

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

①

Spiral Fluted Taps
(for blind hole)

②

Spiral Fluted Taps
(for through hole)

③

Spiral Pointed Taps
(for through hole)

④

Hand Taps

⑤

Cemented
Carbide Taps

⑥

Roll Taps

⑦

Special Thread Taps
Simple Inspection Tools

⑧

Pipe Taps

⑨

Thread Mills
Premium Thread Mills

⑩

Dies

⑪

Center Drills
Centering Tools

⑫

Precision Machinery/
Medical Surgical Instruments

JIS

⑥-47



HP+RZ HP-RZ

High Performance Roll Taps, Coated

Specification



• The product symbol is divided by nominal sizes.

HP+RZ	~ M6
HP-RZ	M8 ~ , all U

Tapping Speeds depending on Materials

Low carbon steels 低炭素鋼	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	Stainless steels ステンレス鋼	Aluminum alloy castings アルミ合金鋳物
15~30 (m/min)	15~30 (m/min)	15~25 (m/min)	15~25 (m/min)	15~25 (m/min)	10~25 (m/min)	15~30 (m/min)

25~35HRC

Product Features

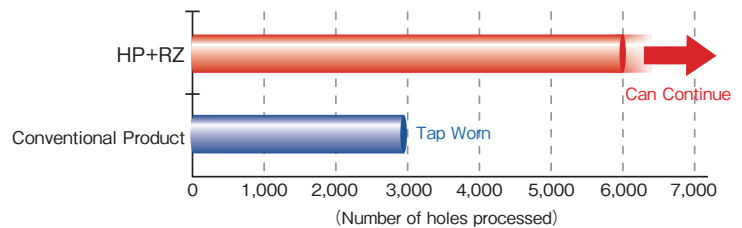
- The HP+RZ/HP-RZ roll taps are suitable for processing steel materials with a hardness of 35 HRC or less and light alloys. These roll taps are recommended for high speed machining 20 to 50 m/min.
- Roll form processing of stainless steel and thermal refined materials up to 40 HRC are now possible.
- The roll form tapping torque has been reduced by 20% or more, making it possible to significantly improve tool life compared with conventional roll form tap products.
- The HP+RZ/HP-RZ taps make it possible to use a water soluble cutting fluid.

Tapping Data

Processing conditions [M2 × 0.4 G4 B]

Tap Type	HP+RZ, conventional product
Workpiece Material	SS400
Bored Hole Size	φ1.83
Tapping Length	3mm blind hole
Tapping Speed	50m/min
Machinery Type	Vertical MC (synchronous feed)
Tapping Fluid	Water soluble cutting fluid (chlorine-free 10 to 1 dilution)

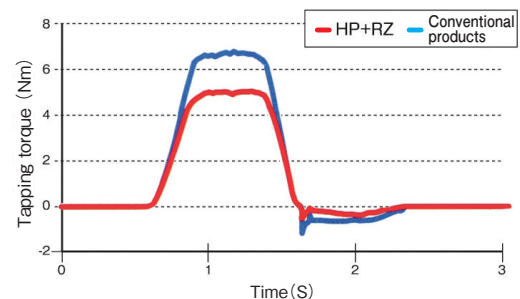
Comparison chart of the number of holes processed.



The HP+RZ/HP-RZ roll taps utilize a design to reduce machine tapping torque in difficult to cut materials. (Patent No. 3822572).

Roll form processing conditions [M6 × 1 G7 B]

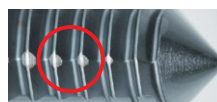
Tap Type	HP+RZ, conventional product
Workpiece Material	SUS304
Bored Hole Size	φ5.5
Tapping Length	8mm blind hole
Tapping Speed	15m/min
Machinery Type	Vertical MC (synchronous feed)
Tapping Fluid	Insoluble cutting fluid



Using an optimal design on the chamfer portion, the HP+RZ forms the internal thread from the first chamfer portion, reducing the processing burden on each thread while producing a smooth screw thread.



Chamfer portion works from the first thread lobe.



Impressions on the lobes of the HP+RZ

Traces of wear on a conventional tap product.

Overall length	Thread length	Thread + Neck length	Shank length	Shank dia.	Size of square	Length of square
L	ℓ	ℓ _n	ℓ _s	D _s	K	ℓ _k

6

JIS

Spiral Fluted Taps
(for blind hole)

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Thread Mills
Premium Thread Mills

⑨

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Center Drills
Centering Tools

⑪

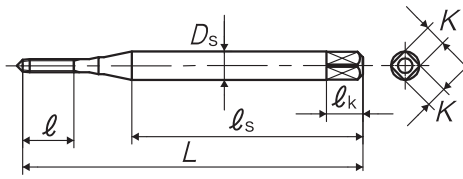
Precision Machinery/
Metal Surgical Instruments

⑫

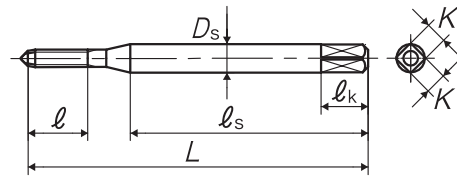
JIS

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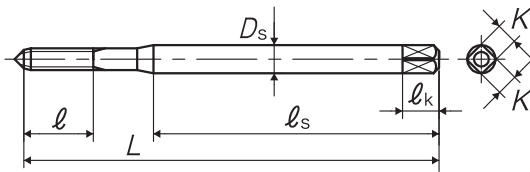
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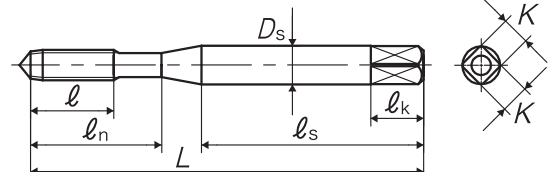
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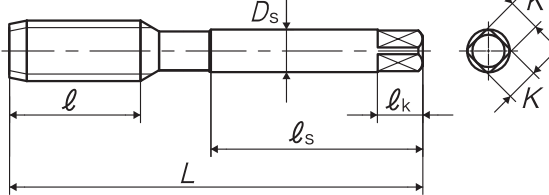
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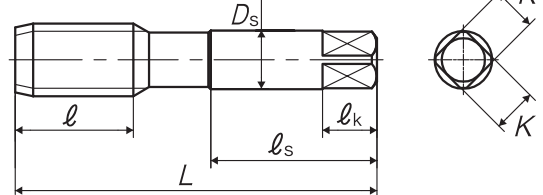
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TYPE:5



TYPE:6



HP+RZ High Performance Roll Taps, Coated

Recommended class

Segment : 1J

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓ _n (mm)	ℓ _s (mm)	D _s (mm)	K (mm)	ℓ _k (mm)	Lobe	TYPE	MSRP
For Metric Threads													
M1 × 0.25	G4	HRZP41.0BB	2P	36	4.5	-	24	3	2.5	5	4	1	¥ 5,480
M1.2 × 0.25	G4	HRZP41.2BB	2P	36	4.5	-	24	3	2.5	5	4	1	¥ 5,480
M1.4 × 0.3	G4	HRZP41.4CB	2P	36	5.4	-	24	3	2.5	5	4	1	¥ 4,890
M1.6 × 0.35	G4	HRZP41.6DB	2P	36	6.3	-	24	3	2.5	5	4	2	¥ 4,720
M1.7 × 0.35	G4	HRZP41.7DB	2P	36	6.3	-	24	3	2.5	5	4	2	¥ 4,720
M2 × 0.4	G4	HRZP42.0EB	2P	42	7.2	-	27	3	2.5	5	4	3	¥ 4,480
M2 × 0.4	G5	HRZP52.0EB	2P	42	7.2	-	27	3	2.5	5	4	3	¥ 4,480
M2.3 × 0.4	G4	HRZP42.3EB	2P	42	7.2	-	27	3	2.5	5	4	3	¥ 4,230
M2.3 × 0.4	G5	HRZP52.3EB	2P	42	7.2	-	27	3	2.5	5	4	3	¥ 4,230
M2.5 × 0.45	G5	HRZP52.5FB	2P	46	8.1	14	29	3	2.5	5	4	4	¥ 4,080
M2.5 × 0.45	G6	HRZP62.5FB	2P	46	8.1	14	29	3	2.5	5	4	4	¥ 4,080
M2.6 × 0.45	G5	HRZP52.6FB	2P	46	8.1	14	29	3	2.5	5	4	4	¥ 4,080
M2.6 × 0.45	G6	HRZP62.6FB	2P	46	8.1	14	29	3	2.5	5	4	4	¥ 4,080
M3 × 0.5	G5	HRZP53.0GP	4P	46	9	14	26	4	3.2	6	4	4	¥ 3,710
M3 × 0.5	G5	HRZP53.0GB	2P	46	9	14	26	4	3.2	6	4	4	¥ 3,710
M3 × 0.5	G6	HRZP63.0GP	4P	46	9	14	26	4	3.2	6	4	4	¥ 3,710
M3 × 0.5	G6	HRZP63.0GB	2P	46	9	14	26	4	3.2	6	4	4	¥ 3,710
M3.5 × 0.6	G5	HRZP53.5HP	4P	52	11	16	29	5	4	7	4	4	¥ 3,810 ※
M3.5 × 0.6	G5	HRZP53.5HB	2P	52	11	16	29	5	4	7	4	4	¥ 3,810 ※
M3.5 × 0.6	G6	HRZP63.5HP	4P	52	11	16	29	5	4	7	4	4	¥ 3,810 ※
M3.5 × 0.6	G6	HRZP63.5HB	2P	52	11	16	29	5	4	7	4	4	¥ 3,810 ※

※ = Specified Distribution Items. Made to order products.

Think threads with YAMAWA

6 Roll Tap Series

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

HP+RZ High Performance Roll Taps, Coated

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	TYPE	MSRP
M4 × 0.7	G6	HRZP64.0IP	4P	52	11	17	29	5	4	7	4	4	¥ 3,810
M4 × 0.7	G6	HRZP64.0IB	2P	52	11	17	29	5	4	7	4	4	¥ 3,810
M4 × 0.7	G7	HRZP74.0IP	4P	52	11	17	29	5	4	7	4	4	¥ 3,810
M4 × 0.7	G7	HRZP74.0IB	2P	52	11	17	29	5	4	7	4	4	¥ 3,810
M5 × 0.8	G6	HRZP65.0KP	4P	60	13	22	33	5.5	4.5	7	4	4	¥ 4,050
M5 × 0.8	G6	HRZP65.0KB	2P	60	13	22	33	5.5	4.5	7	4	4	¥ 4,050
M5 × 0.8	G7	HRZP75.0KP	4P	60	13	22	33	5.5	4.5	7	4	4	¥ 4,050
M5 × 0.8	G7	HRZP75.0KB	2P	60	13	22	33	5.5	4.5	7	4	4	¥ 4,050
M6 × 1	G6	HRZP66.0MP	4P	62	15	26	33	6	4.5	7	4	4	¥ 4,340
M6 × 1	G6	HRZP66.0MB	2P	62	15	26	33	6	4.5	7	4	4	¥ 4,340
M6 × 1	G7	HRZP76.0MP	4P	62	15	26	33	6	4.5	7	4	4	¥ 4,340
M6 × 1	G7	HRZP76.0MB	2P	62	15	26	33	6	4.5	7	4	4	¥ 4,340

HP-RZ High Performance Roll Taps, Coated

Recommended class

Segment : 1J

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	TYPE	MSRP
For Metric Threads													
M8 × 1.25	G7	HRZM78.0NP	4P	70	19	-	36	6.2	5	8	6	5	¥ 5,960
M8 × 1.25	G7	HRZM78.0NB	2P	70	19	-	36	6.2	5	8	6	5	¥ 5,960
M8 × 1.25	G8	HRZM88.0NP	4P	70	19	-	36	6.2	5	8	6	5	¥ 5,960
M8 × 1.25	G8	HRZM88.0NB	2P	70	19	-	36	6.2	5	8	6	5	¥ 5,960
M10 × 1.5	G7	HRZM7010OP	4P	75	23	-	38	7	5.5	8	8	5	¥ 7,160
M10 × 1.5	G7	HRZM7010OB	2P	75	23	-	38	7	5.5	8	8	5	¥ 7,160
M10 × 1.5	G8	HRZM8010OP	4P	75	23	-	38	7	5.5	8	8	5	¥ 7,160 [※]
M10 × 1.5	G8	HRZM8010OB	2P	75	23	-	38	7	5.5	8	8	5	¥ 7,160 [※]
M10 × 1.25	G7	HRZM7010NP	4P	75	23	-	38	7	5.5	8	8	5	¥ 7,160
M10 × 1.25	G7	HRZM7010NB	2P	75	23	-	38	7	5.5	8	8	5	¥ 7,160
M10 × 1.25	G8	HRZM8010NP	4P	75	23	-	38	7	5.5	8	8	5	¥ 7,160 [※]
M10 × 1.25	G8	HRZM8010NB	2P	75	23	-	38	7	5.5	8	8	5	¥ 7,160 [※]
M12 × 1.75	G8	HRZM8012PP	4P	82	26	-	42	8.5	6.5	9	8	5	¥ 9,780 [※]
M12 × 1.75	G8	HRZM8012PB	2P	82	26	-	42	8.5	6.5	9	8	5	¥ 9,780 [※]
M12 × 1.75	G9	HRZM9012PP	4P	82	26	-	42	8.5	6.5	9	8	5	¥ 9,780 [※]
M12 × 1.75	G9	HRZM9012PB	2P	82	26	-	42	8.5	6.5	9	8	5	¥ 9,780 [※]
M12 × 1.5	G8	HRZM8012OP	4P	82	26	-	42	8.5	6.5	9	8	5	¥ 9,780
M12 × 1.5	G8	HRZM8012OB	2P	82	26	-	42	8.5	6.5	9	8	5	¥ 9,780
M12 × 1.5	G9	HRZM9012OP	4P	82	26	-	42	8.5	6.5	9	8	5	¥ 9,780 [※]
M12 × 1.5	G9	HRZM9012OB	2P	82	26	-	42	8.5	6.5	9	8	5	¥ 9,780 [※]
M12 × 1.25	G8	HRZM8012NP	4P	82	26	-	42	8.5	6.5	9	8	5	¥ 9,780 [※]
M12 × 1.25	G8	HRZM8012NB	2P	82	26	-	42	8.5	6.5	9	8	5	¥ 9,780 [※]
M12 × 1.25	G9	HRZM9012NP	4P	82	26	-	42	8.5	6.5	9	8	5	¥ 9,780 [※]
M12 × 1.25	G9	HRZM9012NB	2P	82	26	-	42	8.5	6.5	9	8	5	¥ 9,780 [※]
M14 × 1.5	G9	HRZM9014OP	4P	88	26	-	45	10.5	8	11	8	5	¥ 13,700 [※]
M14 × 1.5	G9	HRZM9014OB	2P	88	26	-	45	10.5	8	11	8	5	¥ 13,700 [※]
M16 × 1.5	G9	HRZM9016OP	4P	95	26	-	48	12.5	10	13	8	5	¥ 17,000 [※]
M16 × 1.5	G9	HRZM9016OB	2P	95	26	-	48	12.5	10	13	8	5	¥ 17,000 [※]
M18 × 1.5	G9	HRZM9018OP	4P	100	33	-	51	14	11	14	8	5	¥ 24,000 [※]
M18 × 1.5	G9	HRZM9018OB	2P	100	33	-	51	14	11	14	8	5	¥ 24,000 [※]
M20 × 1.5	G9	HRZM9020OP	4P	105	33	-	50	15	12	15	8	6	¥ 29,700 [※]
M20 × 1.5	G9	HRZM9020OB	2P	105	33	-	50	15	12	15	8	6	¥ 29,700 [※]

JIS

Think threads with
YAMAWA

※ = Specified Distribution Items. Made to order products.

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L	ℓ	ℓn	ℓs	Ds	K	ℓk

HP-RZ High Performance Roll Taps, Coated

Size	Class	Code	Chamfer	L (mm)	ℓ (mm)	ℓn (mm)	ℓs (mm)	Ds (mm)	K (mm)	ℓk (mm)	Lobe	TYPE	MSRP
For Unified Threads													
No.2-56UNC	G4	HRZM4UN2EB	2P	42	8.1	-	27	3	2.5	5	4	3	¥ 4,820 ※
No.2-56UNC	G5	HRZM5UN2EB	2P	42	8.1	-	27	3	2.5	5	4	3	¥ 4,820 ※
No.2-64UNF	G4	HRZM4UN2DB	2P	42	8.1	-	27	3	2.5	5	4	3	¥ 4,820 ※
No.3-48UNC	G4	HRZM4UN3FB	2P	46	8.1	14	29	3	2.5	5	4	4	¥ 4,530 ※
No.3-56UNF	G4	HRZM4UN3EB	2P	46	8.1	14	29	3	2.5	5	4	4	¥ 4,530 ※
No.4-40UNC	G5	HRZM5UN4HB	2P	46	9	14	25	4	3.2	6	4	4	¥ 4,420
No.4-40UNC	G6	HRZM6UN4HB	2P	46	9	14	25	4	3.2	6	4	4	¥ 4,420
No.4-48UNF	G5	HRZM5UN4FB	2P	46	9	14	25	4	3.2	6	4	4	¥ 4,420 ※
No.5-40UNC	G5	HRZM5UN5HP	4P	52	11	16	28	5	4	7	4	4	¥ 4,040 ※
No.5-40UNC	G5	HRZM5UN5HB	2P	52	11	16	28	5	4	7	4	4	¥ 4,040 ※
No.5-44UNF	G5	HRZM5UN5GP	4P	52	11	16	28	5	4	7	4	4	¥ 4,040 ※
No.5-44UNF	G5	HRZM5UN5GB	2P	52	11	16	28	5	4	7	4	4	¥ 4,040 ※
No.6-32UNC	G5	HRZM5UN6JP	4P	52	11	17	27	5	4	7	4	4	¥ 4,040 ※
No.6-32UNC	G5	HRZM5UN6JB	2P	52	11	17	27	5	4	7	4	4	¥ 4,040 ※
No.6-32UNC	G6	HRZM6UN6JP	4P	52	11	17	27	5	4	7	4	4	¥ 4,040 ※
No.6-32UNC	G6	HRZM6UN6JB	2P	52	11	17	27	5	4	7	4	4	¥ 4,040 ※
No.6-40UNF	G5	HRZM5UN6HP	4P	52	11	17	27	5	4	7	4	4	¥ 4,040 ※
No.6-40UNF	G5	HRZM5UN6HB	2P	52	11	17	27	5	4	7	4	4	¥ 4,040 ※
No.8-32UNC	G6	HRZM6UN8JP	4P	60	13	22	31	5.5	4.5	7	4	4	¥ 4,280 ※
No.8-32UNC	G6	HRZM6UN8JB	2P	60	13	22	31	5.5	4.5	7	4	4	¥ 4,280 ※
No.8-32UNC	G7	HRZM7UN8JP	4P	60	13	22	31	5.5	4.5	7	4	4	¥ 4,280 ※
No.8-32UNC	G7	HRZM7UN8JB	2P	60	13	22	31	5.5	4.5	7	4	4	¥ 4,280 ※
No.8-36UNF	G6	HRZM6UN8IP	4P	60	13	22	31	5.5	4.5	7	4	4	¥ 4,280 ※
No.8-36UNF	G6	HRZM6UN8IB	2P	60	13	22	31	5.5	4.5	7	4	4	¥ 4,280 ※
No.10-24UNC	G6	HRZM6UNAMP	4P	60	13	22	32	5.5	4.5	7	4	4	¥ 4,280 ※
No.10-24UNC	G6	HRZM6UNAMB	2P	60	13	22	32	5.5	4.5	7	4	4	¥ 4,280 ※
No.10-24UNC	G7	HRZM7UNAMP	4P	60	13	22	32	5.5	4.5	7	4	4	¥ 4,280 ※
No.10-24UNC	G7	HRZM7UNAMB	2P	60	13	22	32	5.5	4.5	7	4	4	¥ 4,280 ※
No.10-32UNF	G6	HRZM6UNAJP	4P	60	13	22	32	5.5	4.5	7	4	4	¥ 4,280 ※
No.10-32UNF	G6	HRZM6UNAJB	2P	60	13	22	32	5.5	4.5	7	4	4	¥ 4,280 ※
No.10-32UNF	G7	HRZM7UNAJP	4P	60	13	22	32	5.5	4.5	7	4	4	¥ 4,280 ※
No.10-32UNF	G7	HRZM7UNAJB	2P	60	13	22	32	5.5	4.5	7	4	4	¥ 4,280 ※
No.12-24UNC	G6	HRZM6UNCMP	4P	62	15	26	32	6	4.5	7	4	4	¥ 4,590 ※
No.12-24UNC	G6	HRZM6UNCMB	2P	62	15	26	32	6	4.5	7	4	4	¥ 4,590 ※
No.12-28UNF	G6	HRZM6UNCKP	4P	62	15	26	32	6	4.5	7	4	4	¥ 4,590 ※
No.12-28UNF	G6	HRZM6UNCKB	2P	62	15	26	32	6	4.5	7	4	4	¥ 4,590 ※
1/4-20UNC	G7	HRZM7U04NP	4P	62	15	26	33	6	4.5	7	4	4	¥ 4,590 ※
1/4-20UNC	G7	HRZM7U04NB	2P	62	15	26	33	6	4.5	7	4	4	¥ 4,590 ※
1/4-28UNF	G7	HRZM7U04KP	4P	62	15	26	33	6	4.5	7	4	4	¥ 4,590 ※
1/4-28UNF	G7	HRZM7U04KB	2P	62	15	26	33	6	4.5	7	4	4	¥ 4,590 ※

Number of oil grooves : Metric thread : M2.6 and smaller=non, M3~M6=2, M8=3, M10 and larger=4

Unified thread : No.4 and smaller=non, No.5 and larger=2

For M6 and smaller, external centers of 2 thread chamfer taps are removed.

6

JIS

Spiral Fluted Taps
(for blind hole)

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Center Drills
Centering Tools

⑪

Precision Machinery/
Medical Surgical Instruments

⑫

JIS

⑥-50