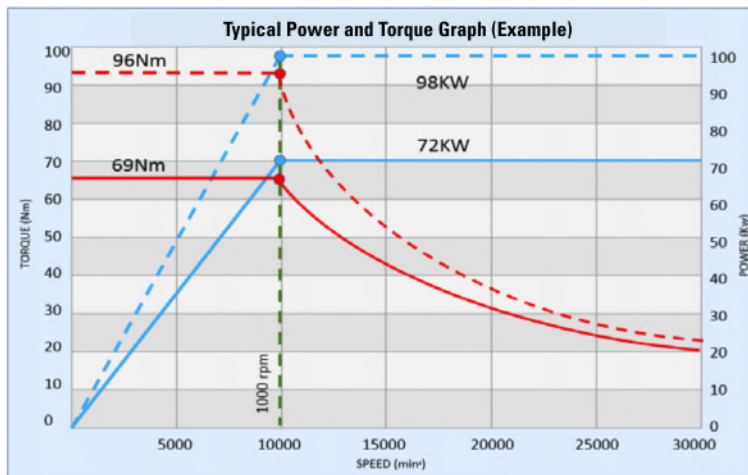


Series
43APR-3
43APR-4
Metric

		Ae x D ₁	Ap x D ₁	Vc (m/min)	Diameter (D ₁) (mm)					
					APR-3		APR-4			
					20	25	20	25		
N	ALUMINIUM ALLOYS 6068, 7075	Slot 	1	≤ 1	1600 (300-2100)	RPM	25461	20369	25461	20369
						Fz	0.12	0.12	0.12	0.12
						Feed (mm/min)	9166	7333	12222	9777
	Profile 	≤ 0.5	≤ 1.5	1800 (300-2100)	RPM	28644	22915	28644	22915	
					Fz	0.15	0.15	0.15	0.15	
					Feed (mm/min)	12890	10312	17187	13749	
	HSM 	≤ 0.1	≤ 2	2100 (300-2100)	RPM	33418	26735	33418	26735	
					Fz	0.18	0.18	0.18	0.18	
					Feed (mm/min)	18046	14437	24061	19249	

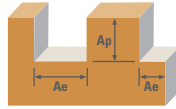
Note:

- For best results use the peak power of the specific machine torque chart.
- Typically 10kw is required to remove 1 litre of material (MMR).
- Eg. >> (Ae x Ap x Feed) / 1000000 >> Therefore Full slotting Ø25: 25 x 25 x 7333 = 4.58 Litres so it needs a min of 46Kw.
- Larger cuts and chip load consume more power.
- Review the power chart of each machine to determine MAX power for ultimate performance.
- Example below shows peak power @ 10,000 rpm.
- The APR-4 design is for ultimate metal removal but typically requires more power, and is also better suited to horizontal machines.
- The new coolant supply is designed for MQL as well as normal emulsion coolant on the same data.
- Ensure max MQL flow prior to cutting.
- Refer to the KYOCERA SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com).





Series 43APF Fractional

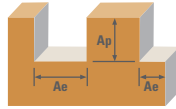


Series 43APF Fractional	Hardness	Profile	Ae x D ₁	Ap x D ₁	Vc (sfm)	Diameter (D ₁) (inch)		
						1/2	3/4	
ALUMINUM ALLOYS 2024, 5052, 5086, 6061, 6063, 7075	≤ 150 Bhn or ≤ 7 HRC	Profile 	≤ 0.1	≤ 2.5	2625	RPM	20055	13370
					(2100-3150)	Fz	0.0030	0.0050
						Feed (in/min)	241	267
	≤ 150 Bhn or ≤ 7 HRC	Profile 	≤ 0.1	≤ 4	2625	RPM	20055	13370
					(2100-3150)	Fz	0.0020	0.0040
						Feed (in/min)	160	214
ALUMINUM ALLOYS (LITHIUM)* 2090, 2091, 2099, 2195, 2199, 2297, 8090	≤ 150 Bhn or ≤ 7 HRC	Profile 	≤ 0.1	≤ 2.5	1970	RPM	15051	10034
					(1576-2364)	Fz	0.0030	0.0050
						Feed (in/min)	181	201
	≤ 150 Bhn or ≤ 7 HRC	Profile 	≤ 0.1	≤ 4	1970	RPM	15051	10034
					(1576-2364)	Fz	0.0020	0.0040
						Feed (in/min)	120	161

Note:

- Bhn (Brinell) HRC (Rockwell C)
- surface speed is dependent on machine spindle and fixturing
- balancing is recommended at ultra high surface speeds
- *tool life may be reduced when machining Lithium Alloys
- rpm = Vc x 3.82 / D₁
- ipm = Fz x 4 x rpm
- maximum recommended depths shown
- reduce speed and feed for materials harder than listed
- finish cuts typically require reduced feed and cutting depths of 0.02 X D₁ maximum
- ramp angle = 6° (feed rate = 50%)
- plunging not recommended
- refer to the KYOCERA SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)

Series 43MAPF Metric



Series 43MAPF Metric	Hardness	Profile	Ae x D ₁	Ap x D ₁	Vc (m/min)	Diameter (D ₁) (mm)							
						6	8	10	12	16	20	25	
ALUMINUM ALLOYS 2024, 5052, 5086, 6061, 6063, 7075	≤ 150 Bhn or ≤ 7 HRC	Profile 	≤ 0.1	≤ 2.5	800	RPM	42440	31830	25464	21220	15915	12732	10186
					(640-960)	Fz	0.050	0.055	0.060	0.070	0.100	0.140	0.170
						Feed (mm/min)	8488	7003	6111	5942	6366	7130	6926
	≤ 150 Bhn or ≤ 7 HRC	Profile 	≤ 0.1	≤ 4	800	RPM	42440	31830	25464	21220	15915	12732	10186
					(640-960)	Fz	0.040	0.045	0.050	0.050	0.070	0.100	0.120
						Feed (mm/min)	6790	5729	5093	4244	4456	5093	4889
ALUMINUM ALLOYS (LITHIUM)* 2090, 2091, 2099, 2195, 2199, 2297, 8090	≤ 150 Bhn or ≤ 7 HRC	Profile 	≤ 0.1	≤ 2.5	600	RPM	31830	23873	19098	15915	11936	9549	7639
					(480-720)	Fz	0.050	0.055	0.060	0.070	0.100	0.140	0.170
						Feed (mm/min)	6366	5252	4584	4456	4774	5347	5195
	≤ 150 Bhn or ≤ 7 HRC	Profile 	≤ 0.1	≤ 4	600	RPM	31830	23873	19098	15915	11936	9549	7639
					(480-720)	Fz	0.040	0.045	0.050	0.050	0.070	0.100	0.120
						Feed (mm/min)	5093	4297	3820	3183	3342	3820	3667

Note:

- Bhn (Brinell) HRC (Rockwell C)
- surface speed is dependent on machine spindle and fixturing
- balancing is recommended at ultra high surface speeds
- *tool life may be reduced when machining Lithium Alloys
- rpm = (Vc x 1000) / (D₁ x 3.14)
- mm/min = Fz x 4 x rpm
- maximum recommended depths shown
- reduce speed and feed for materials harder than listed
- finish cuts typically require reduced feed and cutting depths of 0.02 X D₁ maximum
- ramp angle = 6° (feed rate = 50%)
- plunging not recommended
- refer to the KYOCERA SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)