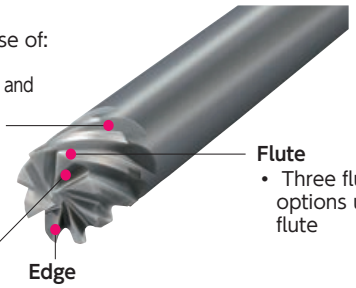
NTK

Ceramic Endmill (RCS) for Cast Iron & HRSA Materials

Helix angle
- Designed for the purpose of:
  - 4-flute: toughness
  - 6/8-flute: less tool pressure and better chip evacuation



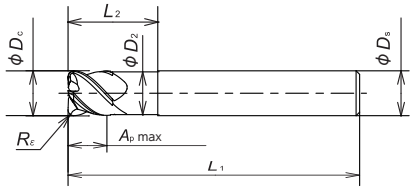
Flute
- Three flute options up to 8 flute

End Gash
- Bigger end gash brings toughness

Edge
- Added chamfer provides toughness for cast iron machining

RCS-H4

○No center cutting edge

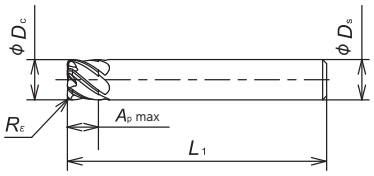


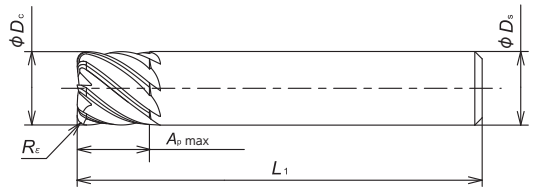
Heat Resistant Alloy	S	●	Cast Iron	K	●

	Item Number	Grade SX9	Flute	ϕDc (Inch)	ϕDc (mm)	ϕDs (Inch)	ϕDs (mm)	ϕD2 (Inch)	ϕD2 (mm)	Rε (Inch)	Rε (mm)	Ap max (Inch)	Ap max (mm)	L1 (Inch)	L1 (mm)	L2 (Inch)	L2 (mm)
RCS-H4	RCSI500H4R068S	●	4	1/2		1/2		.484	12.3	.068	1.73	3/8		2.75	69.85	1	25.4
	RCSI625H4R078S	●	4	5/8		5/8		.605	15.4	.078	1.98	.469	11.91	3	76.2	1.25	31.75
	RCSM120H4R150S	●	4	.472	12	.472	12	.457	11.6	.059	1.5	.354	9	2.76	70	.954	24
	RCSM160H4R200S	●	4	.630	16	.630	16	.610	15.5	.079	2.0	.472	12	2.95	75	1.26	32

RCS-J6 / RCS-J8

○No center cutting edge

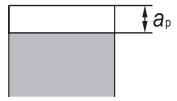
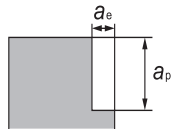
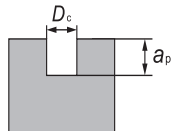




Heat Resistant Alloy	S	●	Cast Iron	K	●

	Item Number	Grade SX9	Flute	ϕDc (Inch)	ϕDc (mm)	ϕDs (Inch)	ϕDs (mm)	Rε (Inch)	Rε (mm)	Ap max (Inch)	Ap max (mm)	L1 (Inch)	L1 (mm)
RCS-J6	RCSI500J6R068S	●	6	1/2		1/2		.068	1.73	3/8		2.75	
	RCSI625J6R078S	●	6	5/8		5/8		.078	1.98	.469	11.91	3	
	RCSM120J6R150S	●	6	.472	12	.472	12	.059	1.5	.354	9	2.76	70
	RCSM160J6R200S	●	6	.630	16	.630	16	.079	2.0	.472	12	2.95	75
RCS-J8	RCSI750J8R094S	●	8	3/4		3/4		.094	2.38	.563	14.29	4.25	
	RCSM200J8R250S	●	8	.787	20	.787	20	.098	2.5	.984	15	4.33	110

Recommended Cutting Conditions for Cast Iron & HRSA Materials

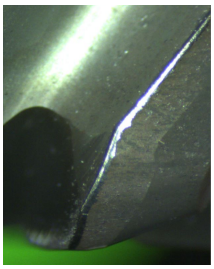
Application	Grade	ϕ D_c	Flute	Cutting Speed (SFM) 500 2000 3500	Feed (IPT)	Depth of cut (a_p —inch)	Width of cut (a_e —inch)	Coolant
Face Milling 	SX9	1/2"	4/6/8		.004	.094	—	DRY
		5/8"				.156		
		3/4"				.187		
		12mm				.118		
		16mm				.158		
		20mm				.197		
Side Milling 	SX9	1/2"	4/6/8		.004	.375	.083	DRY
		5/8"				.469	.104	
		3/4"				.563	.125	
		12mm				.354	.079	
		16mm				.472	.098	
		20mm				.591	.130	
Slotting 	SX9	1/2"	4/6/8		.004	.094	—	DRY
		5/8"				.156		
		3/4"				.187		
		12mm				.118		
		16mm				.157		
		20mm				.197		

For Maximum Productivity

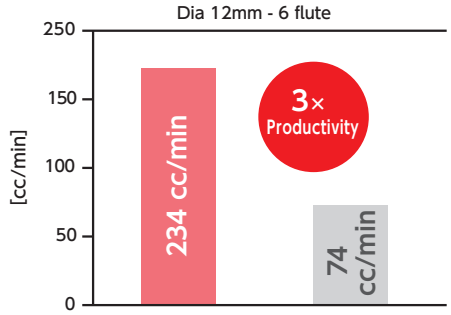
- *A continuous cut is recommended. An interrupted cut may cause chipping or breakage.*
- *When using a Hydraulic or Shrink chuck, blow air to the arbor body, DON'T blow air to the endmill itself.*
- *A Minimum speed of 980 SFM is required. (Don't run at lower speed.)*
- *A 1.5 degree ramping angle is recommended. Run at 50% lower feed rate when ramping cut.*

When cutting HRSA materials

- Continue to machine even if you see BUE, removing BUE may cause chipping or breakage to the edge.
- High speed machining work hardens the material. For this reason, leave at least 0.3mm of material for a finishing process.



Cast Iron Block	
End Mill:	RCSI750J8R094S SX9
Speed	2700 SFM
Feed	.0025 IPT
DOC	.480"
Coolant	DRY



	SX9	Carbide
SFM	2300	360
IPT	.002	←
DOC	.138	.275

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