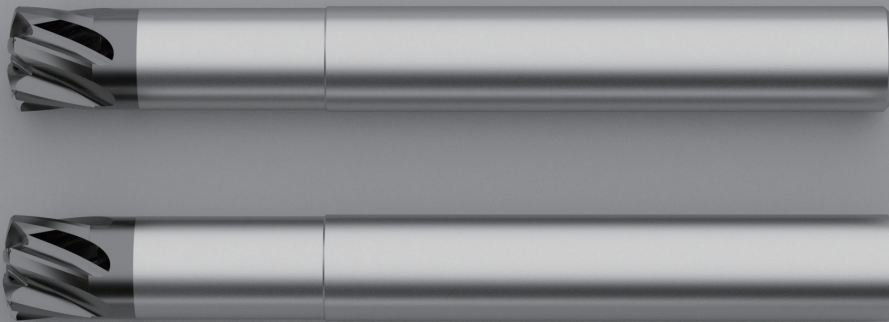


MILLING CUTTER SERIES CATALOG



**FAST FEEDING SOLID
CARBIDE MILLING TOOLS**

FAST METAL EVACUATION



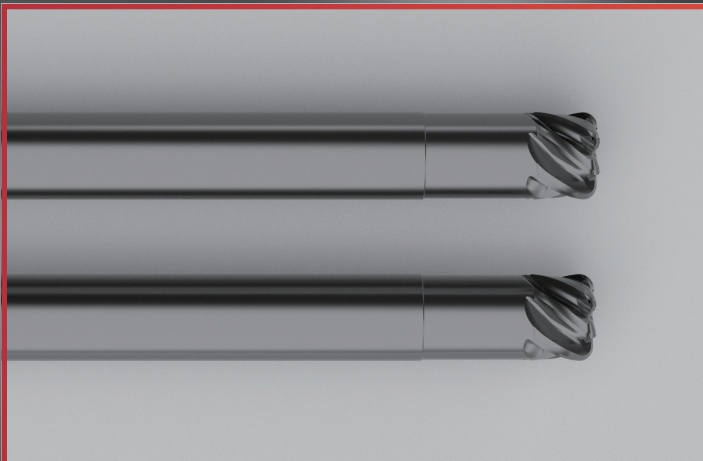
**UNEQUAL PITCH, UNEQUAL HELIX
ALL-IN-ONE OF ROUGHING AND FINISHING**

NPS-RFC

SMALLER CHIPS, SMOOTHER EVACUATION

**CERAMIC
MILLING CUTTER**

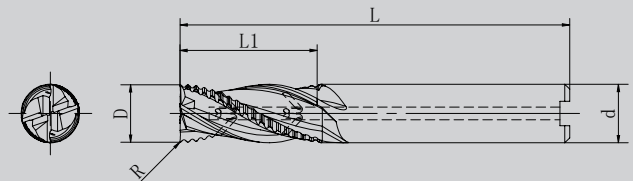
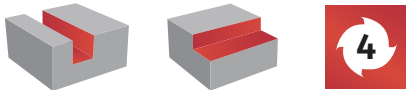
**GOOD RIGIDITY, COLLAPSE AND WEAR
RESISTANCE**



All-in-one of Roughing and Finishing

RFC

- Roughing and finishing by one tool,
- ultralow cutting resistance
- Fast metal evacuation by serrated edge
- Smaller chips, smoother evacuation
- Long life span by strong inner cooling system

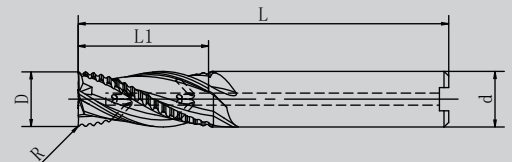
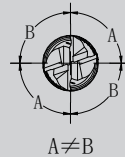
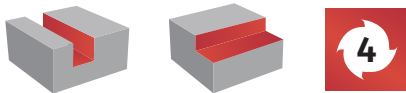


Type	Edge radius (D x R)	Length of cut (L1)	Whole length (L)	Shank diameter (d)	Inner cooling	P	M	K	N	S	H
4KFRP 060 020 140 060	6×R0.2	14	60	6		◆	◆				
4KFRP 080 030 180 075	8×R0.3	18	75	8		◆	◆				
4KFRP 100 040 220 100	10×R0.4	22	100	10		◆	◆				
4KFRP 120 050 260 100	12×R0.5	26	100	12		◆	◆				
4KFRP 060 020 140 060 CM	6×R0.2	14	60	6		◆	◆				
4KFRP 080 030 180 075 CM	8×R0.3	18	75	8		◆	◆				
4KFRP 100 040 220 100 CM	10×R0.4	22	100	10		◆	◆				
4KFRP 120 050 260 100 CM	12×R0.5	26	100	12		◆	◆				
4KFRN 060 020 140 060	6×R0.2	14	60	6					◆		
4KFRN 080 030 180 075	8×R0.3	18	75	8					◆		
4KFRN 100 040 220 100	10×R0.4	22	100	10					◆		
4KFRN 120 050 260 100	12×R0.5	26	100	12					◆		
4KFRN 060 020 140 060 CM	6×R0.2	14	60	6					◆		
4KFRN 080 030 180 075 CM	8×R0.3	18	75	8					◆		
4KFRN 100 040 220 100 CM	10×R0.4	22	100	10					◆		
4KFRN 120 050 260 100 CM	12×R0.5	26	100	12					◆		

Unequal Pitch, Unequal Helix All-in-one of Roughing and Finishing

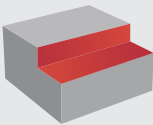
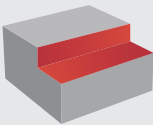
NPS-RFC

- By its unequal helix design, different helix could be applied according to machining requirement in both roughing and finishing processes in order to achieve better finished surface
- Unequal pitch design minimizes tool vibrations
- Roughing and finishing by one tool, ultralow cutting resistance
- Fast metal evacuation by serrated edge
- Smaller chips, smoother evacuation
- Long life span by strong inner cooling system



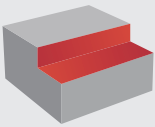
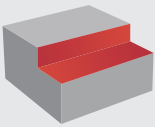
Type	Edge radius (D x R)	Length of cut (L1)	Whole length (L)	Shank diameter (d)	Inner cooling	P	M	K	N	S	H
4KFRP 060 020 140 060 NPS	6×R0.2	14	60	6	 ❌	◆	◆				
4KFRP 080 030 180 075 NPS	8×R0.3	18	75	8		◆	◆				
4KFRP 100 040 220 100 NPS	10×R0.4	22	100	10		◆	◆				
4KFRP 120 050 260 100 NPS	12×R0.5	26	100	12		◆	◆				
4KFRP 060 020 140 060 CM NPS	6×R0.2	14	60	6	 ✅	◆	◆				
4KFRP 080 030 180 075 CM NPS	8×R0.3	18	75	8		◆	◆				
4KFRP 100 040 220 100 CM NPS	10×R0.4	22	100	10		◆	◆				
4KFRP 120 050 260 100 CM NPS	12×R0.5	26	100	12		◆	◆				
4KFRN 060 020 140 060 NPS	6×R0.2	14	60	6	 ❌				◆		
4KFRN 080 030 180 075 NPS	8×R0.3	18	75	8					◆		
4KFRN 100 040 220 100 NPS	10×R0.4	22	100	10					◆		
4KFRN 120 050 260 100 NPS	12×R0.5	26	100	12					◆		
4KFRN 060 020 140 060 CM NPS	6×R0.2	14	60	6	 ✅				◆		
4KFRN 080 030 180 075 CM NPS	8×R0.3	18	75	8					◆		
4KFRN 100 040 220 100 CM NPS	10×R0.4	22	100	10					◆		
4KFRN 120 050 260 100 CM NPS	12×R0.5	26	100	12					◆		

-All-in-one of Roughing and Finishing Recommend Cutting Parameter

Machined materials	Processing application	Inner cooling	Ap (mm)	Ae (mm)	Feed per tooth Fz (mm/t)	Cutting velocity Vc (m/min)
P/M			1.5xDmax	0.2xD	0.03-0.055	P: 70 - 140 M: 60 - 120
			2xDmax	0.3xD	0.03-0.08	P: 70 - 160 M: 60 - 140
N			1.5xDmax	0.55xD	0.055-0.11	120-280
			2xDmax	0.7xD	0.055-0.13	120-320
P/M			1.5xDmax	1D	0.02 - 0.04	P: 60 - 100 M: 40 - 80
			2xDmax	1D	0.02-0.06	P: 60 - 140 M: 60 - 100
N			1.5xDmax	1D	0.04-0.09	120 - 220
			2xDmax	1D	0.04-0.11	120 - 260

-Unequal Pitch, Unequal Helix All-in-one of Roughing and Finishing

-Recommend Cutting Parameter

Machined materials	Processing application	Inner cooling	Ap (mm)	Ae (mm)	Feed per tooth Fz (mm/t)	Cutting velocity Vc (m/min)
P/M			2xD	0.2xD	0.04 - 0.08	P: 70 - 200 M: 60 - 160
			2.5xD	0.3xD	0.065 - 0.12	P: 70 - 240 M: 60 - 220
N			3xD	0.55xD	0.1 - 0.15	150 - 340
			3xD	0.7xD	0.12 - 0.17	150 - 420
P/M			2xD	1D	0.035 - 0.065	P: 60 - 120 M: 40 - 100
			2.5xD	1D	0.05 - 0.08	P: 60 - 150 M: 40 - 130
N			3xD	1D	0.07 - 0.125	120 - 270
			3xD	1D	0.09 - 0.15	120 - 320

KING FEED

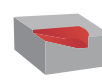
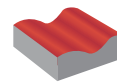
FAST FEEDING SOLID CARBIDE MILLING TOOLS

Structural Features

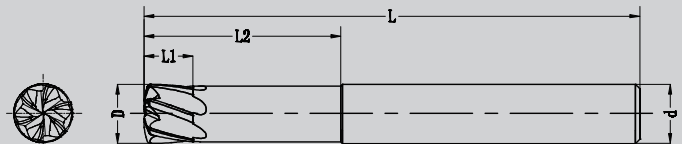
- Patented geometry, fast metal evaluation



- 6 edge design, applicable for ramping, circular interpolation and end milling

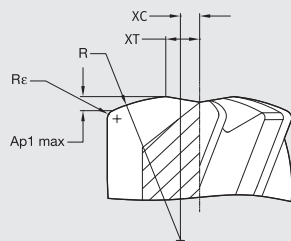


- Edge shorter than the radius



Type	Edge radius (D)	Length of cut (L1)	Effective length (L2)	Whole length (L)	Shank diameter (d)	P	M	K	N	S	H
6KFMP 060 060 060	6	6	/	60	6	◆					◆
6KFMP 080 080 075	8	8	/	75	8	◆					◆
6KFMP 100 100 075	10	10	/	75	10	◆					◆
6KFMP 120 120 100	12	12	/	100	12	◆					◆
6KFMPE 060 060 180	6	/	18	60	6	◆					◆
6KFMPE 080 075 240	8	/	24	75	8	◆					◆
6KFMPE 100 075 300	10	/	30	75	10	◆					◆
6KFMPE 120 100 360	12	/	36	100	12	◆					◆
6KFMP 060 060 060	6	6	/	60	6						◆
6KFMP 080 080 075	8	8	/	75	8						◆
6KFMP 100 100 075	10	10	/	75	10						◆
6KFMP 120 120 100	12	12	/	100	12						◆
6KFMPE 060 060 180	6	/	18	60	6						◆
6KFMPE 080 075 240	8	/	24	75	8						◆
6KFMPE 100 075 300	10	/	30	75	10						◆
6KFMPE 120 100 360	12	/	36	100	12						◆

Programing Data



Type	Geometry parameter						Guideline for circular interpolation		Guide for ramp milling				
	D1	Ap1 max	R	Rε	XC	XT	Recommend circle diameter for each feed		Length for different ramping angle				
							Max.	Min.	1°	2°	3°	4°	5°
6KFMP 060 060 060	6	0.32	6	0.375	0.75	1.32	8.64	12.00	35.58	17.79	11.85	8.88	7.10
6KFMP 080 080 075	8	0.42	8	0.500	1.00	1.76	11.52	16.00	47.44	23.71	15.80	11.84	9.47
6KFMP 100 100 075	10	0.53	10	0.625	1.25	2.20	14.40	20.00	59.30	29.64	19.75	14.80	11.83
6KFMP 120 120 100	12	0.63	12	0.750	1.50	2.64	17.28	24.00	71.17	35.57	23.70	17.76	14.20
Recommend slope gradient according to programed feeding rate during ramp milling									100%	70%	50%	30%	10%

Note:XC=distance from center of the tool to corner radius

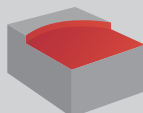
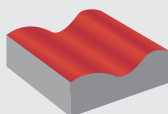
XT=distance from center of the tool to initial part of the cutting edge.

XT can be applied to calculate the minimum annulus in ramp milling

R=corner radius of the edge

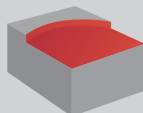
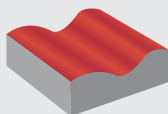
Rε=corner radius of the initial part

King Feed • Kp_{fm} / Recommend Cutting Parameter

Machined materials	Processing application	Ap (mm)	Ae (mm)	Feed per tooth Fz (mm/t)				Cutting velocity Vc (m/min)
				Diameter				
				6	8	10	12	
P		0.03xD	0.55xD	0.2-0.3	0.3-0.5	0.3-0.5	0.4-0.5	150-200
		0.03xD	0.55xD	0.2-0.3	0.3-0.5	0.3-0.5	0.4-0.5	150-200

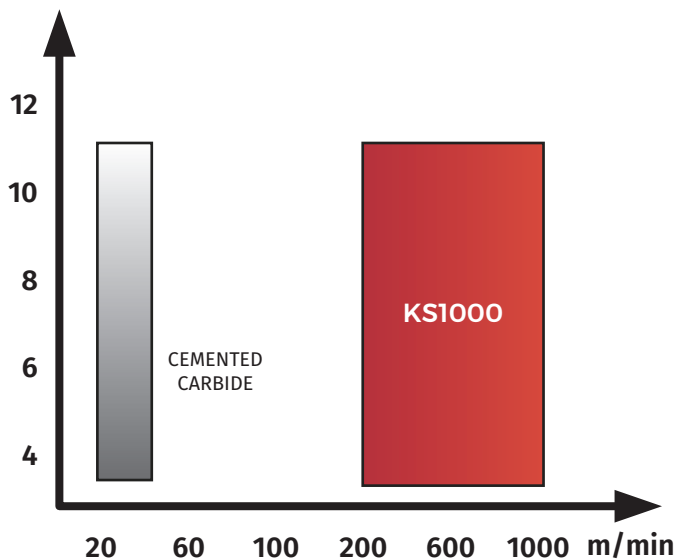
Note: slight adjustment might be needed for recommend cutting parameter according to the machining requirements"

King feed • KH_{fm} / Recommend Cutting Parameter

Machined materials	Processing application	Ap (mm)	Ae (mm)	Feed per tooth Fz (mm/t)				Feed per tooth Vc (m/min)
				Diameter				
				6	8	10	12	
H		0.03xD	0.55xD	0.15-0.2	0.2-0.3	0.25-0.3	0.3-0.4	70-140
		0.03xD	0.55xD	0.15-0.2	0.2-0.3	0.25-0.3	0.3-0.4	70-140

Note: slight adjustment might be needed for recommend cutting parameter according to the machining requirements

MILLING CUTTER CERAMIC

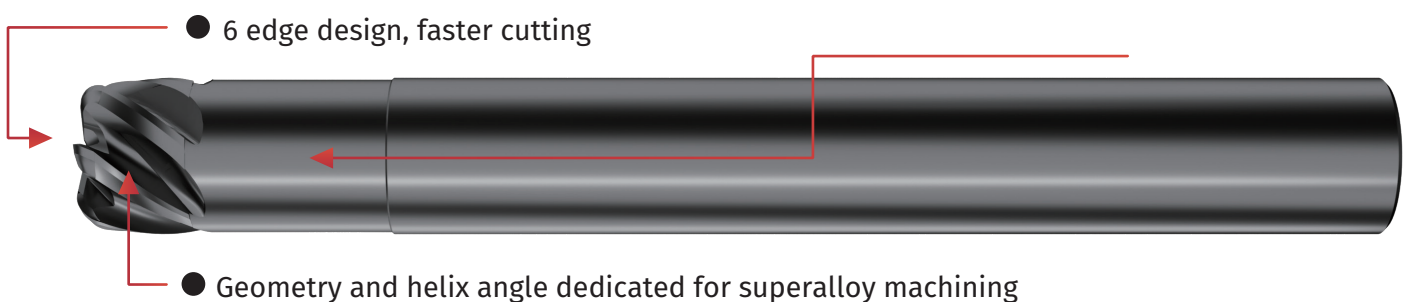


CERAMIC MILLING CUTTER

CERAMIC MILLING TOOLS

- High speed superalloy machining is achievable with outstanding anti-defect ceramic SIALON
- Efficiency is improved 3-15 times comparing to cemented carbide milling tools
- Best choice for aerospace parts and compressor parts
- Ceramic milling tools with good rigidity, collapse and wear resistance

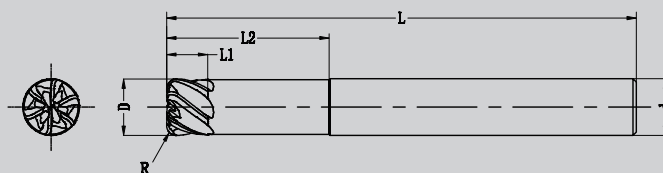
Structural Features



Ceramic Milling Tools

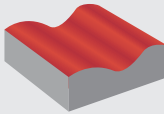
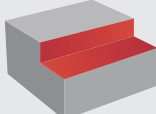
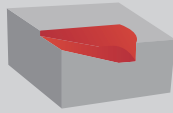


- Edge shorter than the radius
- Max. ramp milling with 2°



Type	Edge radius (D x R)	Length of cut (L1)	Effective length (L2)	Whole length (L)	Shank diameter (d)	Cutting fluid
6KCSR 060 010 045 065	6×R1	4.5	/	65	6	
6KCSR 080 0125 060 080	8×R1.25	6	/	80	8	
6KCSR 100 015 075 080	10×R1.5	7.5	/	80	10	
6KCSR 120 020 090 090	12×R2	9	/	90	12	
6KCSRE 060 010 065 120	6×R1	4.5	12	65	6	
6KCSRE 080 0125 080 160	8×R1.25	6	16	80	8	
6KCSRE 100 015 080 200	10×R1.5	7.5	20	80	10	
6KCSRE 120 020 090 240	12×R2	9	24	90	12	

Ceramic Milling Tools/Recommend Cutting Parameter

Machined materials	Processing application	Ap (mm)	Ae (mm)	Feed per tooth Fz (mm/t)				Cutting velocity Vc (m/min)
				Diameter				
				6	8	10	12	
Superalloy		0.1xD	0.1xD	0.024	0.028	0.03	0.032	300-1000
		0.1xD	0.1xD	0.024	0.028	0.03	0.032	300-1000
		0.1xD	0.1xD	0.019	0.022	0.024	0.026	300-1000
		0.1xD	0.1xD	0.024	0.028	0.03	0.032	300-1000
		0.1xD	0.1xD	0.024	0.028	0.03	0.032	300-1000

Note: slight adjustment might be needed for recommend cutting parameter according to the machining requirements"

Cautions on Superalloy Machining

- Continuous machining is recommended(do not leave the workpiece while machining), intermittent machining increases risk of insert collapse
- Do not remove built-up edge while machining
- Cutting velocity should be above 300m/min
- Do not exceed 2° and 50% of normal feeding for ramp milling



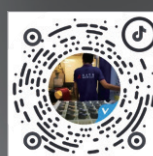
Wechat Official Account



Wechat Channels



Bilibili



Tik Tok

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