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

JIS

MHSL-J

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

Specification

HSS-Co | Coating | Synchronized | <2D

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	Tool steels 工具鋼
10~20 (m/min)	10~20 (m/min)	10~20 (m/min)	10~20 (m/min)	5~15 (m/min)
			25~35HRC	

Product Features

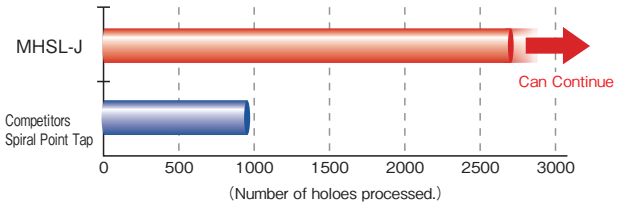
- Ideal for forged products and tempered S48C to S55C materials from 25 to 35 HRC.
- Produced from HSS-Co materials with a special coating for enhanced wear resistance and to improve long tool life.
- The original left hand spiral flute shape is used to produce a smooth chip discharge and increase performance in the medium tapping speed range. Also, the MHSL improves the internal threads surface finish.

Improved chip ejection!

Tapping Data

Tapping Conditions [M12×1.25]

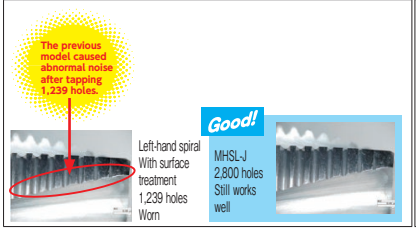
Workpiece Material	S53C (forged) / Hub bearing
Bored Hole Size	ϕ10.8
Tapping Length	12mm through hole
Tapping Speed	30m/min
Machine	Horizontal machining center (fully synchronized feed)
Tapping Fluid	Water soluble cutting fluid



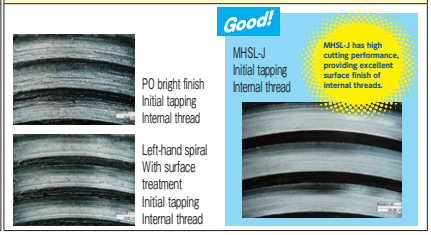
Tapping Conditions [M12×1.25]

Workpiece Material	S53C (25HRC)
Tapping Length	13mm
Tapping Speed	30m/min
Machine	Machining center
Tapping Fluid	Water soluble cutting fluid

Enhanced wear resistance



Improved surface finish



Tapping examples on the market

MHSL-J	Workpiece Material	Tapping Condition / Tapping Result							Remarks
Nominal Size	Material Symbol (Hardness)	Pilot Hole Size (mm)	Tapping Length (mm)*	Machine	Cutting Speed (m/min)	Feed Mechanism	Cutting Oil	Lifetime (Holes or Pieces)	Previous State / Workpiece name
M6 × 1	S35C	5.1	12 (2D)	Horizontal MC	7.5	Synchronized	Non-water soluble	10,000	Bad surface finish * Workpiece name: Shafts
M8 × 1.25	S45C	6.8	8 (1D)	Vertical MC	40	Synchronized	Water soluble	9,120	Replaced after tapping 5,200 holes * Workpiece name: Shafts
M8 × 1.25	S55C (25HRC)	6.85	12 (1.5D)	Vertical MC	30	Synchronized	Water soluble	2,160	Unstable tool life * Workpiece name: Clutch parts
M10 × 1.25	S45C (23HRC)	8.8	20 (2D)	Vertical MC	8	Synchronized	Water soluble	2,450	Replaced after tapping 1,600 holes * Workpiece name: Arms
M12 × 1.75	S55C (27HRC)	10.4	12 (1D)	Vertical MC	19	Synchronized	Water soluble	2,840	Unstable tool life * Workpiece name: Hub bearings
M14 × 1.5	S53C (25HRC)	12.6	14 (1D)	Vertical MC	32	Synchronized	Water soluble	4,430	Replaced due to excessive torque after tapping 3,000 holes * Workpiece name: Hub bearings
M14 × 1.5	S55C (23HRC)	12.6	14 (1D)	Vertical MC	22	Synchronized	Water soluble	2,700	Replaced after tapping 2,000 holes * Workpiece name: Hub bearings

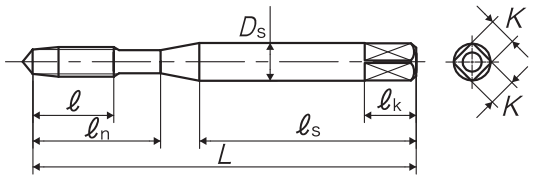
* (D) indicates the ratio of the tapping length to the outside diameter.

Examples of machined parts

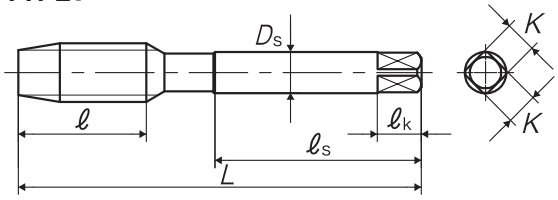
Excellent durability for tapping through holes in medium hard steels for such as hub bearings of bicycles.

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

TYPE : 1



TYPE : 2



Segment : 1T

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	No. of flutes	TYPE	MSRP
For Metric Threads													
M6 × 1	P3	MHSLR6.0M5	5P	62	15	26	33	6	4.5	7	3	1	¥ 3,280
M8 × 1.25	P4	MHSLS8.0N5	5P	70	19	-	36	6.2	5	8	3	2	¥ 4,270
M10 × 1.5	P4	MHSLS010O5	5P	75	23	-	38	7	5.5	8	3	2	¥ 4,990
M10 × 1.25	P4	MHSLS010N5	5P	75	23	-	38	7	5.5	8	3	2	¥ 4,990
M12 × 1.75	P5	MHSLT012P5	5P	82	26	-	42	8.5	6.5	9	4	2	¥ 6,530
M12 × 1.5	P5	MHSLT012O5	5P	82	26	-	42	8.5	6.5	9	4	2	¥ 6,530
M12 × 1.25	P5	MHSLT012N7	7P	82	26	-	42	8.5	6.5	9	4	2	¥ 6,530
M14 × 1.5	P5	MHSLT014O7	7P	88	26	-	45	10.5	8	11	4	2	¥ 9,100
M16 × 1.5	P5	MHSLT016O7	7P	95	26	-	48	12.5	10	13	4	2	¥ 12,400