













Series	S-Carb APR	Diagram		Vc (sfm)	Diameter (D ₁) (inch)			
		Ae x D ₁	Ap x D ₁		3/4	1		
N	ALUMINUM ALLOYS 2024, 5052, 5086, 6061, 6063, 7075	Slot <40hp 	1	≤ 1	3280	RPM	16706	12530
					(2624-3936)	Fz	0.0060	0.0070
						Feed (IPM)	301	263
		Slot >67hp 	1	≤ 1	4920	RPM	25059	18794
					(3936-5904)	Fz	0.0090	0.0110
						Feed (IPM)	677	620
		Profile 	≤ 0.5	≤ 1.5	6560	RPM	33412	25059
					(5248-7872)	Fz	0.0090	0.0110
						Feed (IPM)	902	827
N	ALUMINUM ALLOYS (LITHIUM)* 2090, 2091, 2099, 2195, 2199, 2297, 8090	Slot <40hp 	1	≤ 1	2620	RPM	13345	10008
					(2096-3144)	Fz	0.0060	0.0070
						Feed (IPM)	240	210
		Slot >67hp 	1	≤ 1	3940	RPM	20068	15051
					(3152-4728)	Fz	0.0090	0.0110
						Feed (IPM)	542	497
		Profile 	≤ 0.5	≤ 1.5	4920	RPM	25059	18794
					(3936-5904)	Fz	0.0090	0.0110
						Feed (IPM)	677	620

Note:

- surface speed is dependent on machine spindle & fixturing*
- balancing is recommended at ultra high surface speeds
- tool life may be reduced when machining Lithium Alloys
- rpm = sfm x 3.82 / D₁
- ipm = (inch / flute) x number of flutes x rpm

- maximum recommended depths shown
- reduce speed and feed for materials harder than listed
- ramp angle = 15° (feed rate = 30%)
- maximum ramp depth = 1 x D₁
- plunge depth = 1 x D₁ (feed rate = 30%)

Series	S-Carb APR	Diagram		Vc (m/min)	Diameter (D ₁) (mm)					
		Ae x D ₁	Ap x D ₁		12	16	20	25		
N	ALUMINUM ALLOYS 2024, 5052, 5086, 6061, 6063, 7075	Slot <30 kW 	1	1	1000	RPM	26525	19894	15915	12732
					(800-1200)	Fz	0.080	0.110	0.150	0.180
						Feed (mm/min)	6366	6565	7162	6875
		Slot >50kW 	1	≤ 1	1500	RPM	39788	29841	23873	19098
					(1200-1800)	Fz	0.120	0.160	0.220	0.270
						Feed (mm/min)	14324	14324	15756	15469
		Profile 	≤ 0.5	≤ 1.5	2000	RPM	53050	39788	31830	25464
					(1600-2400)	Fz	0.120	0.160	0.220	0.270
						Feed (mm/min)	19098	19098	21008	20626
N	ALUMINUM ALLOYS (LITHIUM)* 2090, 2091, 2099, 2195, 2199, 2297, 8090	Slot <30 kW 	1	≤ 1	800	RPM	21220	15915	12732	10186
					(640-960)	Fz	0.080	0.110	0.150	0.180
						Feed (mm/min)	5093	5252	5729	5500
		Slot >50kW 	1	≤ 1	1200	RPM	31830	23873	19098	15278
					(960-1440)	Fz	0.120	0.160	0.220	0.270
						Feed (mm/min)	11459	11459	12605	12375
		Profile 	≤ 0.5	≤ 1.5	1500	RPM	39788	29841	23873	19098
					(1200-1800)	Fz	0.120	0.160	0.220	0.270
						Feed (mm/min)	14324	14324	15756	15469

Note:

- surface speed is dependent on machine spindle & fixturing*
- balancing is recommended at ultra high surface speeds
- tool life may be reduced when machining Lithium Alloys
- rpm = (1000 x m/min) / (3.14 x D₁)
- mm/min = (mm / flute) x number of flutes x rpm

- maximum recommended depths shown
- reduce speed and feed for materials harder than listed
- ramp angle = 15° (feed rate = 30%)
- maximum ramp depth = 1 x D₁
- plunge depth = 1 x D₁ (feed rate = 30%)