



Semi-Long Taps for the Next Generation

HCSPH

Z-PRO For Horizontal Tapping, Spiral Fluted Taps for High Carbon Steels

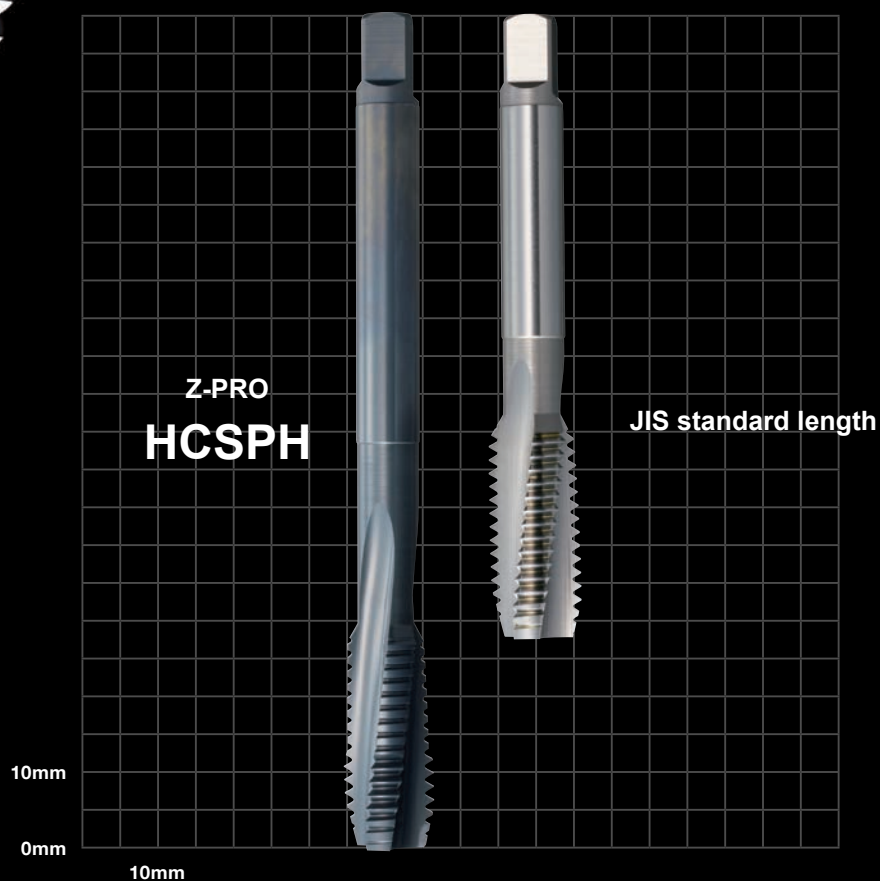


Ultimate Machining Taps



Active Size

M12×1.75



**Z-PRO
HCSPH**

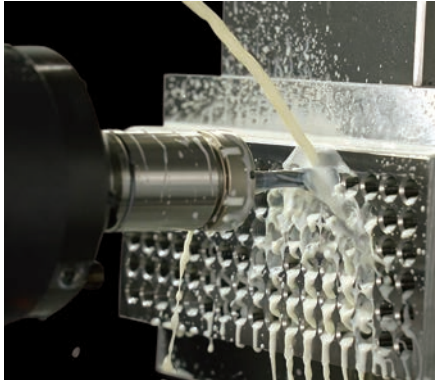
JIS standard length



Z-PRO is a new product brand based on the concept of "the ultimate professional tool optimized for machines." The market has shifted towards manufacturing using machines, including multi-functional machining centers that can handle high-precision, high-quality, high-speed, and high-efficiency machining. Z-PRO taps adopt a "semi-long shape" to improve chip evacuation and tapping fluid supply performance in machining, and Z-PRO thread mills adopt a shape suitable for machining, achieving ease of use and stability in modern machining. Z-PRO will continue to evolve, leveraging YAMAWA's more than 100 years of knowledge and experience to provide "Reliable screw threads."

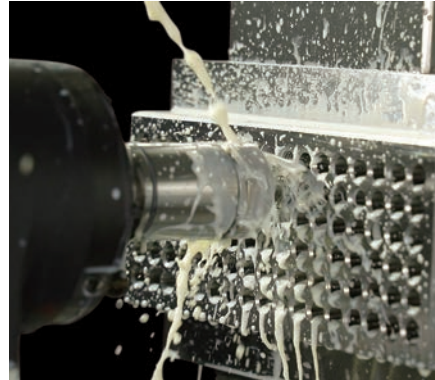
Z-PRO

HCSPH



JIS Standard Length

Spiral Fluted Taps

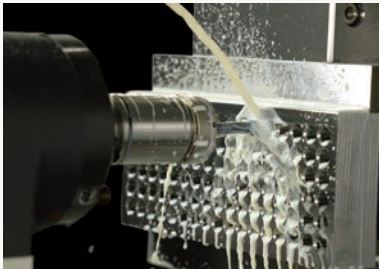




Z-PRO For Horizontal Tapping, Spiral Fluted Taps for High Carbon Steels



Product Features



Adopting a semi-long shape

The clearance between the holder and workpiece helps prevent chips from interfering with the holder, reducing chip-related problems such as chipping and breakage of the complete threads. It also ensures a stable supply of tapping fluid.



Unique flute geometry appropriate to horizontal tapping.

An optimized flute helix angle breaks chips into shorter lengths for improved chip evacuation. Enlarged chip pockets also provide greater chip capacity and ensure a more effective supply of tapping fluid.



The thread part features BLF (special geometry).

The thread part employs a special shape where a few full threads remain, while the remaining threads are half-removed. This enhances the chipping prevention effect on the full thread part.

Differences in tapping speed depending on workpiece material

Workpiece Materials		Recommended tapping speed (m/min)
		M8~M16
Medium Carbon Steels	S25C~S45C	3~12
High Carbon Steels	S45C~	3~12
Alloy Steels	SCM/SCr	3~8
Heat Treated Steels	25~35HRC	3~5
Ductile Cast Irons	FCD	3~12



◀ View other Z-PRO Products' tapping speeds.

Machining Data

HCSPH M12×1.75	
Conditions	
Workpiece Material	S50C
Tapping Speed	12m/min
Tapping Length	24mm (2D)
Machine	Horizontal MC
Tapping Fluid	Water Soluble



❗ An optimized flute helix angle breaks chips into shorter lengths.



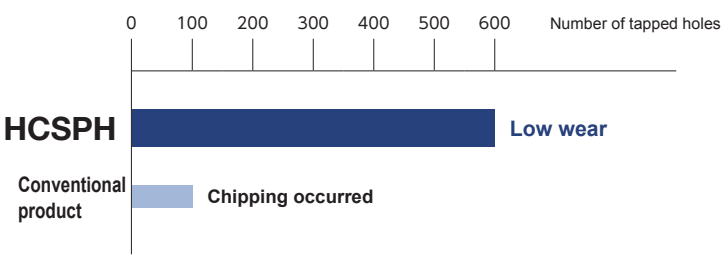
❗ The tapping fluid is supplied effectively, reducing chip entanglement and clogging even during horizontal machining.

Machining Data

HCSPH M12×1.75	
Conditions	
Workpiece Material	S50C
Tapping Speed	12m/min
Tapping Length	24mm (2D)
Machine	Horizontal MC
Tapping Fluid	Water Soluble

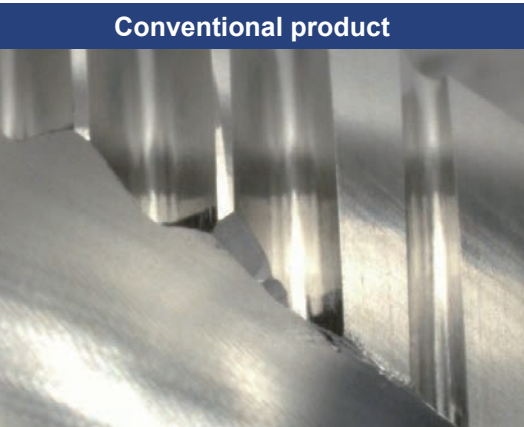


Chipping occurred after tapping 100 holes.

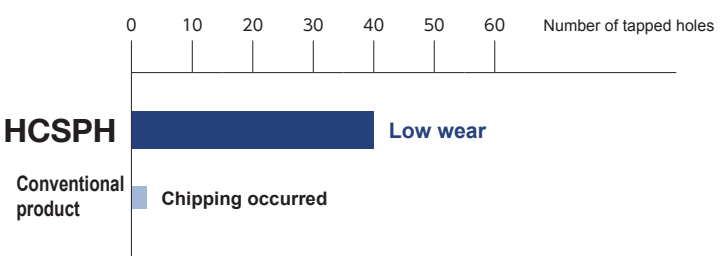


⚠ After tapping into 600 holes. Minimal wear and no chipping.

HCSPH M16×2	
Conditions	
Workpiece Material	SCM440 Heat Treated(35HRC)
Tapping Speed	5m/min
Tapping Length	32mm (2D)
Machine	Horizontal MC
Tapping Fluid	Water Soluble

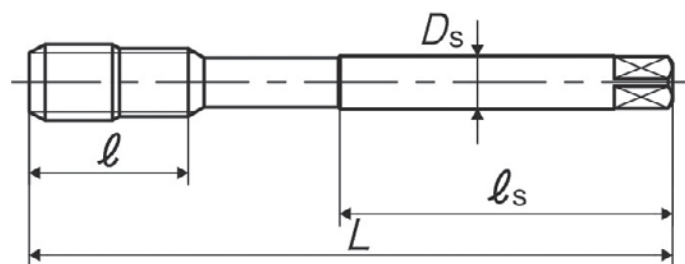


Chipping occurred at an early stage.



⚠ After tapping into 40 holes. Minimal wear and no chipping.

TYPE:1



Size	Class	Product Code	Chamfer	L (mm)	l (mm)	l_n (mm)	l_s (mm)	D_s (mm)	Number of flutes	TYPE
For metric threads										
M8×1.25	P3	1125101064	C(2.75P)	90	19	—	46	6.2	3	1
M8×1	P3	1125101065	C(2.75P)	90	19	—	46	6.2	3	1
M10×1.5	P4	1125101078	C(2.75P)	100	23	—	51	7	3	1
M10×1.25	P3	1125101079	C(2.75P)	100	23	—	51	7	3	1
M10×1	P3	1125101080	C(2.75P)	100	23	—	51	7	3	1
M12×1.75	P4	1125101088	C(2.75P)	110	26	—	56	8.5	3	1
M12×1.5	P4	1125101089	C(2.75P)	110	26	—	56	8.5	3	1
M12×1.25	P4	1125101090	C(2.75P)	110	26	—	56	8.5	3	1
M12×1	P4	1125101091	C(2.75P)	110	26	—	56	8.5	3	1
M14×2	P4	1125101100	C(2.75P)	110	26	—	56	10.5	3	1
M14×1.5	P4	1125101102	C(2.75P)	110	26	—	56	10.5	3	1
M16×2	P4	1125101114	C(2.75P)	110	26	—	56	12.5	3	1
M16×1.5	P4	1125101116	C(2.75P)	110	26	—	56	12.5	3	1



WEB Content

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We are showcasing what makes YAMAWA special. From our latest seminars to solutions for technical threading challenges, explore YAMAWA's content and discover the answers you need for threads and taps in the real world.

(Webinar Videos/WEB Technology Center/Industry Solutions/Machining Data/PRAD System)

Technical support Technical support

We support our customers with a variety of content. Please visit our website for details. →



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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JQA-QM5420
JQA-EM2687