

Think threads with  
**YAMAWA**

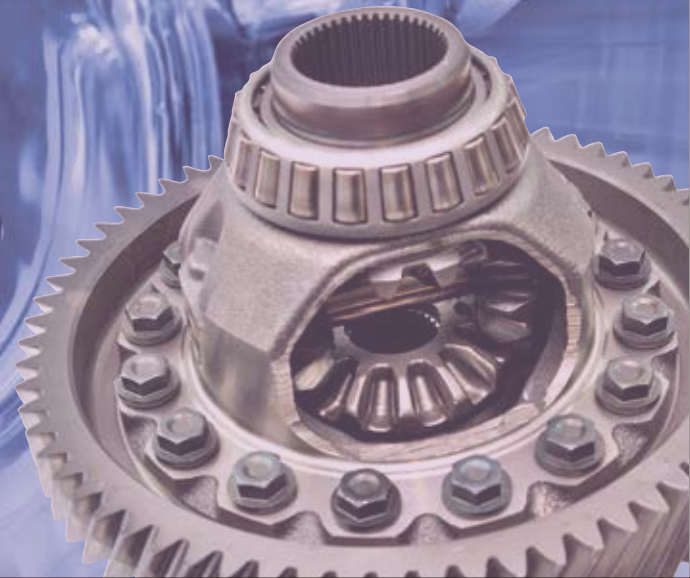
# WHERZ

Z-PRO Ultimate Machining Taps.  
Yamawa can solve your tapping problem on medium hard carbon and alloy steels.

# Z-PRO

*Ultimate Machining Taps*

ANSI



## Product Features



Roll Taps for Carbon Steels of Medium Hardness

**MHRZ**

HSS-Co

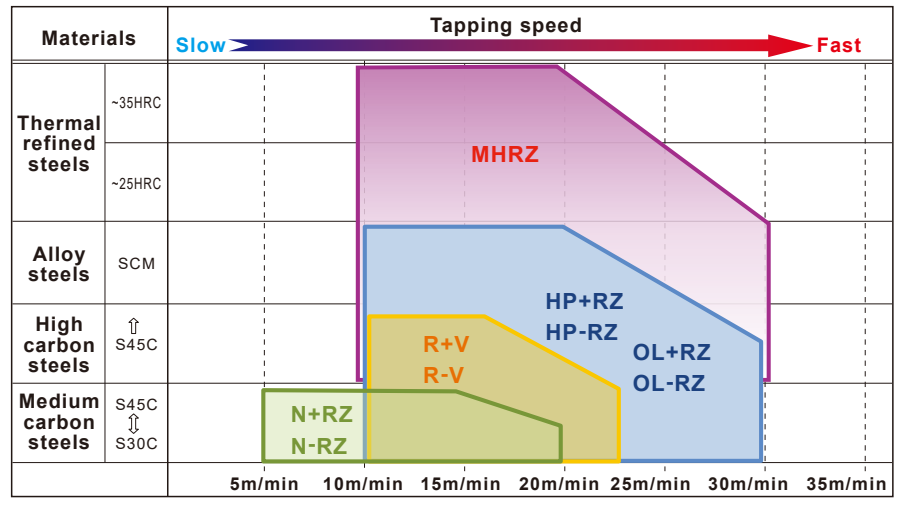
Coating

2

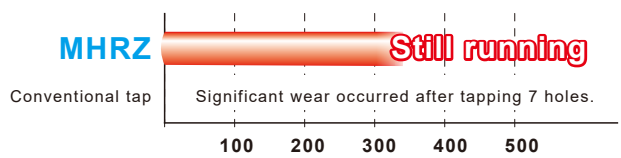


### Features

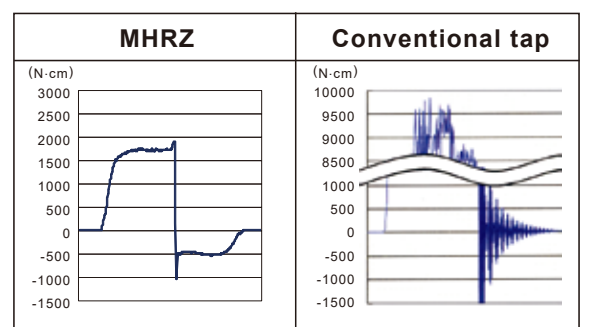
- We realized a reduction of tapping torque by introducing our original specifications and design.
- Made from excellent wear-resistant material and special coating techniques have dramatically improved the durability of the tool.
- Consistent tapping on thermal refined materials with hardness up to 35HRC is achieved.
- Water soluble tapping fluid is recommended when using MHRZ roll taps.



## Tapping Data / Comparison of tapping torque



Size	1/4-20UNC
Workpiece Material	4140
Material Hardness	34HRC
Bored Hole Length	Φ0.23inch
Tapping Length	2D(0.5inch)
Tapping Speed	70sfm
Tapping Fluid	Water soluble oil emersion x 20
Tapping Machine	FANUC α-T10C



Our MHRZ taps have made it possible to tap 4140 material with hardness of 35HRC. This material was considered difficult to be processed with roll taps because of the high tapping torque.

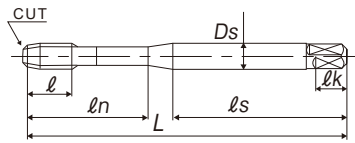
### Comparison of the surface edge

MHRZ (after tapping 364 holes)	Conventional tap (after tapping 7 holes)
Significant wear occurred when using conventional taps. MHRZ show no signs of wear even after tapping 364 holes.	

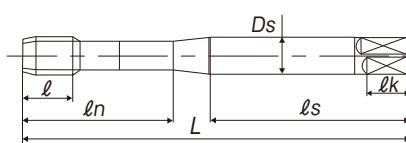
### Comparison of the internal thread surface

MHRZ (after tapping 364 holes)	Conventional tap (after tapping 3 holes)
After tapping only 3 holes with conventional taps resulted in rough surface finish. After tapping 364 holes with MHRZ taps the surface finish was still excellent.	

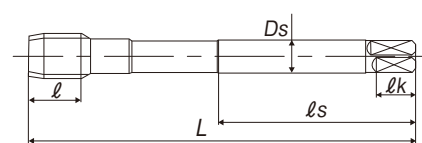
[Type1]



[Type2]



[Type3]



Size	Class	Product Code	Number of chamfer threads	L (inch)	l (inch)	ln (inch)	ls (inch)	Ds (inch)	Lobe	Type
No.10-24UNC	H6	5111103039	2P	2.756	0.354	0.945	1.654	0.194	5	1
No.10-32UNF	H6	5111103041	2P	2.756	0.354	0.945	1.654	0.194	5	1
1/4-20UNC	H7	5111103058	2P	3.150	0.433	1.181	1.713	0.255	5	1
5/16-18UNC	H8	5111103071	2P	3.543	0.472	1.378	1.831	0.318	6	2
3/8-16UNC	H8	5111103082	2P	3.937	0.512	1.535	2.028	0.381	8	2
7/16-14UNC	H9	5111103098	2P	3.937	0.512	-	2.008	0.323	8	3
1/2-13UNC	H9	5111103111	2P	4.331	0.591	-	2.205	0.367	8	3

## 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-EM3465