Product Lines

CERAMATIC / Ceramic Endmill

Series	Features	DC (mm)	CICT	APMX (mm)	Pages
RCE.. series 	For HRSA materials • High-speed machining of heat-resistant alloy is possible by utilizing the sialon ceramic grade "SX9" with excellent wear resistance. • Compared to carbide end mills, high-efficiency machining over 10 times is possible.	φ8 - 12.7	4,6 flute	- 9.525	A11 H05
RCS.. series 	For Cast iron / HRSA materials • World-first ceramic end mill capable of machining cast iron (investigated by NTK). • High-efficiency machining with at least 3 times better performance than carbide end mills.	φ50 - 250	4,6,8 flute	- 14.29	A13 H06

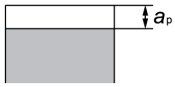
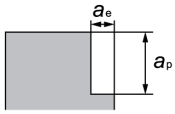
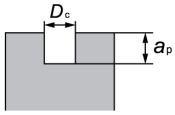
RCL type rectangular tooth chamfering type

Series	Features	DC (mm)	CICT	APMX (mm)	Pages
RCL.. series 	Gear tooth chamfering type • Special two-flute end mill with indexable inserts. • C/T can be shortened by utilizing fine particle carbide inserts (compared to high-end mills) • Longer life than single-flute end mill	φ8 - 12.7	4,6	- 9.525	A15 H08

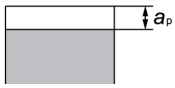
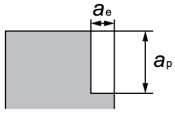
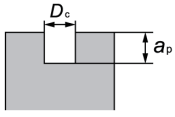
Recommended Cutting Conditions

CERAMATIC / Ceramic Endmill

Recommend Cutting Conditions for HRSA material

Application	Grade	ϕ D_c	Flute	Cutting Speed (m/min) 150 600 1000	Feed (mm/t)	Depth of cut (a_p -mm)	Width of cut (a_e -mm)	Coolant
Face Milling 	SX9	8mm	4/6/8		0.03	≦1.2	—	DRY
		10mm				≦1.5		
		12mm				≦1.8		
		16mm				≦2.4		
		20mm				≦3.0		
		3/8"				≦1.4		
		1/2"				≦1.9		
		5/8"				≦2.4		
		3/4"				≦2.9		
Side Milling 	SX9	8mm	4/6/8		0.03	≦4.0	≦0.8	DRY
		10mm				≦5.0	≦1.0	
		12mm				≦6.0	≦1.2	
		16mm				≦8.0	≦1.6	
		20mm				≦10.0	≦2.0	
		3/8"				≦4.8	≦0.9	
		1/2"				≦6.4	≦1.3	
		5/8"				≦8.0	≦1.6	
		3/4"				≦9.5	≦1.9	
Slotting 	SX9	8mm	4		0.03	≦2.0	—	DRY
		10mm				≦2.5		
		12mm				≦3.0		
		16mm				≦4.0		
		3/8"				≦2.4		
		1/2"				≦3.2		
		5/8"				≦4.0		
	SX9	8mm	6		0.03	≦1.2	—	DRY
		10mm				≦1.5		
		12mm				≦1.8		
		16mm				≦2.4		
		3/8"				≦1.4		
		1/2"				≦1.9		
		5/8"				≦2.4		

Recommended cutting conditions for Cast Iron

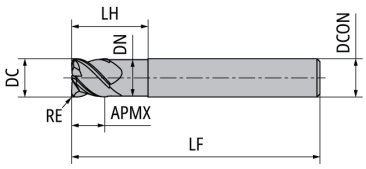
Application	Grade	ϕ D_c	Flute	Cutting Speed (m/min) 150 600 1000	Feed (mm/t)	Depth of cut (a_p- mm)	Width of cut (a_e- mm)	Coolant
Face Milling 	SX9	12mm	4/6/8		0.1	≦3.0	—	DRY
		16mm				≦4.0		
		20mm				≦5.0		
		1/2"				≦2.0		
		5/8"				≦4.0		
		3/4"				≦5.0		
Side Milling 	SX9	12mm	4/6/8		0.1	≦9.0	≦2.0	DRY
		16mm				≦12.0	≦2.5	
		20mm				≦15.0	≦3.0	
		1/2"				≦9.0	≦2.0	
		5/8"				≦12.0	≦2.5	
		3/4"				≦14.0	≦3.0	
Slotting 	SX9	12mm	4/6/8		0.1	≦3.0	—	DRY
		16mm				≦4.0		
		20mm				≦5.0		
		1/2"				≦2.0		
		5/8"				≦4.0		
		3/4"				≦5.0		

For Maximum Productivity

- A continuous cut is recommended. An interrupted cut may cause chipping or breakage.
- When using a Hydraulic or Shrink chuck, blow air to the arbor body, DON'T blow air to the endmill itself.
- A Minimum speed of 300m/min is required. (Don't run at lower speed.)
- A 1.5 degree ramping angle is recommended. Run at 50% lower feed rate when ramping cut.

CERAMATIC
RCE.. series for HRSA materials

RCE-H4



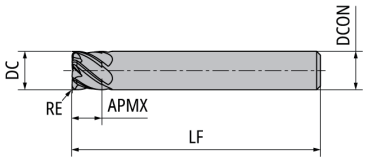
●No center cutting edge

Tolerances (mm)

DC	DC (e8)	DCON (h6)
8,10,3/8"	-0.024/-0.047	+0/-0.009
12,1/2"	-0.032/-0.059	+0/-0.011

Item Number	NOF	APMX		DC		DCON		DN		FHA	LF		LH		RE		Silicon Nitride Ceramics
		mm	inch	mm	inch	mm	inch	mm	inch	°	mm	inch	mm	inch	mm	inch	SX9
RCEM080H4R100S	4	6	.236	8	.315	8	.315	7.6	.299	35	60	2.362	16	.630	1	.039	●
RCEM100H4R125S	4	7.5	.295	10	.394	10	.394	9.6	.378	35	65	2.559	20	.787	1.25	.049	●
RCEM120H4R150S	4	9	.354	12	.472	12	.472	11.6	.457	35	70	2.756	24	.945	1.5	.059	●
RCEI375H4R047S	4	7.14	9/32	9.525	3/8	9.525	3/8	9.125	.359	35	63.5	2.500	19.05	3/4	1.19	.047	●
RCEI500H4R068S	4	9.525	3/8	12.7	1/2	12.7	1/2	12.3	.484	35	69.85	2.750	25.4	1.000	1.73	.068	●

RCE-J6



●No center cutting edge

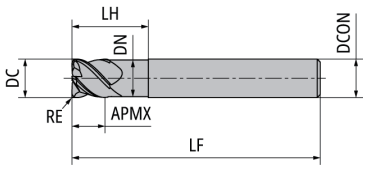
Tolerances (mm)

DC	DC (e8)	DCON (h6)
8,10,3/8"	-.00098/-.00185"	+0/-.00035"
12,1/2"	-0.032/-0.059	+0/-0.011

Item Number	NOF	APMX		DC		DCON		FHA	LF		RE		Silicon Nitride Ceramics
		mm	inch	mm	inch	mm	inch	°	mm	inch	mm	inch	SX9
RCEM080J6R100S	6	6	.236	8	.315	8	.315	40	60	2.362	1	.039	●
RCEM100J6R125S	6	7.5	.295	10	.394	10	.394	40	65	2.559	1.25	.049	●
RCEM120J6R150S	6	9	.354	12	.472	12	.472	40	70	2.756	1.5	.059	●
RCEI375J6R047S	6	7.14	9/32	9.525	3/8	9.525	3/8	40	63.5	2.500	1.19	.047	●
RCEI500J6R068S	6	9.525	3/8	12.7	1/2	12.7	1/2	40	69.85	2.750	1.73	.068	●

RCS.. series for Cast iron / HRSA materials

RCS-H4



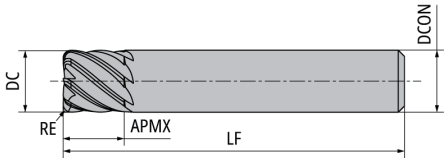
●No center cutting edge

Tolerances mm

DC	DC (e8)	DCON (h6)
8, 10, 3/8"	-0.024/-0.047	+0/-0.009
12,16, 1/2", 5/8"	-0.032/-0.059	+0/-0.011
20, 3/4"	-0.04/-0.073	+0/-0.013

Item Number	NOF	APMX		DC		DCON		DN		FHA	LF		LH		RE		Silicon Nitride Ceramics
		mm	inch	mm	inch	mm	inch	mm	inch	°	mm	inch	mm	inch	mm	inch	SX9
RCSM120H4R150S	4	9	.354	12	.472	12	.472	11.6	.457	35	70	2.756	24	.945	1.5	.059	■
RCSM160H4R200S	4	12	.472	16	.630	16	.630	15.5	.610	35	75	2.953	32	1.260	2	.079	■
RCSI500H4R068S	4	9.525	3/8	12.7	1/2	12.7	1/2	12.3	.484	35	69.85	2.750	25.4	1.000	1.73	.068	■
RCSI625H4R078S	4	11.91	.469	15.875	5/8	15.875	5/8	15.375	.605	35	76.2	3.000	31.75	1-1/4	1.98	.078	■

RCS-J6



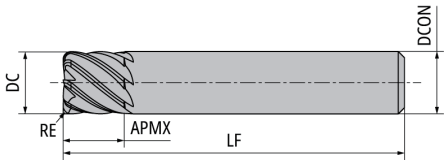
●No center cutting edge

Tolerances mm

DC	DC (e8)	DCON (h6)
8, 10, 3/8"	-0.024/-0.047	+0/-0.009
12,16, 1/2", 5/8"	-0.032/-0.059	+0/-0.011
20, 3/4"	-0.04/-0.073	+0/-0.013

Item Number	NOF	APMX		DC		DCON		FHA	LF		RE		Silicon Nitride Ceramics
		mm	inch	mm	inch	mm	inch	°	mm	inch	mm	inch	SX9
RCSM120J6R150S	6	9	.354	12	.472	12	.472	40	70	2.756	1.5	.059	■
RCSM160J6R200S	6	12	.472	16	.630	16	.630	40	75	2.953	2	.079	■
RCSI500J6R068S	6	9.525	3/8	12.7	1/2	12.7	1/2	40	69.85	2.750	1.73	.068	■
RCSI625J6R078S	6	11.91	.469	15.875	5/8	15.875	5/8	40	76.2	3.000	1.98	.078	■

RCS-J8



●No center cutting edge

Tolerances mm

DC	DC (e8)	DCON (h6)
8, 10, 3/8"	-0.024/-0.047	+0/-0.009
12,16, 1/2", 5/8"	-0.032/-0.059	+0/-0.011
20, 3/4"	-0.04/-0.073	+0/-0.013

Item Number	NOF	APMX		DC		DCON		FHA	LF		RE		Silicon Nitride Ceramics
		mm	inch	mm	inch	mm	inch	°	mm	inch	mm	inch	SX9
RCSM200J8R250S	8	15	.591	20	.787	20	.787	40	110	4.331	2.5	.098	■
RCSI750J8R094S	8	14.29	.563	19.05	3/4	19.05	3/4	40	107.95	4.250	2.38	.094	■