	0.02~0.04	1900	0.02~0.04
2 (6)	5	1300	0.02~0.05	1300	0.02~0.05	540		2200	0.02~0.05	2200	0.02~0.05	1800	0.02~0.05	1800	0.02~0.05
2.5 (8)	6.5	1200	0.03~0.06	1200	0.03~0.06	490	0.02~0.05	2000	0.03~0.06	2000	0.03~0.06	1600	0.03~0.06	1600	0.03~0.06
3 (8)	6.5	1200		1200		490		2000		2000		1600		1600	
4 (10)	8.5	900	0.04~0.08	900	0.04~0.08	370	0.03~0.07	1500	0.04~0.08	1500	0.04~0.08	1200	0.04~0.08	1200	0.04~0.08
5 (12)	10	760	0.06~0.11	760	0.06~0.11	320	0.04~0.08	1300	0.06~0.11	1300	0.06~0.11	1000	0.06~0.11	1000	0.06~0.11
CE-QL															
1 (4)	3	1600	0.01~0.03	1600	0.01~0.03	580	0.01~0.03	2700	0.01~0.03	2700	0.01~0.03	2100	0.01~0.03	2100	0.01~0.03
1.5 (5)	4	1400	0.02~0.04	1400	0.02~0.04	560	0.02~0.04	2400	0.02~0.04	2400	0.02~0.04	1900	0.02~0.04	1900	0.02~0.04
2 (6)	5	1300	0.02~0.05	1300	0.02~0.05	540		2200	0.02~0.05	2200	0.02~0.05	1800	0.02~0.05	1800	0.02~0.05
2.5 (8)	6.5	1200	0.03~0.06	1200	0.03~0.06	490	0.02~0.05	2000	0.03~0.06	2000	0.03~0.06	1600	0.03~0.06	1600	0.03~0.06
3 (8)	6.5	1200		1200		490		2000		2000		1600		1600	
4 (10)	8.5	900	0.04~0.08	900	0.04~0.08	370	0.03~0.07	1500	0.04~0.08	1500	0.04~0.08	1200	0.04~0.08	1200	0.04~0.08
5 (12)	10	760	0.06~0.11	760	0.06~0.11	320	0.04~0.08	1300	0.06~0.11	1300	0.06~0.11	1000	0.06~0.11	1000	0.06~0.11
JO-CES															
4 (10)	8.5	900	0.04~0.08	900	0.04~0.08	370	0.03~0.07	1500	0.04~0.08	1500	0.04~0.08	1200	0.04~0.08	1200	0.04~0.08
5 (12)	10	760	0.06~0.11	760	0.06~0.11	320	0.04~0.08	1300	0.06~0.11	1300	0.06~0.11	1000	0.06~0.11	1000	0.06~0.11
6 (16)	13.5	570		570		240	0.04~0.09	940		940		750		750	

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27. Table of recommend centering condition

《Coated products》

Drill size Dc mm ( )is Shank Dia Ds	Workpiece material	Low carbon steels		Medium carbon steels		Stainless steels		Brass		Brass castings		Wrought aluminums		Aluminum alloy castings	
	Cutting speed v_c	20~40 m/min		20~40 m/min		6~15 m/min		30~60 m/min		30~60 m/min		25~50 m/min		25~50 m/min	
	Workpiece end-face Hole size[1] D_a mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
CE-S V															
1 (4)	2.5	3200	0.02~0.04	3200	0.02~0.04	1100	0.02~0.04	4800	0.02~0.04	4800	0.02~0.04	4000	0.02~0.04	4000	0.02~0.04
1.5 (5)	4	2400	0.02~0.05	2400	0.02~0.05	840	0.02~0.05	3600	0.02~0.05	3600	0.02~0.05	3000	0.02~0.05	3000	0.02~0.05
2 (6)	5	2200	0.03~0.06	2200	0.03~0.06	810		3300	0.03~0.06	3300	0.03~0.06	2800	0.03~0.06	2800	0.03~0.06
2.5 (7.7)	6.5	2000	0.03~0.07	2000	0.03~0.07	730	0.03~0.06	2900	0.03~0.07	2900	0.03~0.07	2400	0.03~0.07	2400	0.03~0.07
3 (7.7)	6.5	2000		2000		730		2900		2900		2400		2400	
3 (8)	6.5	2000		2000		730		2900		2900		2400		2400	
4 (10)	8.5	1500	0.05~0.1	1500	0.05~0.1	560	0.04~0.08	2200	0.05~0.1	2200	0.05~0.1	1900	0.05~0.1	1900	0.05~0.1
5 (11)	9	1400	0.08~0.13	1400	0.08~0.13	530	0.05~0.1	2100	0.08~0.13	2100	0.08~0.13	1800	0.08~0.13	1800	0.08~0.13
6 (18)	15	850	0.1~0.15	850	0.1~0.15	320	0.06~0.11	1300	0.1~0.15	1300	0.1~0.15	1100	0.1~0.15	1100	0.1~0.15
CE-S V(Ⅰ)															
2.5 (8)	6.5	2000	0.03~0.07	2000	0.03~0.07	730	0.03~0.06	2900	0.03~0.07	2900	0.03~0.07	2400	0.03~0.07	2400	0.03~0.07
3 (10)	8	1600		1600		600		2400		2400		2000		2000	
4 (12)	10	1300	0.05~0.1	1300	0.05~0.1	480	0.04~0.08	1900	0.05~0.1	1900	0.05~0.1	1600	0.05~0.1	1600	0.05~0.1
5 (14)	12	1100	0.08~0.13	1100	0.08~0.13	400	0.05~0.1	1600	0.08~0.13	1600	0.08~0.13	1300	0.08~0.13	1300	0.08~0.13
CE-Q V															
1 (4)	3	2700	0.02~0.04	2700	0.02~0.04	880	0.02~0.04	4000	0.02~0.04	4000	0.02~0.04	3300	0.02~0.04	3300	0.02~0.04
1.5 (5)	4	2400	0.02~0.05	2400	0.02~0.05	840	0.02~0.05	3600	0.02~0.05	3600	0.02~0.05	3000	0.02~0.05	3000	0.02~0.05
2 (6)	5	2200	0.03~0.06	2200	0.03~0.06	810		3300	0.03~0.06	3300	0.03~0.06	2800	0.03~0.06	2800	0.03~0.06
2.5 (7.7)	6.5	2000	0.03~0.07	2000	0.03~0.07	730	0.03~0.06	2900	0.03~0.07	2900	0.03~0.07	2400	0.03~0.07	2400	0.03~0.07
3 (7.7)	6.5	2000		2000		730		2900		2900		2400		2400	
4 (10)	8.5	1500	0.05~0.1	1500	0.05~0.1	560	0.04~0.08	2200	0.05~0.1	2200	0.05~0.1	1900	0.05~0.1	1900	0.05~0.1
5 (11)	9	1400	0.08~0.13	1400	0.08~0.13	530	0.05~0.1	2100	0.08~0.13	2100	0.08~0.13	1800	0.08~0.13	1800	0.08~0.13
6 (18)	15	850	0.1~0.15	850	0.1~0.15	320	0.06~0.11	1300	0.1~0.15	1300	0.1~0.15	1100	0.1~0.15	1100	0.1~0.15

《Long shank coated (including joint tool) products》

Drill size Dc mm ( )is Shank Dia Ds	Workpiece material	Low carbon steels		Medium carbon steels		Stainless steels		Brass		Brass castings		Wrought aluminums		Aluminum alloy castings	
	Cutting speed v_c	15~30 m/min		15~30 m/min		5~12 m/min		25~50 m/min		25~50 m/min		20~40 m/min		20~40 m/min	
	Workpiece end-face Hole size[1] D_a mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
CE-SL V															
1 (4)	2.5	2400	0.01~0.03	2400	0.01~0.03	860	0.01~0.03	4000	0.01~0.03	4000	0.01~0.03	3200	0.01~0.03	3200	0.01~0.03
1.5 (5)	4	1800	0.02~0.04	1800	0.02~0.04	680	0.02~0.04	3000	0.02~0.04	3000	0.02~0.04	2400	0.02~0.04	2400	0.02~0.04
2 (6)	5	1700	0.02~0.05	1700	0.02~0.05	650		2800	0.02~0.05	2800	0.02~0.05	2200	0.02~0.05	2200	0.02~0.05
2.5 (8)	6.5	1500	0.03~0.06	1500	0.03~0.06	590	0.02~0.05	2400	0.03~0.06	2400	0.03~0.06	2000	0.03~0.06	2000	0.03~0.06
3 (8)	6.5	1500		1500		590		2400		2400		2000		2000	
4 (10)	8.5	1100	0.04~0.08	1100	0.04~0.08	450	0.03~0.07	1900	0.04~0.08	1900	0.04~0.08	1500	0.04~0.08	1500	0.04~0.08
5 (12)	10	960	0.06~0.11	960	0.06~0.11	380	0.04~0.08	1600	0.06~0.11	1600	0.06~0.11	1300	0.06~0.11	1300	0.06~0.11
CE-QL V															
1 (4)	3	2000	0.01~0.03	2000	0.01~0.03	720	0.01~0.03	3300	0.01~0.03	3300	0.01~0.03	2700	0.01~0.03	2700	0.01~0.03
1.5 (5)	4	1800	0.02~0.04	1800	0.02~0.04	680	0.02~0.04	3000	0.02~0.04	3000	0.02~0.04	2400	0.02~0.04	2400	0.02~0.04
2 (6)	5	1700	0.02~0.05	1700	0.02~0.05	650		2800	0.02~0.05	2800	0.02~0.05	2200	0.02~0.05	2200	0.02~0.05
2.5 (8)	6.5	1500	0.03~0.06	1500	0.03~0.06	590	0.02~0.05	2400	0.03~0.06	2400	0.03~0.06	2000	0.03~0.06	2000	0.03~0.06
3 (8)	6.5	1500		1500		590		2400		2400		2000		2000	
4 (10)	8.5	1100	0.04~0.08	1100	0.04~0.08	450	0.03~0.07	1900	0.04~0.08	1900	0.04~0.08	1500	0.04~0.08	1500	0.04~0.08
5 (12)	10	960	0.06~0.11	960	0.06~0.11	380	0.04~0.08	1600	0.06~0.11	1600	0.06~0.11	1300	0.06~0.11	1300	0.06~0.11
JO-CES V															
4 (10)	8.5	1100	0.04~0.08	1100	0.04~0.08	450	0.03~0.07	1900	0.04~0.08	1900	0.04~0.08	1500	0.04~0.08	1500	0.04~0.08
5 (12)	10	960	0.06~0.11	960	0.06~0.11	380	0.04~0.08	1600	0.06~0.11	1600	0.06~0.11	1300	0.06~0.11	1300	0.06~0.11
6 (16)	13.5	710		710		280	0.04~0.09	1200		1200		940		940	

Think threads with YAMAWA
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《Single end coated products》

Drill size Dc mm ( )is Shank Dia Ds	Workpiece material	Low carbon steels		Medium carbon steels		Stainless steels		Brass		Brass castings		Wrought aluminums		Aluminum alloy castings	
	Cutting speed v_c	20~40 m/min		20~40 m/min		10~20 m/min		30~60 m/min		30~60 m/min		25~60 m/min		25~60 m/min	
	Workpiece end-face Hole size[1] D_x mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
AUCES															
1 (4)	2.5	3200	0.03~0.06	3200	0.03~0.06	1600	0.02~0.04	4800	0.06~0.11	4800	0.06~0.11	4300	0.06~0.11	4300	0.06~0.11
1.5 (5)	4	2400	0.03~0.07	2400	0.03~0.07	1200	0.02~0.05	3600	0.07~0.12	3600	0.07~0.12	3400	0.07~0.12	3400	0.07~0.12
2 (6)	5	2200		2200	0.04~0.08	1100		3300	0.08~0.13	3300	0.08~0.13	3300	0.08~0.13	3300	0.08~0.13
2.5 (8)	6.5	2000	0.04~0.08	2000	0.04~0.09	980	0.03~0.06	2900	0.09~0.14	2900	0.09~0.14	2900	0.09~0.14	2900	0.09~0.14
3 (8)	6.5	2000		2000	0.05~0.1	980		2900		2900		2900		2900	
4 (10)	8.5	1500	0.06~0.11	1500	0.09~0.14	750	0.04~0.08	2200	0.11~0.16	2200	0.11~0.16	2200	0.11~0.16	2200	0.11~0.16
5 (12)	10	1300	0.08~0.13	1300	0.13~0.18	640	0.05~0.1	1900	0.14~0.19	1900	0.14~0.19	1900	0.14~0.19	1900	0.14~0.19
6 (16)	13.5	940	0.1~0.15	940	0.16~0.21	470	0.06~0.11	1400	0.16~0.21	1400	0.16~0.21	1400	0.16~0.21	1400	0.16~0.21

■Table of Recommended Cutting Conditions for Low Helix Center Drills (CD Series)

《Uncoated products with standard overall length》

Drill size Dc mm ( )is Shank Dia Ds	Workpiece material	Low carbon steels		Medium carbon steels		High carbon steels		Alloy steels		Cast steels		Cast irons		Tough cast irons	
	Cutting speed v_c	15~30 m/min		15~30 m/min		15~30 m/min		10~25 m/min		15~30 m/min		8~15 m/min		8~20 m/min	
	Workpiece end-face Hole size[1] D_x mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
CD-S, CD-S LH															
0.3 (3)	1	3200		3200		3200		2100		3200		1700		1700	
0.4 (3)	1	3200	0.01~0.02	3200	0.01~0.02	3200	0.01~0.02	2100	0.01~0.02	3200	0.01~0.02	1700	0.01~0.02	1700	0.01~0.02
0.5 (3.5)	1.5	3200		3200		3200		2100		3200		1700		1700	
0.6 (4.5)	1.5	3300		3300		3300		2300		3300		1800		1800	
0.7 (3.5)	2	2600	0.01~0.03	2600	0.01~0.03	2600	0.01~0.03	1800	0.01~0.03	2600	0.01~0.03	1400	0.01~0.03	1500	0.01~0.03
0.8 (3.5)	2	2700		2700		2700		2000		2700		1400		1600	
0.9 (4)	2.5	2300		2300		2300		1700		2300		1200		1300	
1 (4)	2.5	2400	0.02~0.04	2400	0.02~0.04	2400	0.02~0.04	1800	0.02~0.04	2400	0.02~0.04	1200	0.02~0.04	1400	0.02~0.04
1.2 (5)	3	2100		2100		2100		1600		2100		1100		1300	
1.5 (5)	4	1800	0.02~0.05	1800	0.02~0.05	1800	0.02~0.05	1400	0.02~0.05	1800	0.02~0.05	920	0.02~0.05	1100	0.02~0.05
2 (6)	5	1700	0.03~0.06	1700	0.03~0.06	1700	0.03~0.06	1400	0.03~0.06	1700	0.03~0.06	840	0.03~0.06	1100	0.03~0.06
2.5 (7.7)	6.5	1500		1500		1500		1200		1500		730		980	
3 (7.7)	6.5	1500	0.03~0.07	1500	0.03~0.07	1500	0.03~0.07	1200	0.03~0.07	1500	0.03~0.07	730	0.03~0.07	980	0.03~0.07
3 (8)	6.5	1500		1500		1500		1200		1500		730		980	
4 (10)	8.5	1100	0.05~0.1	1100	0.05~0.1	1100	0.05~0.1	940	0.05~0.1	1100	0.05~0.1	560	0.05~0.1	750	0.05~0.1
5 (11)	9	1100	0.08~0.13	1100	0.08~0.13	1100	0.08~0.13	880	0.08~0.13	1100	0.08~0.13	530	0.08~0.13	710	0.08~0.13
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6 (16)	13.5	710	0.1~0.15	710	0.1~0.15	710	0.1~0.15	590	0.1~0.15	710	0.1~0.15	350	0.1~0.15	470	0.1~0.15
6 (18)	15	640		640		640		530		640		320		420	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/8 (7.7)	6.5	1500	0.03~0.07	1500	0.03~0.07	1500	0.03~0.07	1200	0.03~0.07	1500	0.03~0.07	730	0.03~0.07	980	0.03~0.07
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CD-S (I)															
2.5 (8)	6.5	1500	0.03~0.07	1500	0.03~0.07	1500	0.03~0.07	1200	0.03~0.07	1500	0.03~0.07	730	0.03~0.07	980	0.03~0.07
3 (10)	8	1200		1200		1200		1000		1200		600		800	
4 (12)	10	960	0.05~0.1	960	0.05~0.1	960	0.05~0.1	800	0.05~0.1	960	0.05~0.1	480	0.05~0.1	640	0.05~0.1
5 (14)	12	800	0.08~0.13	800	0.08~0.13	800	0.08~0.13	660	0.08~0.13	800	0.08~0.13	400	0.08~0.13	530	0.08~0.13

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27. Table of recommend centering condition

Drill size Dc mm ( )is Shank Dia Ds	Workpiece material	Low carbon steels		Medium carbon steels		High carbon steels		Alloy steels		Cast steels		Cast irons		Tough cast irons	
	Cutting speed v_c	15~30 m/min		15~30 m/min		15~30 m/min		10~25 m/min		15~30 m/min		8~15 m/min		8~20 m/min	
	Workpiece end-face Hole size[1] D_w mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
CD-Q															
0.5 (3.5)	1.5	3200	0.01～0.02	3200	0.01～0.02	3200	0.01～0.02	2100	0.01～0.02	3200	0.01～0.02	1700	0.01～0.02	1700	0.01～0.02
0.6 (3.5)	2	2500	0.01～0.03	2500	0.01～0.03	2500	0.01～0.03	1700	0.01～0.03	2500	0.01～0.03	1300	0.01～0.03	1400	0.01～0.03
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.8 (3.5)	2.5	2200	0.01～0.03	2200	0.01～0.03	2200	0.01～0.03	1600	0.01～0.03	2200	0.01～0.03	1200	0.01～0.03	1200	0.01～0.03
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 (4)	3	2000	0.02～0.04	2000	0.02～0.04	2000	0.02～0.04	1500	0.02～0.04	2000	0.02～0.04	1000	0.02～0.04	1200	0.02～0.04
1.2 (5)	3.5	1800		1800		1800		1400		1800		950		1100	
1.5 (5)	4	1800	0.02～0.05	1800	0.02～0.05	1800	0.02～0.05	1400	0.02～0.05	1800	0.02～0.05	920	0.02～0.05	1100	0.02～0.05
2 (6)	5	1700	0.03～0.06	1700	0.03～0.06	1700	0.03～0.06	1400	0.03～0.06	1700	0.03～0.06	840	0.03～0.06	1100	0.03～0.06
2.5 (7.7)	6.5	1500	0.03～0.07	1500	0.03～0.07	1500	0.03～0.07	1200	0.03～0.07	1500	0.03～0.07	730	0.03～0.07	980	0.03～0.07
3 (7.7)	6.5	1500		1500		1500		1200		1500		730		980	
4 (10)	8.5	1100	0.05～0.1	1100	0.05～0.1	1100	0.05～0.1	940	0.05～0.1	1100	0.05～0.1	560	0.05～0.1	750	0.05～0.1
5 (11)	9	1100	0.08～0.13	1100	0.08～0.13	1100	0.08～0.13	880	0.08～0.13	1100	0.08～0.13	530	0.08～0.13	710	0.08～0.13
6 (16)	13.5	710	0.1～0.15	710	0.1～0.15	710	0.1～0.15	590	0.1～0.15	710	0.1～0.15	350	0.1～0.15	470	0.1～0.15
6 (18)	15	640		640		640		530		640		320		420	
CD-Q LH															
1 (4)	3	2000	0.02～0.04	2000	0.02～0.04	2000	0.02～0.04	1500	0.02～0.04	2000	0.02～0.04	1000	0.02～0.04	1200	0.02～0.04
1.2 (5)	3.5	1800		1800		1800		1400		1800		950		1100	
1.5 (5)	4	1800	0.02～0.05	1800	0.02～0.05	1800	0.02～0.05	1400	0.02～0.05	1800	0.02～0.05	920	0.02～0.05	1100	0.02～0.05
2 (6)	5	1700	0.03～0.06	1700	0.03～0.06	1700	0.03～0.06	1400	0.03～0.06	1700	0.03～0.06	840	0.03～0.06	1100	0.03～0.06
2.5 (7.7)	6.5	1500	0.03～0.07	1500	0.03～0.07	1500	0.03～0.07	1200	0.03～0.07	1500	0.03～0.07	730	0.03～0.07	980	0.03～0.07
2.5 (8)	6.5	1500		1500		1500		1200		1500		730		980	
3 (7.7)	6.5	1500		1500		1500		1200		1500		730		980	
3 (8)	6.5	1500		1500		1500		1200		1500		730		980	
4 (10)	8.5	1100	0.05～0.1	1100	0.05～0.1	1100	0.05～0.1	940	0.05～0.1	1100	0.05～0.1	560	0.05～0.1	750	0.05～0.1
5 (12)	10	960	0.08～0.13	960	0.08～0.13	960	0.08～0.13	800	0.08～0.13	960	0.08～0.13	480	0.08～0.13	640	0.08～0.13
6 (18)	15	640	0.1～0.15	640	0.1～0.15	640	0.1～0.15	530	0.1～0.15	640	0.1～0.15	320	0.1～0.15	420	0.1～0.15
CD-S (Ⅱ)															
1 (6)	4	1500	0.02～0.04	1500	0.02～0.04	1500	0.02～0.04	1100	0.02～0.04	1500	0.02～0.04	780	0.02～0.04	880	0.02～0.04
1.5 (8)	6	1200	0.02～0.05	1200	0.02～0.05	1200	0.02～0.05	930	0.02～0.05	1200	0.02～0.05	610	0.02～0.05	740	0.02～0.05
2 (10)	8	1000	0.03～0.06	1000	0.03～0.06	1000	0.03～0.06	850	0.03～0.06	1000	0.03～0.06	530	0.03～0.06	680	0.03～0.06
2.5 (12)	10	960	0.03～0.07	960	0.03～0.07	960	0.03～0.07	800	0.03～0.07	960	0.03～0.07	480	0.03～0.07	640	0.03～0.07
3 (14)	12	800		800		800		660		800		400		530	
4 (18)	14	680	0.05～0.1	680	0.05～0.1	680	0.05～0.1	570	0.05～0.1	680	0.05～0.1	340	0.05～0.1	450	0.05～0.1
5 (22)	17	560	0.08～0.13	560	0.08～0.13	560	0.08～0.13	470	0.08～0.13	560	0.08～0.13	280	0.08～0.13	370	0.08～0.13
6 (25)	21	450	0.1～0.15	450	0.1～0.15	450	0.1～0.15	380	0.1～0.15	450	0.1～0.15	230	0.1～0.15	300	0.1～0.15
CD-R															
0.7 (3.5)	2	2600	0.01～0.03	2600	0.01～0.03	2600	0.01～0.03	1800	0.01～0.03	2600	0.01～0.03	1400	0.01～0.03	1500	0.01～0.03
0.8 (3.5)	2	2700		2700		2700		2000		2700		1400		1600	
1 (4)	2.5	2400	0.02～0.04	2400	0.02～0.04	2400	0.02～0.04	1800	0.02～0.04	2400	0.02～0.04	1200	0.02～0.04	1400	0.02～0.04
1.5 (5)	4	1800	0.02～0.05	1800	0.02～0.05	1800	0.02～0.05	1400	0.02～0.05	1800	0.02～0.05	920	0.02～0.05	1100	0.02～0.05
2 (6)	5	1700	0.03～0.06	1700	0.03～0.06	1700	0.03～0.06	1400	0.03～0.06	1700	0.03～0.06	840	0.03～0.06	1100	0.03～0.06
2.5 (7.7)	6.5	1500	0.03～0.07	1500	0.03～0.07	1500	0.03～0.07	1200	0.03～0.07	1500	0.03～0.07	730	0.03～0.07	980	0.03～0.07
3 (7.7)	6.5	1500		1500		1500		1200		1500		730		980	
4 (10)	8.5	1100	0.05～0.1	1100	0.05～0.1	1100	0.05～0.1	940	0.05～0.1	1100	0.05～0.1	560	0.05～0.1	750	0.05～0.1
5 (11)	9	1100	0.08～0.13	1100	0.08～0.13	1100	0.08～0.13	880	0.08～0.13	1100	0.08～0.13	530	0.08～0.13	710	0.08～0.13
6 (16)	13.5	710	0.1～0.15	710	0.1～0.15	710	0.1～0.15	590	0.1～0.15	710	0.1～0.15	350	0.1～0.15	470	0.1～0.15
6 (18)	15	640		640		640		530		640		320		420	

Think threads with YAMAWA

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《Long shank (including joint tool) products》

Drill size Dc mm ( )is Shank Dia Ds	Workpiece material	Low carbon steels		Medium carbon steels		High carbon steels		Alloy steels		Cast steels		Cast irons		Tough cast irons	
	Cutting speed v_c	12~24 m/min		12~24 m/min		12~24 m/min		8~20 m/min		12~24 m/min		6~12 m/min		6~16 m/min	
	Workpiece end-face Hole size[1] D_a mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
CD-SL															
1 (4)	2.5	1900	0.01~0.03	1900	0.01~0.03	1900	0.01~0.03	1400	0.01~0.03	1900	0.01~0.03	960	0.01~0.03	1100	0.01~0.03
1.5 (5)	4	1400	0.02~0.04	1400	0.02~0.04	1400	0.02~0.04	1100	0.02~0.04	1400	0.02~0.04	720	0.02~0.04	880	0.02~0.04
2 (6)	5	1300	0.02~0.05	1300	0.02~0.05	1300	0.02~0.05	1100	0.02~0.05	1300	0.02~0.05	670	0.02~0.05	860	0.02~0.05
2.5 (8)	6.5	1200	0.03~0.06	1200	0.03~0.06	1200	0.03~0.06	980	0.03~0.06	1200	0.03~0.06	590	0.03~0.06	780	0.03~0.06
3 (8)	6.5	1200		1200		1200		980		1200		590		780	
4 (10)	8.5	900	0.04~0.08	900	0.04~0.08	900	0.04~0.08	750	0.04~0.08	900	0.04~0.08	450	0.04~0.08	600	0.04~0.08
5 (12)	10	760	0.06~0.11	760	0.06~0.11	760	0.06~0.11	640	0.06~0.11	760	0.06~0.11	380	0.06~0.11	510	0.06~0.11
JO-CDS															
4 (10)	8.5	900	0.04~0.08	900	0.04~0.08	900	0.04~0.08	750	0.04~0.08	900	0.04~0.08	450	0.04~0.08	600	0.04~0.08
5 (12)	10	760	0.06~0.11	760	0.06~0.11	760	0.06~0.11	640	0.06~0.11	760	0.06~0.11	380	0.06~0.11	510	0.06~0.11
6 (16)	13.5	570		570		570		470		570		280		380	
JO-CDS (Ⅱ)															
2 (10)	8	840	0.02~0.05	840	0.02~0.05	840	0.02~0.05	680	0.02~0.05	840	0.02~0.05	420	0.02~0.05	540	0.02~0.05
2.5 (12)	10	760	0.03~0.06	760	0.03~0.06	760	0.03~0.06	640	0.03~0.06	760	0.03~0.06	380	0.03~0.06	510	0.03~0.06
3 (16)	12	640		640		640		530		640		320		420	

《Coated products》

Drill size Dc mm ( )is Shank Dia Ds	Workpiece material	Low carbon steels		Medium carbon steels		High carbon steels		Alloy steels		Cast steels		Cast irons		Tough cast irons	
	Cutting speed v_c	20~40 m/min		20~40 m/min		20~40 m/min		15~30 m/min		20~40 m/min		10~20 m/min		10~25 m/min	
	Workpiece end-face Hole size[1] D_a mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
CD-S V															
1 (4)	2.5	3200	0.02~0.04	3200	0.02~0.04	3200	0.02~0.04	2400	0.02~0.04	3200	0.02~0.04	1600	0.02~0.04	1800	0.02~0.04
1.5 (5)	4	2400	0.02~0.05	2400	0.02~0.05	2400	0.02~0.05	1800	0.02~0.05	2400	0.02~0.05	1200	0.02~0.05	1400	0.02~0.05
2 (6)	5	2200	0.03~0.06	2200	0.03~0.06	2200	0.03~0.06	1700	0.03~0.06	2200	0.03~0.06	1100	0.03~0.06	1400	0.03~0.06
2.5 (7.7)	6.5	2000	0.03~0.07	2000	0.03~0.07	2000	0.03~0.07	1500	0.03~0.07	2000	0.03~0.07	980	0.03~0.07	1200	0.03~0.07
3 (7.7)	6.5	2000		2000		2000		1500		2000		980		1200	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4 (10)	8.5	1500	0.05~0.1	1500	0.05~0.1	1500	0.05~0.1	1100	0.05~0.1	1500	0.05~0.1	750	0.05~0.1	940	0.05~0.1
5 (11)	9	1400	0.08~0.13	1400	0.08~0.13	1400	0.08~0.13	1100	0.08~0.13	1400	0.08~0.13	710	0.08~0.13	880	0.08~0.13
6 (18)	15	850	0.1~0.15	850	0.1~0.15	850	0.1~0.15	640	0.1~0.15	850	0.1~0.15	420	0.1~0.15	530	0.1~0.15
CD-S V (Ⅰ)															
2.5 (8)	6.5	2000	0.03~0.07	2000	0.03~0.07	2000	0.03~0.07	1500	0.03~0.07	2000	0.03~0.07	980	0.03~0.07	1200	0.03~0.07
3 (10)	8	1600		1600		1600		1200		1600		800		1000	
4 (12)	10	1300	0.05~0.1	1300	0.05~0.1	1300	0.05~0.1	960	0.05~0.1	1300	0.05~0.1	640	0.05~0.1	800	0.05~0.1
5 (14)	12	1100	0.08~0.13	1100	0.08~0.13	1100	0.08~0.13	800	0.08~0.13	1100	0.08~0.13	530	0.08~0.13	660	0.08~0.13
CD-Q V															
1 (4)	3	2700	0.02~0.04	2700	0.02~0.04	2700	0.02~0.04	2000	0.02~0.04	2700	0.02~0.04	1300	0.02~0.04	1500	0.02~0.04
1.5 (5)	4	2400	0.02~0.05	2400	0.02~0.05	2400	0.02~0.05	1800	0.02~0.05	2400	0.02~0.05	1200	0.02~0.05	1400	0.02~0.05
2 (6)	5	2200	0.03~0.06	2200	0.03~0.06	2200	0.03~0.06	1700	0.03~0.06	2200	0.03~0.06	1100	0.03~0.06	1400	0.03~0.06
2.5 (7.7)	6.5	2000	0.03~0.07	2000	0.03~0.07	2000	0.03~0.07	1500	0.03~0.07	2000	0.03~0.07	980	0.03~0.07	1200	0.03~0.07
3 (7.7)	6.5	2000		2000		2000		1500		2000		980		1200	
4 (10)	8.5	1500	0.05~0.1	1500	0.05~0.1	1500	0.05~0.1	1100	0.05~0.1	1500	0.05~0.1	750	0.05~0.1	940	0.05~0.1
5 (11)	9	1400	0.08~0.13	1400	0.08~0.13	1400	0.08~0.13	1100	0.08~0.13	1400	0.08~0.13	710	0.08~0.13	880	0.08~0.13
6 (18)	15	850	0.1~0.15	850	0.1~0.15	850	0.1~0.15	640	0.1~0.15	850	0.1~0.15	420	0.1~0.15	530	0.1~0.15

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27. Table of recommend centering condition

《Long shank coated (including joint tool) products》

Drill size Dc mm ( )is Shank Dia Ds	Workpiece material	Low carbon steels		Medium carbon steels		High carbon steels		Alloy steels		Cast steels		Cast irons		Tough cast irons	
	Cutting speed v_c	15~30 m/min		15~30 m/min		15~30 m/min		10~25 m/min		15~30 m/min		8~15 m/min		8~20 m/min	
	Workpiece end-face Hole size[1] D_w mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
CD-SL V															
1 (4)	2.5	2400	0.01~0.03	2400	0.01~0.03	2400	0.01~0.03	1800	0.01~0.03	2400	0.01~0.03	1200	0.01~0.03	1400	0.01~0.03
1.5 (5)	4	1800	0.02~0.04	1800	0.02~0.04	1800	0.02~0.04	1400	0.02~0.04	1800	0.02~0.04	900	0.02~0.04	1100	0.02~0.04
2 (6)	5	1700	0.02~0.05	1700	0.02~0.05	1700	0.02~0.05	1400	0.02~0.05	1700	0.02~0.05	840	0.02~0.05	1100	0.02~0.05
2.5 (8)	6.5	1500	0.03~0.06	1500	0.03~0.06	1500	0.03~0.06	1200	0.03~0.06	1500	0.03~0.06	730	0.03~0.06	980	0.03~0.06
3 (8)	6.5	1500		1500		1500		1200		1500		730		980	
4 (10)	8.5	1100	0.04~0.08	1100	0.04~0.08	1100	0.04~0.08	940	0.04~0.08	1100	0.04~0.08	560	0.04~0.08	750	0.04~0.08
5 (12)	10	960	0.06~0.11	960	0.06~0.11	960	0.06~0.11	800	0.06~0.11	960	0.06~0.11	480	0.06~0.11	640	0.06~0.11
JO-CDS V															
4 (10)	8.5	1100	0.04~0.08	1100	0.04~0.08	1100	0.04~0.08	940	0.04~0.08	1100	0.04~0.08	560	0.04~0.08	750	0.04~0.08
5 (12)	10	960	0.06~0.11	960	0.06~0.11	960	0.06~0.11	800	0.06~0.11	960	0.06~0.11	480	0.06~0.11	640	0.06~0.11
6 (16)	13.5	710		710		710		590		710		350		470	

《Single end coated products》

Drill size Dc mm ( )is Shank Dia Ds	Workpiece material	Medium carbon steels		High carbon steels		Alloy steels		Thermal refined steels (25~35HRC)		Cast steels		Cast irons		Tough cast irons	
	Cutting speed v_c	20~40 m/min		20~40 m/min		20~40 m/min		15~30 m/min		20~40 m/min		10~40 m/min		10~40 m/min	
	Workpiece end-face Hole size[1] D_w mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
AUCDS															
1 (4)	2.5	3200	0.03~0.06	3200	0.03~0.06	3200	0.03~0.06	2400	0.03~0.06	3200	0.03~0.06	2200	0.03~0.06	2200	0.03~0.06
1.5 (5)	4	2400	0.03~0.07	2400	0.03~0.07	2400	0.03~0.07	1800	0.03~0.07	2400	0.03~0.07	2000	0.03~0.07	2000	0.03~0.07
2 (6)	5	2200	0.04~0.08	2200	0.04~0.08	2200	0.04~0.08	1700	0.04~0.08	2200	0.04~0.08	2100	0.04~0.08	2100	0.04~0.08
2.5 (8)	6.5	2000	0.04~0.09	2000	0.04~0.09	2000	0.04~0.09	1500	0.04~0.09	2000	0.04~0.09	2000	0.04~0.09	2000	0.04~0.09
3 (8)	6.5	2000	0.05~0.1	2000	0.05~0.1	2000		1500	0.05~0.1	2000	0.05~0.1	2000	0.05~0.1	2000	0.05~0.1
4 (10)	8.5	1500	0.09~0.14	1500	0.09~0.14	1500	0.06~0.11	1100	0.09~0.14	1500	0.09~0.14	1500	0.09~0.14	1500	0.09~0.14
5 (12)	10	1300	0.13~0.18	1300	0.13~0.18	1300	0.09~0.14	960	0.13~0.18	1300	0.13~0.18	1300	0.13~0.18	1300	0.13~0.18
6 (16)	13.5	940	0.16~0.21	940	0.16~0.21	940	0.11~0.16	710	0.16~0.21	940	0.16~0.21	940	0.16~0.21	940	0.16~0.21

Drill size Dc mm ( )is Shank Dia Ds	Workpiece material	Medium carbon steels		High carbon steels		Alloy steels		Thermal refined steels (25~35HRC)		Stainless steels		Tool steels		Tough cast irons	
	Cutting speed v_c	20~40 m/min		20~40 m/min		20~40 m/min		10~20 m/min		10~20 m/min		15~30 m/min		15~40 m/min	
	Workpiece end-face Hole size[1] D_w mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
MHCDS															
1 (4)	2.5	3800	0.06~0.11	3800	0.06~0.11	3800	0.06~0.11	1900	0.06~0.11	1900	0.06~0.11	2900	0.06~0.11	3200	0.06~0.11
1.5 (5)	4	2400		2400		2400		1200		1200		1800		2000	
2 (6)	5	1900		1900		1900		1000		1000		1400		1600	
2.5 (8)	6.5	1500	0.11~0.16	1500	0.11~0.16	1500	0.11~0.16	700	0.11~0.16	700	0.11~0.16	1100	0.11~0.16	1200	0.11~0.16
3 (8)	6.5	1200		1200		1200		600		600		900		1000	
4 (10)	8.5	900		900		900		500		500		700		800	
5 (12)	10	800	0.16~0.21	800	0.16~0.21	800	0.16~0.21	400	0.16~0.21	400	0.16~0.21	600	0.16~0.21	700	0.16~0.21
6 (16)	13.5	600		600		600		300		300		400		500	

《Carbide products》

Drill size Dc mm ( )is Shank Dia Ds	Workpiece material	High carbon steels		Alloy steels		Thermal refined steels (25~35HRC)		Thermal refined steels (35~45HRC)		Cast irons		Brass castings		Aluminum alloy castings	
	Cutting speed v_c	30~50 m/min		20~40 m/min		10~25 m/min		5~15 m/min		30~50 m/min		30~60 m/min		30~60 m/min	
	Workpiece end-face Hole size[1] D_w mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
C-CD-S															
1 (4)	2.5	4500	0.01~0.03	3200	0.01~0.03	1800	0.01~0.03	960	0.01~0.03	4500	0.01~0.03	4800	0.01~0.03	4800	0.01~0.03
1.2 (5)	3	3900		2900		1600		900		3900		4300		4300	
1.5 (5)	4	3200		2400		1400		800		3200		3600		3600	
2 (6)	5	2900	0.01~0.035	2200	0.01~0.035	1400	0.01~0.035	800	0.01~0.035	2900	0.01~0.035	3300	0.01~0.035	3300	0.01~0.035

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Drill size Dc mm ( )is Shank Dia Ds	Workpiece material	High carbon steels		Alloy steels		Thermal refined steels (25~35HRC)		Thermal refined steels (35~45HRC)		Cast irons		Brass castings		Aluminum alloy castings	
	Cutting speed v_c	30~50 m/min		20~40 m/min		10~25 m/min		5~15 m/min		30~50 m/min		30~60 m/min		30~60 m/min	
	Workpiece end-face Hole size[1] D_w mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
2.5 (7.7)	6.5	2400	0.02~0.04	2000	0.02~0.04	1200	0.02~0.04	730	0.02~0.04	2400	0.02~0.04	2900	0.02~0.04	2900	0.02~0.04
2.5 (8)	6.5	2400		2000		1200		730		2400		2900		2900	
3 (7.7)	6.5	2400	0.02~0.05	2000	0.02~0.05	1200	0.02~0.05	730	0.02~0.05	2400	0.02~0.05	2900	0.02~0.05	2900	0.02~0.05
3 (8)	6.5	2400		2000		1200		730		2400		2900		2900	
4 (10)	8.5	1900	0.03~0.06	1500	0.03~0.06	940	0.03~0.06	560	0.03~0.06	1900	0.03~0.06	2200	0.03~0.06	2200	0.03~0.06
5 (11)	9	1800	0.04~0.07	1400	0.04~0.07	880	0.04~0.07	530	0.04~0.07	1800	0.04~0.07	2100	0.04~0.07	2100	0.04~0.07
5 (12)	10	1600		1300		800		480		1600		1900		1900	
6 (18)	13.5	1100	0.05~0.08	850	0.05~0.08	530	0.05~0.08	320	0.05~0.08	1100	0.05~0.08	1300	0.05~0.08	1300	0.05~0.08
C-CD-Q															
1	3	3700	0.01~0.03	2700	0.01~0.03	1500	0.01~0.03	800	0.01~0.03	3700	0.01~0.03	4000	0.01~0.03	4000	0.01~0.03
1.5	4	3200		2400		1400		800		3200		3600		3600	
2	5	2900	0.01~0.035	2200	0.01~0.035	1400	0.01~0.035	800	0.01~0.035	2900	0.01~0.035	3300	0.01~0.035	3300	0.01~0.035
2.5 (7.7)	6.5	2400	0.02~0.04	2000	0.02~0.04	1200	0.02~0.04	730	0.02~0.04	2400	0.02~0.04	2900	0.02~0.04	2900	0.02~0.04
2.5 (8)	6.5	2400		2000		1200		730		2400		2900		2900	
3 (7.7)	6.5	2400	0.02~0.05	2000	0.02~0.05	1200	0.02~0.05	730	0.02~0.05	2400	0.02~0.05	2900	0.02~0.05	2900	0.02~0.05
3 (8)	6.5	2400		2000		1200		730		2400		2900		2900	
4 (10)	8.5	1900	0.03~0.06	1500	0.03~0.06	940	0.03~0.06	560	0.03~0.06	1900	0.03~0.06	2200	0.03~0.06	2200	0.03~0.06
5 (11)	9	1800	0.04~0.07	1400	0.04~0.07	880	0.04~0.07	530	0.04~0.07	1800	0.04~0.07	2100	0.04~0.07	2100	0.04~0.07
5 (12)	10	1600		1300		800		480		1600		1900		1900	
6 (18)	15	1100	0.05~0.08	850	0.05~0.08	530	0.05~0.08	320	0.05~0.08	1100	0.05~0.08	1300	0.05~0.08	1300	0.05~0.08

《Carbide long shank (including joint tool) products》

Drill size Dc mm ( )is Shank Dia Ds	Workpiece material	High carbon steels		Alloy steels		Thermal refined steels (25~35HRC)		Thermal refined steels (35~45HRC)		Cast irons		Brass castings		Aluminum alloy castings	
	Cutting speed v_c	25~40 m/min		15~30 m/min		8~20 m/min		4~12 m/min		25~40 m/min		20~50 m/min		25~50 m/min	
	Workpiece end-face Hole size[1] D_w mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
C-CD-SL															
1 (4)	2.5	3700	0.01~0.025	2400	0.01~0.025	1400	0.01~0.025	760	0.01~0.025	3700	0.01~0.025	4000	0.01~0.025	4000	0.01~0.025
1.5 (5)	4	2600		1800		1100		640		2600		3000		3000	
2 (6)	5	2300	0.01~0.03	1700	0.01~0.03	1100	0.01~0.03	640	0.01~0.03	2300	0.01~0.03	2800	0.01~0.03	2800	0.01~0.03
2.5 (8)	6.5	2000	0.01~0.035	1500	0.01~0.035	980	0.01~0.035	590	0.01~0.035	2000	0.01~0.035	2400	0.01~0.035	2400	0.01~0.035
3 (8)	6.5	2000	0.02~0.04	1500	0.02~0.04	980	0.02~0.04	590	0.02~0.04	2000	0.02~0.04	2400	0.02~0.04	2400	0.02~0.04
4 (10)	8.5	1500	0.02~0.05	1100	0.02~0.05	750	0.02~0.05	450	0.02~0.05	1500	0.02~0.05	1900	0.02~0.05	1900	0.02~0.05
5 (12)	10	1300	0.03~0.06	960	0.03~0.06	640	0.03~0.06	380	0.03~0.06	1300	0.03~0.06	1600	0.03~0.06	1600	0.03~0.06
C-CD-QL															
1 (4)	3	3100	0.01~0.025	2000	0.01~0.025	1200	0.01~0.025	640	0.01~0.025	3100	0.01~0.025	3300	0.01~0.025	3300	0.01~0.025
1.5 (5)	4	2600		1800		1100		640		2600		3000		3000	
2 (6)	5	2300	0.01~0.03	1700	0.01~0.03	1100	0.01~0.03	640	0.01~0.03	2300	0.01~0.03	2800	0.01~0.03	2800	0.01~0.03
2.5 (8)	6.5	2000	0.01~0.035	1500	0.01~0.035	980	0.01~0.035	590	0.01~0.035	2000	0.01~0.035	2400	0.01~0.035	2400	0.01~0.035
3 (8)	6.5	2000	0.02~0.04	1500	0.02~0.04	980	0.02~0.04	590	0.02~0.04	2000	0.02~0.04	2400	0.02~0.04	2400	0.02~0.04
4 (10)	8.5	1500	0.02~0.05	1100	0.02~0.05	750	0.02~0.05	450	0.02~0.05	1500	0.02~0.05	1900	0.02~0.05	1900	0.02~0.05
5 (12)	10	1300	0.03~0.06	960	0.03~0.06	640	0.03~0.06	380	0.03~0.06	1300	0.03~0.06	1600	0.03~0.06	1600	0.03~0.06
JO-C-CDS															
4 (10)	3	1500	0.02~0.05	1100	0.02~0.05	750	0.02~0.05	450	0.02~0.05	1500	0.02~0.05	1900	0.02~0.05	1900	0.02~0.05
5 (12)	4	1300	0.03~0.06	960	0.03~0.06	640	0.03~0.06	380	0.03~0.06	1300	0.03~0.06	1600	0.03~0.06	1600	0.03~0.06
6 (16)	5	940	0.04~0.07	710	0.04~0.07	470	0.04~0.07	280	0.04~0.07	940	0.04~0.07	1200	0.04~0.07	1200	0.04~0.07

Note 1 : The workpiece end face hole diameter (Dw) is used instead of the shank diameter (Ds) to calculate the rotational speed (n).

Note 2: Formula for revolution speed (n) $n\ (min^{-1}) = 1000 \times v_c \div D_w \div 3.14$ where v_c: Cutting speed (m/min)

Note 3: Formula for feed speed (v_f) v_f (mm/min) = n x f where f: Feed per revolution (mm)

v_c: Cutting speed (m/min), f: Feed per revolution (mm)

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■Table of Recommended Cutting Conditions for Pointed Drills

《Uncoated products with standard overall length》

Workpiece material	Low carbon steels		Medium carbon steels		High carbon steels		Alloy steels		Heat treated steel (25~35HRC)		Stainless steels		Cast irons		Aluminum alloy castings	
Cutting speed v_c	30~40 m/min		26~35 m/min		22~30 m/min		20~25 m/min		-		10~15 m/min		30~40 m/min		70~100 m/min	
Shank Dia[1] D_s mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
PE-Q, PE-S																
3	3700	0.04~0.08	3200	0.04~0.08	2800	0.04~0.08	2400	0.04~0.08	-	-	1300	0.04~0.08	3700	0.04~0.08	9000	0.10~0.22
4	2800	0.05~0.10	2400	0.05~0.10	2100	0.05~0.10	1800	0.05~0.10	-	-	1000	0.05~0.10	2800	0.05~0.10	6800	0.12~0.26
6	1900	0.06~0.12	1600	0.06~0.12	1400	0.06~0.12	1200	0.06~0.12	-	-	660	0.06~0.12	1900	0.06~0.12	4500	0.15~0.30
8	1400	0.08~0.15	1200	0.08~0.15	1000	0.08~0.15	900	0.08~0.15	-	-	500	0.08~0.15	1400	0.08~0.15	3400	0.18~0.35
10	1100	0.10~0.18	970	0.10~0.18	830	0.10~0.18	720	0.10~0.18	-	-	400	0.10~0.18	1100	0.10~0.18	2700	0.21~0.40
12	930	0.12~0.22	810	0.12~0.22	690	0.12~0.22	600	0.12~0.22	-	-	330	0.12~0.22	930	0.12~0.22	2300	0.25~0.45
16	700	0.16~0.26	610	0.16~0.26	520	0.16~0.26	450	0.16~0.26	-	-	250	0.16~0.26	700	0.16~0.26	1700	0.32~0.50
20	560	0.20~0.35	490	0.20~0.35	410	0.20~0.35	360	0.20~0.35	-	-	200	0.20~0.35	560	0.20~0.35	1400	0.40~0.60

《Long shank (including joint tool) products》

Workpiece material	Low carbon steels		Medium carbon steels		High carbon steels		Alloy steels		Heat treated steel (25~35HRC)		Stainless steels		Cast irons		Aluminum alloy castings	
Cutting speed v_c	24~32 m/min		21~28 m/min		18~24 m/min		16~20 m/min		-		8~12 m/min		24~32 m/min		56~80 m/min	
Shank Dia[1] D_s mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
JO-PEQ																
10	890	0.08~0.14	780	0.08~0.14	670	0.08~0.14	570	0.08~0.14	-	-	320	0.08~0.14	890	0.08~0.14	2200	0.17~0.32
12	740	0.10~0.18	650	0.10~0.18	560	0.10~0.18	480	0.10~0.18	-	-	270	0.10~0.18	740	0.10~0.18	1800	0.20~0.36
16	560	0.13~0.21	490	0.13~0.21	420	0.13~0.21	360	0.13~0.21	-	-	200	0.13~0.21	560	0.13~0.21	1400	0.26~0.40

《Coated products》

Workpiece material	Low carbon steels		Medium carbon steels		High carbon steels		Alloy steels		Heat treated steel (25~35HRC)		Stainless steels		Cast irons		Aluminum alloy castings	
Cutting speed v_c	38~48 m/min		33~43 m/min		28~38 m/min		26~33 m/min		13~17 m/min		13~20 m/min		40~50 m/min		84~120 m/min	
Shank Dia[1] D_s mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
PE-Q V, PE-S V																
3	4600	0.04~0.08	4000	0.04~0.08	3500	0.04~0.08	3100	0.04~0.08	1600	0.03~0.06	1800	0.04~0.08	4800	0.04~0.08	10800	0.10~0.22
4	3400	0.05~0.10	3000	0.05~0.10	2600	0.05~0.10	2300	0.05~0.10	1200	0.04~0.08	1300	0.05~0.10	3600	0.05~0.10	8100	0.12~0.26
6	2300	0.06~0.12	2000	0.06~0.12	1800	0.06~0.12	1600	0.06~0.12	800	0.05~0.10	880	0.06~0.12	2400	0.06~0.12	5400	0.15~0.30
8	1700	0.08~0.15	1500	0.08~0.15	1300	0.08~0.15	1200	0.08~0.15	600	0.06~0.12	660	0.08~0.15	1800	0.08~0.15	4100	0.18~0.35
10	1400	0.10~0.18	1200	0.10~0.18	1100	0.10~0.18	940	0.10~0.18	480	0.08~0.15	530	0.10~0.18	1400	0.10~0.18	3200	0.21~0.40
12	1100	0.12~0.22	1000	0.12~0.22	880	0.12~0.22	780	0.12~0.22	400	0.10~0.18	440	0.12~0.22	1200	0.12~0.22	2700	0.25~0.45
16	860	0.16~0.26	760	0.16~0.26	660	0.16~0.26	590	0.16~0.26	300	0.12~0.22	330	0.16~0.26	900	0.16~0.26	2000	0.32~0.50
20	680	0.20~0.35	610	0.20~0.35	530	0.20~0.35	470	0.20~0.35	240	0.16~0.26	260	0.20~0.35	720	0.20~0.35	1600	0.40~0.60

《Long shank coated (including joint tool) products》

Workpiece material	Low carbon steels		Medium carbon steels		High carbon steels		Alloy steels		Heat treated steel (25~35HRC)		Stainless steels		Cast irons		Aluminum alloy castings	
Cutting speed v_c	30~38 m/min		26~34 m/min		22~30 m/min		21~26 m/min		10~14 m/min		10~16 m/min		32~40 m/min		67~96 m/min	
Shank Dia[1] D_s mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
PE-QL V, PE-SL V, JO-PEQ V																
4	2700	0.04~0.08	2400	0.04~0.08	2100	0.04~0.08	1900	0.04~0.08	960	0.03~0.06	1000	0.04~0.08	2900	0.04~0.08	6500	0.10~0.21
6	1800	0.05~0.10	1600	0.05~0.10	1400	0.05~0.10	1200	0.05~0.10	640	0.04~0.08	690	0.05~0.10	1900	0.05~0.10	4300	0.12~0.24
8	1400	0.06~0.12	1200	0.06~0.12	1000	0.06~0.12	940	0.06~0.12	480	0.05~0.10	520	0.06~0.12	1400	0.06~0.12	3200	0.14~0.28
10	1100	0.08~0.14	960	0.08~0.14	830	0.08~0.14	750	0.08~0.14	380	0.06~0.12	410	0.08~0.14	1100	0.08~0.14	2600	0.17~0.32
12	900	0.10~0.18	800	0.10~0.18	690	0.10~0.18	620	0.10~0.18	320	0.08~0.14	350	0.10~0.18	960	0.10~0.18	2200	0.20~0.36
16	680	0.13~0.21	600	0.13~0.21	520	0.13~0.21	470	0.13~0.21	240	0.10~0.18	260	0.13~0.21	720	0.13~0.21	1600	0.26~0.40
20	540	0.16~0.28	480	0.16~0.28	410	0.16~0.28	370	0.16~0.28	190	0.13~0.21	210	0.16~0.28	570	0.16~0.28	1300	0.32~0.48

Think threads with YAMAWA

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《Single end coated products》

Workpiece material	Low carbon steels		Medium carbon steels		High carbon steels		Alloy steels		Heat treated steel (25~35HRC)		Stainless steels		Cast irons		Aluminum alloy castings	
Cutting speed v_c	38~48 m/min		33~43 m/min		28~38 m/min		26~33 m/min		13~17 m/min		13~20 m/min		40~50 m/min		84~120 m/min	
Shank Dia[1] D_s mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
AUPEQ, AUPES																
3	4600	0.04~0.08	4000	0.04~0.08	3500	0.04~0.08	3100	0.04~0.08	1600	0.03~0.06	1800	0.04~0.08	4800	0.04~0.08	10800	0.10~0.22
4	3400	0.05~0.10	3000	0.05~0.10	2600	0.05~0.10	2300	0.05~0.10	1200	0.04~0.08	1300	0.05~0.10	3600	0.05~0.10	8100	0.12~0.26
6	2300	0.06~0.12	2000	0.06~0.12	1800	0.06~0.12	1600	0.06~0.12	800	0.05~0.10	880	0.06~0.12	2400	0.06~0.12	5400	0.15~0.30
8	1700	0.08~0.15	1500	0.08~0.15	1300	0.08~0.15	1200	0.08~0.15	600	0.06~0.12	660	0.08~0.15	1800	0.08~0.15	4100	0.18~0.35
10	1400	0.10~0.18	1200	0.10~0.18	1100	0.10~0.18	940	0.10~0.18	480	0.08~0.15	530	0.10~0.18	1400	0.10~0.18	3200	0.21~0.40
12	1100	0.12~0.22	1000	0.12~0.22	880	0.12~0.22	780	0.12~0.22	400	0.10~0.18	440	0.12~0.22	1200	0.12~0.22	2700	0.25~0.45
16	860	0.16~0.26	760	0.16~0.26	660	0.16~0.26	590	0.16~0.26	300	0.12~0.22	330	0.16~0.26	900	0.16~0.26	2000	0.32~0.50
20	680	0.20~0.35	610	0.20~0.35	530	0.20~0.35	470	0.20~0.35	240	0.16~0.26	260	0.20~0.35	720	0.20~0.35	1600	0.40~0.60

《Carbide products》

Workpiece material	Low carbon steels		Medium carbon steels		High carbon steels		Alloy steels		Heat treated steel (25~35HRC)		Stainless steels		Cast irons		Aluminum alloy castings	
Cutting speed v_c	87~102 m/min		76~90 m/min		65~78 m/min		60~70 m/min		32~40 m/min		35~45 m/min		90~100 m/min		120~160 m/min	
Shank Dia[1] D_s mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
C-PE-Q V, C-PE-S V																
3	10000	0.04~0.08	8800	0.04~0.08	7600	0.04~0.08	6900	0.04~0.08	3800	0.04~0.08	4200	0.04~0.08	10100	0.04~0.08	14900	0.10~0.22
4	7500	0.05~0.10	6600	0.05~0.10	5700	0.05~0.10	5200	0.05~0.10	2900	0.05~0.10	3200	0.05~0.10	7600	0.05~0.10	11100	0.12~0.26
6	5000	0.06~0.12	4400	0.06~0.12	3800	0.06~0.12	3500	0.06~0.12	1900	0.06~0.12	2100	0.06~0.12	5000	0.06~0.12	7400	0.15~0.30
8	3800	0.08~0.15	3300	0.08~0.15	2800	0.08~0.15	2600	0.08~0.15	1400	0.08~0.14	1600	0.08~0.15	3800	0.08~0.15	5600	0.18~0.35
10	3000	0.10~0.18	2600	0.10~0.18	2300	0.10~0.18	2100	0.10~0.18	1100	0.10~0.16	1300	0.10~0.18	3000	0.10~0.18	4500	0.21~0.40
12	2500	0.12~0.22	2200	0.12~0.22	1900	0.12~0.22	1700	0.12~0.22	960	0.10~0.18	1100	0.12~0.22	2500	0.12~0.22	3700	0.25~0.45
16	1900	0.16~0.26	1700	0.16~0.26	1400	0.16~0.26	1300	0.16~0.26	720	0.12~0.22	800	0.16~0.26	1900	0.16~0.26	2800	0.32~0.50

《Carbide products Long shank (including joint tool) products》

Workpiece material	Low carbon steels		Medium carbon steels		High carbon steels		Alloy steels		Heat treated steel (25~35HRC)		Stainless steels		Cast irons		Aluminum alloy castings	
Cutting speed v_c	70~82 m/min		61~72 m/min		52~62 m/min		48~56 m/min		26~32 m/min		28~36 m/min		72~80 m/min		96~128 m/min	
Shank Dia[1] D_s mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
JO-C-PEQ V																
10	2400	0.08~0.14	2100	0.08~0.14	1800	0.08~0.14	1700	0.08~0.14	920	0.08~0.13	1000	0.08~0.14	2400	0.08~0.14	3600	0.17~0.32
12	2000	0.10~0.18	1800	0.10~0.18	1500	0.10~0.18	1400	0.10~0.18	770	0.08~0.14	850	0.10~0.18	2000	0.10~0.18	3000	0.20~0.36
16	1500	0.13~0.21	1300	0.13~0.21	1100	0.13~0.21	1000	0.13~0.21	580	0.10~0.18	640	0.13~0.21	1500	0.13~0.21	2200	0.26~0.40

Note 1: The shank diameter (D_s) is used for the calculation of revolution speed (n).
Note 2: Formula for revolution speed (n) n (min^{-1}) = 1000 x v_c ÷ D_w ÷ 3.14 v_c : Cutting speed (m/min)
Note 3: Formula for feed speed (v_f) v_f (mm/min) = n x f f: Feed per revolution (mm)

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27. Table of recommend centering condition

■Table of Recommended Cutting Conditions for NC Starting Drills

《Uncoated products with standard overall length》

Workpiece material	Low carbon steels		Medium carbon steels		High carbon steels		Alloy steels		Stainless steels		Tool steels		Cast irons		Aluminum alloy castings	
Cutting speed v_c	20～32 m/min		20～29 m/min		20～26 m/min		12～20 m/min		6～10 m/min		6～10 m/min		16～28 m/min		48～72 m/min	
Shank Dia[1] D_s mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
NC-SD																
3	2800	0.03～0.06	2600	0.03～0.06	2400	0.03～0.06	1700	0.03～0.06	850	0.03～0.06	850	0.03～0.06	2300	0.03～0.06	6400	0.03～0.06
4	2100	0.05～0.10	2000	0.05～0.10	1800	0.05～0.10	1300	0.05～0.10	640	0.05～0.10	640	0.05～0.10	1800	0.05～0.10	4800	0.05～0.10
5	1700	0.06～0.12	1600	0.06～0.12	1500	0.06～0.12	1000	0.06～0.12	510	0.06～0.12	510	0.06～0.12	1400	0.06～0.12	3800	0.06～0.12
6	1400	0.08～0.15	1300	0.08～0.15	1200	0.08～0.15	850	0.08～0.15	420	0.08～0.15	420	0.08～0.15	1200	0.08～0.15	3200	0.08～0.15
8	1000	0.10～0.18	980	0.10～0.18	920	0.10～0.18	640	0.10～0.18	320	0.10～0.18	320	0.10～0.18	880	0.10～0.18	2400	0.10～0.18
10	830	0.15～0.20	780	0.15～0.20	730	0.15～0.20	510	0.15～0.20	250	0.15～0.20	250	0.15～0.20	700	0.15～0.20	1900	0.15～0.20
12	690	0.15～0.25	650	0.15～0.25	610	0.15～0.25	420	0.15～0.25	210	0.15～0.25	210	0.15～0.25	580	0.15～0.25	1600	0.15～0.25
16	520	0.15～0.30	490	0.15～0.30	460	0.15～0.30	320	0.15～0.30	160	0.15～0.30	160	0.15～0.30	440	0.15～0.30	1200	0.15～0.30
20	410	0.20～0.30	390	0.20～0.30	370	0.20～0.30	250	0.20～0.30	130	0.20～0.30	130	0.20～0.30	350	0.20～0.30	960	0.20～0.30
25	330	0.20～0.30	310	0.20～0.30	290	0.20～0.30	200	0.20～0.30	100	0.20～0.30	100	0.20～0.30	280	0.20～0.30	760	0.20～0.30

《Coated products》

Workpiece material	Low carbon steels		Medium carbon steels		High carbon steels		Alloy steels		Stainless steels		Tool steels		Cast irons		Aluminum alloy castings	
Cutting speed v_c	25～40 m/min		25～36 m/min		25～32 m/min		15～25 m/min		7～12 m/min		7～12 m/min		20～35 m/min		60～90 m/min	
Shank Dia[1] D_s mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
NC-SD V																
3	3500	0.03～0.06	3200	0.03～0.06	3000	0.03～0.06	2100	0.03～0.06	1000	0.03～0.06	1000	0.03～0.06	2900	0.03～0.06	8000	0.03～0.06
4	2600	0.05～0.10	2400	0.05～0.10	2300	0.05～0.10	1600	0.05～0.10	760	0.05～0.10	760	0.05～0.10	2200	0.05～0.10	6000	0.05～0.10
5	2100	0.06～0.12	1900	0.06～0.12	1800	0.06～0.12	1300	0.06～0.12	610	0.06～0.12	610	0.06～0.12	1800	0.06～0.12	4800	0.06～0.12
6	1700	0.08～0.15	1600	0.08～0.15	1500	0.08～0.15	1100	0.08～0.15	500	0.08～0.15	500	0.08～0.15	1500	0.08～0.15	4000	0.08～0.15
8	1300	0.10～0.18	1200	0.10～0.18	1100	0.10～0.18	800	0.10～0.18	380	0.10～0.18	380	0.10～0.18	1100	0.10～0.18	3000	0.10～0.18
10	1000	0.15～0.20	970	0.15～0.20	910	0.15～0.20	640	0.15～0.20	300	0.15～0.20	300	0.15～0.20	880	0.15～0.20	2400	0.15～0.20
12	860	0.15～0.25	810	0.15～0.25	760	0.15～0.25	530	0.15～0.25	250	0.15～0.25	250	0.15～0.25	730	0.15～0.25	2000	0.15～0.25
16	650	0.15～0.30	610	0.15～0.30	570	0.15～0.30	400	0.15～0.30	190	0.15～0.30	190	0.15～0.30	550	0.15～0.30	1500	0.15～0.30
20	520	0.20～0.30	490	0.20～0.30	450	0.20～0.30	320	0.20～0.30	150	0.20～0.30	150	0.20～0.30	440	0.20～0.30	1200	0.20～0.30
25	410	0.20～0.30	390	0.20～0.30	360	0.20～0.30	250	0.20～0.30	120	0.20～0.30	120	0.20～0.30	350	0.20～0.30	960	0.20～0.30

《Coated joint tool products》

Workpiece material	Low carbon steels		Medium carbon steels		High carbon steels		Alloy steels		Stainless steels		Tool steels		Cast irons		Aluminum alloy castings	
Cutting speed v_c	20～32 m/min		20～29 m/min		20～26 m/min		12～20 m/min		6～10 m/min		6～10 m/min		16～28 m/min		48～72 m/min	
Shank Dia[1] D_s mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
JO-NCSD V																
10	830	0.12～0.16	780	0.12～0.16	730	0.12～0.16	510	0.12～0.16	250	0.12～0.16	250	0.12～0.16	700	0.12～0.16	1900	0.12～0.16
12	690	0.12～0.20	650	0.12～0.20	610	0.12～0.20	420	0.12～0.20	210	0.12～0.20	210	0.12～0.20	580	0.12～0.20	1600	0.12～0.20
16	520	0.12～0.24	490	0.12～0.24	460	0.12～0.24	320	0.12～0.24	160	0.12～0.24	160	0.12～0.24	440	0.12～0.24	1200	0.12～0.24

Note 1: The shank diameter (D_s) is used for the calculation of revolution speed (n).
Note 2: Formula for revolution speed (n)　n (min^{-1}) = 1000 x v_c ÷ D_w ÷ 3.14　v_c : Cutting speed (m/min)
Note 3: Formula for feed speed (v_f)　v_f (mm/min) = n x f　f: Feed per revolution (mm)

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■Table of Recommended Cutting Conditions for Countersinks

《Untreated products with standard overall length》

Workpiece material	Low carbon steels		Medium carbon steels		High carbon steels		Alloy steels		Stainless steels		Tool steels		Cast irons		Aluminum alloy castings	
Cutting speed v_c	10～20 m/min		10～20 m/min		10～20 m/min		8～16 m/min		8～13 m/min		8～16 m/min		12～30 m/min		15～45 m/min	
diameter[1] D_1 mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
CS-Q																
4	560	0.02～0.04	560	0.02～0.04	560	0.02～0.04	450	0.02～0.04	390	0.02～0.04	450	0.02～0.04	780	0.02～0.04	1100	0.02～0.04
6	420	0.03～0.05	420	0.03～0.05	420	0.03～0.05	340	0.03～0.05	300	0.03～0.05	340	0.03～0.05	590	0.03～0.05	850	0.03～0.05
8	360	0.05～0.07	360	0.05～0.07	360	0.05～0.07	290	0.05～0.07	250	0.05～0.07	290	0.05～0.07	500	0.05～0.07	720	0.05～0.07
10	320	0.06～0.09	320	0.06～0.09	320	0.06～0.09	250	0.06～0.09	220	0.06～0.09	250	0.06～0.09	450	0.06～0.09	640	0.06～0.09
15	270	0.08～0.13	270	0.08～0.13	270	0.08～0.13	210	0.08～0.13	190	0.08～0.13	210	0.08～0.13	370	0.08～0.13	530	0.08～0.13
20	240	0.09～0.15	240	0.09～0.15	240	0.09～0.15	190	0.09～0.15	170	0.09～0.15	190	0.09～0.15	330	0.09～0.15	480	0.09～0.15
25	190	0.10～0.16	190	0.10～0.16	190	0.10～0.16	150	0.10～0.16	130	0.10～0.16	150	0.10～0.16	270	0.10～0.16	380	0.10～0.16
30	160	0.10～0.16	160	0.10～0.16	160	0.10～0.16	130	0.10～0.16	110	0.10～0.16	130	0.10～0.16	220	0.10～0.16	320	0.10～0.16
35	140	0.10～0.16	140	0.10～0.16	140	0.10～0.16	110	0.10～0.16	100	0.10～0.16	110	0.10～0.16	190	0.10～0.16	270	0.10～0.16
40	120	0.10～0.16	120	0.10～0.16	120	0.10～0.16	100	0.10～0.16	80	0.10～0.16	100	0.10～0.16	170	0.10～0.16	240	0.10～0.16
45	110	0.10～0.16	110	0.10～0.16	110	0.10～0.16	80	0.10～0.16	70	0.10～0.16	80	0.10～0.16	150	0.10～0.16	210	0.10～0.16
50	100	0.10～0.16	100	0.10～0.16	100	0.10～0.16	80	0.10～0.16	70	0.10～0.16	80	0.10～0.16	130	0.10～0.16	190	0.10～0.16
60	80	0.10～0.16	80	0.10～0.16	80	0.10～0.16	60	0.10～0.16	60	0.10～0.16	60	0.10～0.16	110	0.10～0.16	160	0.10～0.16
CS-QM																
Workpiece material	Low carbon steels		Medium carbon steels		High carbon steels		Alloy steels		Stainless steels		Tool steels		Cast irons		Aluminum alloy castings	
Cutting speed v_c	10～20 m/min		10～20 m/min		10～20 m/min		8～15 m/min		5～10 m/min		8～15 m/min		12～30 m/min		15～45 m/min	
diameter[1] D_1 mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
6	420	0.05～0.12	420	0.05～0.12	420	0.05～0.12	320	0.05～0.12	210	0.05～0.12	320	0.05～0.12	590	0.05～0.12	850	0.05～0.12
8	360	0.07～0.15	360	0.07～0.15	360	0.07～0.15	270	0.07～0.15	180	0.07～0.15	270	0.07～0.15	500	0.07～0.15	720	0.07～0.15
10	320	0.10～0.16	320	0.10～0.16	320	0.10～0.16	240	0.10～0.16	160	0.10～0.16	240	0.10～0.16	450	0.10～0.16	640	0.10～0.16
12	290	0.10～0.20	290	0.10～0.20	290	0.10～0.20	220	0.10～0.20	150	0.10～0.20	220	0.10～0.20	410	0.10～0.20	580	0.10～0.20
16	260	0.10～0.20	260	0.10～0.20	260	0.10～0.20	190	0.10～0.20	130	0.10～0.20	190	0.10～0.20	360	0.10～0.20	520	0.10～0.20
20	240	0.10～0.25	240	0.10～0.25	240	0.10～0.25	180	0.10～0.25	120	0.10～0.25	180	0.10～0.25	330	0.10～0.25	480	0.10～0.25
25	190	0.15～0.30	190	0.15～0.30	190	0.15～0.30	140	0.15～0.30	100	0.15～0.30	140	0.15～0.30	270	0.15～0.30	380	0.15～0.30
30	160	0.15～0.30	160	0.15～0.30	160	0.15～0.30	120	0.15～0.30	80	0.15～0.30	120	0.15～0.30	220	0.15～0.30	320	0.15～0.30
35	140	0.15～0.30	140	0.15～0.30	140	0.15～0.30	100	0.15～0.30	70	0.15～0.30	100	0.15～0.30	190	0.15～0.30	270	0.15～0.30
40	120	0.15～0.30	120	0.15～0.30	120	0.15～0.30	90	0.15～0.30	60	0.15～0.30	90	0.15～0.30	170	0.15～0.30	240	0.15～0.30

《Joint tool products》

Workpiece material	Low carbon steels		Medium carbon steels		High carbon steels		Alloy steels		Stainless steels		Tool steels		Cast irons		Aluminum alloy castings	
Cutting speed v_c	8～16 m/min		8～16 m/min		8～16 m/min		6～12 m/min		4～8 m/min		6～12 m/min		10～24 m/min		12～36 m/min	
diameter[1] D_1 mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
JO-CSQM																
16	210	0.08～0.16	210	0.08～0.16	210	0.08～0.16	160	0.08～0.16	100	0.08～0.16	160	0.08～0.16	290	0.08～0.16	410	0.08～0.16
20	190	0.08～0.20	190	0.08～0.20	190	0.08～0.20	140	0.08～0.20	100	0.08～0.20	140	0.08～0.20	270	0.08～0.20	380	0.08～0.20

Note 1: The diameter (D_1) is used for the calculation of revolution speed (n).

Note 2: Formula for revolution speed (n) $n\ (min^{-1}) = 1000 \times v_c \div D_w \div 3.14$ where v_c : Cutting speed (m/min)

Note 3: The formula for feed speed (v_f) is based on $v_f\ (mm/min) = n \times f$.

v_c: Cutting speed (m/min), f: Feed per revolution (mm)

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27. Table of recommend centering condition

Table of Recommended Cutting Conditions for Submarine Gate Cutters

Workpiece material	Medium carbon steels		High carbon steels		Alloy steels	
Cutting speed v_c	7～15 m/min		7～15 m/min		7～15 m/min	
Diameter×Shank Dia[1] $D_1 \times D_s$ mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm	Revolution speed[2] n min^{-1}	Feed per revolution[3] f mm
CS-G						
0.5×6	500	0.01～0.02	500	0.01～0.02	500	0.01～0.02
0.6×6	500	0.01～0.03	500	0.01～0.03	500	0.01～0.03
0.7×6	500	0.01～0.03	500	0.01～0.03	500	0.01～0.03
0.8×6	500	0.01～0.03	500	0.01～0.03	500	0.01～0.03
0.9×6	500	0.01～0.03	500	0.01～0.03	500	0.01～0.03
1×6	500	0.02～0.04	500	0.02～0.04	500	0.02～0.04
1×8	370	0.02～0.04	370	0.02～0.04	370	0.02～0.04
1.5×8	370	0.03～0.06	370	0.03～0.06	370	0.03～0.06
2×8	370	0.03～0.06	370	0.03～0.06	370	0.03～0.06

Note 1: The shank diameter (D_s) is used for the calculation of revolution speed (n).
Note 2: Formula for revolution speed (n) $n\ (min^{-1}) = 1000 \times v_c \div Dw \div 3.14$ where v_c: Cutting speed (m/min)
Note 3: Formula for feed speed (v_f) v_f (mm/min) = n x f where f: Feed per revolution (mm)
v_c: Cutting speed (m/min), f: Feed per revolution (mm)

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28. Thread Series

Metric Threads

Unit : mm

Nominal Dia.			Pitch※															
Column 1	Column 2	Column 3	Coarse	Fine														
1			0.25															0.2
	1.1		0.25															0.2
1.2			0.25															0.2
	1.4		0.3															0.2
1.6			0.35															0.2
	1.8		0.35															0.2
2			0.4														0.25	
	2.2		0.45														0.25	
2.5			0.45													0.35		
3			0.5													0.35		
	3.5		0.6													0.35		
4			0.7												0.5			
	4.5		0.75												0.5			
5			0.8												0.5			
		5.5													0.5			
6			1										0.75					
	7		1										0.75					
8			1.25									1	0.75					
		9	1.25									1	0.75					
10			1.5								1.25	1	0.75					
		11	1.5									1	0.75					
12			1.75							1.5	1.25	1						
	14		2							1.5	1.25	1						
		15								1.5		1						
16			2							1.5		1						
		17								1.5		1						
	18		2.5						2	1.5		1						
20			2.5						2	1.5		1						
	22		2.5						2	1.5		1						
24			3						2	1.5		1						
		25							2	1.5		1						
		26								1.5								
	27		3						2	1.5		1						
		28							2	1.5		1						
30			3.5					3	2	1.5		1						
		32							2	1.5								
	33		3.5					3	2	1.5								
		35								1.5								
36			4					3	2	1.5								
		38								1.5								
	39		4					3	2	1.5								
		40						3	2	1.5								
42			4.5			4	3	2	1.5									
	45		4.5			4	3	2	1.5									
48			5			4	3	2	1.5									
		50					3	2	1.5									
	52		5			4	3	2	1.5									
		55				4	3	2	1.5									
56			5.5			4	3	2	1.5									
		58				4	3	2	1.5									
	60		5.5			4	3	2	1.5									
64			6			4	3	2	1.5									
		62				4	3	2	1.5									
		65				4	3	2	1.5									
	68		6			4	3	2	1.5									
		70			6	4	3	2	1.5									
72					6	4	3	2	1.5									
		75				4	3	2	1.5									
	76				6	4	3	2	1.5									
		78						2										
80					6	4	3	2	1.5									
		82						2										
	85				6	4	3	2										
90					6	4	3	2										
	95				6	4	3	2										
100					6	4	3	2										
110	105				6	4	3	2										
					6	4	3	2										
	115				6	4	3	2										
125	120				6	4	3	2										
				8	6	4	3	2										
	130			8	6	4	3	2										
		135			6	4	3	2										
140				8	6	4	3	2										
		145			6	4	3	2										
	150			8	6	4	3	2										

※ : Please select the first column by priority. And select second column and third column if necessary.

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28. Thread Series

Unified Threads

Size		Nominal Dia.		Threads per inch										
				Coarse	Fine	Extra Fine	Constant pitch series							
Column 1	Column 2	inch	mm	UNC	UNF	UNEF	4UN	6UN	8UN	12UN	16UN	20UN	28UN	32UN
No. 0		0.0600	1.524		80									
	No. 1	0.0730	1.854	64	72									
No. 2		0.0860	2.184	56	64									
	No. 3	0.0990	2.515	48	56									
No. 4		0.1120	2.845	40	48									
No. 5		0.1250	3.175	40	44									
No. 6		0.1380	3.505	32	40									UNC
No. 8		0.1640	4.166	32	36									UNC
No.10		0.1900	4.826	24	32									UNF
	No.12	0.2160	5.486	24	28	32							UNF	UNEF
1/4		0.2500	6.350	20	28	32						UNC	UNF	UNEF
5/16		0.3125	7.938	18	24	32						20	28	UNEF
3/8		0.3750	9.525	16	24	32					UNC	20	28	UNEF
7/16		0.4375	11.112	14	20	28					16	UNF	UNEF	32
1/2		0.5000	12.700	13	20	28					16	UNF	UNEF	32
9/16		0.5625	14.288	12	18	24				UNC	16	20	28	32
5/8		0.6250	15.875	11	18	24				12	16	20	28	32
	11/16	0.6875	17.462			24				12	16	20	28	32
3/4		0.7500	19.050	10	16	20				12	UNF	UNEF	28	32
	13/16	0.8125	20.638			20				12	16	UNEF	28	32
7/8		0.8750	22.225	9	14	20				12	16	UNEF	28	32
	15/16	0.9375	23.812			20				12	16	UNEF	28	32
1		1.0000	25.400	8	12	20			UNC	UNF	16	UNEF	28	32
	1 1/16	1.0625	26.988			18			8	12	16	20	28	
1 1/8		1.1250	28.575	7	12	18			8	UNF	16	20	28	
	1 3/16	1.1875	30.162			18			8	12	16	20	28	
1 1/4		1.2500	31.750	7	12	18			8	UNF	16	20	28	
	1 5/16	1.3125	33.338			18			8	12	16	20	28	
1 3/8		1.3750	34.925	6	12	18		UNC	8	UNF	16	20	28	
	1 7/16	1.4375	36.512			18		6	8	12	16	20	28	
1 1/2		1.5000	38.100	6	12	18		UNC	8	UNF	16	20	28	
	1 9/16	1.5625	39.688			18		6	8	12	16	20		
1 5/8		1.6250	41.275			18		6	8	12	16	20		
	1 11/16	1.6875	42.862			18		6	8	12	16	20		
1 3/4		1.7500	44.450	5				6	8	12	16	20		
	1 13/16	1.8125	46.038					6	8	12	16	20		
1 7/8		1.8750	47.625					6	8	12	16	20		
	1 15/16	1.9375	49.212					6	8	12	16	20		
2		2.0000	50.800	4 1/2				6	8	12	16	20		
	2 1/8	2.1250	53.975					6	8	12	16	20		
2 1/4		2.2500	57.150	4 1/2				6	8	12	16	20		
	2 3/8	2.3750	60.325					6	8	12	16	20		
2 1/2		2.5000	63.500	4			UNC	6	8	12	16	20		
	2 5/8	2.6250	66.675				4	6	8	12	16	20		
2 3/4		2.7500	69.850	4			UNC	6	8	12	16	20		
	2 7/8	2.8750	73.025				4	6	8	12	16	20		
3		3.0000	76.200	4			UNC	6	8	12	16	20		
	3 1/8	3.1250	79.375				4	6	8	12	16			
3 1/4		3.2500	82.550	4			UNC	6	8	12	16			
	3 3/8	3.3750	85.725				4	6	8	12	16			
3 1/2		3.5000	88.900	4			UNC	6	8	12	16			
	3 5/8	3.6250	92.075				4	6	8	12	16			
3 3/4		3.7500	95.250	4			UNC	6	8	12	16			
	3 7/8	3.8750	98.425				4	6	8	12	16			
4		4.0000	101.600	4			UNC	6	8	12	16			
	4 1/8	4.1250	104.775				4	6	8	12	16			
4 1/4		4.2500	107.950				4	6	8	12	16			
	4 3/8	4.3750	111.125				4	6	8	12	16			
4 1/2		4.5000	114.300				4	6	8	12	16			
	4 5/8	4.6250	117.475				4	6	8	12	16			
4 3/4		4.7500	120.650				4	6	8	12	16			
	4 7/8	4.8750	123.825				4	6	8	12	16			
5		5.0000	127.000				4	6	8	12	16			
	5 1/8	5.1250	130.175				4	6	8	12	16			
5 1/4		5.2500	133.350				4	6	8	12	16			
	5 3/8	5.3750	136.525				4	6	8	12	16			
5 1/2		5.5000	139.700				4	6	8	12	16			
	5 5/8	5.6250	142.875				4	6	8	12	16			
5 3/4		5.7500	146.050				4	6	8	12	16			
	5 7/8	5.8750	149.225				4	6	8	12	16			
6		6.0000	152.400				4	6	8	12	16			

※ : Please select the first column by priority. And select second column and third column if necessary.

Conversion Table

Threads per inch (25.4mm)	Pitch (mm)
100	0.2540
80	0.3175
72	0.3528
64	0.3969
60	0.4233
56	0.4536
48	0.5292
44	0.5773
40	0.6350
36	0.7056
32	0.7938
28	0.9071
27	0.9407
24	1.0583
20	1.2700
19	1.3368
18	1.4111
16	1.5875
14	1.8143
13	1.9538
12	2.1167
11 1/2	2.2087
11	2.3091
10	2.5400
9	2.8222
8	3.1750
7	3.6286
6	4.2333
5	5.0800
4 1/2	5.6444
4	6.3500

General size list of metric trapezoidal threads

Unit : mm

	1.5	2	3	4	5	6	7	8	10	12
Tr 8	1.5									
Tr 9	1.5	2								
Tr 10	1.5	2								
Tr 11		2	3							
Tr 12		2	3							
Tr 14		2	3							
Tr 16		2		4						
Tr 18		2		4						
Tr 20		2		4						
Tr 22			3		5			8		
Tr 24			3		5			8		
Tr 26			3		5			8		
Tr 28			3		5			8		
Tr 30			3			6			10	
Tr 32			3			6			10	
Tr 34			3			6			10	
Tr 36			3			6			10	
Tr 38			3				7		10	
Tr 40			3				7		10	
Tr 42			3				7		10	
Tr 44			3				7			12
Tr 46			3					8		12
Tr 48			3					8		12

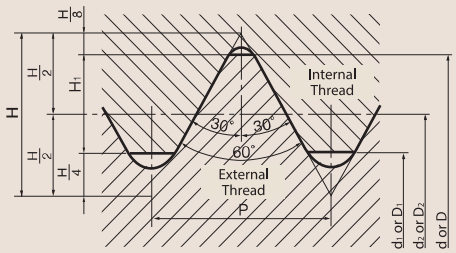
When the tap for the trapezoidal threads not listed in the catalogue is required, please contact Yamawa sales.

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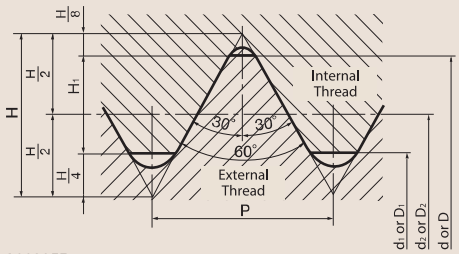
29. Basic profile of threads

Metric Screw Threads (M)



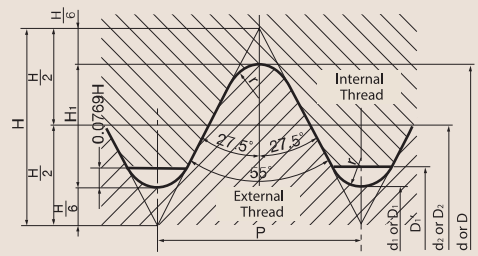
H =0.866025P
H1 =0.541266P
d2 =d−0.649519P
d1 =d−1.082532P
D =d
D2 =d2
D1 =d1

Unified Screw Threads (UNC, UNF, etc.)



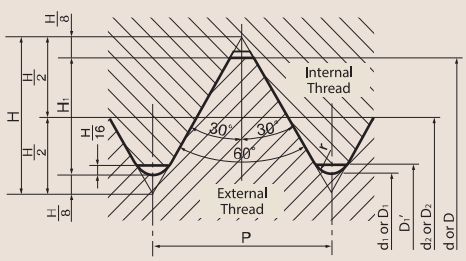
H =0.866025P
H1 =0.541266P
d2 =d−0.649519P
d1 =d−1.082532P
D =d
D2 =d2
D1 =d1
P =25.4/n
n =Threads per inch

Whitworth Screw Threads (W)



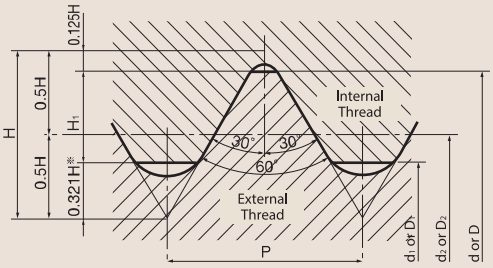
H =0.9605P
H1 =0.6403P
d2 =d−H1
d1 =d−2H1
D =d
D2 =d2
D1 =d1
D1' =d1+2×0.0769H
r =0.1373P
P =25.4/n
n =Threads per inch

Screw Threads for Sewing Machine (SM)



H =0.8660P
H1 =0.6495P
d2 =d−H1
d1 =d−2H1
D =d
D2 =d2
D1 =d1
D1' =d1+2×H/16
r =0.1083P
P =25.4/n
n =Threads per inch

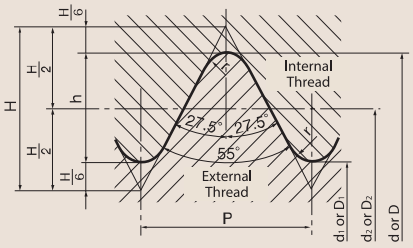
Miniature Screw Threads (S)



H =0.866025P
H1 =0.48P
d2 =d−0.649519P
d1 =d−0.96P
D =d
D2 =d2
D1 =d1

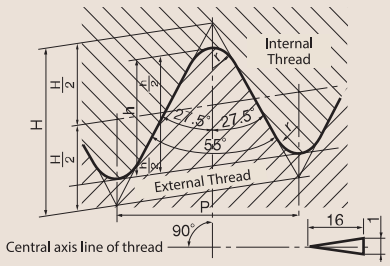
Note : This figure rounds off 0.320744H.

Parallel Pipe Threads (G,PF)



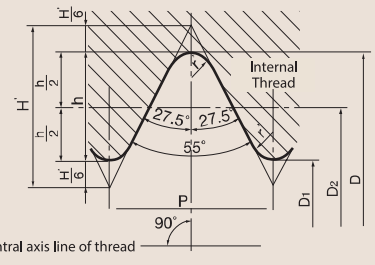
H =0.960491P
h =0.640327P
d2 =d−h
d1 =d−2h
D =d
D2 =d2
D1 =d1
r =0.137329P
P =25.4/n
n =Threads per inch

Taper Pipe Threads (R, Rc, PT)



H =0.960237P
h =0.640327P
r =0.137278P
P =25.4/n
n =Threads per inch

Parallel Pipe Threads for Taper Pipe Threads (Rp, PS)

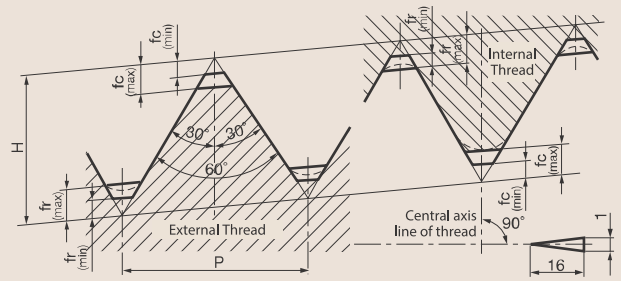


H' =0.960491P
h =0.640327P
r' =0.137329P
P =25.4/n
n =Threads per inch

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29. Basic profile of threads

American Standard Taper Pipe Threads (NPT)

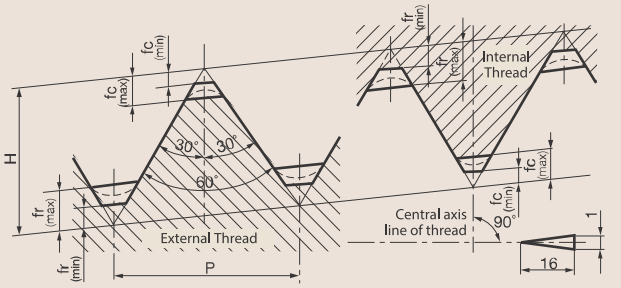


H =0.866025P
P =25.4/n
n =Threads per inch

Truncation Unit : mm

Threads per inch	Section	fc=fr
27	Max.	0.096P
	Min.	0.033P
18	Max.	0.088P
	Min.	0.033P
14	Max.	0.078P
	Min.	0.033P
11.5	Max.	0.073P
	Min.	0.033P
8	Max.	0.062P
	Min.	0.033P

Dryseal American Standard Taper Pipe Threads (NPTF)

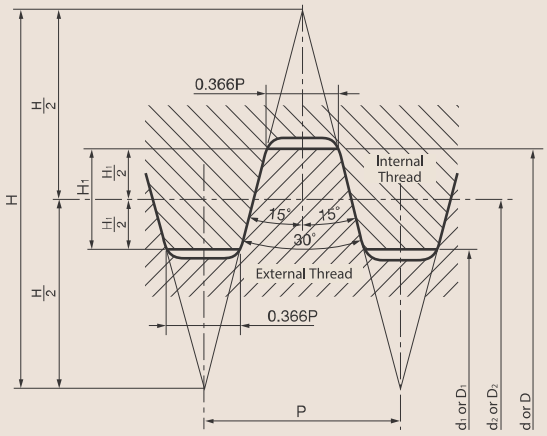


H =0.866025P
P =25.4/n
n =Threads per inch

Truncation Unit : mm

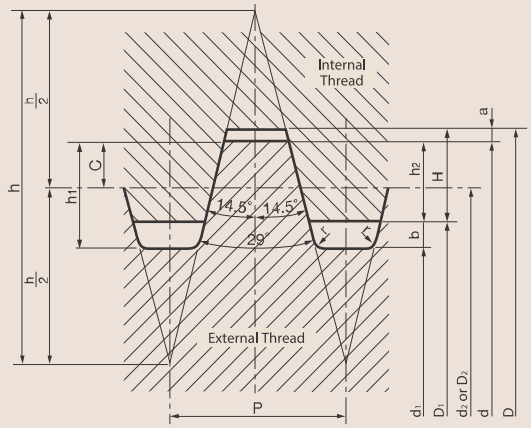
Threads per inch	Section	fc	fr
27	Max.	0.094P	0.140P
	Min.	0.047P	0.094P
18	Max.	0.078P	0.109P
	Min.	0.047P	0.078P
14	Max.	0.060P	0.085P
	Min.	0.036P	0.060P
11.5	Max.	0.060P	0.090P
	Min.	0.040P	0.060P
8	Max.	0.055P	0.076P
	Min.	0.042P	0.055P

Metric Trapezoidal Screw Threads (Tr)



H =1.866P
H1 =0.5P
d2 =d−0.5P
d1 =d−P
D =d
D2 =d2
D1 =d1

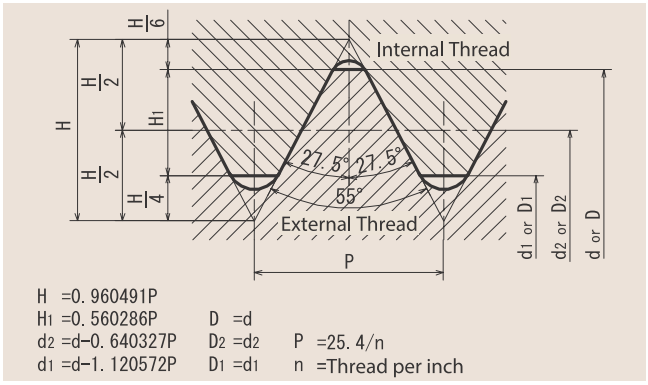
29° Trapezoidal Screw Threads (TW)



h =1.9335P
h1 =2c+a
h2 =2c+a−b
H =2c+2a−b
c ≒0.25P
d2 =d−2c
d1 =d−2h1
P =25.4/n
D =d+2a
D2 =d2
D1 =d1+2b
n =Threads per inch

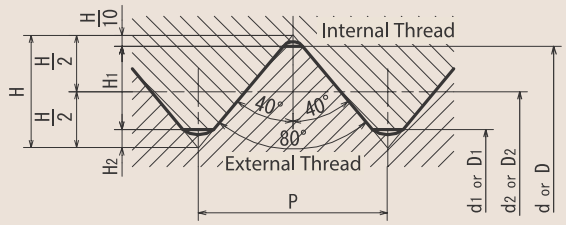
Think threads with YAMAWA
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Thick Steel Conduit Threads (CTG)



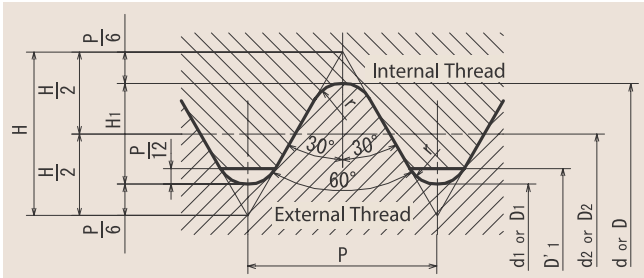
H =0.960491P
H1 =0.560286P
d2 =d−0.640327P
d1 =d−1.120572P
D =d
D2 =d2
D1 =d1
P =25.4/n
n =Thread per inch

Steel Conduit Threads (CTC)



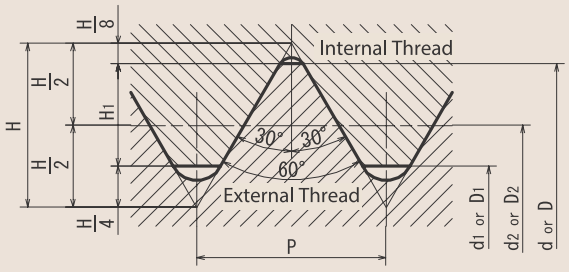
H =0.59588P
H1 =0.43851P
H2 =0.09778P
d2 =d−0.47670P
d1 =d−0.87703P
D =d
D2 =d2
D1 =d1
P =25.4/n
n =Thread per inch

Bicycle Threads (BC)



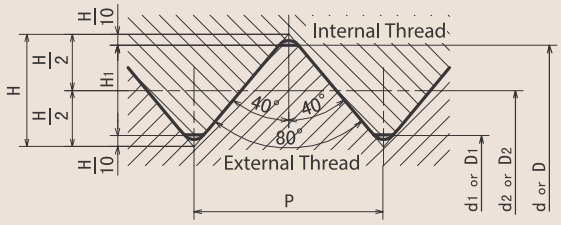
H =0.8660P
H1 =0.5327P
r =P/6
d2 =d−H1
d1 =d−2H1
D =d
D2 =d2
D1 =d1
D'1 =d1+2×P/12
P =25.4/n
n =Thread per inch

Tire Valve Threads (TV), Bicycle Tire Valve Threads (CTV)



H =0.866025P
H1 =0.541266P
d2 =d−0.649519P
d1 =d−1.082532P
D =d
D2 =d2
D1 =d1
P =25.4/n
n =Thread per inch

for European Steel Conduit Threads(Pg)



H =0.59588P
H1 =0.47670P
d2 =d−0.47670P
d1 =d−0.95340P
D =d
D2 =d2
D1 =d1
P =25.4/n
n =Thread per inch

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30. List of Thread Standards and Nominal Diameter Ranges of YAMAWA Taps

	Thread type	Thread type symbol	Thread angle	Standard	Nominal diameter range	Internal thread class	Nominal diameter range of Yamawa taps		
							JIS	ANSI	DIN
Parallel thread	Metric thread (coarse/fine)	M	60°	JIS B 0205-1 ~ 4 JIS B 0209-1 ~ 5	1 ~ 300	4H,5H,6H,7H,6G	1 ~ 100	2 ~ 48	2 ~ 48
	Unified thread (coarse)	UNC	60°	JIS B 0206 JIS B 0210	No.1 ~ 4	3B,2B,1B	No.1 ~ 3	No.1 ~ 1 1/2	No.4 ~ 1 3/4
	Unified thread (fine)	UNF	60°	JIS B 0208 JIS B 0212	No.0 ~ 1 1/2		No.0 ~ 1 1/2	No.0 ~ 1 1/2	No.4 ~ 1 1/2
	Whitworth thread (coarse)	W	55°	Old JIS B 0206 Old JIS B 0210	1/4 ~ 6	Class 2/3/4	1/16 ~ 2	–	–
	Whitworth thread (fine)			Old JIS B 0208 Old JIS B 0212	9.5 ~ 150		–	–	–
	Miniature thread	S	60°	JIS B 0201	0.3 ~ 0.9	3G5,3G6,4H5,4H6	0.4 ~ 0.9	–	–
				JIS B 0201 Appendix	1 ~ 1.4		–	–	–
	Parallel pipe thread	G	55°	JIS B 0202	1/16 ~ 6	–	1/16 ~ 2	–	1/16 ~ 1 1/2
		PF		JIS B 0202 Appendix	1/8 ~ 12	Class A/B	1/16 ~ 4	–	–
	Parallel pipe thread for taper pipe thread	Rp	55°	JIS B 0203	1/16 ~ 6	–	1/16 ~ 2	–	–
		PS		JIS B 0203 Appendix	1/8 ~ 12	–	1/16 ~ 4	–	–
	Thick steel conduit thread	CTG	55°	JIS C 8305 Appendix	16 ~ 104	–	16 ~ 42	–	–
	Thin steel conduit thread	CTC	80°	JIS C 8305 Appendix	19 ~ 75	–	19 ~ 39	–	–
	Metric trapezoidal thread	Tr	30°	JIS B 0216-1 ~ 3 JIS B 0217-1 ~ 2	8 ~ 300	7H,8H	10 ~ 30	–	–
	30° trapezoidal thread	TM	30°	Old JIS B 0216 Appendix	10 ~ 300	–	–	–	–
	29° trapezoidal thread	TW	29°	Old JIS B 0222	10 ~ 100	–	–	–	–
	Bicycle thread (for general use)	BC	60°	Old JIS B 0225	5/16 ~ 19/16	–	5/16 ~ 19/16	–	–
	(for spoke)				1.8 ~ 4.0	–	–	–	–
	Thread for sewing machine	SM	60°	Old JIS B 0226	1/16 ~ 13/16	Class 1/2/3	1/16 ~ 11/32	–	–
	Thread for connecting camera tripod	(U)	60°	JIS B 7103	1/4, 3/8	–	1/4	–	–
	Lens mounting thread	(M)	60°	JIS B 7111	13.5 ~ 122	–	–	–	–
	Lens mounting thread for motion picture camera	U	60°	JIS B 7127	5/8, 1	–	–	–	–
	Thread for microscope objective lens	(W)	55°	JIS B 7141	20.32, 26	–	20.32	–	–
		(M)	60°		25 ~ 32	–	–	–	–
	Automobile tire valve thread	V	60°	JIS D 4207 Appendix	5 ~ 20	–	5 ~ 20	–	–
		TV	60°	Old JIS D 4208 Appendix	5 ~ 17	–	–	–	–
	Bicycle tire valve thread	V	60°	JIS D 9422 Appendix	5, 6	–	5, 6	–	–
		CTV			5, 8	–	5, 8	–	–
	Thread for lamp cap and holder	E	–	JIS C 7709	10 ~ 40	–	–	–	–
	Thread for plug and flange of steel drum	G	55°	JIS Z 1604 Appendix	3/4, 2	–	–	–	–
	Thread for coupling of fire hose	–	55°	JIS B 9912	48 ~ 175	–	–	–	–
	Thread for connection of fire hose nozzle tip	–	55°	JIS B 9913	36 ~ 68	–	–	–	–
	Unified inch thread (USA) (UN & UNR thread)	UNC/UNRC	60°	ASME B1.1	No.1 ~ 4	3B,2B,1B	No.1 ~ 3	No.1 ~ 1 1/2	No.4 ~ 1 3/4
		UNF/UNRF			No.0 ~ 1 1/2		No.0 ~ 1 1/2	No.0 ~ 1 1/2	No.4 ~ 1 1/2
		UNEF/UNREF			No.12 ~ 1 11/16		No.12 ~ 1	–	–
		UNS/UNRS			0.047 ~ 13		7/16 ~ 15/8	–	–
		4UN/UNR			2 5/8 ~ 6		–	–	–
		6UN/UNR			17/16 ~ 6		–	–	–
		8UN/UNR			1 1/16 ~ 6		1 1/8 ~ 3	1 1/8 ~ 1 1/2	–
		12UN/UNR			5/8 ~ 6		1 3/16 ~ 2	–	1 3/4
		16UN/UNR			7/16 ~ 6		–	–	–
		20UN/UNR			5/16 ~ 3		9/16 ~ 5/8	–	–
		28UN/UNR			5/16 ~ 1 1/2		–	–	–
		32UN/UNR			7/16 ~ 1		1/2	–	–

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	Thread type	Thread type symbol	Thread angle	Standard	Nominal diameter range	Internal thread class	Nominal diameter range of Yamawa taps		
							JIS	ANSI	DIN
Parallel thread	Unified inch thread (USA) (UNJ thread)	UNJC	60°	SAE AS 8879D	0.0730 ~ 4.0000	3B	–	–	–
		UNJF			0.0600 ~ 1.5000				
		UNJEF			0.2160 ~ 1.6875				
		8UNJ			0.2160 ~ 1.6875				
		12UNJ			0.6250 ~ 6.0000				
		16UNJ			0.4375 ~ 6.0000				
		UNJC		ASME B1.15	0.0730 ~ 4.0000	3B,2B	–	–	–
		UNJF			0.0600 ~ 1.5000				
		UNJEF			0.2160 ~ 1.6875				
		8UNJ			1.0625 ~ 4.0000				
		12UNJ			0.6250 ~ 6.0000				
		16UNJ			0.4375 ~ 6.0000				
	Unified miniature thread (USA)	UNM	60°	ASA B1.10	0.3 ~ 1.4	–	–	–	–
	American parallel pipe thread								
	Straight pipe thread for coupling	NPSC	60°	ANSI/ASME B1.20.1	1/8 ~ 4	–	1/8 ~ 2	1/8 ~ 1	–
	For fitting (mechanical joint)	NPSM			1/8 ~ 6	2B			
	For use with locknut (mechanical joint)	NPSL			1/8 ~ 12	–	–	–	–
	For hose coupling (mechanical joint)	NPSH		ANSI/ASME B1.20.7	1/2 ~ 4	–	–	–	–
	American Dryseal parallel pipe thread								
	Fuel internal parallel pipe thread	NPSF	60°	ANSI B1.20.3	1/16 ~ 1	–	1/16 ~ 2	1/8 ~ 1	–
	Intermediate internal parallel pipe thread	NPSI				–	–	–	–
	Acme thread (USA)	ACME	29°	ASME B1.5	1/4 ~ 5	4G,3G,2G,4C,3C,2C	–	–	–
	Stub acme thread (USA)	STUB ACME	29°	ASME B1.8	1/4 ~ 5	–	–	–	–
	Steel conduit thread (Germany)	Pg	80°	DIN 40430	7 ~ 48	–	–	–	7 ~ 36
	Internal thread for insert coil (Germany)	EG M	60°	DIN 8141-2	2 ~ 56	6H mod, 6G mod	–	–	–
	Trapezoidal thread for plastic container (Germany)	KT	20°	DIN 6063-2	10 ~ 50	–	–	–	–
	Buttress thread for plastic or glass container with screw cap (Germany)	S	10+30°	DIN 55525	10 ~ 50	–	–	–	–
	Round thread for general use (Germany)	Rd	30°	DIN 405-1,-2	8 ~ 200	–	–	–	–
	Round thread for glass container (Germany)	GL	30°	DIN 168-1	8 ~ 45	–	–	–	–
	Bicycle thread (Germany)	FG	60°	DIN 79012	2 ~ 34.8	–	–	–	–
	Tire valve thread (Germany)	Vg	60°	DIN 7756	5 ~ 12	–	–	–	–
	Whitworth thread (UK)	BSW	55°	BS 84	1/8 ~ 6	MEDIUM CLASS, NORMAL CLASS	–	–	3/32 ~ 13/4
	BA thread (UK)	BA	47 1/2°	BS 93	0 ~ 25	–	–	–	–
	MJ thread (for aerospace use) (ISO)	MJ MJS	60°	ISO 5855-1 ~ 3	1.6 ~ 300	4H6H,4H5H	–	–	–

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30. List of Thread Standards and Nominal Diameter Ranges of Yamawa Taps

	Thread type	Thread type symbol	Thread angle	Standard	Nominal diameter range	Taper	Nominal diameter range of Yamawa taps		
							JIS	ANSI	DIN
Taper thread	Taper pipe thread	R, Rc	55°	JIS B 0203	1/16 ~ 6	1/16	1/16 ~ 2	–	–
		PT		JIS B 0203 Appendix	1/8 ~ 12		1/16 ~ 4	–	–
	Thread for shutter cable release tip and socket for camera	–	60°	JIS B 7104	3.4	28°	3.4	–	–
	Thread for seamless steel gas cylinder	–	55°	JIS B 8241 Appendix	V1,V2,V3	3/26	–	–	–
	Thread for valve for dissolved acetylene cylinder	–	55°	JIS B 8244 Appendix	39		–	–	–
	Thread for valve for liquefied petroleum gas cylinder	–	55°	JIS B 8245 Appendix	V1,V2		–	–	–
	Thread for valve for high pressure gas cylinder	–	55°	JIS B 8246 Appendix	V1,V2,V3		–	–	–
	Thread for artificial graphite electrode	–	60°	JIS R 7201	45 ~ 406	1/3	–	–	–
	American taper pipe thread								
	For general use	NPT	60°	ANSI/ASME B1.20.1	1/16 ~ 24O.D.	1/16	1/16 ~ 3	1/16 ~ 2	–
	For railing joint	NPTR			1/2 ~ 4		–	–	–
	American dryseal taper pipe thread								
	For dryseal connection	NPTF	60°	ANSI B1.20.3	1/16 ~ 3	1/16	1/16 ~ 2	1/16 ~ 2	–
	SAE SHORT	PTF-SAE SHORT							
	American taper pipe thread for aircraft	ANPT	60°	SAE AS 71051B	1/16 ~ 3	1/16	–	–	–
	API thread for steel pipe for oil well (USA)	LP	60°	API Std 5B	1/8 ~ 20O.D.	1/16	–	–	–
	Thread for mining drill tube (Germany)	Gg	60°	DIN 20314	3 1/4 ~ 6 5/8	1/4	–	–	–
	Thread for gas container valve (UK)	–	55°	BS 341:Part1,2	0.6 ~ 1.25	0.6 : 1/5.625	–	–	–
						0.715 ~ 1.25 : 1/8	–	–	–

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31. Cross chart of thread cutting tool standard

Tap and Die names	JIS	TAS	ISO	ANSI	BS	DIN
General specification		4051				
Measuring method		4053				
Technical requirement			8830			2197
Thread limit (Metric)		4052	2857			
Thread limit (Pipe)			5969			
Hand taps (Metric coarse)	B4430	4105	529	B94.9	949	352
Hand taps (Metric fine)	B4430	4106	529	B94.9	949	2181
Hand taps (Unified coarse)	B4432	4107	529	B94.9	949	
Hand taps (Unified fine)	B4438		529	B94.9	949	
Hand taps (Parallel pipe thread)	B4445		2284	B94.9	949	
Hand taps (Taper pipe thread)	B4446		2284	B94.9	949	
Hand taps (American parallel pipe thread)		4113		B94.9		
Hand taps (American taper pipe thread)		4114		B94.9		
Hand taps (American dryseal parallel pipe thread)		4115		B94.9		
Hand taps (American dryseal taper pipe thread)		4116		B94.9		
Nut taps (Metric coarse)	B4433	4109			357	
Nut taps (Metric fine)		4110				
Nut taps (Unified coarse)		4111		B94.9		
Nut taps (Unified fine)		4112				
Machine taps (Metric coarse)						371,376
Machine taps (Metric fine)						374
Bent shank taps (Metric coarse)		4101				
Bent shank taps (Metric fine)		4102				
Bent shank taps (Unified coarse)		4103				
Bent shank taps (Unified fine)		4104				
Long shank machine taps (Metric thread)		4153	2283			
Long shank machine taps (Inch thread)		4153	2283			
Spiral pointed taps		4155		B94.9		
Spiral fluted taps		4154		B94.9		
Shell taps (Metric thread)		4117				
Pulley taps				B94.9		
Thread Forming taps				B94.9		
Blanks for carbide taps				B94.1		
Thread cutting round dies (Metric coarse, Adjustable)	B4451					223
Thread cutting round dies (Metric fine, Adjustable)	B4451					223
Thread cutting round dies (Metric, Solid)	B4451		2568		1127	223
Thread cutting round dies (Unified coarse adjustable)	B4451					
Thread cutting round dies (Unified fine adjustable)	B4451					
Thread cutting round dies (Unified thread)	B4451		2568		1127	
Thread cutting round dies (Parallel pipe thread)	B4455		4231		1127	5158
Thread cutting round dies (Taper pipe thread)	B4456		4230			5159
Hexagon dies			7226		1127	382

Symbols : Organization names

ISO : International Organization for Standardization
JIS : Japanese Industrial Standards Committee
TAS : Japan Cutting & Wear-resistant Tool Association
ANSI : American National Standards Institute
BS : British Standards Institution, UK
DIN : Deutsches Institiut fur Normung

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32. Hardness conversion table

Conversion table from Rockwell C hardness of steel. (Approximate)

Rockwell C Scale Hardness	Vickers Hardness	Brinell Hardness		Rockwell Hardness※2			Rockwell Superficial Hardness			Shore Hardness	Tensile Strength MPa※1	Rockwell C Scale Hardness※2
		Standard ball	Tungsten Carbide ball	A scale	B scale	D scale	15-N scale	30-N scale	45-N scale			
HRC	HV	HBS	HBW	HRA	HRB	HRD	HR15N	HR30N	HR45N	HS	—	HRC
68	940	—	—	85.6	—	76.9	93.2	84.4	75.4	97	—	68
67	900	—	—	85.0	—	76.1	92.9	83.6	74.2	95	—	67
66	865	—	—	84.5	—	75.4	92.5	82.8	73.3	92	—	66
65	832	—	(739)	83.9	—	74.5	92.2	81.9	72.0	91	—	65
64	800	—	(722)	83.4	—	73.8	91.8	81.1	71.0	88	—	64
63	772	—	(705)	82.8	—	73.0	91.4	80.1	69.9	87	—	63
62	746	—	(688)	82.3	—	72.2	91.1	79.3	68.8	85	—	62
61	720	—	(670)	81.8	—	71.5	90.7	78.4	67.7	83	—	61
60	697	—	(654)	81.2	—	70.7	90.2	77.5	66.7	81	—	60
59	674	—	(634)	80.7	—	69.9	89.8	76.6	65.5	80	—	59
58	653	—	615	80.1	—	69.2	89.3	75.7	64.3	78	—	58
57	633	—	595	79.6	—	68.5	88.9	74.8	63.2	76	—	57
56	613	—	577	79.0	—	67.7	88.3	73.9	62.0	75	—	56
55	595	—	560	78.5	—	66.9	87.9	73.0	60.9	74	2075	55
54	577	—	543	78.0	—	66.1	87.4	72.0	59.8	72	2015	54
53	560	—	525	77.4	—	65.4	86.9	71.2	58.6	71	1950	53
52	544	(500)	512	76.8	—	64.6	86.4	70.2	57.4	69	1880	52
51	528	(487)	496	76.3	—	63.8	85.9	69.4	56.1	68	1820	51
50	513	(475)	481	75.9	—	63.1	85.5	68.5	55.0	67	1760	50
49	498	(464)	469	75.2	—	62.1	85.0	67.6	53.8	66	1695	49
48	484	451	455	74.7	—	61.4	84.5	66.7	52.5	64	1635	48
47	471	442	443	74.1	—	60.8	83.9	65.8	51.4	63	1580	47
46	458	432	432	73.6	—	60.0	83.5	64.8	50.3	62	1530	46
45	446	421	421	73.1	—	59.2	83.0	64.0	49.0	60	1480	45
44	434	409	409	72.5	—	58.5	82.5	63.1	47.8	58	1435	44
43	423	400	400	72.0	—	57.7	82.0	62.2	46.7	57	1385	43
42	412	390	390	71.5	—	56.9	81.5	61.3	45.5	56	1340	42
41	402	381	381	70.9	—	56.2	80.9	60.4	44.3	55	1295	41
40	392	371	371	70.4	—	55.4	80.4	59.5	43.1	54	1250	40
39	382	362	362	69.9	—	54.6	79.9	58.6	41.9	52	1215	39
38	372	353	353	69.4	—	53.8	79.4	57.7	40.8	51	1180	38
37	363	344	344	68.9	—	53.1	78.8	56.8	39.6	50	1160	37
36	354	336	336	68.4	(109.0)	52.3	78.3	55.9	38.4	49	1115	36
35	345	327	327	67.9	(108.5)	51.5	77.7	55.0	37.2	48	1080	35
34	336	319	319	67.4	(108.0)	50.8	77.2	54.2	36.1	47	1055	34
33	327	311	311	66.8	(107.5)	50.0	76.6	53.3	34.9	46	1025	33
32	318	301	301	66.3	(107.0)	49.2	76.1	52.1	33.7	44	1000	32
31	310	294	294	65.8	(106.0)	48.4	75.6	51.3	32.5	43	980	31
30	302	286	286	65.3	(105.5)	47.7	75.0	50.4	31.3	42	950	30
29	294	279	279	64.7	(104.5)	47.0	74.5	49.5	30.1	41	930	29
28	286	271	271	64.3	(104.0)	46.1	73.9	48.6	28.9	41	910	28
27	279	264	264	63.8	(103.0)	45.2	73.3	47.7	27.8	40	880	27
26	272	258	258	63.3	(102.5)	44.6	72.8	46.8	26.7	38	860	26
25	266	253	253	62.8	(101.5)	43.8	72.2	45.9	25.5	38	840	25
24	260	247	247	62.4	(101.0)	43.1	71.6	45.0	24.3	37	825	24
23	254	243	243	62.0	100.0	42.1	71.0	44.0	23.1	36	805	23
22	248	237	237	61.5	99.0	41.6	70.5	43.2	22.0	35	785	22
21	243	231	231	61.0	98.5	40.9	69.9	42.3	20.7	35	770	21
20	238	226	226	60.5	97.8	40.1	69.4	41.5	19.6	34	760	20
(18)	230	219	219	—	96.7	—	—	—	—	33	730	(18)
(16)	222	212	212	—	95.5	—	—	—	—	32	705	(16)
(14)	213	203	203	—	93.9	—	—	—	—	31	675	(14)
(12)	204	194	194	—	92.3	—	—	—	—	29	650	(12)
(10)	196	187	187	—	90.7	—	—	—	—	28	620	(10)
(8)	188	179	179	—	89.5	—	—	—	—	27	600	(8)
(6)	180	171	171	—	87.1	—	—	—	—	26	580	(6)
(4)	173	165	165	—	85.5	—	—	—	—	25	550	(4)
(2)	166	158	158	—	83.5	—	—	—	—	24	530	(2)
(0)	160	152	152	—	81.7	—	—	—	—	24	515	(0)

※1 : 1Mpa=1N/mm^2
※2 : In above table, numbers in parenthesis are only for reference.
This table is abstracted from SAE J 417.
※Reference (SAE J417)

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33. Conversion table from inch to millimeter

Conversion table from inch to millimeter

Designation		0"	1"	2"	3"	4"	5"	6"	7"	8"	9"
Fractional	Decimal										
0"	0"	–	25.400	50.800	76.200	101.600	127.000	152.400	177.800	203.200	228.600
1/64"	0.015625"	0.397	25.797	51.197	76.597	101.997	127.397	152.797	178.197	203.597	228.997
1/32"	0.03125"	0.794	26.194	51.594	76.994	102.394	127.794	153.194	178.594	203.994	229.394
3/64"	0.046875"	1.191	26.591	51.991	77.391	102.791	128.191	153.591	178.991	204.391	229.791
1/16"	0.0625"	1.588	26.988	52.388	77.788	103.188	128.588	153.988	179.388	204.788	230.188
5/64"	0.078125"	1.984	27.384	52.784	78.184	103.584	128.984	154.384	179.784	205.184	230.584
3/32"	0.09375"	2.381	27.781	53.181	78.581	103.981	129.381	154.781	180.181	205.581	230.981
7/64"	0.109375"	2.778	28.178	53.578	78.978	104.378	129.778	155.178	180.578	205.978	231.378
1/8"	0.125"	3.175	28.575	53.975	79.375	104.775	130.175	155.575	180.975	206.375	231.775
9/64"	0.140625"	3.572	28.972	54.372	79.772	105.172	130.572	155.972	181.372	206.772	232.172
5/32"	0.15625"	3.969	29.369	54.769	80.169	105.569	130.969	156.369	181.769	207.169	232.569
11/64"	0.171875"	4.366	29.766	55.166	80.566	105.966	131.366	156.766	182.166	207.566	232.966
3/16"	0.1875"	4.762	30.162	55.562	80.962	106.362	131.762	157.162	182.562	207.962	233.362
13/64"	0.203125"	5.159	30.559	55.959	81.359	106.759	132.159	157.559	182.959	208.359	233.759
7/32"	0.21875"	5.556	30.956	56.356	81.756	107.156	132.556	157.956	183.356	208.756	234.156
15/64"	0.234375"	5.953	31.353	56.753	82.153	107.553	132.953	158.353	183.753	209.153	234.553
1/4"	0.25"	6.350	31.750	57.150	82.550	107.950	133.350	158.750	184.150	209.550	234.950
17/64"	0.265625"	6.747	32.147	57.547	82.947	108.347	133.747	159.147	184.547	209.947	235.347
9/32"	0.28125"	7.144	32.544	57.944	83.344	108.744	134.144	159.544	184.944	210.344	235.744
19/64"	0.296875"	7.541	32.941	58.341	83.741	109.141	134.541	159.941	185.341	210.741	236.141
5/16"	0.3125"	7.938	33.338	58.738	84.138	109.538	134.938	160.338	185.738	211.138	236.538
21/64"	0.328125"	8.334	33.734	59.134	84.534	109.934	135.334	160.734	186.134	211.534	236.934
11/32"	0.34375"	8.731	34.131	59.531	84.931	110.331	135.731	161.131	186.531	211.931	237.331
23/64"	0.359375"	9.128	34.528	59.928	85.328	110.728	136.128	161.528	186.928	212.328	237.728
3/8"	0.375"	9.525	34.925	60.325	85.725	111.125	136.525	161.925	187.325	212.725	238.125
25/64"	0.390625"	9.922	35.322	60.722	86.122	111.522	136.922	162.322	187.722	213.122	238.522
13/32"	0.40625"	10.319	35.719	61.119	86.519	111.919	137.319	162.719	188.119	213.519	238.919
27/64"	0.421875"	10.716	36.116	61.516	86.916	112.316	137.716	163.116	188.516	213.916	239.316
7/16"	0.4375"	11.112	36.512	61.912	87.312	112.712	138.112	163.512	188.912	214.312	239.712
29/64"	0.453125"	11.509	36.909	62.309	87.709	113.109	138.509	163.909	189.309	214.709	240.109
15/32"	0.46875"	11.906	37.306	62.706	88.106	113.506	138.906	164.306	189.706	215.106	240.506
31/64"	0.484375"	12.303	37.703	63.103	88.503	113.903	139.303	164.703	190.103	215.503	240.903
1/2"	0.5"	12.700	38.100	63.500	88.900	114.300	139.700	165.100	190.500	215.900	241.300
33/64"	0.515625"	13.097	38.497	63.897	89.297	114.697	140.097	165.497	190.897	216.297	241.697
17/32"	0.53125"	13.494	38.894	64.294	89.694	115.094	140.494	165.894	191.294	216.694	242.094
35/64"	0.546875"	13.891	39.291	64.691	90.091	115.491	140.891	166.291	191.691	217.091	242.491
9/16"	0.5625"	14.288	39.688	65.088	90.488	115.888	141.288	166.688	192.088	217.488	242.888
37/64"	0.578125"	14.684	40.084	65.484	90.884	116.284	141.684	167.084	192.484	217.884	243.284
19/32"	0.59375"	15.081	40.481	65.881	91.281	116.681	142.081	167.481	192.881	218.281	243.681
39/64"	0.609375"	15.478	40.878	66.278	91.678	117.078	142.478	167.878	193.278	218.678	244.078
5/8"	0.625"	15.875	41.275	66.675	92.075	117.475	142.875	168.275	193.675	219.075	244.475
41/64"	0.640625"	16.272	41.672	67.072	92.472	117.872	143.272	168.672	194.072	219.472	244.872
21/32"	0.65625"	16.669	42.069	67.469	92.869	118.269	143.669	169.069	194.469	219.869	245.269
43/64"	0.671875"	17.066	42.466	67.866	93.266	118.666	144.066	169.466	194.866	220.266	245.666
11/16"	0.6875"	17.462	42.862	68.262	93.662	119.062	144.462	169.862	195.262	220.662	246.062
45/64"	0.703125"	17.859	43.259	68.659	94.059	119.459	144.859	170.259	195.659	221.059	246.459
23/32"	0.71875"	18.256	43.656	69.056	94.456	119.856	145.256	170.656	196.056	221.456	246.856
47/64"	0.734375"	18.653	44.053	69.453	94.853	120.253	145.653	171.053	196.453	221.853	247.253
3/4"	0.75"	19.050	44.450	69.850	95.250	120.650	146.050	171.450	196.850	222.250	247.650
49/64"	0.765625"	19.447	44.847	70.247	95.647	121.047	146.447	171.847	197.247	222.647	248.047
25/32"	0.78125"	19.844	45.244	70.644	96.044	121.444	146.844	172.244	197.644	223.044	248.444
51/64"	0.796875"	20.241	45.641	71.041	96.441	121.841	147.241	172.641	198.041	223.441	248.841
13/16"	0.8125"	20.638	46.038	71.438	96.838	122.238	147.638	173.038	198.438	223.838	249.238
53/64"	0.828125"	21.034	46.434	71.834	97.234	122.634	148.034	173.434	198.834	224.234	249.634
27/32"	0.84375"	21.431	46.831	72.231	97.631	123.031	148.431	173.831	199.231	224.631	250.031
55/64"	0.859375"	21.828	47.228	72.628	98.028	123.428	148.828	174.228	199.628	225.028	250.428
7/8"	0.875"	22.225	47.625	73.025	98.425	123.825	149.225	174.625	200.025	225.425	250.825
57/64"	0.890625"	22.622	48.022	73.422	98.822	124.222	149.622	175.022	200.422	225.822	251.222
29/32"	0.90625"	23.019	48.419	73.819	99.219	124.619	150.019	175.419	200.819	226.219	251.619
59/64"	0.921875"	23.416	48.816	74.216	99.616	125.016	150.416	175.816	201.216	226.616	252.016
15/16"	0.9375"	23.812	49.212	74.612	100.012	125.412	150.812	176.212	201.612	227.012	252.412
61/64"	0.953125"	24.209	49.609	75.009	100.409	125.809	151.209	176.609	202.009	227.409	252.809
31/32"	0.96875"	24.606	50.006	75.406	100.806	126.206	151.606	177.006	202.406	227.806	253.206
63/64"	0.984375"	25.003	50.403	75.803	101.203	126.603	152.003	177.403	202.803	228.203	253.603

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34. Chemical Component table of work materials

The name of work materials and material Symbols			Chemical Composition (%)							
			C	Si	Mn	P	S	Ni	Cr	Mo
Carbon steels for machine structural use	Low carbon steels	S10C	0.08～0.13	0.15～0.35	0.30～0.60	0.030≧	0.035≧	–	–	–
		S15C	0.13～0.18	0.15～0.35	0.30～0.60	0.030≧	0.035≧	–	–	–
		S20C	0.18～0.23	0.15～0.35	0.30～0.60	0.030≧	0.035≧	–	–	–
	Medium carbon steels	S25C	0.22～0.28	0.15～0.35	0.30～0.60	0.030≧	0.035≧	–	–	–
		S35C	0.32～0.38	0.15～0.35	0.60～0.90	0.030≧	0.035≧	–	–	–
		S45C	0.42～0.48	0.15～0.35	0.60～0.90	0.030≧	0.035≧	–	–	–
	High carbon steels	S48C	0.45～0.51	0.15～0.35	0.60～0.90	0.030≧	0.035≧	–	–	–
		S55C	0.52～0.58	0.15～0.35	0.60～0.90	0.030≧	0.035≧	–	–	–
		S58C	0.55～0.61	0.15～0.35	0.60～0.90	0.030≧	0.035≧	–	–	–
Alloy steels for machine structural use	Chromium Molybdenum Steels	SCM415	0.13～0.18	0.15～0.35	0.60～0.90	0.030≧	0.030≧	0.25≧	0.90～1.20	0.15～0.25
		SCM418	0.16～0.21	0.15～0.35	0.60～0.90	0.030≧	0.030≧	0.25≧	0.90～1.20	0.15～0.25
		SCM420	0.18～0.23	0.15～0.35	0.60～0.90	0.030≧	0.030≧	0.25≧	0.90～1.20	0.15～0.25
		SCM430	0.28～0.33	0.15～0.35	0.60～0.90	0.030≧	0.030≧	0.25≧	0.90～1.20	0.15～0.30
		SCM435	0.33～0.38	0.15～0.35	0.60～0.90	0.030≧	0.030≧	0.25≧	0.90～1.20	0.15～0.30
		SCM440	0.38～0.43	0.15～0.35	0.60～0.90	0.030≧	0.030≧	0.25≧	0.90～1.20	0.15～0.30
		SCM445	0.43～0.48	0.15～0.35	0.60～0.90	0.030≧	0.030≧	0.25≧	0.90～1.20	0.15～0.30
	Nickel Chromium Steels	SNC236	0.32～0.40	0.15～0.35	0.50～0.90	0.030≧	0.030≧	1.00～1.50	0.50～0.90	–
		SNC415	0.12～0.18	0.15～0.35	0.35～0.65	0.030≧	0.030≧	2.00～2.50	0.20～0.50	–
		SNC631	0.27～0.35	0.15～0.35	0.35～0.65	0.030≧	0.030≧	2.50～3.00	0.60～1.00	–
		SNC815	0.12～0.18	0.15～0.35	0.35～0.65	0.030≧	0.030≧	3.00～3.50	0.60～1.00	–
	Chromium Steels	SCr415	0.13～0.18	0.15～0.35	0.60～0.90	0.030≧	0.030≧	0.25≧	0.90～1.20	–
		SCr420	0.18～0.23	0.15～0.35	0.60～0.90	0.030≧	0.030≧	0.25≧	0.90～1.20	–
		SCr430	0.28～0.33	0.15～0.35	0.60～0.90	0.030≧	0.030≧	0.25≧	0.90～1.20	–
		SCr440	0.38～0.43	0.15～0.35	0.60～0.90	0.030≧	0.030≧	0.25≧	0.90～1.20	–
	Nickel Chromium Molybdenum Steels	SNCM220	0.17～0.23	0.15～0.35	0.60～0.90	0.030≧	0.030≧	0.40～0.70	0.40～0.60	0.15～0.25
		SNCM240	0.38～0.43	0.15～0.35	0.70～1.00	0.030≧	0.030≧	0.40～0.70	0.40～0.60	0.15～0.30
		SNCM420	0.17～0.23	0.15～0.35	0.40～0.70	0.030≧	0.030≧	1.60～2.00	0.40～0.60	0.15～0.30
		SNCM439	0.36～0.43	0.15～0.35	0.60～0.90	0.030≧	0.030≧	1.60～2.00	0.60～1.00	0.15～0.30

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Chemical Composition (%)					Mechanical Property of Standard test block		
					Tensile strength (N/mm^2)	Hardness	Heat treatment of standard test block
W	V	Pb	Cu	others			
–	–	–	–	–	314≦	109～156 HB	900～950℃ normalizing
–	–	–	–	–	373≦	111～167 HB	880～930℃ normalizing
–	–	–	–	–	402≦	116～174 HB	870～920℃ normalizing
–	–	–	–	–	441≦	123～183 HB	860～910℃ normalizing
–	–	–	–	–	510≦	149～207 HB	840～890℃ normalizing
					569≦	167～235 HB	840～890℃ water hardening・550～650℃ air hardening
–	–	–	–	–	569≦	167～229 HB	820～870℃ normalizing
					686≦	201～269 HB	820～870℃ water hardening・550～650℃ air hardening
–	–	–	–	–	608≦	179～235 HB	810～860℃ normalizing
					735≦	212～277 HB	810～860℃ water hardening・550～650℃ air hardening
–	–	–	–	–	647≦	183～255 HB	800～850℃ normalizing
					785≦	229～285 HB	800～850℃ water hardening・550～650℃ air hardening
–	–	–	–	–	647≦	183～255 HB	800～850℃ normalizing
					785≦	229～285 HB	800～850℃ water hardening・550～650℃ air hardening
–	–	–	–	–	834≦	235～321 HB	850～900℃ Oil hardening 800～850℃ Oil hardening 150～200℃ tempering
–	–	–	–	–	883≦	248～331 HB	
–	–	–	–	–	932≦	262～352 HB	
–	–	–	–	–	834≦	241～302 HB	830～880℃ Oil hardening 530～630℃ air hardening
–	–	–	–	–	932≦	269～331 HB	
–	–	–	–	–	980.7≦	285～352 HB	
–	–	–	–	–	1030≦	302～363 HB	
–	–	–	–	–	736≦	217～277 HB	820～880℃ Oil hardening・550～650℃ air hardening 150～200℃ tempering
–	–	–	–	–	785≦	235～341 HB	850～900℃ Oil hardening 740～790℃ Water hardening 150～200℃ tempering
–	–	–	–	–	834≦	248～302 HB	820～880℃ Oil hardening・550～650℃ air hardening
–	–	–	–	–	980.7≦	285～388 HB	830～880℃ Oil hardening 750～800℃ Oil hardening 150～200℃ tempering
–	–	–	–	–	785≦	217～302 HB	850～900℃ Oil hardening 800～850℃ Oil hardening 150～200℃ tempering
–	–	–	–	–	834≦	235～321 HB	
–	–	–	–	–	785≦	229～293 HB	830～880℃ Oil hardening 520～620℃ air hardening
–	–	–	–	–	932≦	269～331 HB	
–	–	–	–	–	834≦	248～341 HB	850～900℃ Oil hardening 800～850℃ Oil hardening 150～200℃ tempering
–	–	–	–	–	883≦	255～311 HB	820～870℃ Oil hardening・580～680℃ air hardening
–	–	–	–	–	980.7≦	293～375 HB	850～900℃ Oil hardening 770～820℃ Oil hardening 150～200℃ tempering
–	–	–	–	–	980.7≦	293～352 HB	820～870℃ Oil hardening・580～680℃ air hardening

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34. Chemical Component table of work materials

The name of work materials and material Symbols			Chemical Composition (%)							
			C	Si	Mn	P	S	Ni	Cr	Mo
Alloy steels for machine structural use	Nickel Chromium Molybdenum Steels	SNCM625	0.20～0.30	0.15～0.35	0.35～0.60	0.030≧	0.030≧	3.00～ 3.50	1.00～ 1.50	0.15～0.30
		SNCM630	0.25～0.35	0.15～0.35	0.35～0.60	0.030≧	0.030≧	2.50～ 3.50	2.50～ 3.50	0.50～0.70
		SNCM815	0.12～0.18	0.15～0.35	0.30～0.60	0.030≧	0.030≧	4.00～ 4.50	0.70～ 1.00	0.15～0.30
Tool steels	Chromium Tool steels	SK2	1.15～1.25	0.10～0.35	0.10～0.50	0.030≧	0.030≧	–	–	–
		SK4	0.90～1.00	0.10～0.35	0.10～0.50	0.030≧	0.030≧	–	–	–
		SK6	0.70～0.80	0.10～0.35	0.10～0.50	0.030≧	0.030≧	–	–	–
	Alloys Tool steels	SKS11	1.20～1.30	0.35≧	0.50≧	0.030≧	0.030≧	–	0.20～ 0.50	–
		SKS51	0.75～0.85	0.35≧	0.50≧	0.030≧	0.030≧	1.30～ 2.00	0.20～ 0.50	–
		SKS4	0.45～0.55	0.35≧	0.50≧	0.030≧	0.030≧	–	0.50～ 1.00	–
		SKS3	0.90～1.00	0.35≧	0.90～1.20	0.030≧	0.030≧	–	0.50～ 1.00	–
		SKS94	0.90～1.00	0.50≧	0.80～1.10	0.030≧	0.030≧	–	0.20～ 0.60	–
		SKD11	1.40～1.60	0.40≧	0.60≧	0.030≧	0.030≧	–	11.00～13.00	0.80～1.20
		SKD61	0.35～0.42	0.80～1.20	0.25～0.50	0.030≧	0.020≧	–	4.80～ 5.50	1.00～1.50
		SKT3	0.50～0.60	0.35≧	0.60～1.00	0.030≧	0.020≧	0.25～ 0.60	0.90～ 1.20	0.30～0.50
		SKT4	0.50～0.60	0.10～0.40	0.60～0.90	0.030≧	0.020≧	1.50～ 1.80	0.80～ 1.20	0.35～0.55
Stainless steels	Austenite type	SUS301	0.15≧	1.00≧	2.00≧	0.045≧	0.030≧	6.00～ 8.00	16.00～18.00	–
		SUS303	0.15≧	1.00≧	2.00≧	0.20≧	0.15≦	8.00～10.00	17.00～19.00	–
		SUS304	0.08≧	1.00≧	2.00≧	0.045≧	0.030≧	8.00～10.50	18.00～20.00	–
		SUS316	0.08≧	1.00≧	2.00≧	0.045≧	0.030≧	10.00～14.00	16.00～18.00	2.00～3.00
	Martensite type	SUS403	0.15≧	0.50≧	1.00≧	0.040≧	0.030≧	–	11.50～13.00	–
		SUS416	0.15≧	1.00≧	1.25≧	0.060≧	0.15≦	–	12.00～14.00	–
		SUS420J2	0.26～0.40	1.00≧	1.00≧	0.040≧	0.030≧	–	12.00～14.00	–
		SUS440C	0.95～1.20	1.00≧	1.00≧	0.040≧	0.030≧	–	16.00～18.00	–
	Ferrite type	SUS430	0.12≧	0.75≧	1.00≧	0.040≧	0.030≧	–	16.00～18.00	–
	Precipitation hardening	SUS630	0.07≧	1.00≧	1.00≧	0.040≧	0.030≧	3.00～ 5.00	15.00～17.50	–
Cast steels	Carbon steels Cast steels	SC360	0.20≧	–	–	0.040≧	0.040≧	–	–	–
		SC410	0.30≧	–	–	0.040≧	0.040≧	–	–	–
		SC450	0.35≧	–	–	0.040≧	0.040≧	–	–	–
		SC480	0.40≧	–	–	0.040≧	0.040≧	–	–	–
	Stainless steels casting	SCS13	0.08≧	2.00≧	2.00≧	0.040≧	0.040≧	8.00～11.00	18.00～21.00	–
		SCS14	0.08≧	2.00≧	2.00≧	0.040≧	0.040≧	10.00～14.00	17.00～20.00	2.00～3.00
	Steel casting for high temperature and high pressure	SCPH1	0.25≧	0.60≧	0.70≧	0.040≧	0.040≧	–	–	–
		SCPH2	0.30≧	0.60≧	1.00≧	0.040≧	0.040≧	–	–	–
		SCPH21	0.20≧	0.60≧	0.50～0.80	0.040≧	0.040≧	–	1.00～ 1.50	0.45～0.65
		SCPH32	0.20≧	0.60≧	0.50～0.80	0.040≧	0.040≧	–	2.00～ 2.75	0.90～1.20
	Steel casting for welded structure	SCW480	0.22≧	0.80≧	1.50≧	0.040≧	0.040≧	0.50≧	0.50≧	–

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Chemical Composition (%)					Mechanical Property of Standard test block		
					Tensile strength (N/mm^2)	Hardness	Heat treatment of standard test block
W	V	Pb	Cu	others			
–	–	–	–	–	932≦	269～321 HB	820～870℃ oil hardening・570～670℃ air hardening
–	–	–	–	–	1079≦	302～352 HB	850～950℃ normalizing・550～650℃ air hardening
–	–	–	–	–	1079≦	311～375 HB	830～880℃ Oil hardening 750～800℃ Oil hardening 150～200℃ tempering
–	–	–	–	–	–	212 HB≦	750～780℃ annealing
–	–	–	–	–	–	207 HB≦	740～760℃ annealing
–	–	–	–	–	–	201 HB≦	730～760℃ annealing
3.00～4.00	0.10～0.30	–	–	–	–	241 HB≦	780～850℃ annealing
–	–	–	–	–	–	207 HB≦	750～800℃ annealing
0.50～1.00	–	–	–	–	–	201 HB≦	740～780℃ annealing
0.50～1.00	–	–	–	–	–	217 HB≦	750～800℃ annealing
–	–	–	–	–	–	212 HB≦	740～760℃ annealing
–	0.20～0.50	–	–	–	–	255 HB≦	830～880℃ annealing
–	0.80～1.15	–	–	–	–	229 HB≦	820～870℃ annealing
–	–	–	–	–	–	235 HB≦	760～810℃ annealing
–	0.05～0.15	–	–	–	–	241 HB≦	740～800℃ annealing
–	–	–	–	–	520≦	187 HB≦	1010～1150℃ solution treatment
–	–	–	–	–	520≦	187 HB≦	
–	–	–	–	–	520≦	187 HB≦	
–	–	–	–	–	520≦	187 HB≦	
–	–	–	–	–	–	200 HB≦	800～900℃ annealing
–	–	–	–	–	–	200 HB≦	
–	–	–	–	–	–	235 HB≦	
–	–	–	–	–	–	269 HB≦	800～920℃ annealing
–	–	–	–	–	451≦	183 HB≦	780～850℃ normalizing
–	–	–	3.00～5.00	Nb0.15～0.45	–	363 HB≦	1020～1060℃ solution treatment
–	–	–	–	–	363≦	–	annealing, normalizing, or normalizing, tempering
–	–	–	–	–	412≦	–	
–	–	–	–	–	451≦	–	
–	–	–	–	–	481≦	–	
–	–	–	–	–	440≦	183 HB≦	1030～1150℃ solution treatment
–	–	–	–	–	480≦	183 HB≦	
–	–	–	–	–	412≦	–	annealing, normalizing, or normalizing, tempering
–	–	–	–	–	481≦	–	
–	–	–	–	–	481≦	–	
–	–	–	–	–	481≦	–	
–	–	–	–	–	480≦	–	

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34. Chemical Component table of work materials

The name of work materials and material Symbols			Chemical Composition (%)							
			C	Si	Mn	P	S	Ni	Cr	Mo
Cast irons	Gray iron castings	FC150	—	—	—	—	—	—	—	—
		FC200	—	—	—	—	—	—	—	—
		FC250	—	—	—	—	—	—	—	—
		FC300	—	—	—	—	—	—	—	—
		FC350	—	—	—	—	—	—	—	—
Tough cast irons Ductile cast irons	Spheroidal graphite Cast irons	FCD400	2.5≧	—	—	—	0.02≧	—	—	—
		FCD450	2.5≧	—	—	—	0.02≧	—	—	—
		FCD500	2.5≧	—	—	—	0.02≧	—	—	—
		FCD600	2.5≧	—	—	—	0.02≧	—	—	—
		FCD700	2.5≧	—	—	—	0.02≧	—	—	—
High carbon chromium bearing steels		SUJ2	0.95～1.10	0.15～0.35	0.50≧	0.025≧	0.025≧	—	1.30～1.60	—
		SUJ3	0.95～1.10	0.40～0.70	0.90～1.15	0.025≧	0.025≧	—	0.90～1.20	—
		SUJ4	0.95～1.10	0.15～0.35	0.50≧	0.025≧	0.025≧	—	1.30～1.60	0.10～0.25
		SUJ5	0.95～1.10	0.40～0.70	0.90～1.15	0.025≧	0.025≧	—	0.90～1.20	0.10～0.25
Free cutting carbon steels		SUM22	0.13≧	—	0.70～1.00	0.07～0.12	0.24～0.33	—	—	—
		SUM22L	0.13≧	—	0.70～1.00	0.07～0.12	0.24～0.33	—	—	—
		SUM31	0.14～0.20	—	1.00～1.30	0.040≧	0.08～0.13	—	—	—
		SUM31L	0.14～0.20	—	1.00～1.30	0.040≧	0.08～0.13	—	—	—
		SUM42	0.37～0.45	—	1.35～1.65	0.040≧	0.08～0.13	—	—	—
Rolled steels for general structure		SS330	—	—	—	0.050≧	0.050≧	—	—	—
		SS400	—	—	—	0.050≧	0.050≧	—	—	—
		SS490	—	—	—	0.050≧	0.050≧	—	—	—
		SS540	0.30≧	—	1.60≧	0.040≧	0.040≧	—	—	—
Cold-reduced carbon steel sheets		SPCC	0.15≧	—	0.60≧	0.100≧	0.035≧	—	—	—
		SPCD	0.10≧	—	0.50≧	0.040≧	0.035≧	—	—	—
		SPCE	0.08≧	—	0.45≧	0.030≧	0.030≧	—	—	—

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Chemical Composition (%)					Mechanical Property of Standard test block		
					Tensile strength (N/mm^2)	Hardness	Heat treatment of standard test block
W	V	Pb	Cu	others			
–	–	–	–	–	127～186	210～241 HB	–
–	–	–	–	–	167～235	217～255 HB	
–	–	–	–	–	216～275	229～269 HB	
–	–	–	–	–	265～304	248～269 HB	
–	–	–	–	–	314～343	269～277 HB	
–	–	–	–	–	392≦	201 HB ≧	–
–	–	–	–	–	441≦	143～217 HB	
–	–	–	–	–	490≦	170～241 HB	
–	–	–	–	–	588≦	192～269 HB	
–	–	–	–	–	686≦	229～302 HB	
–	–	–	–	–	–	201 HB ≧	Spheroidizing
–	–	–	–	–	–	207 HB ≧	
–	–	–	–	–	–	201 HB ≧	
–	–	–	–	–	–	207 HB ≧	
–	–	–	–	–	–	–	–
–	–	0.10～0.35	–	–			
–	–	–	–	–			
–	–	0.10～0.35	–	–			
–	–	–	–	–			
–	–	–	–	–	330～430	–	–
–	–	–	–	–	400～510		
–	–	–	–	–	490～610		
–	–	–	–	–	540≦		
–	–	–	–	–	270≦	65 HRB ≧	Standard thermal refining
–	–	–	–	–			
–	–	–	–	–			

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34. Chemical Component table of work materials

The name of work materials and material Symbols			Chemical Composition (%)									
			Cu	Pb	Fe	Sn	Zn	Al	Mn	Ni	P	Si
Copper	Oxygen free high conductivity copper	C1020	99.96≦	—	—	—	—	—	—	—	—	—
	tough pitch copper	C1100	99.90≦	—	—	—	—	—	—	—	—	—
	Phosphorus deoxidized copper	C1201	99.90≦	—	—	—	—	—	—	—	0.004～0.015	—
		C1221	99.75≦	—	—	—	—	—	—	—	0.004～0.040	—
Brass	Brass	C2600	68.5～71.5	0.05≧	0.05≧	—	remaining	—	—	—	—	—
		C2720	62.0～64.0	0.05≧	0.05≧	—	remaining	—	—	—	—	—
		C2801	59.0～62.0	0.10≧	0.07≧	—	remaining	—	—	—	—	—
	Free cutting brass	C3560	61.0～64.0	2.0～3.0	0.10≧	—	remaining	—	—	—	—	—
		C3713	58.0～62.0	1.0～2.0	0.10≧	—	remaining	—	—	—	—	—
Bras s casting		CAC201	83.0～88.0	0.5≧	0.2≧	0.1≧	11.0～17.0	0.2≧	—	0.2≧	—	—
		CAC203	58.0～64.0	0.5～3.0	0.8≧	1.0≧	30.0～41.0	0.5≧	—	1.0≧	—	—
Bronze casting		CAC401	79.0～83.0	3.0～7.0	0.35≧	2.0～4.0	8.0～12.0	—	—	1.0≧	—	—
		CAC403	86.5～89.5	1.0≧	0.2≧	9.0～11.0	1.0～3.0	—	—	1.0≧	—	—
		CAC406	83.0～87.0	4.0～6.0	0.3≧	4.0～6.0	4.0～6.0	—	—	1.0≧	—	—
Aluminum alloy	Aluminum rolling material	A1080	0.03≧	—	0.15≧	—	0.03≧	99.80≦	0.02≧	—	—	0.15≧
		A1080-H16										
		A2017	3.5～4.5	—	0.7≧	—	0.25≧	remaining	0.40～1.0	—	—	0.20～0.8
		A2017-T3										
		A3003	0.05～0.20	—	0.7≧	—	0.10≧	remaining	1.0～1.5	—	—	0.6≧
		A3003-H16										
		A5052	0.10≧	—	0.4≧	—	0.10≧	remaining	0.10≧	—	—	0.25≧
		A5052-H16										
		A6061	0.15～0.40	—	0.7≧	—	0.25≧	remaining	0.15≧	—	—	0.40～0.8
		A6061-T6										
		A7075	1.2～2.0	—	0.50≧	—	5.1～6.1	remaining	0.30≧	—	—	0.40≧
		A7075-T6										
	Aluminum alloy casting	AC2A-F	3.0～4.5	0.15≧	0.8≧	0.05≧	0.55≧	remaining	0.55≧	0.30≧	—	4.0～6.0
		AC2A-T6										
		AC2B-F	2.0～4.0	0.20≧	1.0≧	0.10≧	1.0≧	remaining	0.50≧	0.35≧	—	5.0～7.0
		AC2B-T6										
		AC4B-F	2.0～4.0	0.20≧	1.0≧	0.10≧	1.0≧	remaining	0.50≧	0.35≧	—	7.0～10.0
		AC4B-T6										
		AC4C-F	0.20≧	0.05≧	0.50≧	0.05≧	0.30≧	remaining	0.60≧	0.05≧	—	6.5～7.5
		AC4C-T6										
	Aluminum alloy diecasting	ADC10	2.0～4.0	0.2≧	1.3≧	0.2≧	1.0≧	remaining	0.5≧	0.5≧	—	7.5～9.5
		ADC12	1.5～3.5	0.2≧	1.3≧	0.2≧	1.0≧	remaining	0.5≧	0.5≧	—	9.6～12.0

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Chemical Composition (%)							Mechanical Property of Standard test block		
							Tensile strength (N/mm^2)	Hardness	Heat treatment of standard test block
Mg	Cr	Ti	Zr	Zr+Ti,V,Zr	Cd	others			
–	–	–	–	–	–	–	215～275	55～100 HV	C1020P-¼H
–	–	–	–	–	–	–	215～275	55～100 HV	C1100P-¼H
–	–	–	–	–	–	–	215～275	55～100 HV	C1201P-¼H
–	–	–	–	–	–	–	215～275	55～100 HV	C1221P-¼H
–	–	–	–	–	–	–	325～410	75～125 HV	C2600P-¼H
–	–	–	–	–	–	–	325～410	75～125 HV	C2720P-¼H
–	–	–	–	–	–	–	355～440	85～145 HV	C2801P-¼H
–	–	–	–	–	–	–	345～430	–	C3560P-¼H
–	–	–	–	–	–	–	375～460	–	C3713P-¼H
–	–	–	–	–	–	–	147≦	–	–
–	–	–	–	–	–	–	245≦	–	
–	–	–	–	–	–	impurity 2.0≧	167≦	–	–
–	–	–	–	–	–	impurity 1.0≧	245≦	–	
–	–	–	–	–	–	impurity 2.0≧	196≦	–	
0.02≧	–	0.03≧	–	–	–	–	54～94	–	annealing
							98～137	–	thermal refining
0.40～0.8	0.10≧	0.15≧	–	–	–	0.15≧	216≧	–	annealing
							373≦	–	–
–	–	–	–	–	–	0.15≧	94～127	–	annealing
							167～206	–	thermal refining
2.2～2.8	0.15～0.35	–	–	–	–	0.15≧	177～216	–	annealing
							255～304	–	thermal refining
0.8～1.2	0.04～0.35	0.15≧	–	–	–	0.15≧	147≧	–	annealing
							294≦	–	–
2.1～2.9	0.18～0.28	0.20≧	–	–	–	0.15≧	275≧	–	annealing
							530≦	–	–
0.25≧	0.15≧	0.20≧	–	–	–	–	186≦	about 75 HB	casted
							275≦	about 90 HB	–
0.50≧	0.20≧	0.20≧	–	–	–	–	157≦	about 70 HB	casted
							245≦	about 90 HB	–
0.50≧	0.20≧	0.20≧	–	–	–	–	177≦	about 80 HB	casted
							245≦	about 100 HB	–
0.2～0.4	–	0.20≧	–	–	–	–	157≦	about 55 HB	casted
							226≦	about 85 HB	–
0.3≧	–	0.3≧	–	–	–	–	–	–	–
0.3≧	–	0.3≧	–	–	–	–			

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34. Chemical Component table of work materials

The name of work materials and material Symbols			Chemical Composition (%)									
			Cu	Pb	Fe	Sn	Zn	Al	Mn	Ni	P	Si
Magnesium alloy Casting	Magnesium alloy	MC1-F	0.10≧	—	—	—	2.5~3.5	5.3~6.7	0.15~0.6	0.01≧	—	0.30≧
		MC1-T6	—	—	—	—	—	—	—	—	—	—
		MC3-F	0.10≧	—	—	—	1.6~2.4	8.3~9.7	0.10~0.5	0.01≧	—	0.30≧
		MC3-T6	—	—	—	—	—	—	—	—	—	—
		MC6-T5	0.10≧	—	—	—	3.6~5.5	—	—	0.01≧	—	—
	Magnesium alloy diecasting	MDC1A	0.10≧	—	—	—	0.35~1.0	8.3~9.7	0.15≦	0.03≧	—	0.50≧
		MDC1B	0.35≧	—	0.03≧	—	0.35~1.0	8.3~9.7	0.13~0.5	0.03≧	—	0.50≧
Zinc alloy	Zinc alloy diecasting	ZDC1	0.75~1.25	0.005≧	0.10≧	0.003≧	Remaining	3.5~4.3	—	—	—	—
		ZDC2	0.25≧	0.005≧	0.10≧	0.003≧	Remaining	3.5~4.3	—	—	—	—

■Category and brevity code of thermoplastic resin

Name	Symbol
ASB resin	ABS
Acetal resin	POM
Methacrylic resin	PMMA
Acetyl cellulose	CA
Tetrafluoride ethylene resin	PTFE
Trifluoride ethylene resin	PCTEF
Hexafluoride ethylene resin	PFEP
Fluoride vinyl resin	PVF
Fluoride vinylidene resin	PVDF
Ethylene tetrafluoride ethylene copolymer	ETFE
Ionomer	IO
Methyl Benzene polymer	MPP
Nylon (Polyamide)	PA
Polycarbonate	PC
Polyethylene	PE

Name	Symbol
Polyethylene terephthalate	PETP
Polyethylene terephthalate	PBTP
Polyimide	PI
Polyphenylene oxide	PPO
Polyphenylene sulfide	PPS
Polyarylsulfone	PASF
Polyarylate	PAR
Polypropylene	PP
Polystyrene	PS
Polysulfone	PSF
Vinyl acetate resin	PVAC
Vinylidene chloride fiber	PVDC
AS resin	SAN
Vinyl chloride resin	PVC

· Thermoplastic resin : As temperature rises, this resin becomes soft → gammy → fluidity liquid. For example, polystyrene (PS) is like glass at normal temperature. From 80°C and higher its elastic modules decreases, from 110°C it becomes gammy, and higher than 170°C, it becomes sticky paste.

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Chemical Composition (%)							Mechanical Property of Standard test block		
							Tensile strength (N/mm^2)	Hardness	Heat treatment of standard test block
Mg	Cr	Ti	Zr	Zr+Ti,V,Zr	Cd	Others			
remaining	–	–	–	–	–	–	177≦	–	Casted
–	–	–	–	–	–	–	235≦		–
remaining	–	–	–	–	–	–	157≦		Casted
–	–	–	–	–	–	–	235≦		–
remaining	–	–	0.50～1.0	–	–	–	235≦		–
remaining	–	–	–	–	–	–	–	–	–
remaining	–	–	–	–	–	–			
0.020～0.06	–	–	–	–	0.004≧	–	–	–	–
0.020～0.06	–	–	–	–	0.004≧	–			

■Kinds of thermosetting plastics and symbols

Name	Symbol
Alkyd resin	Alk
Allyl resin	DAP
Urea resin	UF
Melamine resin	MF
Epoxy resin	EP

Name	Symbol
Phenol resin	PF
Unsaturated polyester resin	UP
Silicone resin	SI
Polyurethane	PUR

・Thermosetting resin : Heated at 80 ℃, it becomes sticky paste with fluidity. Then it is injected into the mold under pressure. Once hardened, the plastics does not get soft owing to polymer processing.

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35. Materials used for Cutting Tools

Materials

We have been seeking the best materials used for cutting tools since the company establishment because the performance of tools are depending on the selection of materials used. Major materials used in our company are listed below.

(1) Taps	● HSS :	Equivalent to SKH58, SKH51, SKH56 Powder HSS (SKH10, High Vanadium High cobalt material)
	● Carbide :	Cemented Carbide Materials of ultra micro grain
(2) Dies	● HSS :	SKH51, SKH56
	● Alloy Tool Steel :	SKS2, SKS21, SKS3, SKS31
(3) Center Drills and Centering Tools	● HSS :	SKH51, SKH56 Powder HSS (SKH10, High Vanadium High cobalt material)
	● Carbide :	Cemented Carbide Materials of ultra micro grain

※For product's improvement, material may be changed without notice.

Circumstance of tools' materials

Tensile strength, heat resistance, corrosion resistance and accuracy are the important features required of tool' s materials. These requirements have been changing due to miniaturization and lightening of parts.

And manufacturing methods, as well, have been changing because of necessity of economical efficiency such as saving process/cycle time while parts become hard-to-machine type and their hardness increases.

As a result, the demand of industrial tools by users has become very tough.

For example, higher wear resistance and chipping resistance are required in the area of hardness, and heavy cutting process or high-speed cutting are required in the area of cycle time.

Moreover, product accuracy with its rigidity, laborsaving brought by uniformity, and systematic reliability are highly required.

Therefore, technological improvement of tool steels never stops developing so that they satisfy users needs.

○The major materials used for taps are already listed in the chart, but those materials are ready to develop from conventional alloy tool steels and current high speed steel into next generation materials such as cemented carbide and cermet materials.

New materials are developed even in high-speed tool steel area, such as SKH51 and SKH58 from SKH2, and they are moving into high performance materials, such as high vanadium, cobalt, and powder HSS made of high vanadium and high cobalt contents.

○For materials of round dies, instead of conventional alloy tool steel, high-speed tool steel is increasingly used to meet the need for high-precision processing and hard-to-machine material processing.

○For materials of center drills and centering tools, SKH51, a type of high-speed tool steel, is normally used. For applications requiring even higher speed, higher accuracy, and longer life, HSS-Co and cemented carbide are used.

We keep on seeking to develop our technology to meet user's needs and are trying to find the best materials in collaboration with steel manufacturers.

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Chemical composition of the materials specified in JIS

Classification	Symbols	Chemical composition									
		C	Si	Mn	P	S	Cr	Mo	W	V	Co
W type HSS	SKH 2	0.73~0.83	≦0.45	≦0.4	≦0.030	≦0.030	3.80~4.50	—	17.20~18.70	1.00~1.20	—
	SKH 3	0.73~0.83	≦0.45	≦0.4	≦0.030	≦0.030	3.80~4.50	—	17.00~19.00	0.80~1.20	4.50~ 5.50
	SKH 4	0.73~0.83	≦0.45	≦0.4	≦0.030	≦0.030	3.80~4.50	—	17.00~19.00	1.00~1.50	9.00~11.00
	SKH10	1.45~1.60	≦0.45	≦0.4	≦0.030	≦0.030	3.80~4.50	—	11.50~13.50	4.20~5.20	4.20~ 5.20
Mo type HSS	SKH51	0.80~0.88	≦0.45	≦0.4	≦0.030	≦0.030	3.80~4.50	4.70~ 5.20	5.90~ 6.70	1.70~2.10	—
	SKH52	1.00~1.10	≦0.45	≦0.4	≦0.030	≦0.030	3.80~4.50	5.50~ 6.50	5.90~ 6.70	2.30~2.80	—
	SKH53	1.15~1.25	≦0.45	≦0.4	≦0.030	≦0.030	3.80~4.50	4.70~ 5.20	5.90~ 6.70	2.70~3.20	—
	SKH54	1.25~1.40	≦0.45	≦0.4	≦0.030	≦0.030	3.80~4.50	4.20~ 5.00	5.20~ 6.00	3.70~4.20	—
	SKH55	0.87~0.95	≦0.45	≦0.4	≦0.030	≦0.030	3.80~4.50	4.70~ 5.20	5.90~ 6.70	1.70~2.10	4.50~ 5.00
	SKH56	0.85~0.95	≦0.45	≦0.4	≦0.030	≦0.030	3.80~4.50	4.70~ 5.20	5.90~ 6.70	1.70~2.10	7.00~ 9.00
	SKH57	1.20~1.35	≦0.45	≦0.4	≦0.030	≦0.030	3.80~4.50	3.20~ 3.90	9.00~10.00	3.00~3.50	9.50~10.50
	SKH58	0.95~1.05	≦0.7	≦0.4	≦0.030	≦0.030	3.50~4.50	8.20~ 9.20	1.50~ 2.10	1.70~2.20	—
	SKH59	1.05~1.15	≦0.7	≦0.4	≦0.030	≦0.030	3.50~4.50	9.00~10.00	1.20~ 1.90	0.90~1.30	7.50~ 8.50

Classification	Symbols	Usage	Cross chart		
			AISI	VDEH	ISO
W type HSS	SKH 2	Tools for general cutting and other kinds of tools.	T 1	S18-0-1	S1 (HS18-0-1)
	SKH 3	Tools for high speed heavy cutting and other kinds of tools.	T 4	S18-1-2-5	S7 (HS18-1-1-5)
	SKH 4	Tools for cutting hard -to-machine materials and other kinds of tools.	T 5	S18-1-2-10	S6 (HS18-0-1-10)
	SKH10	Tools for cutting ultra hard-to-machine materials and other kinds of tools.	T15	—	S9 (HS12-1-5-5)
Mo type HSS	SKH51	General cutting tools from which toughness is particularly required, and other kinds of tools.	M 2	S6-5-2	S4 (HS6-5-2)
	SKH52	Tools for cutting high hardness material from which comparatively high toughness is required and other kinds of tools.	M 3-1	—	—
	SKH53		M 3-2	S6-5-3	S5 (HS6-5-3)
	SKH54	Tools for cutting ultra hard-to-machine materials and other kinds of tools.	M 4	—	—
	SKH55	High speed cutting tools from which comparatively high toughness is required and other kinds of tools.	M35	S6-5-2-5	S8 (HS6-5-2-5)
	SKH56		M36	—	—
	SKH57	Tools for cutting ultra hard-to-machine materials and other kinds of tools.	—	S10-4-3-10	S10 (HS10-4-3-10)
	SKH58	General cutting tools from which toughness is particularly required, and other kinds of tools.	M 7	S2-9-2	S2 (HS2-9-2)
	SKH59	High speed heavy cutting tools from which comparatively high toughness is required, and other kinds of tools.	M42	S2-10-1-8	S11 (HS2-9-1-8)

The standard of HSS material is specified in JIS. But there are many HSS materials which standard is not specified in JIS. Recently even the kind of HSS-P is getting wider and various. Besides, SKH10, SKH53, SKH57 and their equivalents, such Hi vanadium/hi cobalt material as contains 4-12% vanadium and 8-11% cobalt is now being manufactured. Material engineering will be developed rapidly in the future. Under such situation, there can be many cases where JIS symbols are not used, and the use of larger classification and their symbols is getting popular.

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Searching table by product code

	Code No.	Product name	Page No.
A	ASHM	AL-SP	① -139
	ASHP	AL+SP	① -139
C	C1	CD-S (I)	⑪ -5
	C2	CD-S (II)	⑪ -29
	CC∗∗∗Q	C-CD-Q	⑪ -23
	CCD	C-CD-S	⑪ -11
	CCDL	C-CD-SL (L-100)	⑪ -16
	CCDM	C-CD-SL (L-150)	⑪ -16
	CCL∗∗∗Q	C-CD-QL (L-100)	⑪ -26
	CCM∗∗∗Q	C-CD-QL (L-150)	⑪ -26
	CDL	CD-SL (L-100)	⑪ -13
	CDM	CD-SL (L-150)	⑪ -13
	CDN	CD-SL (L-200)	⑪ -13
	CE	CE-S	⑪ -2
	CE∗∗∗RI	CEIR	⑪ -31
	CE∗∗∗T	CE-T	⑪ -33
	CE1	CE-S (I)	⑪ -3
	CE2	CE-S (II)	⑪ -28
	CEA	CESA	⑪ -1
	CEA∗∗∗Q	CEQA	⑪ -17
	CEB	CESB	⑪ -27
	CEC	CESC	⑪ -30
	CEL	CE-SL (L-100)	⑪ -12
	CEM	CE-SL (L-150)	⑪ -12
	CEN	CE-SL (L-200)	⑪ -12
	CL∗∗∗Z	CE-QL (L-100)	⑪ -24
	CM∗∗∗Z	CE-QL (L-150)	⑪ -24
	CPCS	CPC-S Metric	⑦ -59
	CPCSU	CPC-S Unified Threads	⑦ -59
	CPCT	CPC-T Metric	⑦ -71
	CPCTU	CPC-T Unified Threads	⑦ -71
	CPRS	CPR-S Metric	⑦ -73
	CPRSU	CPR-S Unified Threads	⑦ -73
	CPRT	CPR-T Metric	⑦ -75
	CPRTU	CPR-T Unified Threads	⑦ -75
	CPRY	Check Pins for Bored Holes for R-Y	⑦ -77
	CS∗∗∗Q	CS-Q	⑪ -55
	CS∗∗∗QM6	CS-QM (60°)	⑪ -56
	CS∗∗∗QM9	CS-QM (90°)	⑪ -56
	CS-D	NC-SD	⑪ -53
	CS-G∗∗∗2∗J	CS-G (20°, L-57)	⑪ -57
	CS-G∗∗∗2∗K	CS-G (20°, L-70)	⑪ -57
	CS-G∗∗∗2∗LS	CS-G (20°, L-100)	⑪ -57
	CS-G∗∗∗3∗J	CS-G (30°, L-57)	⑪ -57
	CS-G∗∗∗3∗K	CS-G (30°, L-70)	⑪ -57
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Company Background (Company Outline)

November 1923: Founded by Jokichi Watanabe in Shibuya-ku, Tokyo.
December 1937: Company incorporated.
May 1945: Factory established in Yonezawa City in Yamagata prefecture.
January 1953: Spun off Yonezawa Factory into a separate company as YAMAWA TAP Co., Ltd.
June 1955: All products certified to Japanese Industrial Standard (JIS) categories.
October 1956: Awarded by the Department of Trade and Industry for superiority in industrial standardization.
October 1963: Awarded by the Institute of Industrial Technology for superiority in industrial standardization.
April 1964: Newly constructed Fukushima Factory began operation.
November 1973: Awarded from the Department of Trade and Industry as superiority in industrial standardization.
October 1983: Established YAMAWA ENGINEERING Co., Ltd.
December 1984: New machine tool manufacturing shop constructed inside the Fukushima Factory.
October 1986: Newly completed Aizu Factory began operation.
July 1989: Newly constructed Taiwan Factory opened.
April 1991: Spun off Fukushima Factory and Aizu Factory into a separate company, YAMAWA PRECISION Co., Ltd.
November 1995: Established TC (Total Cutting) CENTER Co., Ltd.
June 1996: YAMAWA TAP Co., Ltd. obtained ISO 9001 certification
July 2000: YAMAWA PRECISION Co., Ltd. in Aizu Factory obtained ISO 9001 certification.
October 2000 YAMAWA PRECISION Co., Ltd. in Fukushima Factory also obtained ISO 9001 certification.
August 2001: Established YAMAWA TC CENTER Co., Ltd. from TC CENTER.
October 2002: Obtained ISO14001 certification in YAMAWA PRECISION Co., Ltd. at Fukushima Factory.
December 2002: Obtained ISO14001 certification in YAMAWA PRECISION Co., Ltd. at Aizu Factory.
January 2003: Obtained ISO14001 certification in YAMAWA TAP Co., Ltd.
October 2003: Obtained ISO14001 certificaiton in YAMAWA MFG. Co., Ltd.
April 2006: Obtained ISO14001 certification in TAIWAN YAMAWA Co., Ltd.
October 2006: Spun off Export Dept. into a separate company, YAMAWA INTERNATIONAL Co., Ltd.
January 2007: Spun off Taiwan Sales Dept into a separate company, YAMAWA ASIA Co., Ltd.
May 2007: Obtained ISO14001 certification in YAMAWA ASIA Co., Ltd.
March 2008: Newly constructed Tsutsumi Factory of Yamawa Mfg began operation.
September 2008: Obtained ISO14001certification in YAMAWA ENGINEERING Co., Ltd. YAMAWA TC CENTER Co., Ltd. and YAMAWA INTERNATIONAL Co., Ltd.
June 2011: Obtained ISO14001 and ISO9001 certification in YAMAWA Tsutsumi Factory.
February 2012: Obtained ISO9001 certification in TAIWAN YAMAWA and YAMAWA ASIA
October 2012: Obtained ISO9001 certification in YAMAWA MFG. Co., Ltd.
December 2013: Newly constructed Tsutsumi No.2 Factory of YAMAWA MFG. Co., Ltd. began operation.
October 2014: YAMAWA TC Center Co., Ltd. and YAMAWA Engineering Co., Ltd. were merged into a new company "YAMAWA Engineering Service Co., Ltd."
September 2015: Established "YAMAWA EUROPE S.p.A".
December 2020: Merged YAMAWA Taps Co., Ltd. & YAMAWA Precision Co., Ltd. into YAMAWA MFG. Co., Ltd.
October 2021: Established YAMAWA HOLDINGS Co., Ltd.

ISO 9001/14001 certification



Origin of corporate name, "YA" "MA" "WA"

Mr. Jokichi Watanabe, the founder of the company, decided to use shop name "YA" "MA" "WA", which he had been using in his family business instead of using his personal name. And he gave to his company the name "YA" "MA" "WA" by employing lucky words and the same connotation "YAMAWA" from ancient Japanese characters, MANYOGANA. The meaning of YAMAWA is "Greater prosperity, More united". In this word, he puts a wish, "As the company becomes prosperous, the harmony among employees becomes more precious".

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YAMAWA GROUP information

● Manufacturing sector ●● Sales base

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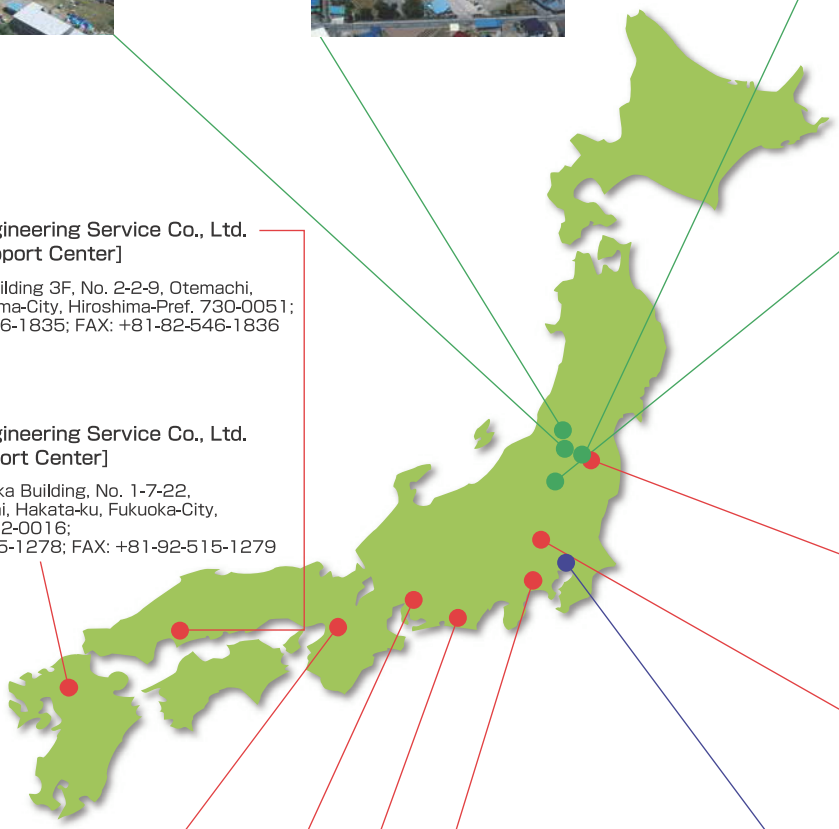


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