Think threads with YAMAWA

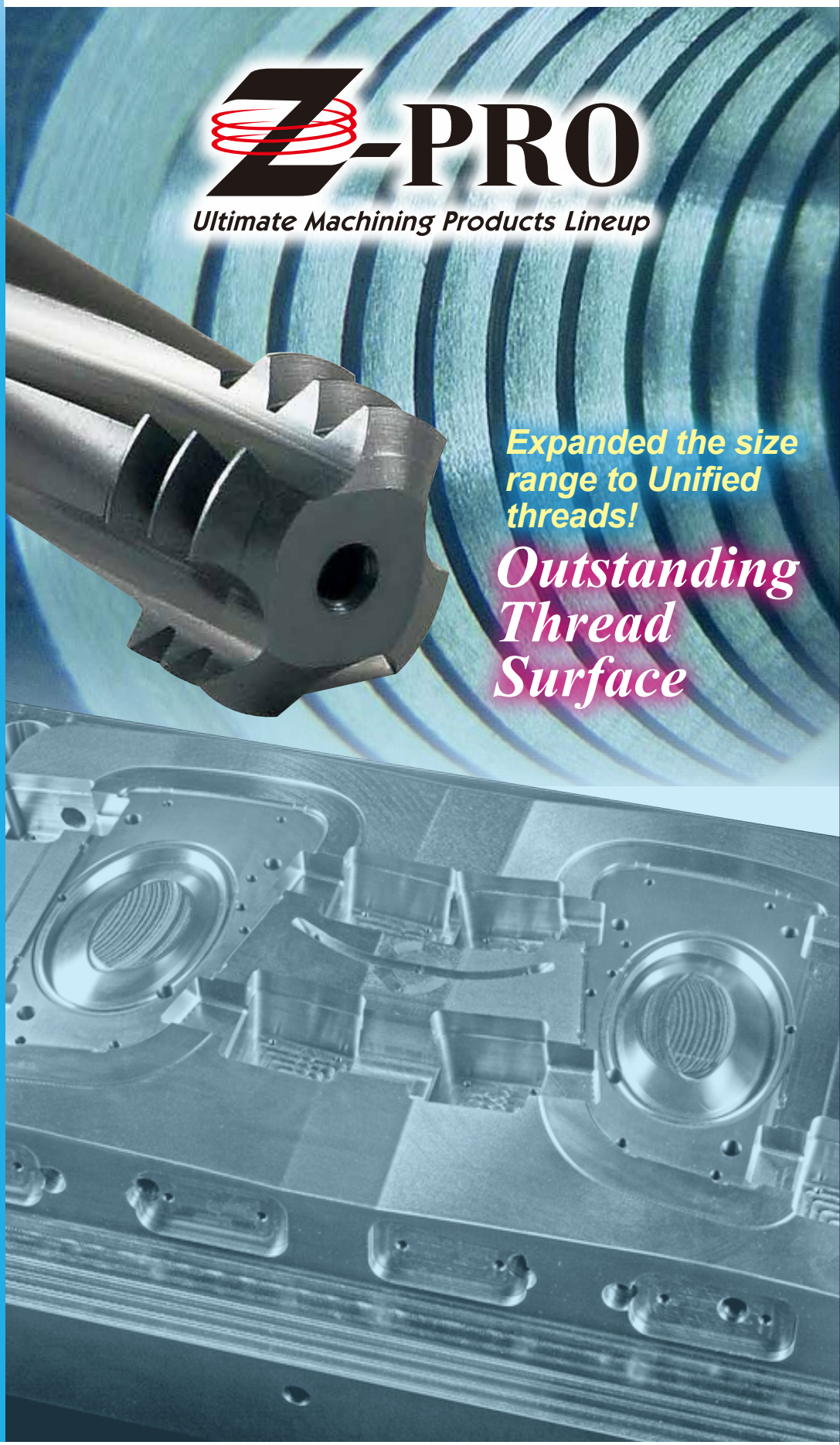
▪ The Premium Thread Mills ▪

PRML

PRML

The Premium Thread Mills

Create "An Outstanding Thread Surface" with the Innovative PRML Thread Mills!



Specifications may change without prior notice

Z-PRO
Ultimate Machining Products Lineup

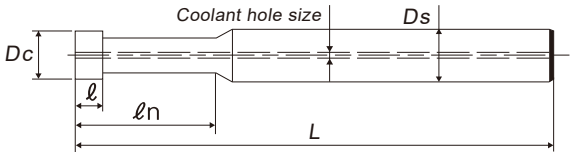
The Premium Thread Mills **PRML** Coating **HF**

HF : Ultra micro grain cemented carbide

Dimension and sizes

←3 Screw Threads

Left Hand Cut



For machining internal threads only

Size	Product code	Dc (mm)	L (mm)	ℓ (mm)	ℓn (mm)	Ds (mm)	No. of flutes	Coolant hole size (mm)	Minimum machinable thread size	Maximum machinable length	MSRP(JPY)
3.5P0.8	MH3.5KNEXLM	3.5	60	2.4	12	6	3	0.5	M5	10	16,200
4.0P1.0	MH4.0MNEXLM	4	60	3	14	6	3	0.5	M6	12	16,200
4.0P0.75	MH4.0JNEXLM	4	60	2.3	14	6	3	0.5	M6	12	16,200
6.0P1.25	MH6.0NNEXLM	6	70	3.8	18	6	4	1	M8	16	22,100
6.0P1.0	MH6.0MNEXLM	6	70	3	18	6	4	1	M8	16	22,100
7.5P1.5	MH7.5ONEXLM	7.5	80	4.5	22	8	4	1	M10	20	23,100
7.5P1.25	MH7.5NNEXLM	7.5	80	3.8	22	8	4	1	M10	20	23,100
7.5P1.0	MH7.5MNEXLM	7.5	80	3	22	8	4	1	M10	20	23,100
9.0P1.75	MH9.0PNEXLM	9	90	5.3	26	10	4	1.5	M12	24	26,400
9.0P1.5	MH9.0ONEXLM	9	90	4.5	26	10	4	1.5	M12	24	26,400
9.0P1.25	MH9.0NNEXLM	9	90	3.8	26	10	4	1.5	M12	24	26,400
◎ 3.5U24	MH3.5MNEXLU	3.5	60	3.2	11.7	6	3	0.5	No10	9.7	16,200
◎ 3.5U32	MH3.5JNEXLU	3.5	60	2.4	11.7	6	3	0.5	No10	9.7	16,200
◎ 4.5U20	MH4.5NNEXLU	4.5	60	3.8	14.7	6	4	0.5	1/4	12.7	17,900
◎ 4.5U28	MH4.5KNEXLU	4.5	60	2.7	14.7	6	4	0.5	1/4	12.7	17,900
◎ 5.8U18	MH5.8ONEXLU	5.8	70	4.2	17.9	6	4	1	5/16	15.9	22,100
◎ 5.8U24	MH5.8MNEXLU	5.8	70	3.2	21.1	6	4	1	5/16	19.1	22,100
◎ 6U16	MH6.0PNEXLU	6	70	4.8	21.1	6	4	1	3/8	19.1	22,100
◎ 8U14	MH8.0QNEXLU	8	80	5.4	24.2	8	4	1	7/16	22.2	23,100
◎ 8U20	MH8.0NNEXLU	8	80	3.8	27.4	8	4	1	7/16	25.4	23,100
◎ 9U13	MH9.0RNEXLU	9	90	5.9	27.4	10	4	1.5	1/2	25.4	26,400

◎・・・Additional size

* MSRP=Manufacturer's Suggested Retail Price

Can be applied to various workpiece materials

Recommended Process Conditions

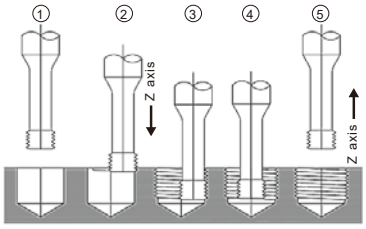
Workpiece Material	Cutting Speed (m/min)	Feed per tooth fz (mm/t)
Thermal Refined Steel 35 to 45HRC	40 to 100	0.02 to 0.05
Thermal Refined Steel 25 to 35HRC	40 to 100	0.03 to 0.06
Cast Iron FC	40 to 100	0.02 to 0.05
Ductile Cast Iron FCD	40 to 100	0.02 to 0.05
Alloy Steel SCM	40 to 100	0.04 to 0.06
High Carbon Steel S45C,etc	40 to 100	0.04 to 0.06
Medium Carbon Steel S25C-S45C	60 to 100	0.03 to 0.05
Low Carbon Steel S20C/SS400, etc	60 to 100	0.03 to 0.05

***RPM and Feed Rate;**

RPM(min-1)=1000mm x Cutting Speed/3.14/Outside Diameter(Dc) of PRML cutter.
Feed Rate (mm/min)=fz(mm/t) x No. of flutes x RPM x (Major diameter of internal screw thread - Dc)/Major diameter of internal screw thread

How to use PRML

The PRML is a left hand cutting tool. The tool rotates counter clockwise.
The PRML feeds in the Z axis from the top down as shown below.
Please download "Thread Milling Programmer" for generating threading NC programs from YAMAWA website.

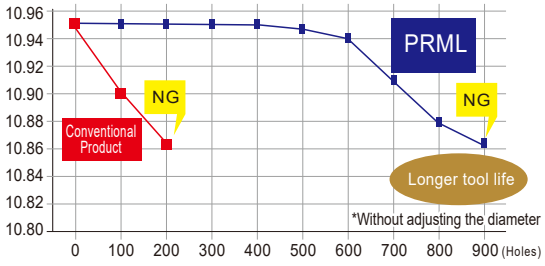


Process Data

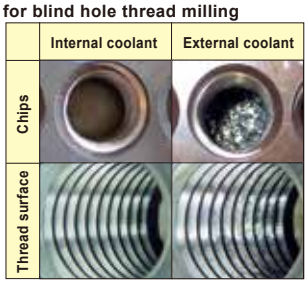
Process Conditions:PRML 9.0P1.75 M12x1.75

Workpiece Material	SCM440(30HRC)
Cutting Speed	100m/min
Feed per tooth fz	0.06mm/t
Cutting Depth	24mm
Hole diameter	Φ10.3
Number of passes	1
Machine	Machining Center(BT30)
Cutting Fluid	Water Soluble (x20)

Degradation of Pitch Diameter



Internal coolant is recommended for blind hole thread milling



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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YAMAWA group for Overseas

YAMAWA International Co., Ltd.

ISO 9001 JQA-QMA14664

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