

Rich Mill Series - #2

Rich Mill - RM4

New



New Generation Milling Tool

- RM4, as a multi functional milling tool, offers economical 4 cutting edges by using innovative double-sided insert.
- RM4 provides long tool life due to the low cutting force it makes during the machining. Specially designed chip breaker consists of high rake angle and strong cutting edge decreases the cutting load, effectively.
- RM4 is multi functional tool can covers facing, side cutting, shouldering, slotting, ramping & helical cutting.
- Optimal matching of the special cutting edge line geometry with variety of new grades provides consistence & long tool life of insert.



Facing



Shouldering



Slotting



Ramping down



Helical Ramping



Through Coolant System



Features of RM4

- Double sided insert using 4 cutting edges
- Special indexable tool using strong negative insert having high rake angle cutting edges
- Multi functional tool covers facing, side cutting, shouldering, slotting, ramping & helical cutting



Through coolant system
: Longer tool life due to direct cooling injection into the cutting edge of insert

- Wide chip pocket for better chip evacuation
- Simple screw on system

Through coolant system (Cutter $\phi 50 \sim \phi 125$)

- : By using exclusive coolant bolt (hexagonal socket bolt) powerful cooling & better chip evacuation can be acquired.
- : To get optimal chip control, the direction of coolant injection has designed to reach to each cutting edge directly.
- * Through coolant arbor is necessary.
- * Exclusive coolant bolt is sold separately.

Insert of RM4

Chip breaker
: High rake angle for smooth chip control

Step design
: Improving chip control by reduce the cutting load

Minor cutting edge
: Special design of cutting edge to improve surface roughness

Major cutting edge
: Low cutting load from high rake chip breaker provides smooth cutting

Periphery face
: Strong negative face (Clearance angle 0°)

Concave design
: To avoid interference between each cutting edges

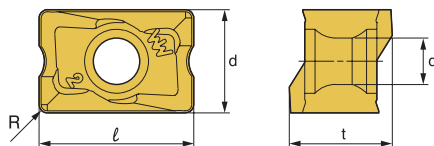


Features of cutter

Setting configuration	Setting angle of insert	Features
	<p>1</p>	<ul style="list-style-type: none"> • High rake chip breaker & positive setting angle for low cutting load
	<p>2</p>	<ul style="list-style-type: none"> • Multi applications for facing, shouldering, slotting, ramping, helical, etc.



RM4 Insert



Designation	Grade						Dimensions (mm)				
	NCM325	PC3525	PC3535	PC6510	PC9530	H01	l	d	t	R	d ₁
LNMX151008PNR-MM	○	●	○	●	○		15.0	10.0	10.0	0.8	4.5
LNEX151008PNR-MM	○	○	○	○	○		15.0	10.0	10.0	0.8	4.5
LNMX151008PNR-MF	○	●	○	●			15.0	10.0	10.0	0.8	4.5
LNEX151008PNR-MF	○	○	○	○			15.0	10.0	10.0	0.8	4.5

● Stock item, ○ Under preparing for stock

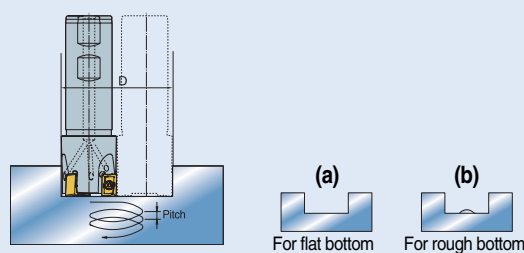
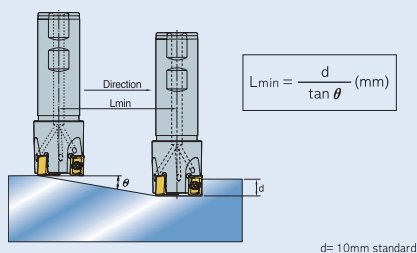
Chip Breakers

Configuration		Cutting edge	Features
Finishing	MF		<ul style="list-style-type: none"> Low cutting resistance Light cutting and hard-to-cut material cutting chip breaker
Medium	MM		<ul style="list-style-type: none"> General and wide milling application

Parts

Screw		FTKA0412B	Wrench		TW15S
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RM4 Ramping & Helical cutting technical data

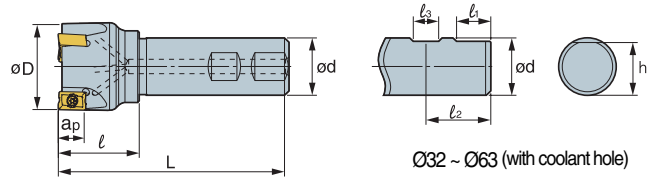


Designation	øDc	θ	Lmin	D max (mm)	Max Pitch (mm/rev)	Helical Cutting			
						(a)		(b)	
						D min (mm)	Max Pitch (mm/rev)	D min (mm)	Max Pitch (mm/rev)
RM4PS4032HR	32	3.4	168	62	3.7	60	3.6	49	2.9
RM4PS4040HR	40	3.1	185	78	4.2	76	4.1	65	3.5
RM4PS4050HR	50	2.9	197	98	5.0	96	4.9	85	4.3
RM4PS4063HR	63	2.9	197	124	6.3	122	6.2	111	5.6
RM4PCM4050HR	50	2.9	197	98	5.0	96	4.9	85	4.3
RM4PCM4063HR	63	2.9	197	124	6.3	122	6.2	111	5.6
RM4PCM4080HR	80	2.9	197	158	8.0	156	7.9	145	7.3
RM4PCM4100HR	100	2.9	197	198	10.0	196	9.9	185	9.4
RM4PCM4125HR	125	2.9	197	248	12.6	246	12.5	235	11.9
RM4PCM4160R	160	2.9	197	318	16.1	316	16.0	305	15.5



RM4 Shank

• RM4PS4000 Series



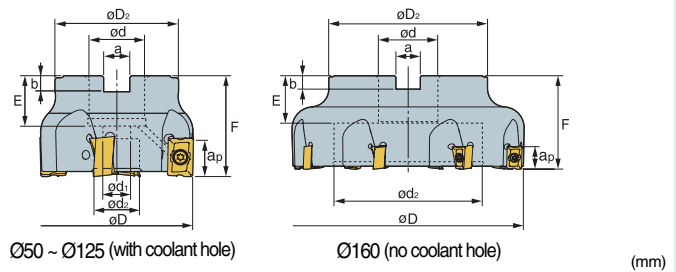
(mm)

Designation	Stock		ϕD	L	ϕd	l	l ₁	l ₂	l ₃	h		a _p (Max.depth of cut)
	R	L										
RM4PS4032HR-S32	●		32	125	32	40	19	36	14	30	2	14.0
RM4PS4040HR-S32	●		40	125	32	42	19	36	14	30	3	
RM4PS4050HR-S32	●		50	125	32	45	19	36	14	30	3	
RM4PS4050HR-S32M	○		50	125	32	45	19	36	14	30	4	
RM4PS4063HR-S32	●		63	125	32	45	19	36	14	30	4	
RM4PS4063HR-S32M	○		63	125	32	45	19	36	14	30	6	

● Stock item, ○ Under preparing for stock

RM4 Cutter

• RM4PC(M)4000 Series



(mm)

Designation	Stock		ϕD	ϕD_2	ϕd	ϕd_1	ϕd_2	F	a	b	E		a _p (Max.depth of cut)
	R	L											
RM4PCM4050HR	●		50	46	22	11	18	40	10.4	6.3	20	3	14.0
RM4PCM4050HR-M	○		50	46	22	11	18	40	10.4	6.3	20	4	
RM4PCM4063HR	●		63	49	22	11	18	40	10.4	6.3	20	4	
RM4PCM4063HR-M	○		63	49	22	11	18	40	10.4	6.3	20	6	
RM4PC(M)4080HR	●		80	57	25.4(27)	14	20	50	9.75(12.4)	6.0(7.0)	25(22)	5	
RM4PC(M)4080HR-M	○		80	57	25.4(27)	14	20	50	9.75(12.4)	6.0(7.0)	25(22)	7	
RM4PC(M)4100HR	●		100	67	31.75(32)	18	26	50(63)	12.95(14.4)	8.0(8.0)	33(25)	5	
RM4PC(M)4100HR-M	○		100	67	31.75(32)	18	26	50(63)	12.95(14.4)	8.0(8.0)	33(25)	8	
RM4PC(M)4125HR	●		125	87	38.1(40)	22	32	63	16.15(16.4)	10(9.0)	35(30)	7	
RM4PC(M)4125HR-M	○		125	87	38.1(40)	22	32	63	16.15(16.4)	10(9.0)	35(30)	10	
RM4PC(M)4160R	●		160	107	50.8(40)	-	100	63	19.25(16.4)	11(9.0)	38(32)	8	
RM4PC(M)4160R-M	○		160	107	50.8(40)	-	100	63	19.25(16.4)	11(9.0)	38(32)	12	

() : Full metric type ● Stock item, ○ Under preparing for stock