

Think threads with
YAMAWA

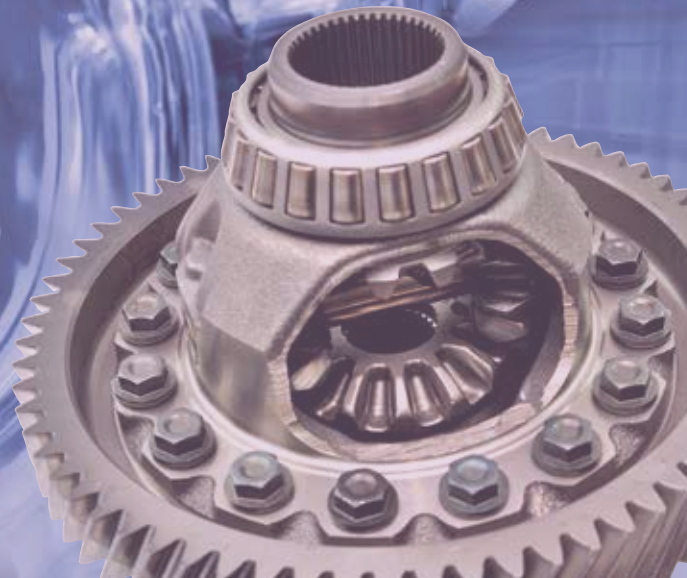
WHERZ

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

Z-PRO

Ultimate Machining Taps

For North American market



Product Features



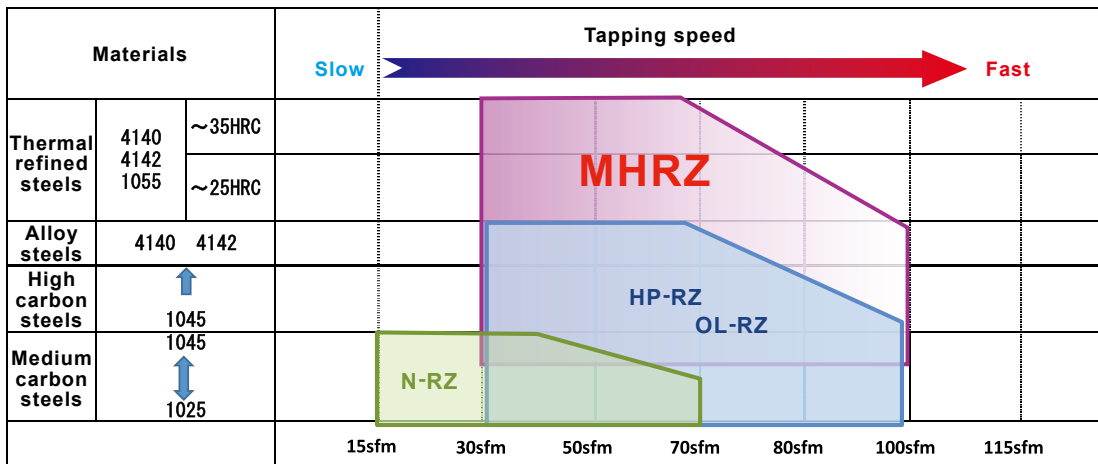
Roll Taps for Carbon Steels of Medium Hardness

MHRZ

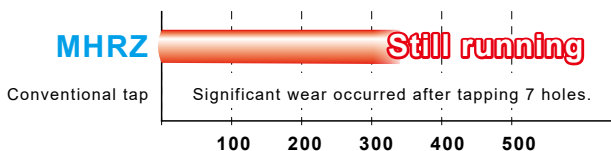


Features

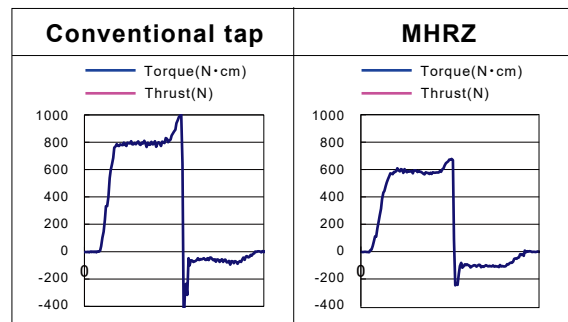
- We realized a reduction of tapping torque by introducing our original specifications and design.
- Made from excellent wear-resistant material and special coating techniques have dramatically improved the durability of the tool.
- Consistent tapping on thermal refined materials with hardness up to 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
Tapping Speed	70sfm
Bored Hole Size	Φ0.23inch
Tapping Length	2D(0.5inch)
Tapping Speed	70sfm
Tapping Fluid	Water-soluble tapping fluid 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 form taps because of the high tapping torque.

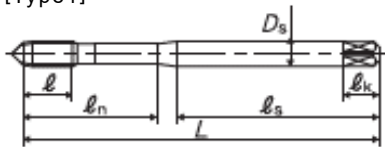
Comparison of the surface edges

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

Comparison of the internal thread surface finish

Conventional tap (after tapping 3 holes)	MHRZ (after tapping 364 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.	

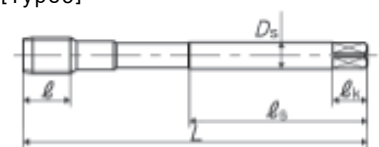
[Type1]



[Type2]



[Type3]



For unified threads

Size	Class	EDP	Chamfer	L (inch)	l (inch)	ln (inch)	ls (inch)	Ds (inch)	Lobe	Type
10-24UNC	H6	387117	4P	2.756	0.354	0.945	1.654	0.194	5	1
10-24UNC	H6	387817	2P	2.756	0.354	0.945	1.654	0.194	5	1
10-32UNF	H6	387121	4P	2.756	0.354	0.945	1.654	0.194	5	1
10-32UNF	H6	387821	2P	2.756	0.354	0.945	1.654	0.194	5	1
1/4-20UNC	H7	387125	4P	3.15	0.433	1.181	1.713	0.255	5	1
1/4-20UNC	H7	387873	2P	3.15	0.433	1.181	1.713	0.255	5	1
1/4-28UNF	H6	387129	4P	3.15	0.433	1.181	1.713	0.255	5	1
1/4-28UNF	H6	387829	2P	3.15	0.433	1.181	1.713	0.255	5	1
5/16-18UNC	H8	387133	4P	3.543	0.472	1.378	1.831	0.318	6	2
5/16-18UNC	H8	387834	2P	3.543	0.472	1.378	1.831	0.318	6	2
5/16-24UNF	H7	387137	4P	3.543	0.472	1.378	1.831	0.318	6	2
5/16-24UNF	H7	387837	2P	3.543	0.472	1.378	1.831	0.318	6	2
3/8-16UNC	H8	387141	4P	3.937	0.512	1.535	2.028	0.381	8	2
3/8-16UNC	H8	387842	2P	3.937	0.512	1.535	2.028	0.381	8	2
3/8-24UNF	H7	387145	4P	3.937	0.512	1.535	2.028	0.381	8	2
3/8-24UNF	H7	387845	2P	3.937	0.512	1.535	2.028	0.381	8	2
7/16-14UNC	H9	387149	4P	3.937	0.512	-	2.008	0.323	8	3
7/16-14UNC	H9	387850	2P	3.937	0.512	-	2.008	0.323	8	3
7/16-20UNF	H8	387153	4P	3.937	0.512	-	2.008	0.323	8	3
7/16-20UNF	H8	387853	2P	3.937	0.512	-	2.008	0.323	8	3
1/2-13UNC	H9	387157	4P	4.331	0.591	-	2.205	0.367	8	3
1/2-13UNC	H9	387858	2P	4.331	0.591	-	2.205	0.367	8	3
1/2-20UNF	H8	387161	4P	4.331	0.591	-	2.205	0.367	8	3
1/2-20UNF	H8	387861	2P	4.331	0.591	-	2.205	0.367	8	3
9/16-12UNC	H10	387158	4P	4.331	0.709	-	2.205	0.429	8	3
9/16-12UNC	H10	387862	2P	4.331	0.709	-	2.205	0.429	8	3
9/16-18UNF	H9	387159	4P	4.331	0.709	-	2.205	0.429	8	3
9/16-18UNF	H9	387863	2P	4.331	0.709	-	2.205	0.429	8	3

The external centers are removed on 1/4" and smaller diameters with 2P chamfer.

Processing data

MHRZ

Roll taps for Medium Hardness Carbon Steel



YAMAWA can solve your tapping problem on medium hard carbon and alloy steels.

MHRZ		Tapping condition						Tool life	Tapping result
Size	Material symbol (Hardness)	Hole size (mm)	Tapping length (mm)(*)	Machine	Tapping speed (m/min)	Feed	Tapping fluid	(Holes)	
M6 X 1	SUS316	5.6	9 (1.5D)	CNC	28	Fully synchronous	Oil	10,000	Excellent
M6 X 1	S55CNN	5.55	15 (2.5D)	Machining center	26	Fully synchronous	Water soluble	6,000	Eliminates breakage
M6 X 1	SCM420H	5.55	6 (1D)	Machining center	20	Fully synchronous	Water soluble	2,000	Improved the surface finish of internal threads
M6 X 1	SCM435 (30HRC)	5.55	6 (1D)	Machining center	10	Fully synchronous	Oil	4,800	Excellent
M8 X 1.25	Aluminum alloy casting	7.5	16 (2D)	Machining center	30	Fully synchronous	Water soluble	16,000	Excellent
M10 X 1.5	20Cr (30HRC)	9.4	35 (3.5D)	Machining center	10	Fully synchronous	Oil	860	Eliminates chipping on cutting edge

※ (D) shows the tapping length as a ratio of tap diameter.



JQA-QMA14664



JQA-EM3465

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.

For inquiries, please contact below :



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