



# MCC Mill >>>

60° & 90° Deburring, 55° & 60° Threading

**P M K N H**

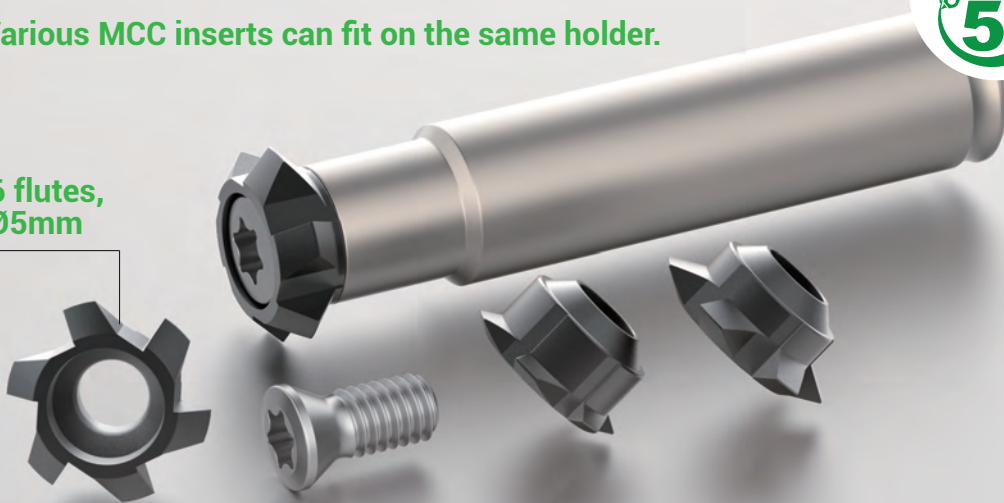
▶ **Optimum 6 flutes design, the smallest insert dia. is 5mm.**

- Min. deburring bore from  $\varnothing 4.2 \sim \varnothing 10\text{mm}$ .
- The smallest insert  $\varnothing 5.0$  can do M6xP0.75 internal threading and deburring.

▶ **Various MCC inserts can fit on the same holder.**



6 flutes,  
 $\varnothing 5\text{mm}$



## Features >>>

▶ **Deburring Mill 60° & 90°**

- Front & back deburring in one operation, grooving is also possible.
- Each insert has 6 flutes.
- Thanks for special insert geometry and Nine9 clamping system to provide high precision and accurate position.

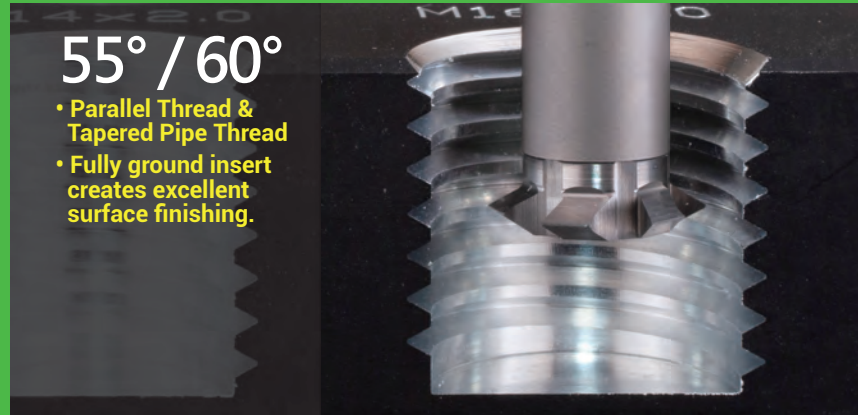
▶ **Threading Mill 55° / 60°**

- The smallest insert  $\varnothing 5.0$  can do M6xP0.75 internal threading and deburring.
- For external different threading pitch can be done by NC programming.  
For example:  $\varnothing 10.0\text{mm}$  insert can do external, threading pitch from P1.0 to P1.75mm, save your tool inventory.
- Each insert has 6 flutes.
- Thanks for special insert geometry and Nine9 clamping system to provide high precision and accurate position.





## Applications



**55° / 60°**

- Parallel Thread & Tapered Pipe Thread
- Fully ground insert creates excellent surface finishing.



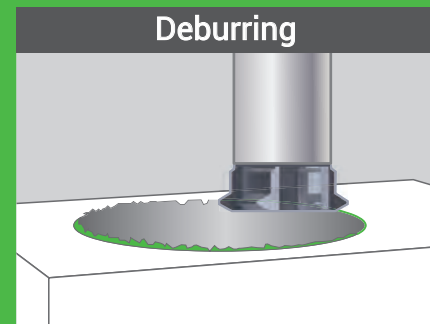
**60° / 90°**

- For front and back deburring.
- Good for hardened material up to HRC60.

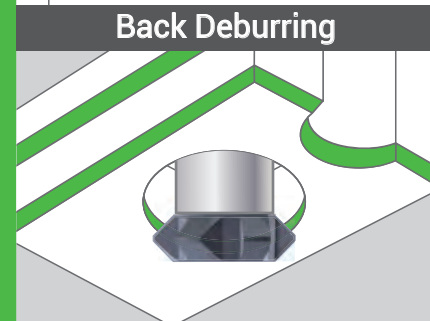
“

- Specialized on narrow space below 10mm by indexable inserts.
- 6 cutting flutes, higher feed rate, good for hardened steel up to HRC60.

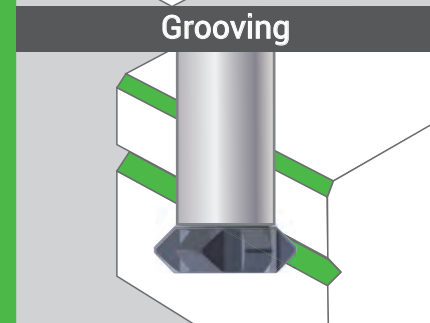
”



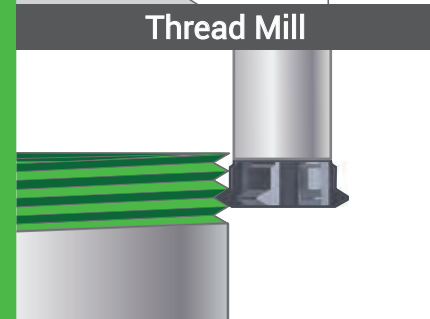
Deburring



Back Deburring



Grooving

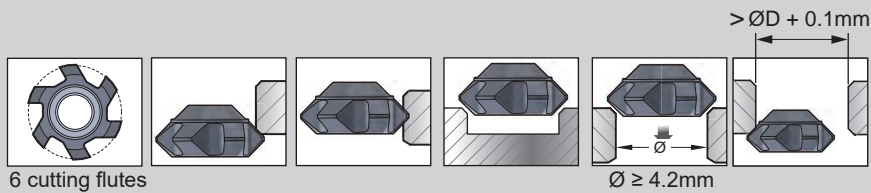


Thread Mill

5

MCC Mill

# MCC Mill- Deburring



## ► Inserts >>

**NC2032:** • TiAlN coating provides longer tool life.

- For all kinds of steel < HRC60, carbon steel, alloy steel and cast iron.

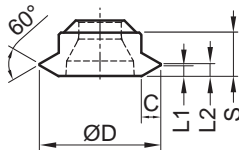
**XP9000:** • High positive and sharp edge produces excellent surface finish.

- For non-ferrous material such as aluminum, brass, copper and soft material.

## ► 60° deburring

- For front and back deburring.
- Also for threading application.

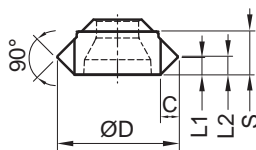
Holder Size	Code	Parts No.	Coating	Grade	ØD ±0.025	L1	L2	S ±0.025	C	0.1C	
										min. hole	max. hole
CR05	01R2103	R06005-05010-32	TiAlN	K20F	5.0	0.35	0.45	2.0	0.40	4.2	4.8
	01R2104	R06005-05010-00	Uncoated								
CR07	01R2301	R06007-06810-32	TiAlN	K20F	6.8	0.40	0.50	2.35	0.50	5.6	6.6
	01R2302	R06007-06810-00	Uncoated								
CR10	01R2601	R06010-08510-32	TiAlN	K20F	8.5	0.49	0.59	3.60	0.65	7.2	8.3
	01R2602	R06010-08510-00	Uncoated								
	01R2603	R06010-10010-32	TiAlN								
	01R2604	R06010-10010-00	Uncoated								



## ► 90° deburring

- Front and back deburring in one operation.

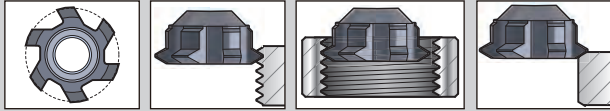
Holder Size	Code	Parts No.	Coating	Grade	ØD ±0.025	L1	L2	S ±0.025	C	0.1C	
										min. hole	max. hole
CR05	01R4101	R09005-05060-32	TiAlN	K20F	5.0	0.60	1.20	2.00	0.4	4.2	4.8
	01R4102	R09005-05060-00	Uncoated								
CR07	01R4301	R09007-07020-32	TiAlN	K20F	7.0	1.00	1.20	2.35	0.7	5.6	6.8
	01R4302	R09007-07020-00	Uncoated								
CR10	01R4601	R09010-10010-32	TiAlN	K20F	10.0	1.45	1.55	3.60	1.2	7.6	9.8
	01R4602	R09010-10010-00	Uncoated								



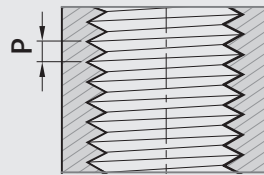
5

MCC Mill

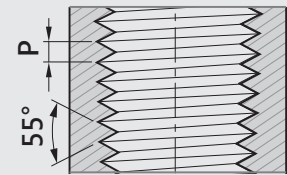
# MCC Mill- Threading



6 cutting flutes



55° Parallel Pipe thread  
60° Parallel thread



55° Tapered Pipe thread

## ► Inserts >>

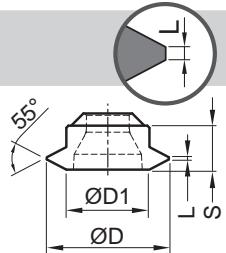
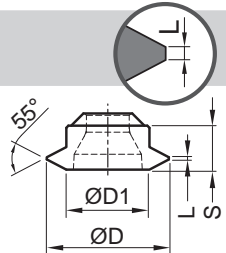
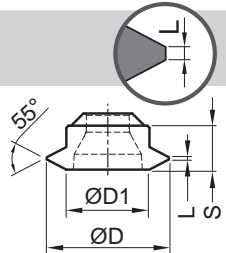
**NC2032:** • TiAIN coating provides longer tool life.

- For all kinds of steel < HRC50, carbon steel, alloy steel and cast iron.

**XP9000:** • High positive and sharp edge produces excellent surface finish.

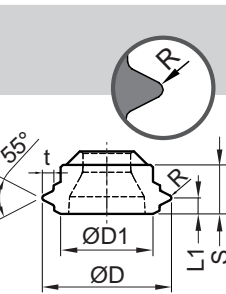
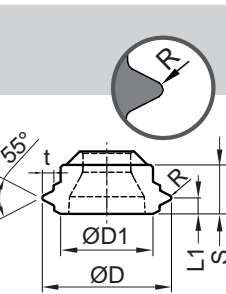
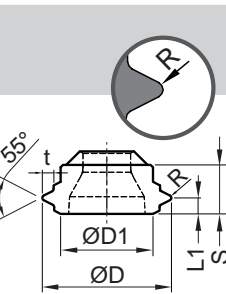
- For non-ferrous material such as aluminum, brass, copper and soft material.

### ► 55° Parallel Pipe Thread: Ideal for milling parallel threads such as ISO/JIS-G, PF, Rp, PS; BSPP.

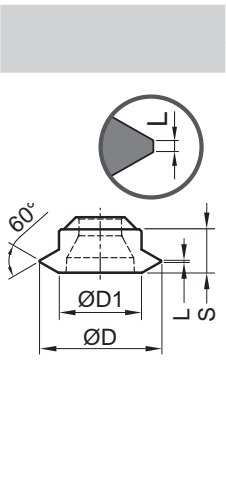
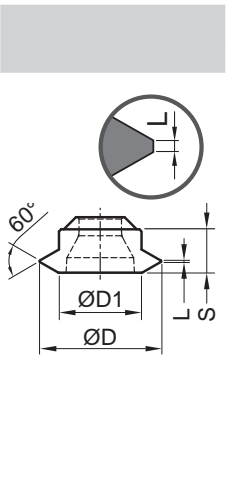
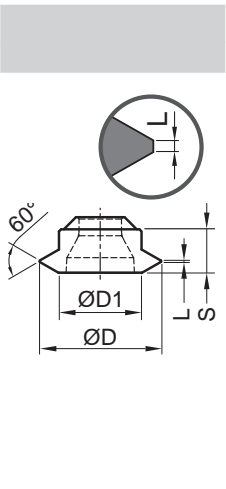
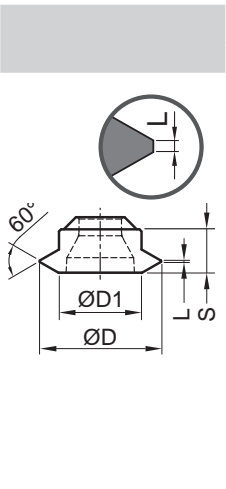
Holder Size	Code	Parts No.	Coating	Grade		ØD ±0.025	ØD1	L	S ±0.025	Pitch range	
										TPI	
CR07	01R1301	R05507-06512-32	TiAIN	K20F		6.56	5.32	0.12	2.35	28	
	01R1302	R05507-06512-00	Uncoated								
CR10	01R1601	R05510-10018-32	TiAIN	K20F		10.0	6.92	0.18	3.60	19 ~ 14	
	01R1602	R05510-10018-00	Uncoated								

### ► 55° Tapered Pipe Thread: Perfect for milling tapered threads like ISO/JIS-R, PT, Rc; BSPT.

- Mill a tapered thread directly into a drilled hole without the need to pre-mill the taper.

Holder Size	Code	Parts No.	Coating	Grade		ØD ±0.025	ØD1	t	R	L1	S ±0.025	Pitch range	
												TPI	
CR10	01R1603	R05510-09516-32	TiAIN	K20F		9.50	6.8	0.85	0.18	1.18	3.6	19	
	01R1604	R05510-09516-00	Uncoated										
	01R1605	R05510-10025-32	TiAIN	K20F		10.0	6.8	1.16	0.25	1.42	3.6	14	
	01R1606	R05510-10025-00	Uncoated										

### ► 60° Parallel Thread

Holder Size	Code	Parts No.	Coating	Grade		ØD ±0.025	ØD1	L	S ±0.025	Screw Size	Pitch range		
											mm	TPI	
CR05	01R2101	R06005-05006-32	TiAIN	K20F		5.0	3.9	0.06	2.0	M6	Internal	0.6 ~ 0.75	32 ~ 28
	01R2102	R06005-05006-00	Uncoated								External	0.5 ~ 0.7	48 ~ 36
	01R2103	R06005-05010-32	TiAIN								Internal	0.8 ~ 1.0	28 ~ 24
	01R2104	R06005-05010-00	Uncoated								External	0.6 ~ 0.8	40 ~ 32
CR07	01R2301	R06007-06810-32	TiAIN	K20F		6.8	5.5	0.10	2.35	M8	Internal	0.8 ~ 1.25	28 ~ 20
	01R2302	R06007-06810-00	Uncoated								External	0.7 ~ 1.0	36 ~ 28
CR10	01R2601	R06010-08510-32	TiAIN	K20F		8.5	6.9	0.10	3.60	M10	Internal	1.0 ~ 1.5	24 ~ 18
	01R2602	R06010-08510-00	Uncoated								External	0.7 ~ 1.0	36 ~ 24
	01R2603	R06010-10010-32	TiAIN								Internal	1.0 ~ 2.0	24 ~ 13
	01R2604	R06010-10010-00	Uncoated								External	1.0 ~ 1.75	24 ~ 14

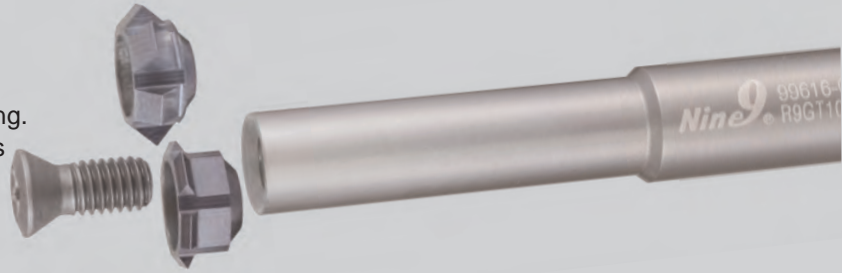
5

MCC Mill

# MCC Mill

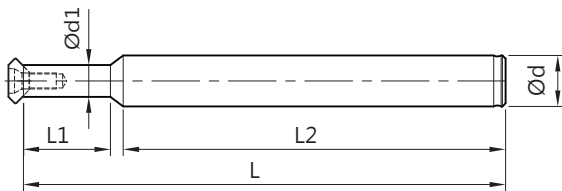
## ► Feature >>

- Patented clamping system for accurate positioning.
- Dual-contact insert pocket, exchange accuracy is guaranteed.



## ► Holder >>

- Various OAL holders for your choice.
- Carbide shank holders good for fine finish.



Holder Size	Code	Parts No.	Type	Shank	Ød	Ød1	L1	L2	L	Screw / Key
CR05	70R104	00-99626-CR05-06-039	BC06-CR05-039	Steel	6	3.5	4	33	39	*NS-20045 0.6Nm / NK-T6
	70R105	00-99626-CR05-06-045	BC06-CR05-045		6	3.5	10	33	45	
	70R103	00-99626-CR05-08-076	BC08-CR05-076		8	3.5	10	60	74	
	70R101	00-99626-CR05-05-043	BC05-CR05-043	5	3.5	16	24	41		
	70R106	00-99626-CR05-06-051	BC06-CR05-051	Carbide	6	3.5	16	33	51	
	70R107	00-99626-CR05-06-051W	BC06-CR05-051W		6	3.5	16	33	51	
	70R304	00-99626-CR07-06-041	BC06-CR07-041		Steel	6	5.0	6	33	
70R303	00-99626-CR07-08-078	BC08-CR07-078	8			5.0	13	60	75	
70R305	00-99626-CR07-06-049	BC06-CR07-049	6	5.0		14	33	49		
70R301	00-99626-CR07-06-052	BC06-CR07-052	6	5.0		21	27	49		
70R306	00-99626-CR07-06-057	BC06-CR07-057	6	5.0		22	33	57		
70R307	00-99626-CR07-06-057W	BC06-CR07-057W	6	5.0		22	33	57		
CR10	70R604	00-99626-CR10-08-049	BC08-CR10-049	Steel	8	6.8	7	40	49	NS-35080 2.5Nm / NK-T15
	70R603	00-99626-CR10-08-082	BC08-CR10-082		8	6.8	16	60	78	
	70R605	00-99626-CR10-08-059	BC08-CR10-059		8	6.8	17	40	59	
	70R606	00-99626-CR10-08-069	BC08-CR10-069		8	6.8	27	40	69	
	70R607	00-99626-CR10-08-084W	BC08-CR10-084W	Carbide	8	6.8	27	55	84	

\*Torque screwdriver is recommended.

## ► Single Set >>

- Included one holder and one insert is available on request.

**Example:**

Parts No.	Insert included				Holder included		Content
	Type / grade	ØD ±0.025	C	S ±0.025	Shank	L	
00-99626-R106-4101	R09005-05060-32	5.0	0.4	2.00	00-99626-CR05-06-051	51	1 tool holder + 1 inserts + 1 key
00-99626-R306-4301	R09007-07020-32	7.0	0.7	2.35	00-99626-CR07-06-057	57	
00-99626-R606-4601	R09010-10010-32	10.0	1.2	3.60	00-99626-CR10-08-069	69	

5

MCC Mill



# Cutting Data

## ▶ 60° & 90° deburring mill >>

Workpiece material		Vc (m/min)	Feed rate (mm / tooth)	Grade of insert
P	Carbon steel	80 ~ 250	0.005 ~ 0.12	NC2032
	Alloy steel	60 ~ 200	0.005 ~ 0.10	NC2032
M	Stainless steel	40 ~ 120	0.005 ~ 0.10	NC2032
K	Cast iron	60 ~ 180	0.005 ~ 0.10	NC2032
N	Non-ferrous metal	100 ~ 500	0.005 ~ 0.15	XP9000
H	Hardened steel < HRC60	30 ~ 80	0.005 ~ 0.05	NC2032

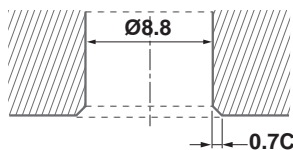
## ▶ 55° & 60° thread milling >>

- Friendly reminding: Upward and outward thread milling is recommended for all threads, except 55° PT threading.

Workpiece material		Vc (m/min)	Feed rate (mm / tooth)	Grade of insert
P	Carbon steel	40 ~ 120	0.002 ~ 0.013	NC2032
	Alloy steel	30 ~ 90	0.002 ~ 0.01	NC2032
M	Stainless steel	30 ~ 80	0.002 ~ 0.01	NC2032
K	Cast iron	40 ~ 100	0.002 ~ 0.01	NC2032
N	Non-ferrous metal	60 ~ 200	0.002 ~ 0.013	XP9000
H	Hardened steel < HRC50	20 ~ 60	0.002 ~ 0.008	NC2032

## ▶ Performance >>

Work Task: C0.7 back chamfering  
Material: Stainless Steel  
Machine: MECTRON MTS-C420



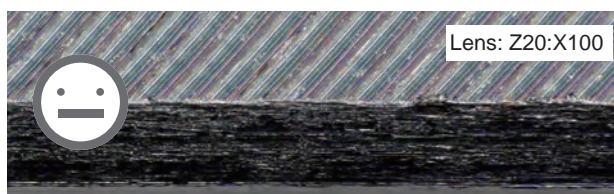
Tool	MCC Deburring Mill Holder: 00-99626-CR07-049 Insert: R09007-07020-32	Carbide chamfering cutter
Deburring	0.7 mm	0.7 mm
Dia. of cutter mm	7	8
Teeth of cutter	6	3
Spindle Speed r.p.m.	2500	2500
Feed rate mm/min	300	150
<b>RESULT</b>		
Tool life	<b>720</b> workpiece <b>8 times higher</b>	90 workpiece

## ▶ Comparison of Surface Quality >>

Material	Deburring	Vc (m/min)	S (r.p.m.)	f (mm/tooth)	F (mm/min)
SCM415	C0.3	188.5	6000	0.03	1080

Tool: Nine9 MCC Mill  
Holder: 00-99626-CR10-08-082 / Insert: R09010-10010-32

Tool: Other brand chamfering cutter



5

MCC Mill