

HF/HD Series

Taps Series for Ultra High Speed / Dry Tapping!!

▪ For ultra high speed tapping ▪
HF Series

HFIHS/HFAHS

HFISP/HFASP

HFICT/HFACT

▪ For dry tapping ▪
HD Series

HDISP

HDASP

HDISL



Features of the HF series, taps for ultra high speed tapping

For vertical tapping

HFIHS Spiral fluted taps for ultra high speed tapping for steels

HFAHS Spiral fluted taps for ultra high speed tapping for aluminum

For horizontal tapping

HFISP Low helix spiral fluted taps for ultra high speed tapping for steels

HFASP Low helix spiral fluted taps for ultra high speed tapping for aluminum

For vertical and horizontal tapping

HFICT-P Carbide hand taps for ultra high speed tapping of through holes for cast iron

HFICT-B Carbide hand taps for ultra high speed tapping of blind holes for cast iron

HFACT-P Carbide hand taps for ultra high speed tapping of through holes for aluminum

HFACT-B Carbide hand taps for ultra high speed tapping of blind holes for aluminum

- **Shape** The unique cutting-edge shape and high rigidity shank achieve 5 to 10 times faster speed compared to conventional taps, achieving an excellent finish of internal thread and longer tool life!
- **Long tool life** Improved durability thanks to the combination of high-grade cobalt HSS, ultra-fine cemented carbide and special coating!
- **Coolant hole** By supplying appropriate amount of air or cutting oil to the chamfer, cooling effect and anti-wear performance are improved!

Features of the HD series for dry tapping

For vertical and horizontal tapping

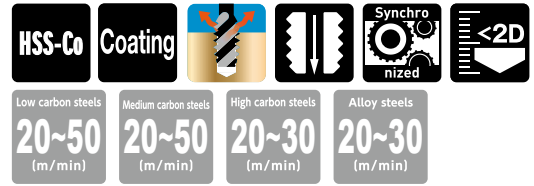
HDISP Spiral fluted tap for dry tapping for steels

HDASP Spiral fluted tap for dry tapping for aluminum

HDISL Spiral fluted tap for ultra high speed tapping and dry tapping of through holes for steel

- **Shape** The unique blade shape and high rigidity shank enable the taps to perform both dry and semi-dry tapping, achieving an excellent finish of the external threads and longer tool life!
- **Long tool life** Improved durability thanks to the high-grade cobalt HSS and special coating!
- **Coolant hole** By supplying appropriate amount of air or cutting oil to the chamfer, cooling effect and anti-wear performance are improved! Additionally, improved chip evacuation ensures stable and consistent tapping.

HFIHS Spiral fluted taps for ultra high speed tapping for steels

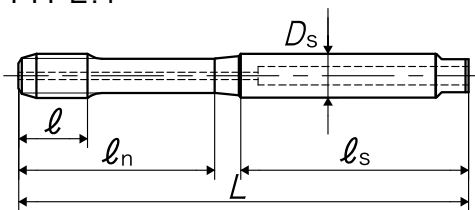


Product Features

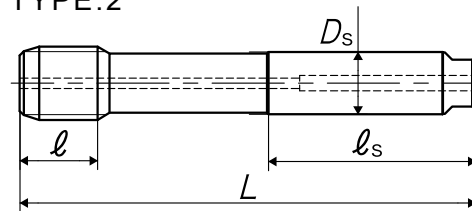
- The center through hole design achieves high speed tapping while supplying coolant through the center of the tap.
- Thanks to the right-hand 45° high helix design, the tap is ideal for vertical blind holes for carbon steels, alloy steels and other materials.

Dimensions

TYPE:1



TYPE:2

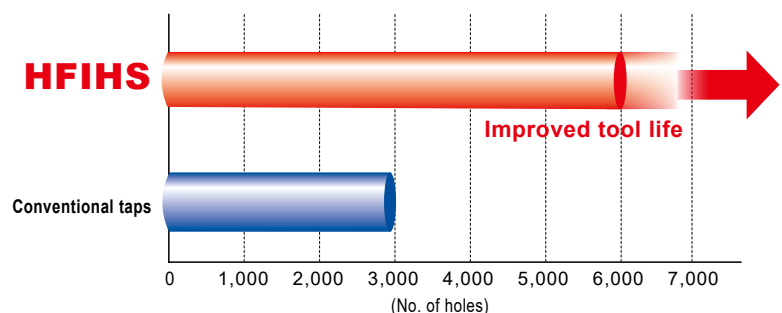


Size	Class	Code	Chamfer	L (mm)	l (mm)	l _n (mm)	l _s (mm)	D _s (mm)	No. of flutes	TYPE	MSRP(JPY)
M6X1	P4	HFIHSS6.0M	2.5P	62	11	27	32	6	3	1	4,050
M8X1.25	P4	HFIHSS8.0N	2.5P	70	12	-	36	8	3	2	5,960
M10X1.5	P4	HFIHSS010O	2.5P	75	13	-	37	10	3	2	7,550
M10X1.25	P4	HFIHSS010N	2.5P	75	12	-	37	10	3	2	7,550
M12X1.75	P4	HFIHSS012P	2.5P	82	15	-	40	12	3	2	10,700
M12X1.5	P4	HFIHSS012O	2.5P	82	14	-	40	12	3	2	10,700
M12X1.25	P4	HFIHSS012N	2.5P	82	14	-	40	12	3	2	10,700
M14X1.5	P4	HFIHSS014O	2.5P	88	14	-	40	12	3	2	14,600
M16X1.5	P4	HFIHSS016O	2.5P	95	14	-	43	16	3	2	19,300
M18X1.5	P4	HFIHSS018O	2.5P	100	14	-	45	16	4	2	27,400
M20X1.5	P5	HFIHST020O	2.5P	105	14	-	45	16	4	2	35,800

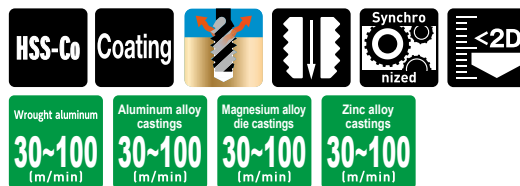
Tapping Data

Tapping condition [P4 M12X1.25]

Workpiece Material	FCD450
Type of Hole	Blind hole
Drill hole size	Φ10.8
Tapping Length	19mm
Tapping Speed	57m/min
Machine Type	Vertical MC
Cutting Fluid	Water-soluble
No. of Holes	6,000 holes



HFAHS Spiral fluted taps for ultra high speed tapping for aluminum

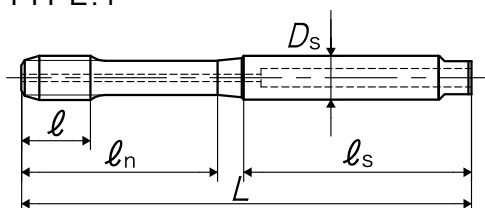


Product Features

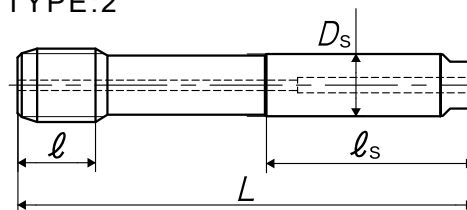
- The center through hole design achieves high speed tapping while supplying coolant through the center of the tap.
- Thanks to the right-hand 48° high helix design, the tap is ideal for vertical blind holes for aluminum and other materials.

Dimensions

TYPE:1



TYPE:2

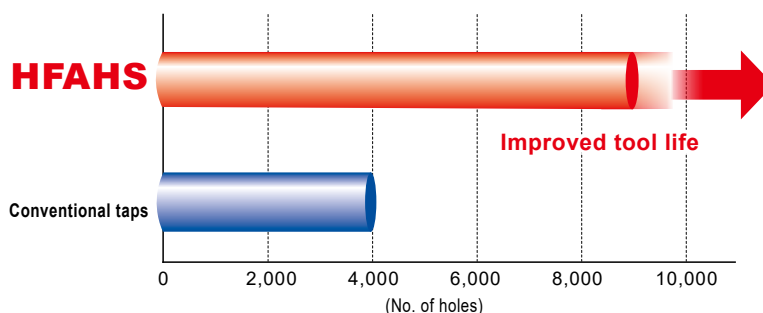


Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	No. of flutes	TYPE	MSRP(JPY)
M6X1	P4	HFAHSS6.0M	2.5P	62	11	27	32	6	3	1	4,050
M8X1.25	P4	HFAHSS8.0N	2.5P	70	12	-	36	8	3	2	5,960
M10X1.5	P4	HFAHSS010O	2.5P	75	13	-	37	10	3	2	7,550
M10X1.25	P4	HFAHSS010N	2.5P	75	12	-	37	10	3	2	7,550
M12X1.75	P4	HFAHSS012P	2.5P	82	15	-	40	12	3	2	10,700
M12X1.5	P4	HFAHSS012O	2.5P	82	14	-	40	12	3	2	10,700
M12X1.25	P4	HFAHSS012N	2.5P	82	14	-	40	12	3	2	10,700
M14X1.5	P4	HFAHSS014O	2.5P	88	14	-	40	12	3	2	14,600
M16X1.5	P4	HFAHSS016O	2.5P	95	14	-	43	16	3	2	19,300
M18X1.5	P4	HFAHSS018O	2.5P	100	14	-	45	16	3	2	27,400
M20X1.5	P5	HFAHST020O	2.5P	105	14	-	45	16	3	2	35,800

Tapping Data

Tapping condition [P4 M6X1]

Workpiece Material	ADC12
Type of Hole	Blind hole
Drill hole size	Φ5.1
Tapping Length	15mm
Tapping Speed	104m/min
Machine Type	Vertical MC
Cutting Fluid	Water-soluble
No. of Holes	9,000 holes



HFISP Low helix spiral fluted taps for ultra high speed tapping for steels



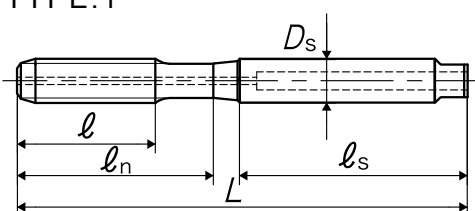
HSS-Co	Coating			
Low carbon steels	Medium carbon steels	High carbon steels	Alloy steels	
20~50 (m/min)	20~50 (m/min)	20~30 (m/min)	20~30 (m/min)	

Product Features

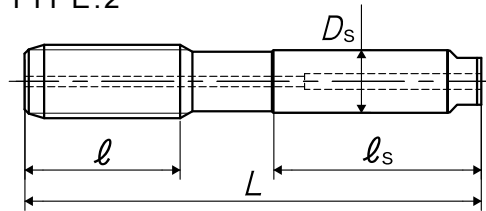
- The center through hole design achieves high speed tapping while supplying coolant through the center of the tap.
- Thanks to the right-hand 8° low helix design, the tap is ideal for vertical blind holes for carbon steels, alloy steels and other materials.

Dimensions

TYPE:1



TYPE:2

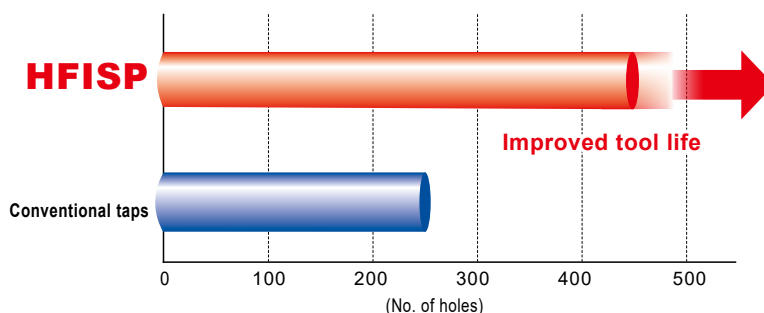


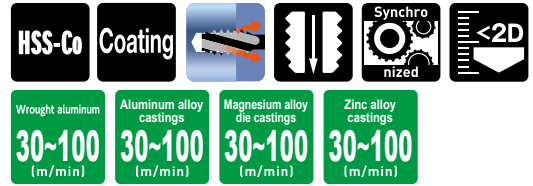
Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	No. of flutes	TYPE	MSRP(JPY)
M6X1	P4	HFISPS6.0M	2.5P	62	19	27	32	6	3	1	4,050
M8X1.25	P4	HFISPS8.0N	2.5P	70	22	-	36	8	3	2	5,960
M10X1.5	P4	HFISPS010O	2.5P	75	24	-	37	10	3	2	7,550
M10X1.25	P4	HFISPS010N	2.5P	75	24	-	37	10	3	2	7,550
M12X1.75	P4	HFISPS012P	2.5P	82	29	-	40	12	3	2	10,700
M12X1.5	P4	HFISPS012O	2.5P	82	29	-	40	12	3	2	10,700
M12X1.25	P4	HFISPS012N	2.5P	82	29	-	40	12	3	2	10,700
M14X1.5	P4	HFISPS014O	2.5P	88	30	-	40	12	3	2	14,600
M16X1.5	P4	HFISPS016O	2.5P	95	32	-	43	16	3	2	19,300
M18X1.5	P4	HFISPS018O	2.5P	100	37	-	45	16	4	2	27,400
M20X1.5	P5	HFISPT020O	2.5P	105	37	-	45	16	4	2	35,800

Tapping Data

Tapping condition [P4 M10X1.25]

Workpiece Material	S45C
Type of Hole	Blind hole
Drill hole size	Φ8.8
Tapping Length	18mm
Tapping Speed	126m/min
Machine Type	Horizontal MC
Cutting Fluid	Water-soluble
No. of Holes	450 holes



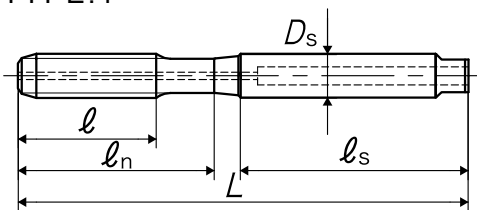


Product Features

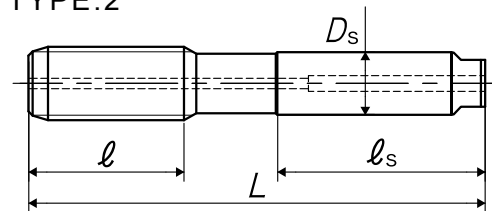
- The center through hole design achieves high speed tapping while supplying coolant through the center of the tap.
- Thanks to the right-hand 8° low helix design, the tap is ideal for vertical blind holes for aluminum and other materials.

Dimensions

TYPE:1



TYPE:2

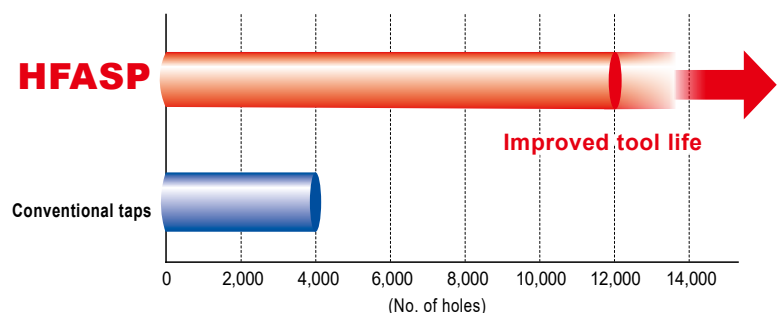


Size	Class	Code	Chamfer	L (mm)	l (mm)	l _n (mm)	l _s (mm)	D _s (mm)	No. of flutes	TYPE	MSRP(JPY)
M6X1	P4	HFASPS6.0M	2.5P	62	19	27	32	6	3	1	4,050
M8X1.25	P4	HFASPS8.0N	2.5P	70	22	-	36	8	3	2	5,960
M10X1.5	P4	HFASPS010O	2.5P	75	24	-	37	10	3	2	7,550
M10X1.25	P4	HFASPS010N	2.5P	75	24	-	37	10	3	2	7,550
M12X1.75	P4	HFASPS012P	2.5P	82	29	-	40	12	3	2	10,700
M12X1.5	P4	HFASPS012O	2.5P	82	29	-	40	12	3	2	10,700
M12X1.25	P4	HFASPS012N	2.5P	82	29	-	40	12	3	2	10,700
M14X1.5	P4	HFASPS014O	2.5P	88	30	-	40	12	3	2	14,600
M16X1.5	P4	HFASPS016O	2.5P	95	32	-	43	16	3	2	19,300
M18X1.5	P4	HFASPS018O	2.5P	100	37	-	45	16	3	2	27,400
M20X1.5	P5	HFASPT020O	2.5P	105	37	-	45	16	3	2	35,800

Tapping Data

Tapping condition [P4 M8X1.25]

Workpiece Material	ADC12-T5
Type of Hole	Blind hole
Drill hole size	φ6.8
Tapping Length	28.5mm
Tapping Speed	100m/min
Machine Type	Horizontal MC
Cutting Fluid	Water-soluble
No. of Holes	12,000 holes



HFICT-P/B

Carbide Hand Taps for Ultra Fast Tapping, for Blind Hole and Through Hole, for Cast Iron



Cast irons
25~50
(m/min)

Ductile cast irons
25~50
(m/min)

Brass castings
25~50
(m/min)

Product Features

- Carbide tap for high speed tapping. Suitable for coolant through the center, oil mist coolant and low temperature dry tapping applications.

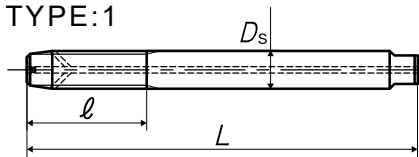
Dimensions

HFICT-P Carbide hand taps for ultra high speed tapping of through holes for cast iron

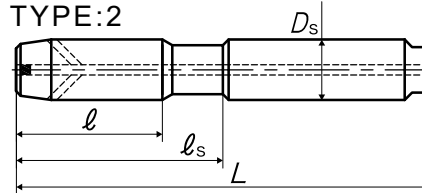


Coolant through the flute

TYPE:1



TYPE:2



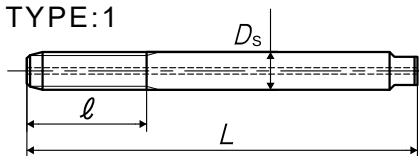
Size	Class	Code	Chamfer	L (mm)	l (mm)	l _s (mm)	D _s (mm)	No. of flutes	TYPE	MSRP(JPY)
M6X1	P3	HFICTPR6.0M	4P	62	19	-	6	4	1	23,300
M8X1.25	P3	HFICTPR8.0N	4P	70	22	36	8	4	2	30,100
M10X1.5	P3	HFICTPR010O	4P	75	24	37	10	4	2	41,500
M10X1.25	P3	HFICTPR010N	4P	75	24	37	10	4	2	41,500
M12X1.75	P3	HFICTPR012P	4P	82	29	40	12	4	2	54,100
M12X1.5	P3	HFICTPR012O	4P	82	29	40	12	4	2	54,100
M12X1.25	P3	HFICTPR012N	4P	82	29	40	12	4	2	54,100

HFICT-B Carbide hand taps for ultra high speed tapping of blind holes for cast iron

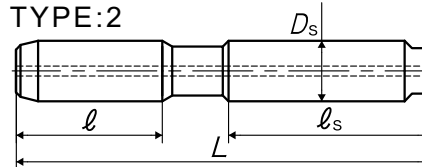


Coolant through the center

TYPE:1



TYPE:2



Size	Class	Code	Chamfer	L (mm)	l (mm)	l _s (mm)	D _s (mm)	No. of flutes	TYPE	MSRP(JPY)
M6X1	P3	HFICTBR6.0M	2.5P	62	19	-	6	4	1	23,300
M8X1.25	P3	HFICTBR8.0N	2.5P	70	22	36	8	4	2	30,100
M10X1.5	P3	HFICTBR010O	2.5P	75	24	37	10	4	2	41,500
M10X1.25	P3	HFICTBR010N	2.5P	75	24	37	10	4	2	41,500
M12X1.75	P3	HFICTBR012P	2.5P	82	29	40	12	4	2	54,100
M12X1.5	P3	HFICTBR012O	2.5P	82	29	40	12	4	2	54,100
M12X1.25	P3	HFICTBR012N	2.5P	82	29	40	12	4	2	54,100

HFACT-P/B

Carbide Hand Taps for Ultra Fast Tapping, for Blind Hole and Through Hole, for Aluminum



Product Features

- Carbide tap for high speed tapping. Suitable for coolant through the center, oil mist coolant and low temperature dry tapping applications for cast aluminum, aluminum die casting etc.

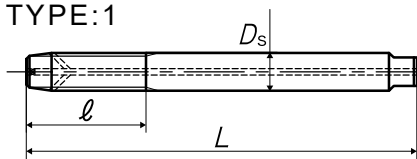
Dimensions

HFACT-P Carbide hand taps for ultra high speed tapping of through holes for aluminum

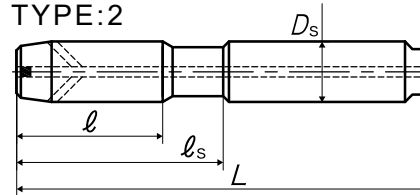


Coolant through the flute

TYPE:1



TYPE:2



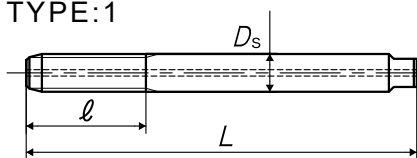
Size	Class	Code	Chamfer	L (mm)	l (mm)	l _s (mm)	D _s (mm)	No. of flutes	TYPE	MSRP(JPY)
M6X1	P3	HFACTPR6.0M	4P	62	19	-	6	3	1	23,300
M8X1.25	P3	HFACTPR8.0N	4P	70	22	36	8	3	2	30,100
M10X1.5	P3	HFACTPR010O	4P	75	24	37	10	3	2	41,500
M10X1.25	P3	HFACTPR010N	4P	75	24	37	10	3	2	41,500
M12X1.75	P3	HFACTPR012P	4P	82	29	40	12	3	2	54,100
M12X1.5	P3	HFACTPR012O	4P	82	29	40	12	3	2	54,100
M12X1.25	P3	HFACTPR012N	4P	82	29	40	12	3	2	54,100

HFACT-B Carbide hand taps for ultra high speed tapping of blind holes for aluminum

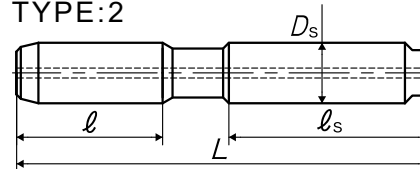


Coolant through the center

TYPE:1

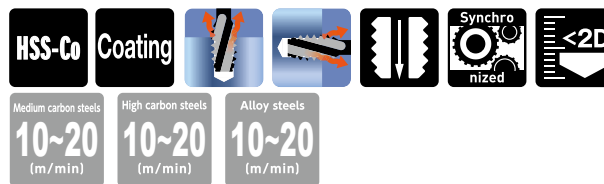


TYPE:2



Size	Class	Code	Chamfer	L (mm)	l (mm)	l _s (mm)	D _s (mm)	No. of flutes	TYPE	MSRP(JPY)
M6X1	P3	HFACTBR6.0M	2.5P	62	19	-	6	3	1	23,300
M8X1.25	P3	HFACTBR8.0N	2.5P	70	22	36	8	3	2	30,100
M10X1.5	P3	HFACTBR010O	2.5P	75	24	37	10	3	2	41,500
M10X1.25	P3	HFACTBR010N	2.5P	75	24	37	10	3	2	41,500
M12X1.75	P3	HFACTBR012P	2.5P	82	29	40	12	3	2	54,100
M12X1.5	P3	HFACTBR012O	2.5P	82	29	40	12	3	2	54,100
M12X1.25	P3	HFACTBR012N	2.5P	82	29	40	12	3	2	54,100

HDISP Spiral fluted tap for dry tapping for steels

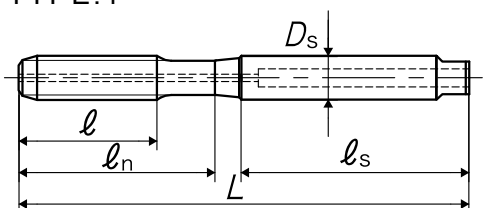


Product Features

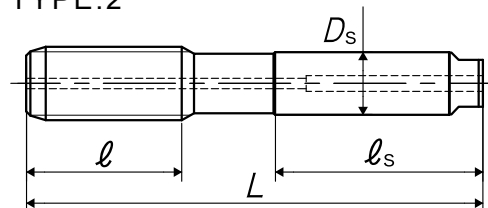
- Center through hole design for oil mist, dry and through coolant applications.
- Thanks to the right-hand 15° low helix design, the tap is ideal for vertical and horizontal blind holes for carbon steels, alloy steels and other materials.

Dimensions

TYPE:1



TYPE:2

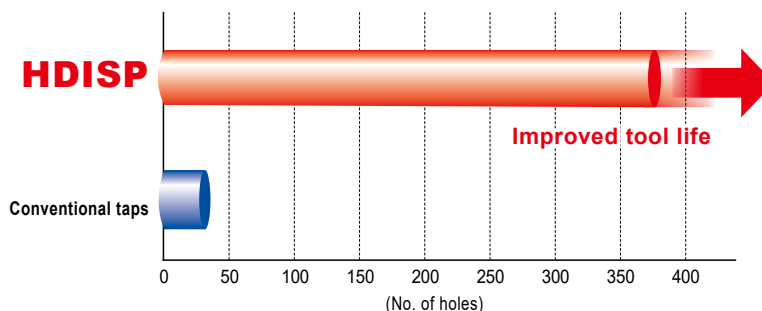


Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	No. of flutes	TYPE	MSRP(JPY)
M6X1	P4	HDISPS6.0M	2.5P	62	19	27	32	6	3	1	4,050
M8X1.25	P4	HDISPS8.0N	2.5P	70	22	-	36	8	3	2	5,960
M10X1.5	P4	HDISPS010O	2.5P	75	24	-	37	10	3	2	7,550
M10X1.25	P4	HDISPS010N	2.5P	75	24	-	37	10	3	2	7,550
M10X1	P4	HDISPS010M	2.5P	75	24	-	37	10	3	2	7,550
M12X1.75	P4	HDISPS012P	2.5P	82	29	-	40	12	3	2	10,700
M12X1.5	P4	HDISPS012O	2.5P	82	29	-	40	12	3	2	10,700
M12X1.25	P4	HDISPS012N	2.5P	82	29	-	40	12	3	2	10,700
M14X1.5	P4	HDISPS014O	2.5P	88	30	-	40	12	3	2	14,600
M16X1.5	P4	HDISPS016O	2.5P	95	32	-	43	16	3	2	19,300
M18X1.5	P4	HDISPS018O	2.5P	100	37	-	45	16	4	2	27,400
M20X1.5	P5	HDISPT020O	2.5P	105	37	-	45	16	4	2	35,800

Tapping Data

Tapping condition [P4 M10X1.25]

Workpiece Material	S50C (18HRC)
Type of Hole	Blind hole
Drill hole size	φ8.8
Tapping Length	12mm
Tapping Speed	8m/min
Machine Type	CNC Tapping Machine
Cutting Fluid	Dry without lubrication
No. of Holes	380 holes



HDASP Spiral fluted tap for dry tapping for aluminum



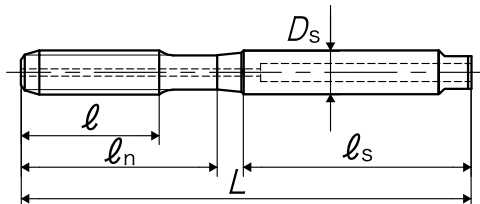
HSS-Co	Coating							
Wrought aluminum 20~50 (m/min)	Aluminum alloy castings 20~50 (m/min)	Magnesium alloy die castings 20~50 (m/min)	Zinc alloy castings 20~50 (m/min)	Synchro nized				

Product Features

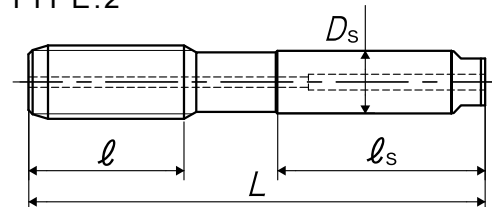
- Center through hold design for oil mist, dry and through coolant applications.
- Thanks to the right-hand 20° low helix design, the tap is ideal for vertical and horizontal blind holes for aluminum and other materials.

Dimensions

TYPE:1



TYPE:2



Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	No. of flutes	TYPE	MSRP(JPY)
M6X1	P4	HDASPS6.0M	2.5P	62	19	27	32	6	3	1	4,050
M8X1.25	P4	HDASPS8.0N	2.5P	70	22	-	36	8	3	2	5,960
M10X1.5	P4	HDASPS010O	2.5P	75	24	-	37	10	3	2	7,550
M10X1.25	P4	HDASPS010N	2.5P	75	24	-	37	10	3	2	7,550
M12X1.75	P4	HDASPS012P	2.5P	82	29	-	40	12	3	2	10,700
M12X1.5	P4	HDASPS012O	2.5P	82	29	-	40	12	3	2	10,700
M12X1.25	P4	HDASPS012N	2.5P	82	29	-	40	12	3	2	10,700
M14X1.5	P4	HDASPS014O	2.5P	88	30	-	40	12	3	2	14,600
M16X1.5	P4	HDASPS016O	2.5P	95	32	-	43	16	3	2	19,300
M18X1.5	P4	HDASPS018O	2.5P	100	37	-	45	16	3	2	27,400
M20X1.5	P5	HDASPT020O	2.5P	105	37	-	45	16	3	2	35,800

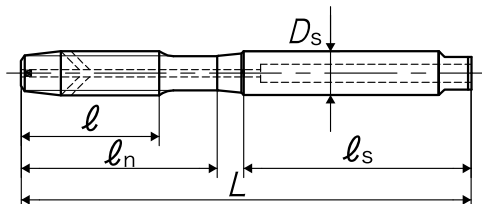


Product Features

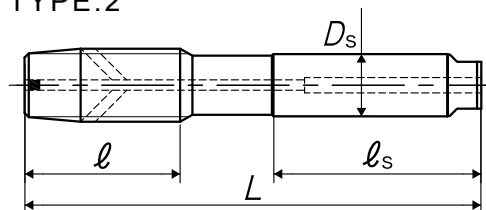
- The coolant through the flute design achieves ultra high speed tapping for oil mist, dry and through coolant applications.
- Thanks to the right-hand 15° low helix design, the tap is ideal for vertical and horizontal blind holes for carbon steels, alloy steels and other materials.

Dimensions

TYPE:1



TYPE:2

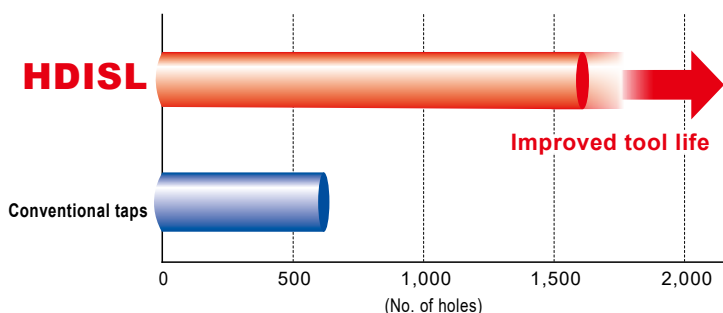


Size	Class	Code	Chamfer	L (mm)	l (mm)	ln (mm)	ls (mm)	Ds (mm)	No. of flutes	TYPE	MSRP(JPY)
M6X1	P4	HDISLS6.0M	5.5P	62	19	27	32	6	3	1	4,050
M8X1.25	P4	HDISLS8.0N	5.5P	70	22	-	36	8	3	2	5,960
M10X1.5	P4	HDISLS010O	5.5P	75	24	-	37	10	3	2	7,550
M10X1.25	P4	HDISLS010N	5.5P	75	24	-	37	10	3	2	7,550
M12X1.75	P4	HDISLS012P	5.5P	82	29	-	40	12	3	2	10,700
M12X1.5	P4	HDISLS012O	5.5P	82	29	-	40	12	3	2	10,700
M12X1.25	P4	HDISLS012N	5.5P	82	29	-	40	12	3	2	10,700
M14X1.5	P4	HDISLS014O	5.5P	88	30	-	40	12	3	2	14,600
M16X1.5	P4	HDISLS016O	5.5P	95	32	-	43	16	3	2	19,300
M18X1.5	P4	HDISLS018O	5.5P	100	37	-	45	16	4	2	27,400
M20X1.5	P5	HDISLT020O	5.5P	105	37	-	45	16	4	2	35,800

Tapping Data

Tapping condition [M12X1.25]

Workpiece Material	S55C Thermal Refined Steels
Type of Hole	Through hole
Drill hole size	Φ10.75
Tapping Length	18mm
Tapping Speed	50m/min
Machine Type	Vertical MC
Cutting Fluid	Water-soluble
No. of Holes	1,600 holes



HF/HD Series Application Examples

Product Symbol	Size	Class	Workpiece Material	Type of drill hole	Tapping Length (mm)(*)	Machine	Tapping Speed (m/min)	Cutting Fluid	Number of processed holes /pcs	Results
HFHS	M10X1.25	P4	S45C	Blind hole	15(1.5D)	Vertical MC	30	Water Soluble (internal lubrication)	600	Excellent
HFISP	M6X1	P4	SCM440	Blind hole Through hole	9(1.5D)	Horizontal MC	50	Water Soluble (internal lubrication)	600	Excellent
HFISP	M8X1.25	P4	SCM435	Blind hole	12(1.5D)	Horizontal MC	30	Water Soluble (internal lubrication)	3,000	Excellent
HFAHS	M8X1.25	P4	ADC12	Blind hole	16(2D)	Vertical MC	80	Water Soluble (internal lubrication)	40,000	Excellent
HFASP	M10X1.5	P4	ADC12	Blind hole	15(1.5D)	Horizontal MC	80	Water Soluble (internal lubrication)	10,000	Excellent
HFASP	M12X1.75	P4	ADC12	Blind hole	18(1.5D)	Horizontal MC	90	Water Soluble (internal lubrication)	10,000	Excellent
HFICT-B	M10X1.5	P3	FCD450	Blind hole	30(3D)	Vertical MC	35	Water Soluble	4,000	Excellent
HDISP	M6X1	P4	SCr440	Blind hole Through hole	9(1.5D)	Horizontal MC	30	Water Soluble (internal lubrication)	600	Excellent
HDISL	M8X1.25	P4	SS400	Through hole	12(1.5D)	Vertical MC	30	Water Soluble	6,000	Excellent
HDASP	M6X1	P4	ADC12	Blind hole	6(1D)	Vertical MC	30	Water Soluble	5,000	Excellent

*(D) represents the tapping length as a ratio of the tap's outer diameter.

HF/HD Series Notes

- HF/HD Series Tap does not have square on the shank. Make sure to use holders with high clamp torque.
- The end of the shank is tongue shape. If the area where the end of the shank contacts is V dish shape, the cutting fluid may leak.

Warning

- ◆ Tools may shatter during use. Wear safety eye cover or eye glasses to avoid injury during tapping.
- ◆ Use tools under the proper tapping condition.
- ◆ Never wear gloves during turning operations as the gloves may get caught in the tools.
- ◆ Wear safety shoes to avoid foot injury by the falling tools.
- ◆ When attaching tools to the machine, fasten firmly to avoid chatter and run-out.
- ◆ Fasten the workpiece firmly so it never moves during the tapping operation. Never use worn tools or damaged tools.
- ◆ Take a special care to prevent fire during machining. High temperature during tapping can cause a fire.

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