



**High Feed
Milling**

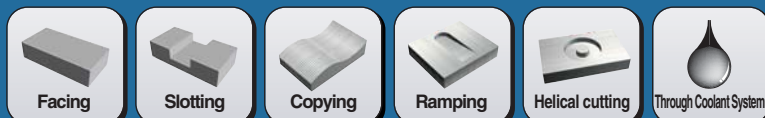
Double Sided insert

HRMDouble

New

Features

- High rake angle cutting edge realized high feed and multi functional machining due to reduced cutting load.
- HRMD has improved economical aspect to use 6 cutting edges compared to HRM tool with positive insert.
- Negative geometry has been designed for rigidity of cutting edge and double sided function.
- HRMD insert with symmetrical cutting edge is applicable to be both-R and L type machining.
- Simple screw on system and stable upholding are able to achieve strong clamping force.



HRM Double

Features of insert | Features of cutter | Application area

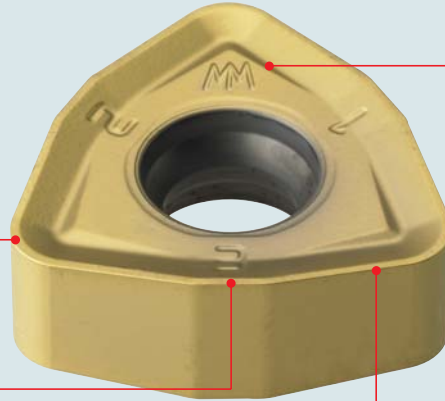
Features of insert

Nose-R

- Security of rigid edge in ramping, pocket machining
- Round edge line suitable for high feed
- Insert geometry extrinsic to R/L type machining

Minor cutting edge

- Improvement of surface roughness
- Design for decreasing thrust force



Chip breaker

- Reduction of cutting load due to high rake angle
- Improvement of chip flow
- Prevention of damage on clamping face of insert

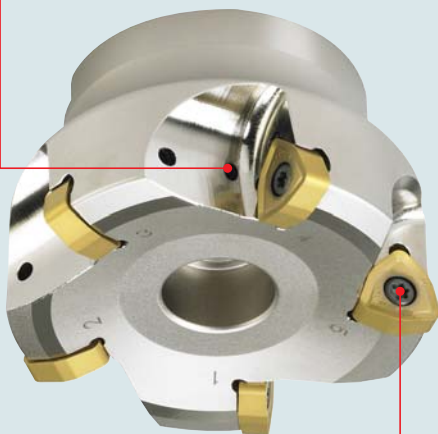
Major cutting edge

- High feed by application of high rake cutting edge
- Realization of low cutting resistance in high feed
- Symmetrical insert design for R/L type tool

Features of cutter

Through coolant system

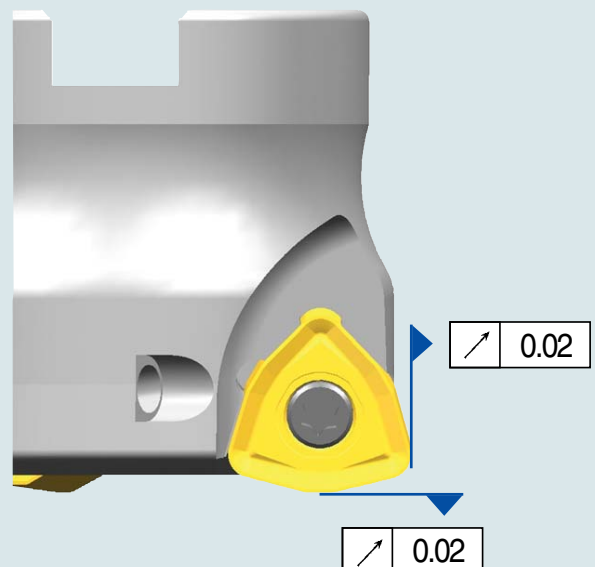
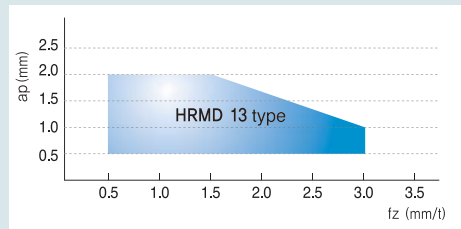
- Direct cooling for improvement of chip control
- Longer tool life due to reduce cutting temperature



Simple screw on system

- Powerful clamping of screw on system
- Wide contact face for stable upholding
- Wide chip pocket for better chip evacuation

Application area



■ Unique insert design and high tolerance of tip seat part guarantees high quality surface roughness

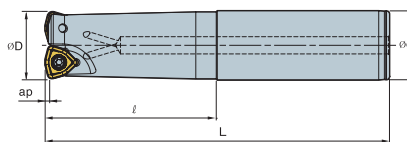


HRM Double

HRMD Shank

HRMDS13

New



Desingation	Stock		No. of tooth	ϕD	ϕd	L	l	ap	kg
	R	L							
HRMDS 1332HR-2S32	●		2	32	32	150	70	2	0.8
1332HR-2M32	●		2	32	32	200	120	2	1
1332HR-2L32	●		2	32	32	300	180	2	1.6
1333HR-2S32	●		2	33	32	150	70	2	0.8
1333HR-2M32	●		2	33	32	200	70	2	1.1
1333HR-2L32	●		2	33	32	300	70	2	1.7
1335HR-2S32	●		2	35	32	150	50	2	0.8
1335HR-2M32	●		2	35	32	200	50	2	1.1
1335HR-2L32	●		2	35	32	300	50	2	1.7
1340HR-3S32	●		3	40	32	150	50	2	0.8
1340HR-3M32	●		3	40	32	250	50	2	1.4
1340HR-3L32	●		3	40	32	300	50	2	1.7
1340HR-3S40	●		3	40	40	150	60	2	1.2
1340HR-3M40	●		3	40	40	250	130	2	2.1
1340HR-3L40	●		3	40	40	300	180	2	2.6
1340HR-3S42	●		3	40	42	150	60	2	1.4
1340HR-3M42	●		3	40	42	250	130	2	2.3
1340HR-3L42	●		3	40	42	300	180	2	2.7

● Stock item, ○ Under preparing for stock

Parts

Screw	Wrench
FTKA0412B	TW15S

Available insert



WNMX-MM

Desingation	Coated			
	PC3525	PC3545	PC8520	PC9530
WNMX130520ZNN-MM	●	○	○	○

● Stock item, ○ Under preparing for stock

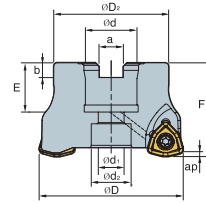
HRM Double

HRMD Cutter



HRMDCM13



New



Desingation	Stock		No. of tooth	ϕD	ϕD_2	ϕd	a	b	E	F	ϕd_1	ϕd_2	ap	kg	Bolt	
	R	L														
HRMDCM	13050HR-3	●		3	50	42	22	10.4	6.3	21	40	11	17	2	0.3	SB1025
	13050HR-4	●		4	50	42	22	10.4	6.3	21	40	11	17	2	0.3	SB1025
	13063HR-4	●		4	63	49	22	10.4	6.3	21	40	11	18	2	0.5	SB1025
	13063HR-5	●		5	63	49	22	10.4	6.3	21	40	11	18	2	0.5	SB1025
	13080HR-5	●		5	80	57	27	12.4	7	23	50	14	20	2	1.0	SB1230
	13080HR-6	●		6	80	57	27	12.4	7	23	50	14	20	2	1.0	SB1230
	13100HR-6	●		6	100	67	32	14.4	8	25	50	18	26	2	1.6	SB1630
	13100HR-7	●		7	100	67	32	14.4	8	25	50	18	26	2	1.6	SB1630

●Stock item, ○Under preparing for stock

Parts

Screw	Wrench
	
FTKA0412B	TW15S

Available insert



WNMX-MM

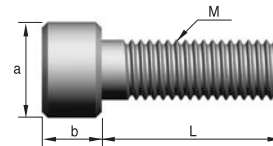
Desingation	Coated			
	PC3525	PC3545	PC8520	PC9530
WNMX130520ZNN-MM	●	○	○	○

●Stock item, ○Under preparing for stock

Available arbor

Designation	Arbor	
HRMDCM	13050HR-3	BT30/BT40/BT50 FMC22 SK30/SK40/SK50 FMC22
	13050HR-4	
	13063HR-4	
	13063HR-5	
	13080HR-5	BT40/BT50 FMC27 SK30/SK40/SK50 FMC27
	13080HR-6	
	13100HR-6	BT40/BT50 FMC32 SK40/SK50 FMC32
	13100HR-7	

Available bolt



Desingation	Dimensions(mm)			
	a	b	L	pitch
SB1025	16	10	25	1.5
SB1230	18	12	30	1.75
SB1630	24	16	30	2



HRM Double

Code system | Corner R programming | Recommended cutting condition

Code system

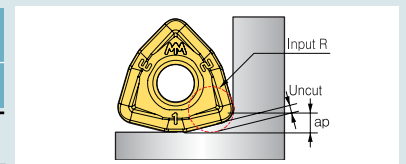
HRM	D	C	M	13	063	H	R	-	5
High Removal Milling	Double sided insert	Tool type C : Cutter	Arbor type M : Metric A : Inch	Insert I/C 13 : 12.7mm	Tool diameter ISO : mm AISI : inch	Coolant type H : Thru-hole Unmarked : No thru-hole	Hand of tool R : Right L : Left		Number of tooth 5 : 5 teeth

HRM	D	S	13	35
High Removal Milling	Double sided insert	Tool type S : Shank	Insert I/C 13 : 12.7mm	Tool diameter ISO : mm AISI : inch

H	R	-	2	S	32
Coolant type H : Thru-hole Unmarked : No thru-hole	Hand of tool R : Right L : Left		Number of tooth 2 : 2 teeth	Tool length S : Standard M : Middle L : Long	Shank diameter ø32

Corner R programming

Designation	Cutting condition		Approx. R (mm)	
	Max.ap(mm)	Max.fz(mm/t)	Input. R	Uncut
WNMX130520ZNN-MM	2	3	3	0.8

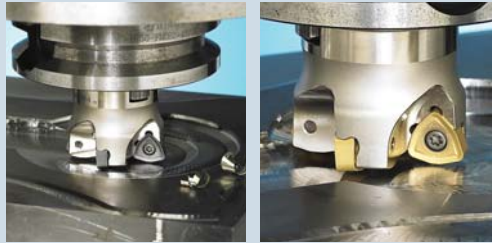


· Information for uncut part by using "Input.R" for CAM program.

· Uncut part can be changed by poor machine condition or weak clamp of workpiece, etc.

Recommended cutting condition

Workpiece		Hardness	Grade	vc (m/min)	fz (mm/t)
P	General structural steel, Mild steel	Under 200HB	PC3525	180(100 ~ 230)	1.0 ~ 2.0
			PC3545		
	Carbon steel, Alloy steel	Under 30H _R C	PC3525	160(100 ~ 200)	1.0 ~ 1.5
			PC3545		
High Carbon steel, Alloy steel	30~40H _R C	PC3525	120(80~130)	0.8 ~ 1.3	
		PC3545			
Pre-hardened steel	40~50H _R C	PC3525	100(70~120)	0.8 ~ 1.0	
		PC8520			
M	Stainless steel	Under 270HB	PC3545	120(70~160)	0.8 ~ 1.3
			PC9530		
K	Cast iron	Under 350N _{mm} ²	PC3525	150(100~200)	1.2 ~ 1.8



Warning

※ Safety instruction

- Use glasses safely and face cover with protective equipment. If cutting condition and use method are inaccurate, you may be injured by broken tools or scattered chips.
- Excessive cutting load may influence badly on both tool and machine.
Make suitable tool replacement for preventing failure of machining.
- After machine stopped, clean remained chips from machine with special cleaning equipment.
- Keep safety distance from acute and hot chip during machining.
- Make precaution for prevention of fire in advance when you use insoluble cutting oil.
- Assembled parts may be scattered at high speed cutting. Please use protective equipment.