



List VGM3-AL: 3 Flute

Side Milling

Work Material	Aluminum Alloy A6061, A7075		Aluminum Alloy Casting		Copper Alloy C1100	
Cutting	600 - 1,700 SFM		600 - 1,700 SFM		400 - 1,200 SFM	
Depth of Cut	Aa = 1.5xD Ar = 0.2xD				Aa = 1.5xD Ar = 0.1xD	
Mill Dia.	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM
1/8	25,000	112.5	25,000	112.5	24,500	73.5
3/16	23,500	158.6	23,500	158.6	16,300	73.4
1/4	17,600	158.4	17,600	158.4	12,300	73.8
5/16	14,100	158.6	14,100	158.6	9,800	73.5
3/8	11,800	159.3	11,800	159.3	8,200	73.8
7/16	10,100	159.1	10,100	159.1	7,000	73.5
1/2	8,800	158.4	8,800	158.4	6,200	74.4
5/8	7,100	159.8	7,100	159.8	4,900	73.5
3/4	5,900	159.3	5,900	159.3	4,100	73.8
1	4,400	158.4	4,400	158.4	3,100	74.4

1. Use a rigid and precise machine and holder.
2. The indicated speeds and feeds are for milling with water-soluble coolant.
3. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.
4. Reduce speed and feed as well as depth of cut when high precision is required.
5. Always use the appropriate cutting fluid recommended by the cutting fluid manufacturer in the machining of magnesium alloys.
6. Be cautious with the cutting chips as they are highly flammable and may pose a serious fire risk if not properly handled.

Slotting

Work Material	Aluminum Alloy A6061, A7075		Aluminum Alloy Casting		Copper Alloy C1100	
Cutting	400 - 1,300 SFM		400 - 1,300 SFM		240 - 800 SFM	
Depth of Cut	Aa = 1xD				Aa = 0.5xD	
Mill Dia.	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM
1/8	25,000	93.8	25,000	93.8	15,900	47.7
3/16	17,300	97.3	17,300	97.3	10,600	47.7
1/4	13,000	97.5	13,000	97.5	8,000	48.0
5/16	10,400	97.5	10,400	97.5	6,400	48.0
3/8	8,700	97.9	8,700	97.9	5,300	47.7
7/16	7,500	98.4	7,500	98.4	4,600	48.3
1/2	6,500	97.5	6,500	97.5	4,000	48.0
5/8	5,200	97.5	5,200	97.5	3,200	48.0
3/4	4,400	99.0	4,400	99.0	2,700	48.6
1	3,300	99.0	3,300	99.0	2,000	48.0

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Plunging

Work Material	Aluminum Alloy A6061, A7075		Aluminum Alloy Casting		Copper Alloy C1100	
Cutting	350 SFM		350 SFM		200 SFM	
Depth of Cut	Aa = 1xD				Aa = 0.5xD	
Mill Dia.	Speed RPM	Feed IPM	Speed RPM	Feed IPM	Speed RPM	Feed IPM
1/8	10,700	12.0	10,700	12.0	6,200	4.7
3/16	7,200	12.2	7,200	12.2	4,100	4.6
1/4	5,400	12.2	5,400	12.2	3,100	4.7
5/16	4,300	12.1	4,300	12.1	2,500	4.7
3/8	3,600	12.2	3,600	12.2	2,100	4.7
7/16	3,100	12.2	3,100	12.2	1,800	4.7
1/2	2,700	12.2	2,700	12.2	1,600	4.8
5/8	2,200	12.4	2,200	12.4	1,300	4.9
3/4	1,800	12.2	1,800	12.2	1,100	5.0
1	1,400	12.6	1,400	12.6	800	4.8

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4. Reduce speed and feed as well as depth of cut when high precision is required.
5. Always use the appropriate cutting fluid recommended by the cutting fluid manufacturer in the machining of magnesium alloys.
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