KORLOY
TECH-NEWS

TAP series

High Performance Carbide Tap and HSS Tap Series

- **Excellent Wear Resistance**
  Highly durable carbide tap and HSS Tap series
- **Excellent Surface Finish**
  A variety of taps including point taps, spiral taps, straight taps, roll taps, and more to meet a wide range of requirements, available for JIS and DIN standards in metric threads.
- **Made-to-Order Available**
  Orders can be made for powder HSS and taps under M3.

KORLOY

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Tapping Chuck

DST 37
DTN 39

Increased productivity due to stable chip control and evacuation

High Performance Carbide Tap and HSS Tap Series

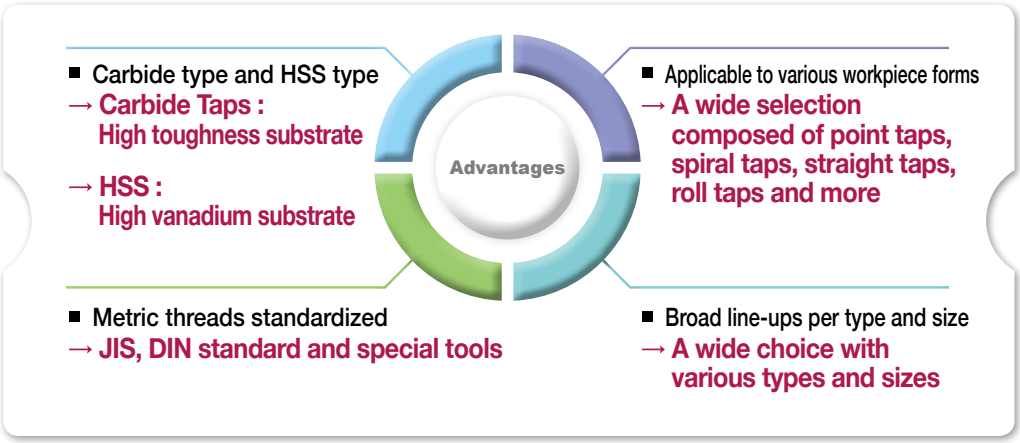
Carbide Tap

HSS Tap

KORLOY developed carbide taps and HSS taps that meet the demand for productivity.
Carbide taps now have increased wear resistance and extended tool life by the use of high toughness substrate. There are TiN / TiCN coated and non-coated products for a wide range of applications.
HSS taps have a high vanadium body to provide excellent cutting performance. Its wide line-up of coated and non-coated taps, and the HOMO series is available for various workpieces.

KORLOY taps were standardized not only to JIS but to DIN in metric threads. It is possible to machine a comprehensive range of workpieces with KORLOY point taps, spiral taps, straight taps, roll taps and more. A straight tap is used for through holes, mass production, cast iron, medium carbon steel, and non ferrous metal. A point tap has a similar shape to a straight tap but provides smoother chip evacuation for through holes. A spiral tap is optimized for blind hole making by evacuating chips through flutes. A roll tap is for making both through holes and blind holes on non ferrous metals such as aluminum.

KORLOY taps ensure maximum cutting efficiency with its excellent price competitiveness, quality, and a wide selection of products.



Code System

- Thread Appearance
  - ST : Straight Tap
  - PT : Point Tap
  - SP : Spiral Tap
  - RT : Roll Tap
  - SR : Spiral roll Tap
  - STD : Straight Tap (DIN)
  - PTD : Point Tap (DIN)
  - SPD : Spiral Tap (DIN)
  - RTD : Roll Tap (DIN)

M3 x 0.5	-	ST	25	(S)	-	(120)
Metric coarse screw threads and thread size		Appearance	Incomplete thread length	Roll Tap S : Single M : Multi		Overall length Special type

Grade System

Carbide Tap		HSS Tap	
FN30T	Carbide, Uncoated	HN30T	HSS, Uncoated
PC20T	Carbide, TiN coating	HC20T	HSS, TiN coating
PC10T	Carbide, TiCN coating	HC10T	HSS, TiCN coating
-	-	HH30T	HSS, HOMO Treatment

TAP series

Carbide Tap Series

• Carbide taps have excellent tool life and wear resistance due to high toughness substrate.

Tap type		Figure	Feature	Grade	Size
ST	Straight Tap		• For through holes and mass production • For cast iron, medium carbon steel and non ferrous metal	FN30T	M3~M12
				PC10T	M3~M12
				PC20T	M3~M12
SP	Spiral Tap		• For blind holes • Chip evacuation through flutes	FN30T	M3~M12
				PC10T	M3~M12
RT	Roll Tap		• For non ferrous metal • For through holes and blind holes	FN30T	M3~M12
				PC10T	M3~M12
SR	Spiral Roll Tap		• For non ferrous metal, Al and magnesium	FN30T	M3~M6
				PC10T	M3~M6

HSS Tap Series

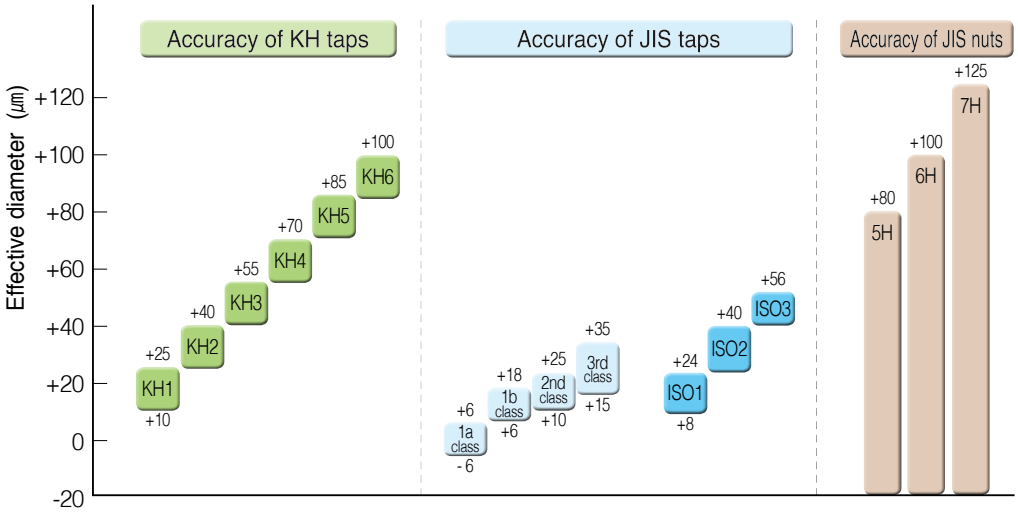
• HSS taps show improved performance due to high vanadium substrate.

Tap type		Figure	Feature	Grade	Size
ST	Straight Tap		• For through holes and mass production • For cast iron, medium carbon steel and non ferrous metal	HN30T	M3~M20
				HC20T	M3~M20
				HC10T	M3~M20
				HH30T	M8~M16
PT	Point Tap		• For through holes and mass production • Similar shape to the straight type but specialized with easier chip evacuation	HN030T	M3~M20
				HC20T	M3~M20
				HC10T	M3~M20
				HH30T	M3~M20
SP	Spiral Tap		• For blind holes • Chip evacuation through flutes	HN30T	M3~M20
				HC20T	M3~M20
				HC10T	M3~M20
				HH30T	M3~M24
RT	Roll Tap		• For non ferrous metal • For through holes and blind holes	HN30T	M3~M12
				HC20T	M3~M12
				HC10T	M3~M12
SR	Spiral Roll Tap		• For non ferrous metal, Al and magnesium	HN30T	M3~M6
				HC20T	M3~M6
				HC10T	M3~M6

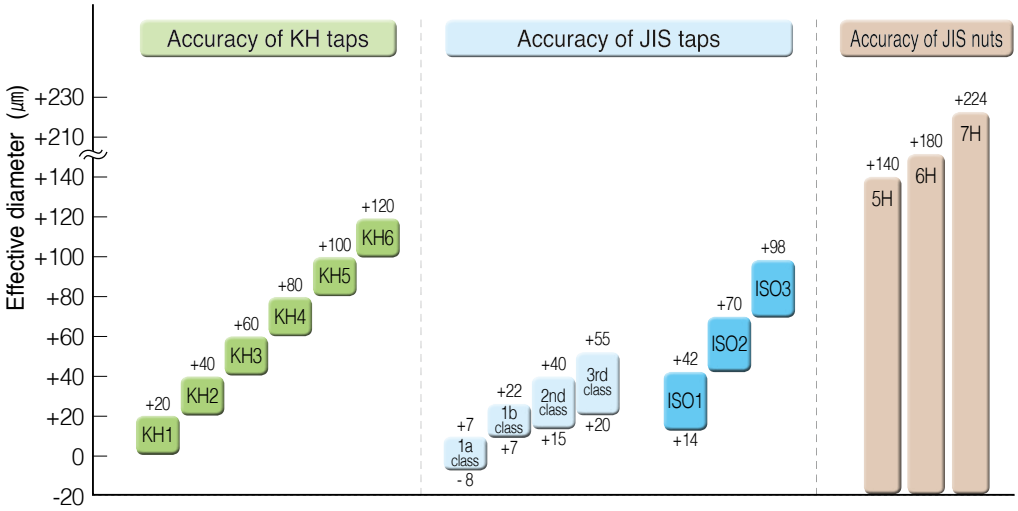
KH Stepped Accuracy System

- The KH stepped accuracy system was applied to KORLOY taps to obtain the required precision of nuts.
  → Possible to select proper tools for cutting conditions

[Comparison of Effective Diameters of a Thread] M3x0.5



[Comparison of Effective Diameters of a Thread] M10x1.5



*** {P ≤ 0.6 (T.P.I ≥ 40) }**

- Upper tolerance : 0.010 + 0.015 x n
- Under tolerance : Upper tolerance - 0.015 (mm)

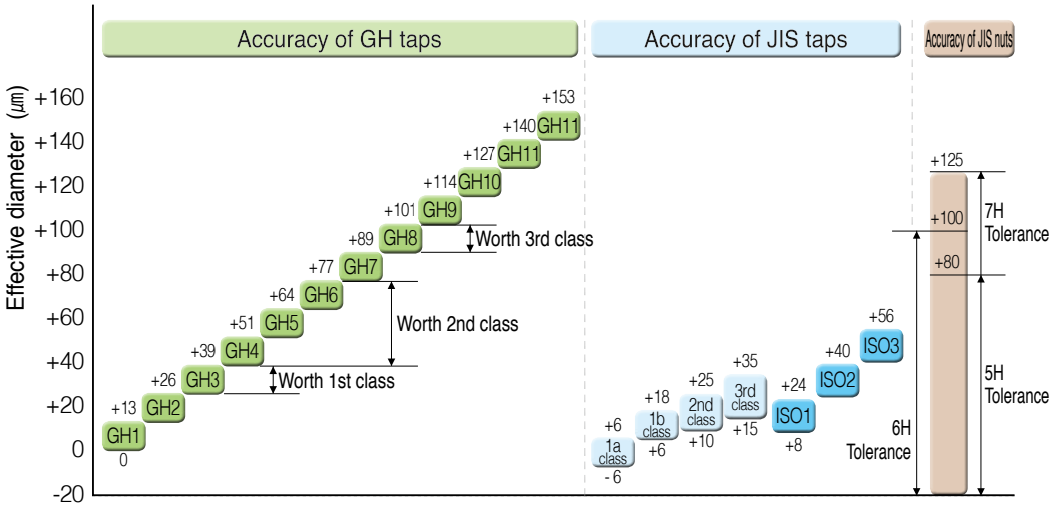
*** {P ≥ 0.7 (T.P.I ≤ 36) }**

- Upper tolerance : 0.020 x n
- Under tolerance : Upper tolerance - 0.020 (mm)

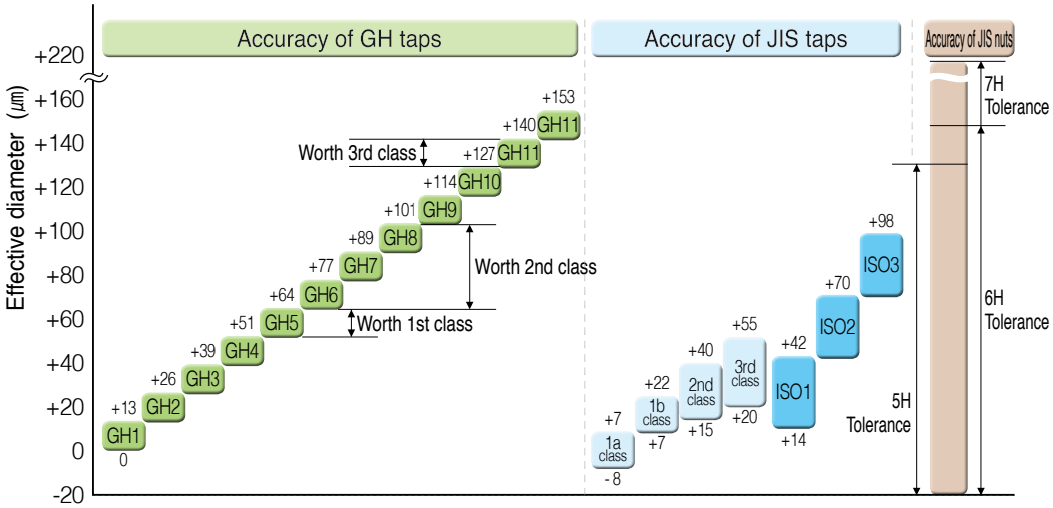
GH Stepped Accuracy System

- Taps without a flute such as roll taps require strict bottom hole managing due to plastic deformation in nut machining.
- KORLOY uses a stepped accuracy system of tolerance within 12.7㎛ (0.0005).

[Comparison of Effective Diameters of a Thread] M3x0.5



[Comparison of Effective Diameters of a Thread] M10x1.5



Recommended Cutting Speeds and Cutting Fluid

- For machining cold / hot forging steel and sintered ferrous alloy in high feed, high depth of cut and highly interrupted conditions
- Excellent resistance to chipping, fracture and thermal crack
- Improved surface finish due to optimized cutting edges

ISO	Workpiece		Cutting speed, vc(m/min)					Cutting fluid			
			Straight Tap	Spiral Tap	Point Tap	Carbide Tap	Roll Tap	Insoluble	Water soluble emulsion	Semi dry	Dry
P	Low carbon steel	≥ 0.25 %C	8~13	8~13	15~25	-	8~13	◎	○	△	△
	Medium carbon steel	≥ 0.25~0.45 %C	7~12	7~12	10~15	-	7~10	◎	○	△	△
	High carbon steel	≥ 0.45 %C	6~9	6~9	8~13	-	5~8	◎	○	△	△
	Alloy steel	SCM	7~12	7~12	10~15	-	5~8	◎	△	△	△
	Quenched and tempered steel	25~45HRC	3~5	3~5	4~6	-	-	◎	△	-	-
	Tool steel	SKD	6~9	6~9	7~10	-	-	◎	-	-	-
	Cast steel	SCM	6~11	6~11	10~15	-	-	◎	○	-	-
M	Stainless steel	SUS	4~7	5~8	8~13	-	5~10	◎	○	-	-
	Precipitation hardened stainless steel	SUS630 SUS631	3~5	3~5	4~6	-	-	◎	-	-	-
K	Cast iron	FC	10~15	-	-	10~20	-	◎	○	○	○
	Ductile cast iron	FCD	7~12	7~12	10~20	10~20	-	◎	○	○	-
N	Copper	Cu	6~9	6~11	7~12	10~20	7~12	○	○	-	-
	Brass, brass-cast	Bs Bsc	10~15	10~20	15~25	15~25	7~12	○	○	○	○
	Bronze, bronze-cast	PB PBC	6~11	6~11	10~20	10~20	7~12	○	○	-	-
	Rolled aluminum	Al	10~20	10~20	15~25	-	10~20	◎	○	△	-
	Aluminum-cast, alloyed	AC ACD	10~15	10~15	15~20	10~20	10~25	◎	○	△	-
	Magnesium-cast, alloyed	MC	7~12	7~12	10~15	10~20	-	◎	○	○	-
	Zinc-cast, alloyed	ZDC	1~12	7~12	10~15	10~20	7~12	◎	○	△	-
	Thermosetting plastics	Bakelite phenol epoxy	10~20	-	-	15~25	-	-	○	○	○
	Thermoplastics	Nylon vinyl chloride	10~20	10~15	10~20	10~20	-	-	○	○	○

◎ Recommended ○ Applicable △ Usable - Unusabl

Recommended Drill Diameter [on 2nd class thread basis]

• Refer to this table for information about drill diameters per thread size of straight taps and spiral taps.

Straight Tap & Spiral Tap

Thread size	Drill diameter		
	Min	Recommended	Max
M3X0.5	2.459	**2.5**	2.599
M4X0.7	3.242	**3.3**	3.422
M5X0.8	4.134	**4.2**	4.334
M6X1.0	4.917	**5.0**	5.153
M8X1.25	6.647	**6.8**	6.912
M10X1.25	8.647	**8.8**	8.912
M10X1.5	8.376	**8.5**	8.676
M12X1.0	10.917	**11.0**	11.153
M12X1.25	10.647	**10.8**	10.912
M12X1.5	10.376	**10.5**	10.676

Thread size	Drill diameter		
	Min	Recommended	Max
M12X1.75	10.106	**10.3**	10.441
M14X1.5	12.376	**12.5**	12.676
M14X2.0	11.835	**12.0**	12.21
M16X1.5	14.376	**14.5**	14.676
M16X2.0	13.835	**14.0**	14.21
M18X1.5	16.376	**16.5**	16.676
M18X2.5	15.294	**15.5**	15.744
M20X1.5	18.376	**18.5**	18.676
M20X2.5	17.294	**17.5**	17.744
-	-	-	-

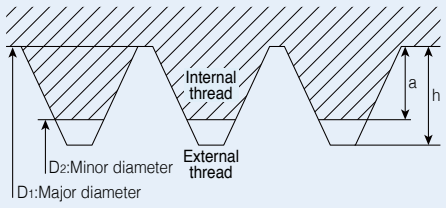
• Refer to this table for information about drill diameters per thread size of roll taps.

Roll Tap

Thread size	Drill diameter		
	Min	Recommended	Max
M3X0.5	2.76	**2.8**	2.81
M4X0.7	3.65	**3.7**	3.7
M5X0.8	4.59	**4.6**	4.66
M6X1.0	5.48	**5.5**	5.57
M8X1.25	7.34	**7.4**	7.41
M10X1.25	9.34	**9.4**	9.41

Thread size	Drill diameter		
	Min	Recommended	Max
M10X1.5	9.18	**9.2**	9.28
M12X1.0	11.48	**11.5**	11.57
M12X1.25	11.34	**11.4**	11.41
M12X1.5	11.18	**11.2**	11.28
M12X1.75	11.05	**11.1**	11.15
-	-	-	-

[Fig] In case that a external thread has a standard shape



- Pre-hole diameter = D1 : Major diameter
  D2 : Minor diameter
- a = 1/2 x (D1 - D2)
- h = Height of fundamental triangle
- Rate of threading engagement = a/h x 100(%)

$$*\text{Rate of threading engagement} = \frac{\text{Major diameter} - \text{Pre-hole diameter}}{2 \times (\text{Height of fundamental triangle})}$$

$$* \text{Pre-hole diameter} = d - 2 \times H \times \frac{\text{rate of threading engagement}}{100}$$

- d : Major diameter
- H (Rate of threading engagement's Height)
  : 0.541266P
- P : Pitch(mm)

*Recommended bottom hole diameters follow the JIS2 standard for a nut.
(Nuts outside the JIS standard are excluded.)

$$* \text{Drill diameter} = D - 0.0068 \times P \times 65$$

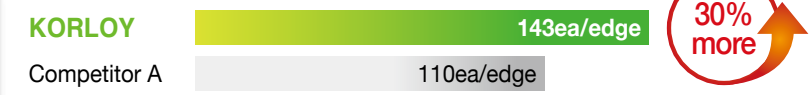
- D : Nominal diameter
- P : Pitch(mm)
- 65 = 65% of the thread height

*Nut's bottom hole diameters outside the JIS standard are only for reference.

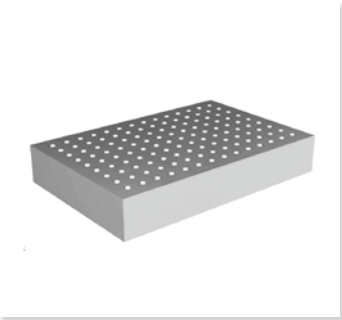
Application Examples

Cutting tool

- Workpiece SNCM439 (HRC43)
- Cutting conditions Drill diameter(Ø) = 4, vf(mm/min) = 70, ap(mm) = 13, wet
- Tools M4x0.7-PT25 (HC20T)



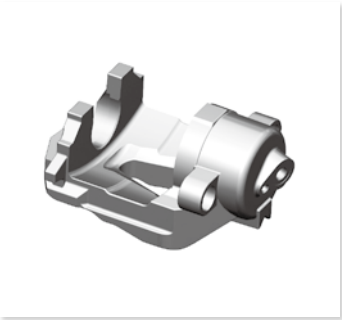
30% longer tool life than competitor A



Plate

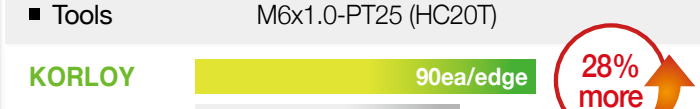
- Workpiece SNCM439 (HRC40)
- Cutting conditions Drill diameter(Ø) = 5, vf(mm/min) = 80, ap(mm) = 15, wet
- Tools M5x0.8-PT25 (HC20T)

50% longer tool life than competitor B

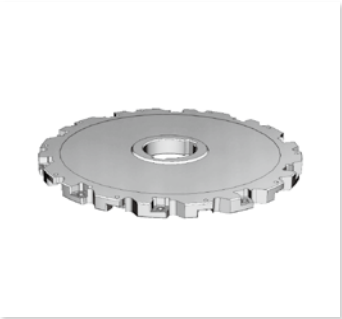


Break part (Caliper)

- Workpiece FCD50
- Cutting conditions Drill diameter(Ø) = 6, vf(mm/min) = 100, ap(mm) = 10, wet
- Tools M6x1.0-PT25 (HC20T)

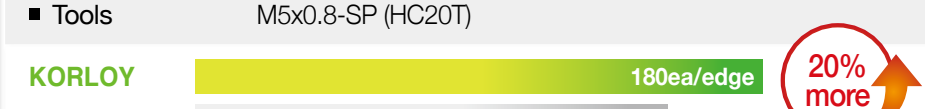


28% longer tool life than competitor C



Cutting tool (Side cutter)

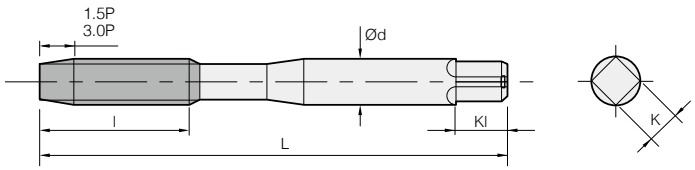
- Workpiece SNCM439
- Cutting conditions Drill diameter(Ø) = 5, vf(mm/min) = 80, ap(mm) = 8, wet
- Tools M5x0.8-SP (HC20T)



20% longer tool life than competitor D

Carbide Tap

ST type (Straight Tap)



3 | 4 | Helix Angle 0° | Carbide | Uncoated | Grade FN30T

(mm)

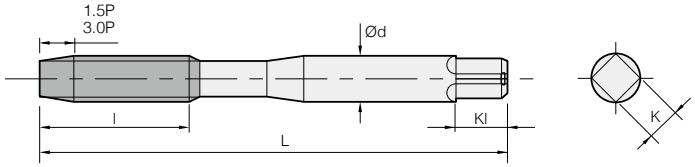
Flutes	Designation		Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
	1.5P	3P							
3	M3X0.5-ST15	M3X0.5-ST30	M3X0.5	46	11	4.0	3.2	6	KH3
	M4X0.7-ST15	M4X0.7-ST30	M4X0.7	52	13	5.0	4.0	7	
	M5X0.8-ST15	M5X0.8-ST30	M5X0.8	60	16	5.5	4.5	7	
	M6X1.0-ST15	M6X1.0-ST30	M6X1.0	62	19	6.0	4.5	7	
4	M8X1.0-ST15	M8X1.0-ST30	M8X1.0	70	22	6.2	5.0	8	KH4
	M8X1.25-ST15	M8X1.25-ST30	M8X1.25						
	M10X1.0-ST15	M10X1.0-ST30	M10X1.0	75	24	7.0	5.5	8	
	M10X1.25-ST15	M10X1.25-ST30	M10X1.25						
	M10X1.5-ST15	M10X1.5-ST30	M10X1.5						
	M12X1.0-ST15	M12X1.0-ST30	M12X1.0	82	29	8.5	6.5	9	KH5
	M12X1.25-ST15	M12X1.25-ST30	M12X1.25						
	M12X1.5-ST15	M12X1.5-ST30	M12X1.5						
	M12X1.75-ST15	M12X1.75-ST30	M12X1.75						

※ It is ideal for mass tapping operations of general cast iron, ductile cast iron, brass-cast, thermosetting plastics, etc.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
										◎	○		○	○	◎		○	○	○			◎	

ST type (Straight Tap)



3 | 4 | Helix Angle 0° | Carbide | TiCN | Grade PC10T

(mm)

Flutes	Designation		Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
	1.5P	3P							
3	M3X0.5-ST15	M3X0.5-ST30	M3X0.5	46	11	4.0	3.2	6	KH3
	M4X0.7-ST15	M4X0.7-ST30	M4X0.7	52	13	5.0	4.0	7	
	M5X0.8-ST15	M5X0.8-ST30	M5X0.8	60	16	5.5	4.5	7	
	M6X1.0-ST15	M6X1.0-ST30	M6X1.0	62	19	6.0	4.5	7	
4	M8X1.0-ST15	M8X1.0-ST30	M8X1.0	70	22	6.2	5.0	8	KH4
	M8X1.25-ST15	M8X1.25-ST30	M8X1.25						
	M10X1.0-ST15	M10X1.0-ST30	M10X1.0	75	24	7.0	5.5	8	
	M10X1.25-ST15	M10X1.25-ST30	M10X1.25						
	M10X1.5-ST15	M10X1.5-ST30	M10X1.5						
	M12X1.0-ST15	M12X1.0-ST30	M12X1.0	82	29	8.5	6.5	9	KH5
	M12X1.25-ST15	M12X1.25-ST30	M12X1.25						
	M12X1.5-ST15	M12X1.5-ST30	M12X1.5						
	M12X1.75-ST15	M12X1.75-ST30	M12X1.75						

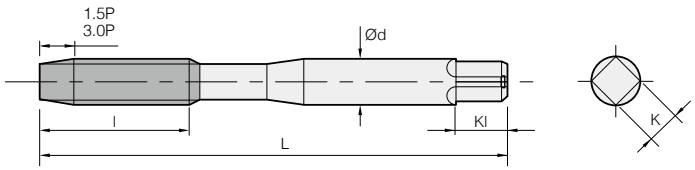
※ It is ideal for mass tapping operations of general cast iron, ductile cast iron, brass-cast, thermosetting plastics, etc.
※ Wear resistance was much improved by the use of TiCN coating for high efficiency tapping operations.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
										◎	○		○	○	◎		○	○	○			◎	

Carbide Tap

ST type (Straight Tap)



3	4	Helix Angle 0°	Carbide	TiN	Grade PC20T

(mm)

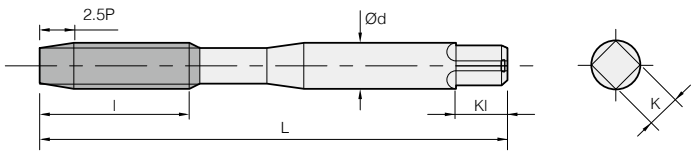
Flutes	Designation		Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
	1.5P	3P							
3	M3x0.5-ST15	M3x0.5-ST30	M3X0.5	46	11	4	3.2	6	KH3
	M4x0.7 -ST15	M4x0.7-ST30	M4X0.7	52	13	5	4	7	
	M5x0.8 -ST15	M5x0.8-ST30	M5X0.8	60	16	5.5	4.5	7	
	M6x1.0 -ST15	M6x1.0-ST30	M6X1.0	62	19	6	4.5	7	
4	M8x1.25 -ST15	M8x1.25-ST30	M8X1.25	70	22	6.2	5	8	KH4
	M10x1.5 -ST15	M10x1.5-ST30	M10X1.5	75	24	7	5.5	8	
	M12x1.75 -ST15	M12x1.75-ST30	M12X1.75	82	29	8.5	6.5	9	

※ It is ideal for mass tapping operations of general cast iron, ductile cast iron, brass-cast, thermosetting plastics, etc.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
										◎	○		○	○	◎		○	○	○			◎	

SP type (Spiral Tap)



3	4	Helix Angle 15°	Carbide	Uncoated	Grade FN30T

(mm)

Flutes	Designation	Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
	2.5P							
3	M3X0.5-SP25	M3X0.5	46	11	4.0	3.2	6	KH3
	M4X0.7-SP25	M4X0.7	52	13	5.0	4.0	7	
	M5X0.8-SP25	M5X0.8	60	16	5.5	4.5	7	
	M6X1.0-SP25	M6X1.0	62	19	6.0	4.5	7	
4	M8X1.0-SP25	M8X1.0	70	22	6.2	5.0	8	KH4
	M8X1.25-SP25	M8X1.25						
	M10X1.0-SP25	M10X1.0	75	24	7.0	5.5	8	
	M10X1.25-SP25	M10X1.25						
	M10X1.5-SP25	M10X1.5						
	M12X1.0-SP25	M12X1.0	82	29	8.5	6.5	9	KH5
	M12X1.25-SP25	M12X1.25						
	M12X1.5-SP25	M12X1.5						
	M12X1.75-SP25	M12X1.75						

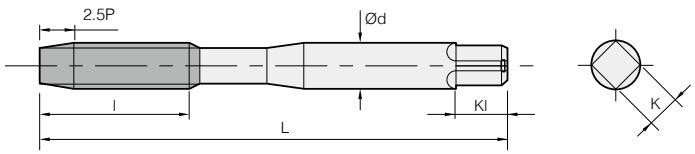
※ It is ideal for making blind holes in quantity on general cast iron, ductile cast iron, brass-cast, thermosetting plastics, etc.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
										○	◎	◎	◎	◎	○	○	○	○	○				◎

Carbide Tap

SP type (Spiral Tap)



3 | 4 | Helix Angle 15° | Carbide | TiCN | Grade PC10T

(mm)

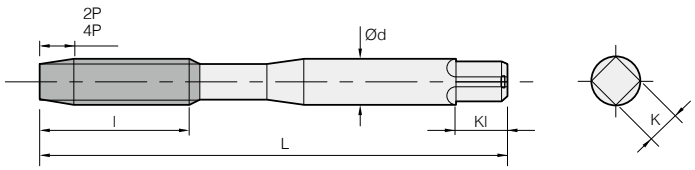
Flutes	Designation 2.5P	Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
3	M3X0.5-SP25	M3X0.5	46	11	4.0	3.2	6	KH3
	M4X0.7-SP25	M4X0.7	52	13	5.0	4.0	7	
	M5X0.8-SP25	M5X0.8	60	16	5.5	4.5	7	
	M6X1.0-SP25	M6X1.0	62	19	6.0	4.5	7	
4	M8X1.0-SP25	M8X1.0	70	22	6.2	5.0	8	KH4
	M8X1.25-SP25	M8X1.25						
	M10X1.0-SP25	M10X1.0	75	24	7.0	5.5	8	
	M10X1.25-SP25	M10X1.25						
	M10X1.5-SP25	M10X1.5						
	M12X1.0-SP25	M12X1.0	82	29	8.5	6.5	9	KH5
	M12X1.25-SP25	M12X1.25						
	M12X1.5-SP25	M12X1.5						
	M12X1.75-SP25	M12X1.75						

※ It is ideal for making blind holes in quantity on general cast iron, ductile cast iron, brass-cast, thermosetting plastics, etc.
※ Wear resistance was much improved by the use of TiCN coating for high efficiency tapping operations.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
										○	◎	◎	◎	◎	○	○	◎	◎	◎			○	◎

RT type (Roll Tap)



Carbide | Uncoated | Grade FN30T

(mm)

Flutes	Designation		Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
	2P	4P							
1	M3X0.5-RT20(S)	M3X0.5-RT40(S)	M3X0.5	46	11	4.0	3.2	6	GH5
4	M3X0.5-RT20(M)	M3X0.5-RT40(M)							
1	M4X0.7-RT20(S)	M4X0.7-RT40(S)	M4X0.7	52	13	5.0	4.0	7	GH6
4	M4X0.7-RT20(M)	M4X0.7-RT40(M)							
1	M5X0.8-RT20(S)	M5X0.8-RT40(S)	M5X0.8	60	16	5.5	4.5	7	
4	M5X0.8-RT20(M)	M5X0.8-RT40(M)							
1	M6X1.0-RT20(S)	M6X1.0-RT40(S)	M6X1.0	62	19	6.0	4.5	7	GH7
4	M6X1.0-RT20(M)	M6X1.0-RT40(M)							
1	M8X1.25-RT20(S)	M8X1.25-RT40(S)	M8X1.25	70	22	6.2	5.0	8	
4	M8X1.25-RT20(M)	M8X1.25-RT40(M)							
1	M10X1.25-RT20(S)	M10X1.25-RT40(S)	M10X1.25	75	24	7.0	5.5	8	
4	M10X1.25-RT20(M)	M10X1.25-RT40(M)							
1	M12X1.0-RT20(S)	M12X1.0-RT40(S)	M12X1.0	82	29	8.5	6.5	9	
4	M12X1.0-RT20(M)	M12X1.0-RT40(M)							
1	M12X1.25-RT20(S)	M12X1.25-RT40(S)	M12X1.25	82	29	8.5	6.5	9	
4	M12X1.25-RT20(M)	M12X1.25-RT40(M)							
1	M12X1.5-RT20(S)	M12X1.5-RT40(S)	M12X1.5	82	29	8.5	6.5	9	
4	M12X1.5-RT20(M)	M12X1.5-RT40(M)							
1	M12X1.75-RT20(S)	M12X1.75-RT40(S)	M12X1.75	82	29	8.5	6.5	9	GH8
4	M12X1.75-RT20(M)	M12X1.75-RT40(M)							

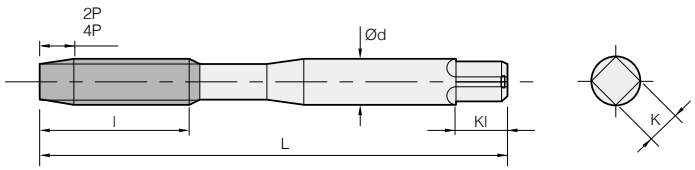
※ It is ideal for making both through holes and blind holes on non ferrous metals.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
												◎	◎	◎		◎	◎		◎				

Carbide Tap

RT type (Roll Tap)



Carbide | TiCN | Grade PC10T

(mm)

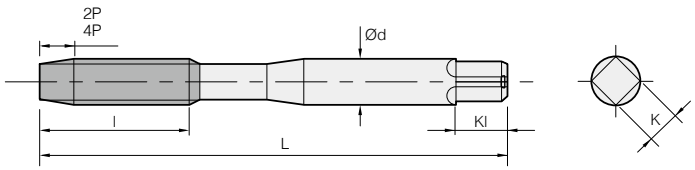
Flutes	Designation		Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
	2P	4P							
1	M3X0.5-RT20(S)	M3X0.5-RT40(S)	M3X0.5	46	11	4.0	3.2	6	GH5
4	M3X0.5-RT20(M)	M3X0.5-RT40(M)							
1	M4X0.7-RT20(S)	M4X0.7-RT40(S)	M4X0.7	52	13	5.0	4.0	7	GH6
4	M4X0.7-RT20(M)	M4X0.7-RT40(M)							
1	M5X0.8-RT20(S)	M5X0.8-RT40(S)	M5X0.8	60	16	5.5	4.5	7	
4	M5X0.8-RT20(M)	M5X0.8-RT40(M)							
1	M6X1.0-RT20(S)	M6X1.0-RT40(S)	M6X1.0	62	19	6.0	4.5	7	GH7
4	M6X1.0-RT20(M)	M6X1.0-RT40(M)							
1	M8X1.25-RT20(S)	M8X1.25-RT40(S)	M8X1.25	70	22	6.2	5.0	8	
4	M8X1.25-RT20(M)	M8X1.25-RT40(M)							
1	M10X1.25-RT20(S)	M10X1.25-RT40(S)	M10X1.25	75	24	7.0	5.5	8	
4	M10X1.25-RT20(M)	M10X1.25-RT40(M)							
1	M12X1.0-RT20(S)	M12X1.0-RT40(S)	M12X1.0	82	29	8.5	6.5	9	
4	M12X1.0-RT20(M)	M12X1.0-RT40(M)							
1	M12X1.25-RT20(S)	M12X1.25-RT40(S)	M12X1.25	82	29	8.5	6.5	9	
4	M12X1.25-RT20(M)	M12X1.25-RT40(M)							
1	M12X1.5-RT20(S)	M12X1.5-RT40(S)	M12X1.5	82	29	8.5	6.5	9	
4	M12X1.5-RT20(M)	M12X1.5-RT40(M)							
1	M12X1.75-RT20(S)	M12X1.75-RT40(S)	M12X1.75	82	29	8.5	6.5	9	GH8
4	M12X1.75-RT20(M)	M12X1.75-RT40(M)							

※ It is for general use for both steels and non ferrous metal.
※ Wear resistance was much improved by the use of TiCN coating for high efficiency tapping operations.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
◎	◎	○	○				◎					◎	◎	◎		◎	◎		◎				

SR type (Spiral Roll Tap)



Carbide | Uncoated | Grade FN30T

(mm)

Designation		Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
2P	4P							
M3X0.5-SR20	M3X0.5-SR40	M3X0.5	46	18	4.0	3.2	6	GH6
M3.5X0.6-SR20	M3.5X0.6-SR40	M3.5X0.6						
M4X0.7-SR20	M4X0.7-SR40	M4X0.7	52	20	5.0	4.0	7	GH7
M5X0.8-SR20	M5X0.8-SR40	M5X0.8	60	22	5.5	4.5	7	
M6X1.0-SR20	M6X1.0-SR40	M6X1.0	62	24	6.0	4.5	7	

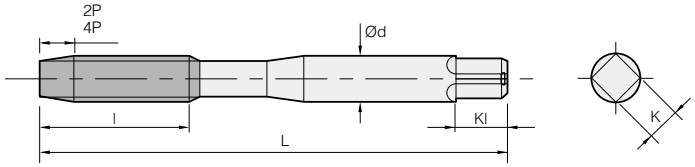
※ It is for general use for tapping aluminum, magnesium and zinc as well as non ferrous metal.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
												◎	◎	◎		◎	◎		◎				

Carbide Tap

SR type (Spiral Roll Tap)



Carbide | TiCN | Grade PC10T

(mm)

Designation		Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
2P	4P							
M3X0.5-SR20	M3X0.5-SR40	M3X0.5	46	18	4.0	3.2	6	GH6
M3.5X0.6-SR20	M3.5X0.6-SR40	M3.5X0.6						
M4X0.7-SR20	M4X0.7-SR40	M4X0.7	52	20	5.0	4.0	7	GH7
M5X0.8-SR20	M5X0.8-SR40	M5X0.8	60	22	5.5	4.5	7	
M6X1.0-SR20	M6X1.0-SR40	M6X1.0	62	24	6.0	4.5	7	

※ It is ideal for tapping steel, non ferrous metal and stainless steel.
※ Wear resistance was much improved by the use of TiCN coating for high efficiency tapping operations.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
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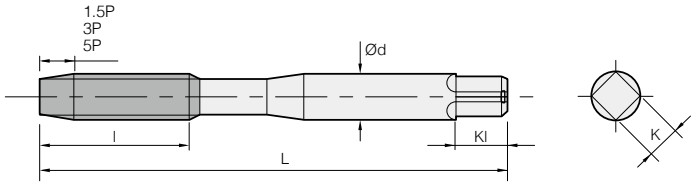
HSS Tap

ST type (Straight Tap)



3 | 4 | Helix Angle 0° | HSSE | Uncoated | Grade HN30T

(mm)

Flutes	Designation			Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
	1.5P	3P	5P							
3	M3X0.5-ST15	M3X0.5-ST30	M3X0.5-ST50	M3X0.5	46	11	4.0	3.2	6	KH2
	M4X0.7-ST15	M4X0.7-ST30	M4X0.7-ST50	M4X0.7	52	13	5.0	4.0	7	
	M5X0.8-ST15	M5X0.8-ST30	M5X0.8-ST50	M5X0.8	60	16	5.5	4.5	7	
	M6X1.0-ST15	M6X1.0-ST30	M6X1.0-ST50	M6X1.0	62	19	6.0	4.5	7	
4	M8X1.25-ST15	M8X1.25-ST30	M8X1.25-ST50	M8X1.25	70	22	6.2	5.0	8	KH2
	M10X1.25-ST15	M10X1.25-ST30	M10X1.25-ST50	M10X1.25	75	24	7.0	5.5	8	
	M10X1.5-ST15	M10X1.5-ST30	M10X1.5-ST50	M10X1.5	75	24	7.0	5.5	8	KH3
	M12X1.0-ST15	M12X1.0-ST30	M12X1.0-ST50	M12X1.0	82	29	8.5	6.5	9	KH2
	M12X1.25-ST15	M12X1.25-ST30	M12X1.25-ST50	M12X1.25	82	29	8.5	6.5	9	
	M12X1.5-ST15	M12X1.5-ST30	M12X1.5-ST50	M12X1.5	82	29	8.5	6.5	9	KH3
	M12X1.75-ST15	M12X1.75-ST30	M12X1.75-ST50	M12X1.75	82	29	8.5	6.5	9	
	M14X1.5-ST15	M14X1.5-ST30	M14X1.5-ST50	M14X1.5	88	30	10.5	8.0	11	
	M14X2.0-ST15	M14X2.0-ST30	M14X2.0-ST50	M14X2.0	88	30	10.5	8.0	11	
	M16X1.5-ST15	M16X1.5-ST30	M16X1.5-ST50	M16X1.5	95	32	12.5	10.0	13	
	M16X2.0-ST15	M16X2.0-ST30	M16X2.0-ST50	M16X2.0	95	32	12.5	10.0	13	
	M18X1.5-ST15	M18X1.5-ST30	M18X1.5-ST50	M18X1.5	100	37	14.0	11.0	14	
	M18X2.5-ST15	M18X2.5-ST30	M18X2.5-ST50	M18X2.5	100	37	14.0	11.0	14	
	M20X1.5-ST15	M20X1.5-ST30	M20X1.5-ST50	M20X1.5	105	37	15.0	12.0	15	
	M20X2.5-ST15	M20X2.5-ST30	M20X2.5-ST50	M20X2.5	105	37	15.0	12.0	15	

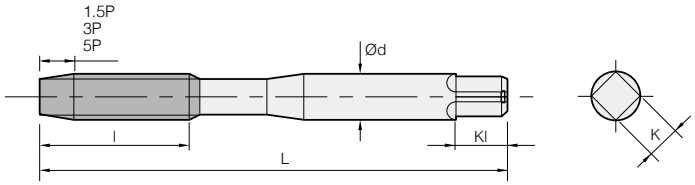
※ It is ideal for tapping general cast iron, medium cast iron and non ferrous metal.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
	○										○		○	○	○	○	○	○	○				

HSS Tap

ST type (Straight Tap)



3 | 4 | Helix Angle 0° | HSSE | TiN | Grade HC20T

(mm)

Flutes	Designation			Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
	1.5P	3P	5P							
3	M3X0.5-ST15	M3X0.5-ST30	M3X0.5-ST50	M3X0.5	46	11	4.0	3.2	6	KH2
	M4X0.7-ST15	M4X0.7-ST30	M4X0.7-ST50	M4X0.7	52	13	5.0	4.0	7	
	M5X0.8-ST15	M5X0.8-ST30	M5X0.8-ST50	M5X0.8	60	16	5.5	4.5	7	
	M6X1.0-ST15	M6X1.0-ST30	M6X1.0-ST50	M6X1.0	62	19	6.0	4.5	7	
4	M8X1.25-ST15	M8X1.25-ST30	M8X1.25-ST50	M8X1.25	70	22	6.2	5.0	8	KH2
	M10X1.25-ST15	M10X1.25-ST30	M10X1.25-ST50	M10X1.25	75	24	7.0	5.5	8	
	M10X1.5-ST15	M10X1.5-ST30	M10X1.5-ST50	M10X1.5	75	24	7.0	5.5	8	KH3
	M12X1.0-ST15	M12X1.0-ST30	M12X1.0-ST50	M12X1.0	82	29	8.5	6.5	9	KH2
	M12X1.25-ST15	M12X1.25-ST30	M12X1.25-ST50	M12X1.25	82	29	8.5	6.5	9	
	M12X1.5-ST15	M12X1.5-ST30	M12X1.5-ST50	M12X1.5	82	29	8.5	6.5	9	KH3
	M12X1.75-ST15	M12X1.75-ST30	M12X1.75-ST50	M12X1.75	82	29	8.5	6.5	9	
	M14X1.5-ST15	M14X1.5-ST30	M14X1.5-ST50	M14X1.5	88	30	10.5	8.0	11	
	M14X2.0-ST15	M14X2.0-ST30	M14X2.0-ST50	M14X2.0	88	30	10.5	8.0	11	
	M16X1.5-ST15	M16X1.5-ST30	M16X1.5-ST50	M16X1.5	95	32	12.5	10.0	13	
	M16X2.0-ST15	M16X2.0-ST30	M16X2.0-ST50	M16X2.0	95	32	12.5	10.0	13	
	M18X1.5-ST15	M18X1.5-ST30	M18X1.5-ST50	M18X1.5	100	37	14.0	11.0	14	
	M18X2.5-ST15	M18X2.5-ST30	M18X2.5-ST50	M18X2.5	100	37	14.0	11.0	14	
	M20X1.5-ST15	M20X1.5-ST30	M20X1.5-ST50	M20X1.5	105	37	15.0	12.0	15	
	M20X2.5-ST15	M20X2.5-ST30	M20X2.5-ST50	M20X2.5	105	37	15.0	12.0	15	

※ It is ideal for making both through holes and blind holes on carbon steel, alloy steel and non ferrous metal.
※ Wear resistance was much improved by the use of TiCN coating for high efficiency tapping operations.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
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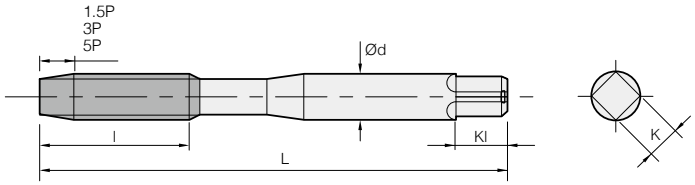
ST type (Straight Tap)



3 | 4 | Helix Angle 0° | HSSE | TiCN | Grade HC10T

(mm)

Flutes	Designation			Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
	1.5P	3P	5P							
3	M3X0.5-ST15	M3X0.5-ST30	M3X0.5-ST50	M3X0.5	46	11	4.0	3.2	6	KH2
	M4X0.7-ST15	M4X0.7-ST30	M4X0.7-ST50	M4X0.7	52	13	5.0	4.0	7	
	M5X0.8-ST15	M5X0.8-ST30	M5X0.8-ST50	M5X0.8	60	16	5.5	4.5	7	
	M6X1.0-ST15	M6X1.0-ST30	M6X1.0-ST50	M6X1.0	62	19	6.0	4.5	7	
4	M8X1.25-ST15	M8X1.25-ST30	M8X1.25-ST50	M8X1.25	70	22	6.2	5.0	8	KH2
	M10X1.25-ST15	M10X1.25-ST30	M10X1.25-ST50	M10X1.25	75	24	7.0	5.5	8	
	M10X1.5-ST15	M10X1.5-ST30	M10X1.5-ST50	M10X1.5	75	24	7.0	5.5	8	KH3
	M12X1.0-ST15	M12X1.0-ST30	M12X1.0-ST50	M12X1.0	82	29	8.5	6.5	9	KH2
	M12X1.25-ST15	M12X1.25-ST30	M12X1.25-ST50	M12X1.25	82	29	8.5	6.5	9	
	M12X1.5-ST15	M12X1.5-ST30	M12X1.5-ST50	M12X1.5	82	29	8.5	6.5	9	KH3
	M12X1.75-ST15	M12X1.75-ST30	M12X1.75-ST50	M12X1.75	82	29	8.5	6.5	9	
	M14X1.5-ST15	M14X1.5-ST30	M14X1.5-ST50	M14X1.5	88	30	10.5	8.0	11	
	M14X2.0-ST15	M14X2.0-ST30	M14X2.0-ST50	M14X2.0	88	30	10.5	8.0	11	
	M16X1.5-ST15	M16X1.5-ST30	M16X1.5-ST50	M16X1.5	95	32	12.5	10.0	13	
	M16X2.0-ST15	M16X2.0-ST30	M16X2.0-ST50	M16X2.0	95	32	12.5	10.0	13	
	M18X1.5-ST15	M18X1.5-ST30	M18X1.5-ST50	M18X1.5	100	37	14.0	11.0	14	
	M18X2.5-ST15	M18X2.5-ST30	M18X2.5-ST50	M18X2.5	100	37	14.0	11.0	14	
	M20X1.5-ST15	M20X1.5-ST30	M20X1.5-ST50	M20X1.5	105	37	15.0	12.0	15	
	M20X2.5-ST15	M20X2.5-ST30	M20X2.5-ST50	M20X2.5	105	37	15.0	12.0	15	

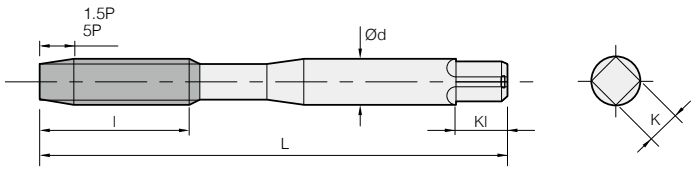
※ It is ideal for making both through holes and blind holes on carbon steel, alloy steel and non ferrous metal.
※ Wear resistance was much improved by the use of TiCN coating for high efficiency tapping operations.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
○	○	○	○	○									○	○	○	○	○	○	○				

HSS Tap

ST type (Straight Tap)



4	Helix Angle 0°	HSSE	HOMO	Grade HH30T

(mm)

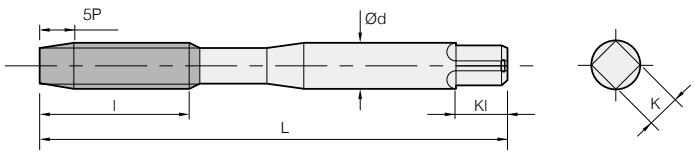
Flutes	Designation		Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
	1.5P	5P							
4	M8x1.25-ST15	M8x1.25-ST50	M8x1.25	70	22	6.2	5	8	KH2
	-	M14x2.0-ST50	M14x2.0	88	30	10.5	8	11	KH3
	M16x2.0-ST15	-	M16x2.0	95	32	12.5	10	13	

※ Built-up edges are prevented due to the reduced coefficient of friction by using porous cutting fluid of Fe^3O^4.
※ It is ideal for tapping SUS, cast steel, carbon steel for machine structure, etc.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○												

PT type (Point Tap)



3 | 4 | Helix Angle 0° | HSSE | Uncoated | Grade HN30T

(mm)

Flutes	Designation 5P	Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
3	M3X0.5-PT50	M3X0.5	46	11	4.0	3.2	6	KH2
	M4X0.7-PT50	M4X0.7	52	13	5.0	4.0	7	
	M5X0.8-PT50	M5X0.8	60	16	5.5	4.5	7	
	M6X1.0-PT50	M6X1.0	62	19	6.0	4.5	7	
4	M8X1.25-PT50	M8X1.25	70	22	6.2	5.0	8	KH3
	M10X1.25-PT50	M10X1.25	75	24	7.0	5.5	8	
	M10X1.5-PT50	M10X1.5	75	24	7.0	5.5	8	
	M12X1.0-PT50	M12X1.0	82	29	8.5	6.5	9	
	M12X1.25-PT50	M12X1.25	82	29	8.5	6.5	9	
	M12X1.5-PT50	M12X1.5	82	29	8.5	6.5	9	
	M12X1.75-PT50	M12X1.75	82	29	8.5	6.5	9	KH4
	M14X1.5-PT50	M14X1.5	88	30	10.5	8.0	11	KH3
	M14X2.0-PT50	M14X2.0	88	30	10.5	8.0	11	KH4
	M16X1.5-PT50	M16X1.5	95	32	12.5	10.0	13	KH3
	M16X2.0-PT50	M16X2.0	95	32	12.5	10.0	13	KH4
	M18X1.5-PT50	M18X1.5	100	37	14.0	11.0	14	
	M18X2.5-PT50	M18X2.5	100	37	14.0	11.0	14	
	M20X1.5-PT50	M20X1.5	105	37	15.0	12.0	15	
	M20X2.5-PT50	M20X2.5	105	37	15.0	12.0	15	

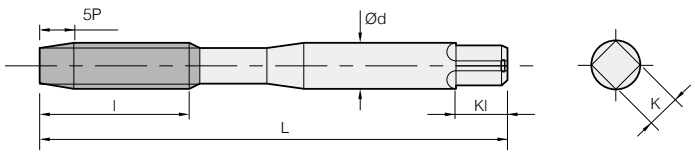
※ It is ideal for making through holes on carbon steel, alloy steel and non ferrous metal.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
	○	○	◎							○	○	○	○	○	○	◎	○	○	○				○

HSS Tap

PT type (Point Tap)



3	4	Helix Angle 0°	HSSE	TiN	Grade HC20T

(mm)

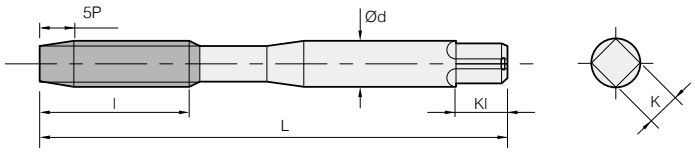
Flutes	Designation 5P	Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
3	M3X0.5-PT50	M3X0.5	46	11	4.0	3.2	6	KH2
	M4X0.7-PT50	M4X0.7	52	13	5.0	4.0	7	
	M5X0.8-PT50	M5X0.8	60	16	5.5	4.5	7	
	M6X1.0-PT50	M6X1.0	62	19	6.0	4.5	7	
4	M8X1.25-PT50	M8X1.25	70	22	6.2	5.0	8	KH3
	M10X1.25-PT50	M10X1.25	75	24	7.0	5.5	8	
	M10X1.5-PT50	M10X1.5	75	24	7.0	5.5	8	
	M12X1.0-PT50	M12X1.0	82	29	8.5	6.5	9	
	M12X1.25-PT50	M12X1.25	82	29	8.5	6.5	9	
	M12X1.5-PT50	M12X1.5	82	29	8.5	6.5	9	
	M12X1.75-PT50	M12X1.75	82	29	8.5	6.5	9	KH4
	M14X1.5-PT50	M14X1.5	88	30	10.5	8.0	11	KH3
	M14X2.0-PT50	M14X2.0	88	30	10.5	8.0	11	KH4
	M16X1.5-PT50	M16X1.5	95	32	12.5	10.0	13	KH3
	M16X2.0-PT50	M16X2.0	95	32	12.5	10.0	13	KH4
	M18X1.5-PT50	M18X1.5	100	37	14.0	11.0	14	
	M18X2.5-PT50	M18X2.5	100	37	14.0	11.0	14	
	M20X1.5-PT50	M20X1.5	105	37	15.0	12.0	15	
	M20X2.5-PT50	M20X2.5	105	37	15.0	12.0	15	

※ It is ideal for making through holes on carbon steel, alloy steel and non ferrous metal.
※ Wear resistance was much improved by the use of TiN coating for high efficiency tapping operations.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
○	○	○	○				◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○		○

PT type (Point Tap)



3 | 4 | Helix Angle 0° | HSSE | TiCN | Grade HC10T

(mm)

Flutes	Designation 5P	Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
3	M3X0.5-PT50	M3X0.5	46	11	4.0	3.2	6	KH2
	M4X0.7-PT50	M4X0.7	52	13	5.0	4.0	7	
	M5X0.8-PT50	M5X0.8	60	16	5.5	4.5	7	
	M6X1.0-PT50	M6X1.0	62	19	6.0	4.5	7	
4	M8X1.25-PT50	M8X1.25	70	22	6.2	5.0	8	KH3
	M10X1.25-PT50	M10X1.25	75	24	7.0	5.5	8	
	M10X1.5-PT50	M10X1.5	75	24	7.0	5.5	8	
	M12X1.0-PT50	M12X1.0	82	29	8.5	6.5	9	
	M12X1.25-PT50	M12X1.25	82	29	8.5	6.5	9	
	M12X1.5-PT50	M12X1.5	82	29	8.5	6.5	9	
	M12X1.75-PT50	M12X1.75	82	29	8.5	6.5	9	KH4
	M14X1.5-PT50	M14X1.5	88	30	10.5	8.0	11	KH3
	M14X2.0-PT50	M14X2.0	88	30	10.5	8.0	11	KH4
	M16X1.5-PT50	M16X1.5	95	32	12.5	10.0	13	KH3
	M16X2.0-PT50	M16X2.0	95	32	12.5	10.0	13	KH4
	M18X1.5-PT50	M18X1.5	100	37	14.0	11.0	14	
	M18X2.5-PT50	M18X2.5	100	37	14.0	11.0	14	
	M20X1.5-PT50	M20X1.5	105	37	15.0	12.0	15	
	M20X2.5-PT50	M20X2.5	105	37	15.0	12.0	15	

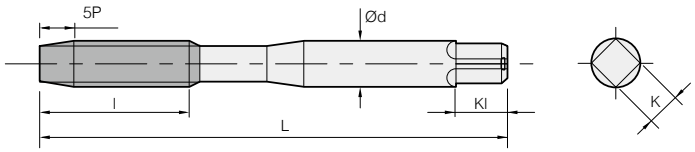
※ It is ideal for making through holes on carbon steel, alloy steel and non ferrous metal.
※ Wear resistance was much improved by the use of TiCN coating for high efficiency tapping operations.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
◎	◎	◎	○				○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		○

HSS Tap

PT type (Point Tap)



3 | 4 | Helix Angle 0° | HSSE | HOMO | Grade HH30T

(mm)

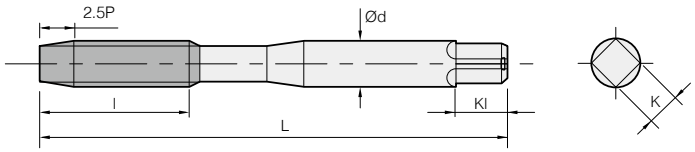
Flutes	Designation 5P	Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
3	M3X0.5-PT50	M3x0.5	46	11	4	3.2	6	KH2
	M4X0.7-PT50	M4x0.7	52	13	5	4	7	
	M5X0.8-PT50	M5x0.8	60	16	5.5	4.5	7	
	M6X1.0-PT50	M6x1.0	62	19	6	4.5	7	
4	M8X1.25-PT50	M8x1.25	70	22	6.2	5	8	KH3
	M10X1.25-PT50	M10x1.25	75	24	7	5.5	8	
	M10X1.5-PT50	M10x1.5	75	24	7	5.5	8	
	M12X1.0-PT50	M12x1.0	82	29	8.5	6.5	9	
	M12X1.25-PT50	M12x1.25	82	29	8.5	6.5	9	
	M12X1.5-PT50	M12x1.5	82	29	8.5	6.5	9	
	M12X1.75-PT50	M12x1.75	82	29	8.5	6.5	9	KH4
	M14X1.5-PT50	M14x1.5	88	30	10.5	8	11	KH3
	M14X2.0-PT50	M14x2.0	88	30	10.5	8	11	KH4
	M16X1.5-PT50	M16x1.5	95	32	12.5	10	13	KH3
	M16X2.0-PT50	M16x2.0	95	32	12.5	10	13	KH4
	M18X1.5-PT50	M18x1.5	100	37	14	11	14	
	M18X2.5-PT50	M18x2.5	100	37	14	11	14	
	M20X1.5-PT50	M20x1.5	105	37	15	12	15	
	M20X2.5-PT50	M20x2.5	105	37	15	12	15	

※ Built-up edges are prevented due to the reduced coefficient of friction by using porous cutting fluid of Fe^3O^4.
※ It is ideal for tapping SUS, cast steel, carbon steel for machine structure, etc.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○												

SP type (Spiral Tap)



3 | 4 | Helix Angle 35° | HSSE | Uncoated | Grade HN30T

(mm)

Flutes	Designation 2.5P	Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
3	M3X0.5-SP25	M3X0.5	46	11	4.0	3.2	6	
	M4X0.7-SP25	M4X0.7	52	13	5.0	4.0	7	
	M5X0.8-SP25	M5X0.8	60	16	5.5	4.5	7	
	M6X1.0-SP25	M6X1.0	62	19	6.0	4.5	7	
	M8X1.25-SP25	M8X1.25	70	22	6.2	5.0	8	
	M10X1.25-SP25	M10X1.25	75	24	7.0	5.5	8	
	M10X1.5-SP25	M10X1.5	75	24	7.0	5.5	8	
	M12X1.0-SP25	M12X1.0	82	29	8.5	6.5	9	KH2
	M12X1.25-SP25	M12X1.25	82	29	8.5	6.5	9	
	M12X1.5-SP25	M12X1.5	82	29	8.5	6.5	9	
	M12X1.75-SP25	M12X1.75	82	29	8.5	6.5	9	
	M14X1.5-SP25	M14X1.5	88	30	10.5	8.0	11	
	M14X2.0-SP25	M14X2.0	88	30	10.5	8.0	11	
	M16X1.5-SP25	M16X1.5	95	32	12.5	10.0	13	
	M16X2.0-SP25	M16X2.0	95	32	12.5	10.0	13	
4	M18X1.5-SP25	M18X1.5	100	37	14.0	11.0	14	KH2
	M18X2.5-SP25	M18X2.5	100	37	14.0	11.0	14	
	M20X1.5-SP25	M20X1.5	105	37	15.0	12.0	15	KH3
	M20X2.5-SP25	M20X2.5	105	37	15.0	12.0	15	

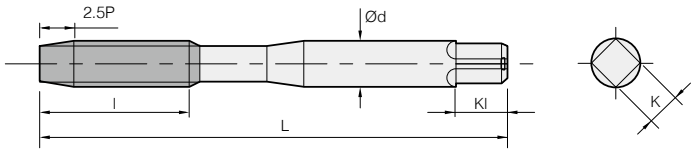
※ It is ideal for making blind holes and its flutes provide excellent chip evacuation in tapping carbon steel, alloy steel and non ferrous metal.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
	○		◎								○	○	○	○	○	○	○	○	○				○

HSS Tap

SP type (Spiral Tap)



3 | 4 | Helix Angle 35° | HSSE | TiN | Grade HC20T

(mm)

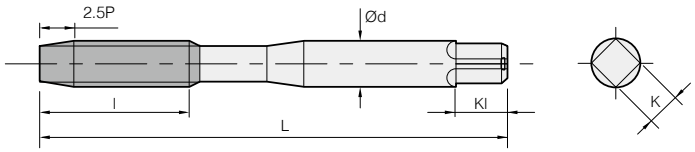
Flutes	Designation 2.5P	Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
3	M3X0.5-SP25	M3X0.5	46	11	4.0	3.2	6	
	M4X0.7-SP25	M4X0.7	52	13	5.0	4.0	7	
	M5X0.8-SP25	M5X0.8	60	16	5.5	4.5	7	
	M6X1.0-SP25	M6X1.0	62	19	6.0	4.5	7	
	M8X1.25-SP25	M8X1.25	70	22	6.2	5.0	8	
	M10X1.25-SP25	M10X1.25	75	24	7.0	5.5	8	
	M10X1.5-SP25	M10X1.5	75	24	7.0	5.5	8	
	M12X1.0-SP25	M12X1.0	82	29	8.5	6.5	9	KH2
	M12X1.25-SP25	M12X1.25	82	29	8.5	6.5	9	
	M12X1.5-SP25	M12X1.5	82	29	8.5	6.5	9	
	M12X1.75-SP25	M12X1.75	82	29	8.5	6.5	9	
	M14X1.5-SP25	M14X1.5	88	30	10.5	8.0	11	
	M14X2.0-SP25	M14X2.0	88	30	10.5	8.0	11	
	M16X1.5-SP25	M16X1.5	95	32	12.5	10.0	13	
	M16X2.0-SP25	M16X2.0	95	32	12.5	10.0	13	
4	M18X1.5-SP25	M18X1.5	100	37	14.0	11.0	14	KH2
	M18X2.5-SP25	M18X2.5	100	37	14.0	11.0	14	
	M20X1.5-SP25	M20X1.5	105	37	15.0	12.0	15	KH3
	M20X2.5-SP25	M20X2.5	105	37	15.0	12.0	15	

※ It is ideal for making blind holes and its flutes provide excellent chip evacuation in tapping carbon steel, alloy steel and non ferrous metal.
※ Wear resistance was much improved by the use of TiN coating for high efficiency tapping operations.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
○	○	○	○				○	○	○		○	○	○	○	○	○	○	○	○	○			○

SP type (Spiral Tap)



3 | 4 | Helix Angle 35° | HSSE | TiCN | Grade HC10T

(mm)

Flutes	Designation 2.5P	Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
3	M3X0.5-SP25	M3X0.5	46	11	4.0	3.2	6	
	M4X0.7-SP25	M4X0.7	52	13	5.0	4.0	7	
	M5X0.8-SP25	M5X0.8	60	16	5.5	4.5	7	
	M6X1.0-SP25	M6X1.0	62	19	6.0	4.5	7	
	M8X1.25-SP25	M8X1.25	70	22	6.2	5.0	8	
	M10X1.25-SP25	M10X1.25	75	24	7.0	5.5	8	
	M10X1.5-SP25	M10X1.5	75	24	7.0	5.5	8	
	M12X1.0-SP25	M12X1.0	82	29	8.5	6.5	9	KH2
	M12X1.25-SP25	M12X1.25	82	29	8.5	6.5	9	
	M12X1.5-SP25	M12X1.5	82	29	8.5	6.5	9	
	M12X1.75-SP25	M12X1.75	82	29	8.5	6.5	9	
	M14X1.5-SP25	M14X1.5	88	30	10.5	8.0	11	
	M14X2.0-SP25	M14X2.0	88	30	10.5	8.0	11	
	M16X1.5-SP25	M16X1.5	95	32	12.5	10.0	13	
	M16X2.0-SP25	M16X2.0	95	32	12.5	10.0	13	
4	M18X1.5-SP25	M18X1.5	100	37	14.0	11.0	14	KH2
	M18X2.5-SP25	M18X2.5	100	37	14.0	11.0	14	
	M20X1.5-SP25	M20X1.5	105	37	15.0	12.0	15	KH3
	M20X2.5-SP25	M20X2.5	105	37	15.0	12.0	15	

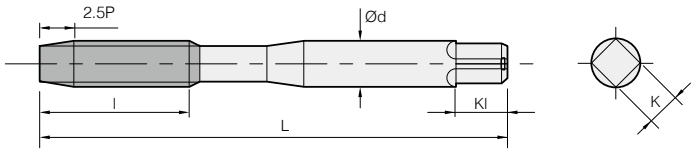
※ It is ideal for making blind holes and its flutes provide excellent chip evacuation in tapping carbon steel, alloy steel and non ferrous metal.
※ Wear resistance was much improved by the use of TiCN coating for high efficiency tapping operations.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
○	◎	◎	○				○	○	○		○	○	○	○	○	○	◎	○	○	○	○		○

HSS Tap

SP type (Spiral Tap)



3 | 4 | Helix Angle 35° | HSSE | HOMO | Grade HH30T

(mm)

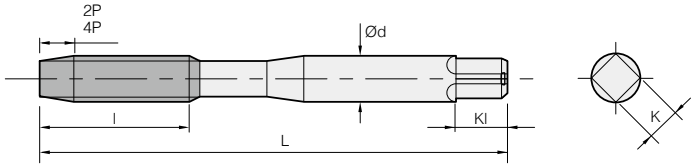
Flutes	Designation 2.5P	Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
3	M3x0.5-SP25	M3X0.5	46	11	4	3.2	6	
	M4x0.7-SP25	M4X0.7	52	13	5	4	7	
	M5x0.8-SP25	M5X0.8	60	16	5.5	4.5	7	
	M6x1.0-SP25	M6X1.0	62	19	6	4.5	7	
	M8x1.25-SP25	M8X1.25	70	22	6.2	5	8	
	M10x1.25-SP25	M10X1.25	75	24	7	5.5	8	
	M10x1.5-SP25	M10X1.5	75	24	7	5.5	8	
	M12x1.0-SP25	M12X1.0	82	29	8.5	6.5	9	KH2
	M12x1.25-SP25	M12X1.25	82	29	8.5	6.5	9	
	M12x1.5-SP25	M12X1.5	82	29	8.5	6.5	9	
	M12x1.75-SP25	M12X1.75	82	29	8.5	6.5	9	
	M14x1.5-SP25	M14X1.5	88	30	10.5	8	11	
	M14x2.0-SP25	M14X2.0	88	30	10.5	8	11	
	M16x1.5-SP25	M16X1.5	95	32	12.5	10	13	
	M16x2.0-SP25	M16X2.0	95	32	12.5	10	13	
4	M18x1.5-SP25	M18X1.5	100	37	14	11	14	KH2
	M18x2.5-SP25	M18X2.5	100	37	14	11	14	
	M20x1.5-SP25	M20X1.5	105	37	15	12	15	KH3
	M20x2.5-SP25	M20X2.5	105	37	15	12	15	

※ Built-up edges are prevented due to the reduced coefficient of friction by using porous cutting fluid of Fe^3O^4.
※ It is ideal for tapping SUS, cast steel, carbon steel for machine structure, etc.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○												

RT type (Roll Tap)



HSSE | Uncoated | Grade HN30T

(mm)

Flutes	Designation		Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
	2P	4P							
1	M3X0.5-RT20(S)	M3X0.5-RT40(S)	M3X0.5	46	11	4.0	3.2	6	KH5
4	M3X0.5-RT20(M)	M3X0.5-RT40(M)							
1	M4X0.7-RT20(S)	M4X0.7-RT40(S)	M4X0.7	52	13	5.0	4.0	7	KH6
4	M4X0.7-RT20(M)	M4X0.7-RT40(M)							
1	M5X0.8-RT20(S)	M5X0.8-RT40(S)	M5X0.8	60	16	5.5	4.5	7	
4	M5X0.8-RT20(M)	M5X0.8-RT40(M)							
1	M6X1.0-RT20(S)	M6X1.0-RT40(S)	M6X1.0	62	19	6.0	4.5	7	KH7
4	M6X1.0-RT20(M)	M6X1.0-RT40(M)							
1	M8X1.25-RT20(S)	M8X1.25-RT40(S)	M8X1.25	70	22	6.2	5.0	8	
4	M8X1.25-RT20(M)	M8X1.25-RT40(M)							
1	M10X1.25-RT20(S)	M10X1.25-RT40(S)	M10X1.25	75	24	7.0	5.5	8	
4	M10X1.25-RT20(M)	M10X1.25-RT40(M)							
1	M10X1.5-RT20(S)	M10X1.5-RT40(S)	M10X1.5	75	24	7.0	5.5	8	
4	M10X1.5-RT20(M)	M10X1.5-RT40(M)							
1	M12X1.0-RT20(S)	M12X1.0-RT40(S)	M12X1.0	82	29	8.5	6.5	9	
4	M12X1.0-RT20(M)	M12X1.0-RT40(M)							
1	M12X1.25-RT20(S)	M12X1.25-RT40(S)	M12X1.25	82	29	8.5	6.5	9	
4	M12X1.25-RT20(M)	M12X1.25-RT40(M)							
1	M12X1.5-RT20(S)	M12X1.5-RT40(S)	M12X1.5	82	29	8.5	6.5	9	
4	M12X1.5-RT20(M)	M12X1.5-RT40(M)							
1	M12X1.75-RT20(S)	M12X1.75-RT40(S)	M12X1.75	82	29	8.5	6.5	9	KH8
4	M12X1.75-RT20(M)	M12X1.75-RT40(M)							

※ It is ideal for tapping non ferrous alloys such as aluminum, zinc, copper, etc.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
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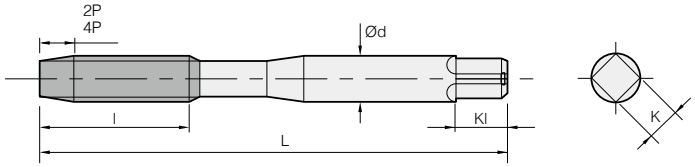
HSS Tap

RT type (Roll Tap)



HSSE | TiN | Grade HC20T

(mm)

Flutes	Designation		Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
	2P	4P							
1	M3X0.5-RT20(S)	M3X0.5-RT40(S)	M3X0.5	46	11	4.0	3.2	6	KH5
4	M3X0.5-RT20(M)	M3X0.5-RT40(M)							
1	M4X0.7-RT20(S)	M4X0.7-RT40(S)	M4X0.7	52	13	5.0	4.0	7	KH6
4	M4X0.7-RT20(M)	M4X0.7-RT40(M)							
1	M5X0.8-RT20(S)	M5X0.8-RT40(S)	M5X0.8	60	16	5.5	4.5	7	
4	M5X0.8-RT20(M)	M5X0.8-RT40(M)							
1	M6X1.0-RT20(S)	M6X1.0-RT40(S)	M6X1.0	62	19	6.0	4.5	7	KH7
4	M6X1.0-RT20(M)	M6X1.0-RT40(M)							
1	M8X1.25-RT20(S)	M8X1.25-RT40(S)	M8X1.25	70	22	6.2	5.0	8	
4	M8X1.25-RT20(M)	M8X1.25-RT40(M)							
1	M10X1.25-RT20(S)	M10X1.25-RT40(S)	M10X1.25	75	24	7.0	5.5	8	
4	M10X1.25-RT20(M)	M10X1.25-RT40(M)							
1	M10X1.5-RT20(S)	M10X1.5-RT40(S)	M10X1.5	75	24	7.0	5.5	8	
4	M10X1.5-RT20(M)	M10X1.5-RT40(M)							
1	M12X1.0-RT20(S)	M12X1.0-RT40(S)	M12X1.0	82	29	8.5	6.5	9	
4	M12X1.0-RT20(M)	M12X1.0-RT40(M)							
1	M12X1.25-RT20(S)	M12X1.25-RT40(S)	M12X1.25	82	29	8.5	6.5	9	
4	M12X1.25-RT20(M)	M12X1.25-RT40(M)							
1	M12X1.5-RT20(S)	M12X1.5-RT40(S)	M12X1.5	82	29	8.5	6.5	9	
4	M12X1.5-RT20(M)	M12X1.5-RT40(M)							
1	M12X1.75-RT20(S)	M12X1.75-RT40(S)	M12X1.75	82	29	8.5	6.5	9	KH8
4	M12X1.75-RT20(M)	M12X1.75-RT40(M)							

※ It is for general use for both steels and non ferrous metal.
※ Wear resistance was much improved by the use of TiCN coating for high efficiency tapping operations.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
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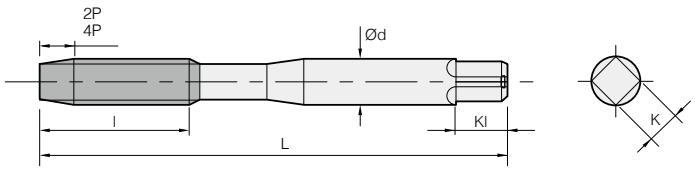
RT type (Roll Tap)



HSSE | TiCN | Grade HC10T

(mm)

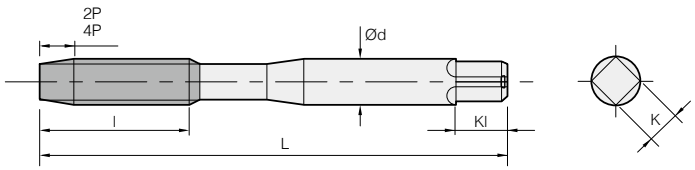
Flutes	Designation		Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
	2P	4P							
1	M3X0.5-RT20(S)	M3X0.5-RT40(S)	M3X0.5	46	11	4.0	3.2	6	KH5
4	M3X0.5-RT20(M)	M3X0.5-RT40(M)							
1	M4X0.7-RT20(S)	M4X0.7-RT40(S)	M4X0.7	52	13	5.0	4.0	7	KH6
4	M4X0.7-RT20(M)	M4X0.7-RT40(M)							
1	M5X0.8-RT20(S)	M5X0.8-RT40(S)	M5X0.8	60	16	5.5	4.5	7	
4	M5X0.8-RT20(M)	M5X0.8-RT40(M)							
1	M6X1.0-RT20(S)	M6X1.0-RT40(S)	M6X1.0	62	19	6.0	4.5	7	KH7
4	M6X1.0-RT20(M)	M6X1.0-RT40(M)							
1	M8X1.25-RT20(S)	M8X1.25-RT40(S)	M8X1.25	70	22	6.2	5.0	8	
4	M8X1.25-RT20(M)	M8X1.25-RT40(M)							
1	M10X1.25-RT20(S)	M10X1.25-RT40(S)	M10X1.25	75	24	7.0	5.5	8	
4	M10X1.25-RT20(M)	M10X1.25-RT40(M)							
1	M10X1.5-RT20(S)	M10X1.5-RT40(S)	M10X1.5	75	24	7.0	5.5	8	
4	M10X1.5-RT20(M)	M10X1.5-RT40(M)							
1	M12X1.0-RT20(S)	M12X1.0-RT40(S)	M12X1.0	82	29	8.5	6.5	9	
4	M12X1.0-RT20(M)	M12X1.0-RT40(M)							
1	M12X1.25-RT20(S)	M12X1.25-RT40(S)	M12X1.25	82	29	8.5	6.5	9	
4	M12X1.25-RT20(M)	M12X1.25-RT40(M)							
1	M12X1.5-RT20(S)	M12X1.5-RT40(S)	M12X1.5	82	29	8.5	6.5	9	
4	M12X1.5-RT20(M)	M12X1.5-RT40(M)							
1	M12X1.75-RT20(S)	M12X1.75-RT40(S)	M12X1.75	82	29	8.5	6.5	9	KH8
4	M12X1.75-RT20(M)	M12X1.75-RT40(M)							

※ It is for general use for both steels and non ferrous metal.
※ Wear resistance was much improved by the use of TiCN coating for high efficiency tapping operations.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
◎	◎	○	○				◎					◎	◎	◎		◎	◎		◎				

SR type (Spiral Roll Tap)



HSSE | Uncoated | Grade HN30T

(mm)

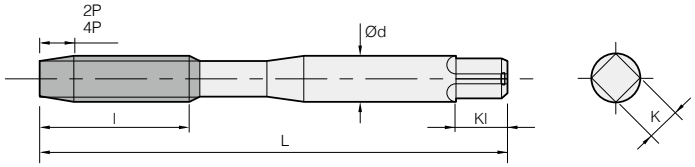
Designation		Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
2P	4P							
M3X0.5-SR20	M3X0.5-SR40	M3X0.5	46	18	4.0	3.2	6	KH6
M3.5X0.6-SR20	M3.5X0.6-SR40	M3.5X0.6	46	18	4.0	3.2	6	
M4X0.7-SR20	M4X0.7-SR40	M4X0.7	52	20	5.0	4.0	7	KH7
M5X0.8-SR20	M5X0.8-SR40	M5X0.8	60	22	5.5	4.5	7	
M6X1.0-SR20	M6X1.0-SR40	M6X1.0	62	24	6.0	4.5	7	

※ It is for general use for tapping aluminum, magnesium and zinc as well as non ferrous metal.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
												○	○	○	○	○	○		◎				

SR type (Spiral Roll Tap)



HSSE | TiN | Grade HC20T

(mm)

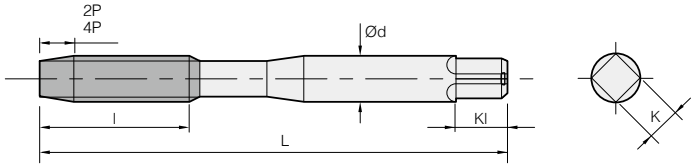
Designation		Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
2P	4P							
M3X0.5-SR20	M3X0.5-SR40	M3X0.5	46	18	4.0	3.2	6	KH6
M3.5X0.6-SR20	M3.5X0.6-SR40	M3.5X0.6	46	18	4.0	3.2	4	
M4X0.7-SR20	M4X0.7-SR40	M4X0.7	52	20	5.0	4.0	7	KH7
M5X0.8-SR20	M5X0.8-SR40	M5X0.8	60	22	5.5	4.5	7	
M6X1.0-SR20	M6X1.0-SR40	M6X1.0	62	24	6.0	4.5	7	

※ It is ideal for tapping steel, non ferrous metal and stainless steel.
※ Wear resistance was much improved by the use of TiCN coating for high efficiency tapping operations.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
○	○	○	○				◎	○	○		○	○	○	○									

SR type (Spiral Roll Tap)



HSSE | TiCN | Grade HC10T

(mm)

Designation		Thread size	L (Overall length)	l (Thread length)	d (Shank diameter)	K (Square width)	Kl (Square length)	Limits
2P	4P							
M3X0.5-SR20	M3X0.5-SR40	M3X0.5	46	18	4.0	3.2	6	KH6
M3.5X0.6-SR20	M3.5X0.6-SR40	M3.5X0.6	46	18	4.0	3.2	6	
M4X0.7-SR20	M4X0.7-SR40	M4X0.7	52	20	5.0	4.0	7	KH7
M5X0.8-SR20	M5X0.8-SR40	M5X0.8	60	22	5.5	4.5	7	
M6X1.0-SR20	M6X1.0-SR40	M6X1.0	62	24	6.0	4.5	7	

※ It is ideal for tapping steel, non ferrous metal and stainless steel.
※ Wear resistance was much improved by the use of TiCN coating for high efficiency tapping operations.

Applicable Workpiece Range

Carbon steel			Alloy steel	Quenched and tempered steel			Stain-less steel	Tool steel	Cast steel	Cast iron	Ductile cast iron	Copper	Brass	Brass-cast	Bronze	Rolled aluminum	Aluminum-cast, alloyed	Magnesium-cast, alloyed	Zinc-cast, alloyed	Titanium alloy		Thermo-setting plastics	Thermo-plastics
C ~0.25%	C0.25% ~0.45%	C 0.45%~	SCM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni	-	-
◎	◎	○	○				◎					◎	◎	◎		◎	◎		◎				

Tapping Chuck

Tapping Chuck DST

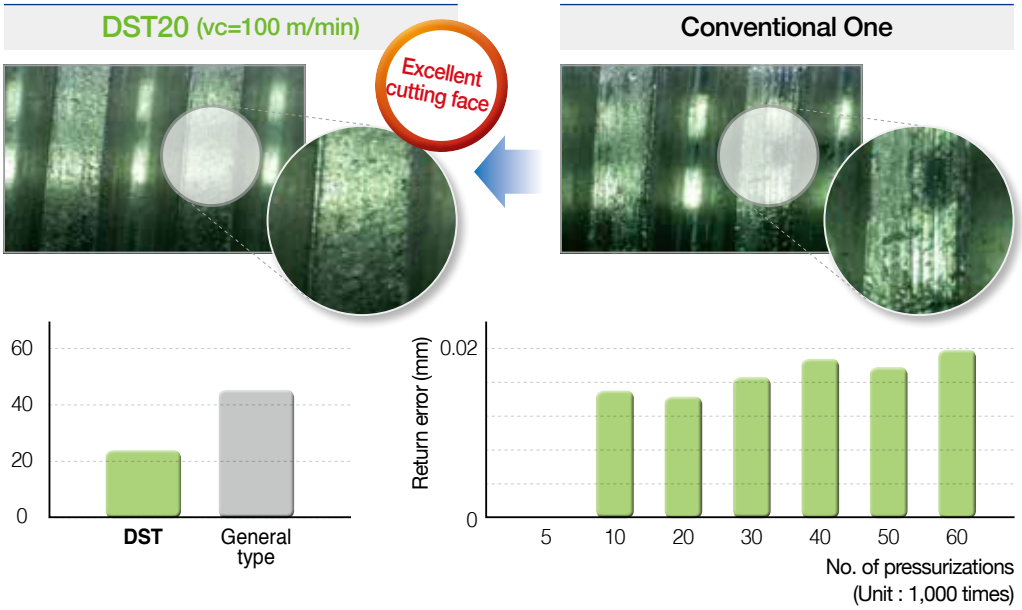
- Specially designed structure for absorbing thrust load and preventing damage on the tap
- Through coolant system available
- Applicable range : M1~M22

Code System

BT40	-	DST	20	-	100
Spindle		Tapping holder	Max. chucking dia.		Length

Precise Machining

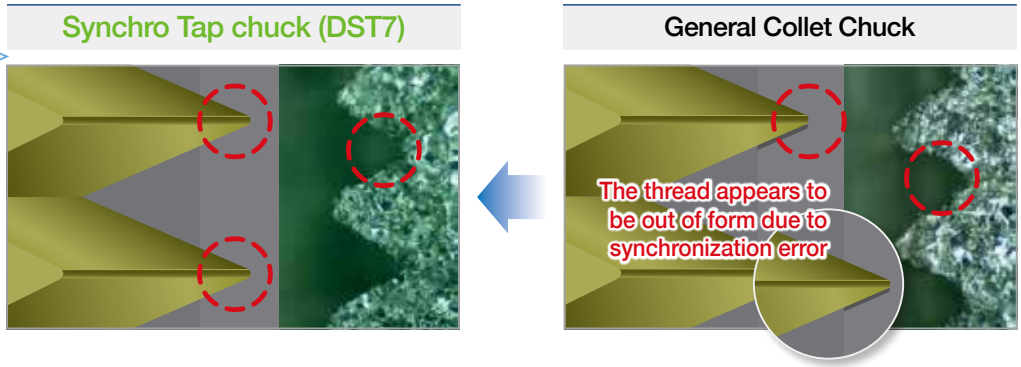
- Exclusive collet for tapping
  - Use TER collet at tapping work.
  - Use ER11 collet for DST7.



Comparison of Thread Figures

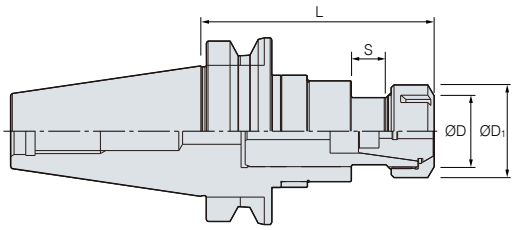
Type	Collet chuck	DST7	Competitor
Intro part after one time use			
End part after one time use			

- When tapping under the same conditions, threads of a general collet chuck seem to be damaged.



Tapping Chuck

BT-DST

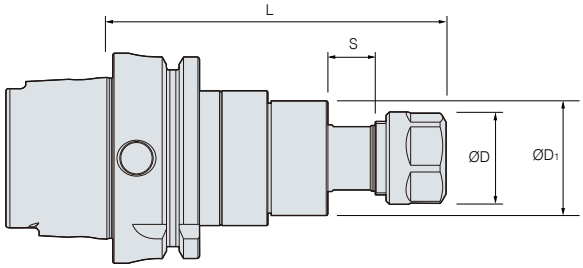


(mm)

Designation		Tapping range	ØD	ØD1	L	S	Collet	F-	F+
BT30 -	DST3-70	M1~M3	26	19	70	6	ER11	0.5	0.5
	DST10-95	M3~M10	40.4	28	95	11	TER16	0.5	0.5
BT40 -	DST10-100	M3~M10	40.4	28	100	11	TER16	0.5	0.5
	DST22-110	M6~M22	60	49.5	110	18	TER32	0.7	0.7
BT50 -	DST10-110	M3~M10	60	49.5	110	11	TER16	0.5	0.5
	DST22-130	M6~M22	60	49.5	125	18	TER32	0.7	0.7

※ Through coolant system is optional.

HSK-DST



(mm)

Designation		Tapping range	ØD	ØD1	L	S	Collet	F-	F+
HSK63A -	DST10-100	M3~M10	40.4	28	100	11	TER16	0.5	0.5
	DST10-130	M6~M22	60	49.5	130	18	TER32	0.7	0.7

※ Through coolant system is optional.

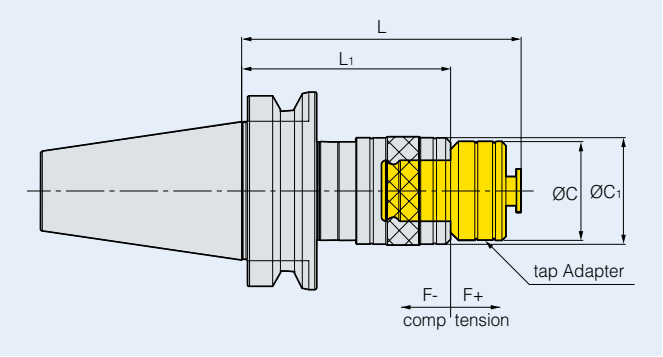
Tapping Chuck DTN

- Easy and fast tool change
- Minimizes tap breakage by the use of a malleable and shrinkable adaptor.
- Applicable range : M3~M38

Code System

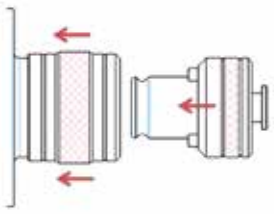
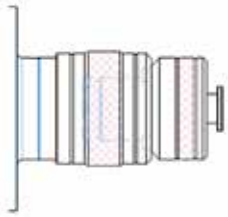
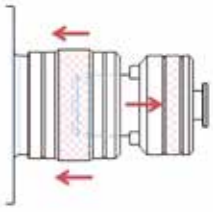
BT40	-	DTN	22	-	130
Spindle		Tapping holder	Max. chucking dia.		Length

Easy Exchange of TCA (Tap adaptor)



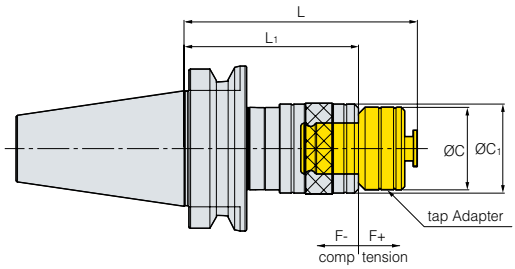
- Convenient one-touch exchange type for high precision and longer tool life
- Fast tool change of various sizes enables a wide range of applications.
- Length is shrinkable by the axial floating way.

How to clamp TCA and a Tap holder

Before installation	After installation	Disassembly
		
1. Insert TCA pushing the holder cover down. 2. Clamp the TCA to the key groove and hold until it clicks.	1. The cover of tap holder is placed correctly.	1. Separate the TCA, pushing the cover.

Tapping Chuck

BT-DTN

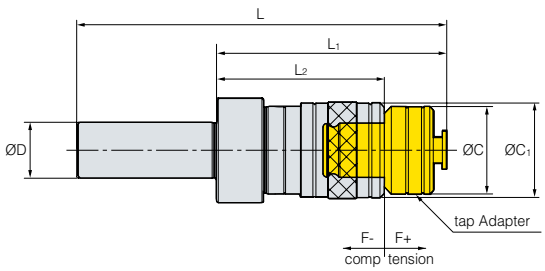


(mm)

Designation		Tapping range	L	L_1	ØC	$ØC_1$	F-	F+	kg	Adaptor
BT30 -	DTN12-85	M3~M12	85	60	32	39	4	10	0.7	TCA1-M
BT40 -	DTN12-90	M3~M12	90	65	32	39	4	10	1.2	TCA1-M
	DTN12-120	M3~M12	120	95	32	39	4	10	1.4	TCA1-M
	DTN22-130	M8~M22	130	96	50	56	12.5	12.5	1.7	TCA2-M
	DTN22-160	M8~M22	160	126	50	56	12.5	12.5	2.1	TCA2-M
BT50 -	DTN12-100	M3~M12	100	75	32	39	4	10	3.7	TCA1-M
	DTN12-130	M3~M12	130	105	32	39	4	10	3.9	TCA1-M
	DTN22-140	M8~M22	140	104	50	56	12.5	12.5	4.2	TCA2-M
	DTN22-170	M8~M22	170	134	50	56	12.5	12.5	4.7	TCA2-M
	DTN38-185	M16~M38	185	140	72	81	20	20	5.7	TCA3-M
	DTN38-215	M16~M38	215	170	72	81	20	20	6.6	TCA3-M

※ Through coolant system is optional.

S-DTN

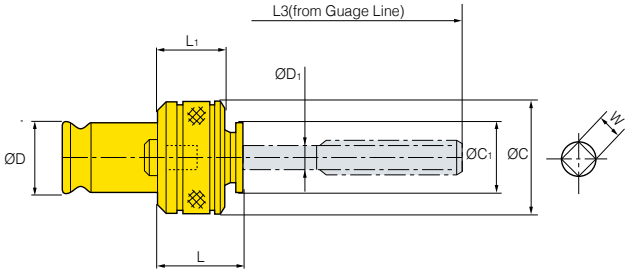


(mm)

Designation		Tapping range	ØD	L	L_1	L_2	ØC	$ØC_1$	F-	F+	Adaptor
S32 -	DTN12-90	M3-M12	32	170	90	65	32	39	4	10	TCA1
	DTN22-130	M8-M24	32	210	130	96	50	56	12.5	12.5	TCA2

※ Through coolant system is not available.

TCA (Tap adaptor)

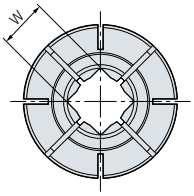


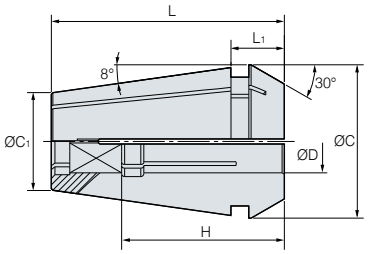
(mm)

Designation		ØD	ØC	L	L1	kg
TCA1 -	M3	4	3.2	24	22	0.2
	M4	5	4	24	22	0.2
	M5	5.5	4.5	24	22	0.2
	M6, 1/4U	6	4.5	24	22	0.2
	M8	6.2	5	25	22	0.2
	M10, 3/8U	7	5.5	25	22	0.2
	M11	8	6	39	22	0.2
	M12	8.5	6.5	26	22	0.2
TCA2 -	M8	6.2	5	38	28	0.6
TCS2 -	M10	7	5.5	38	28	0.6
TCA2 -	M12	8.5	6.5	39	28	0.6
	M14, 3/4U	10.5	8	41	28	0.6
	P1/4	11	9	31	28	0.6
TCS2 -	M16	12.5	10	43	28	0.6
TCA2 -	M18, P3/8	14	11	44	28	0.6
	M20	15	12	45	28	0.6
	M22	17	13	46	28	0.6
	P1/2	18	14	36	28	0.6
	M24	19	15	46	28	1.8
TCA3 -	M16	12.5	10	35	37	1.8
	M18	14	11	37	37	1.8
	M20	15	12	37	37	1.8
	M22	17	13	38	37	1.8
	M24	19	15	44	37	1.8
	M27, 1U	20	15	62	37	1.8
	M30, P3/4	23	17	62	37	1.8
	M33	25	19	66	37	1.8
	M36, M38	28	21	68	37	1.8

※ DIN standard products are custom-made.
※ Through coolant system is not available.

TER (Tap collet)





(mm)

Designation		Applicable Tap	ØD	W	ØC	ØC1	L	L1	H
TER16 -	4x3.2	M3	4	3.2	16.74	10.1	27.5	6.3	18
	5x4	M4	5	4	16.74	10.1	27.5	6.3	18
	5.5x4.5	M5	5.5	4.5	16.74	10.1	27.5	6.3	18
	6x4.5	M6, U1/4	6	4.5	16.74	10.1	27.5	6.3	18
	6.2x5	M7, M8	6.2	5	16.74	10.1	27.5	6.3	18
	7x5.5	M9, M10, U3/8	7	5.5	16.74	10.1	27.5	6.3	18
TER20 -	5x4	M4	5	4	20.74	13.2	31.5	7.2	18
	5.5x4.5	M5	5.5	4.5	20.74	13.2	31.5	7.2	18
	6x4.5	M6, U1/4	6	4.5	20.74	13.2	31.5	7.2	18
	6.2x5	M7, M8	6.2	5	20.74	13.2	31.5	7.2	18
	7x5.5	M9, M10, U3/8	7	5.5	20.74	13.2	31.5	7.2	18
	8x6	M11, U7/16, P1/8	8	6	20.74	-	-	-	-
	8.5x6.5	M12	8.5	6.5	20.74	13.2	31.5	7.2	22
TER25 -	5x4	M4	5	4	25.74	17.6	34	7.5	18
	5.5x4.5	M5	5.5	4.5	25.74	17.6	34	7.5	18
	6x4.5	M6	6	4.5	25.74	17.6	34	7.5	18
	6.2x5	M7, M8	6.2	5	25.74	17.6	34	7.5	18
	7x5.5	M9, M10, U3/8	7	5.5	25.74	17.6	34	7.5	18
	8.5x6.5	M12	8.5	6.5	25.74	17.6	34	7.5	22
TER32 -	6x4.5	M6, U1/4	6	4.5	32.74	23.1	40	8.2	18
	6.2x5	M7, M8	6.2	5	32.74	23.1	40	8.2	18
	7x5.5	M9, M10, U3/8	7	5.5	32.74	23.1	40	8.2	18
	8X6	M11, U7/16, P1/8	8	6	32.74	23.1	40	8.2	22
	8.5x6.5	M12	8.5	6.5	32.74	23.1	40	8.2	22
	10.5x8	M14, U9/16	10.5	8	32.74	23.1	40	8.2	25
	12.5x10	M16	12.5	10	32.74	23.1	40	8.2	25
	14x11	M18, P3/8	14	11	32.74	23.1	40	8.2	25
	15x12	M20	15	12	32.74	23.1	40	8.2	25
	17x13	M22, U7/8	17	13	32.74	23.1	40	8.2	25
	11x9	P1/4	11	9	32.74	23.1	40	8.2	25
	12x9	U5/8	12	9	32.74	23.1	40	8.2	25
	9x7	U1/2	9	7	32.74	23.1	40	8.2	22

※ Machining with a waterproof tap is possible by using RTJW and RUT nuts. (only in right sizes)

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