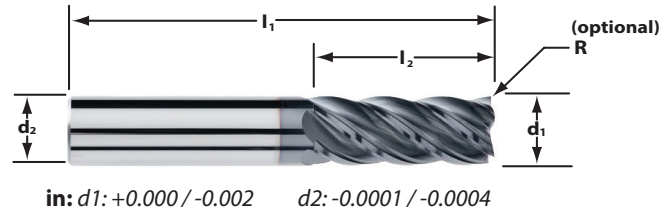


# M905 POW•R•FEED



For high-performance machining in materials ranging from low carbon steels to titanium. The 5-flute version of our first-generation POW•R•FEED design, the M905 offers improved tool life and feed rates over general-purpose end mills by utilizing variable cutting edge indexing and advanced coating technology.



Cutter Dia d1	Shank Dia d2	Length of Cut I2	Overall Length I1	Order Code SQ	Order Code by Corner Radius		
					.020 CR	.030 CR	.060 CR
1/4	1/4	3/4	2-1/2	63338	63287	63462	-
3/8	3/8	7/8	2-1/2	63340	63289	63370	-
1/2	1/2	1-1/4	3	63342	-	63291	63371
5/8	5/8	1-1/4	3-1/2	63343	-	63292	63374
3/4	3/4	1-1/2	4	63344	-	63293	63375

## M905 Application Guide – Speed & Feed (inch)

ISO Code	Work Material	Type of Cut	Axial DOC	Radial DOC	No. of Flutes	Speed (SFM)	Feed (Inches per Tooth)				
							1/4	3/8	1/2	5/8	3/4
K	Cast Iron Gray	Slotting	.5 x D	1 x D	5	350	.0011	.0016	.0022	.0027	.0032
		Peripheral - Rough	1.25 x D	.3 x D	5	450	.0014	.0020	.0027	.0034	.0041
		Finish	1.5 x D	.01 x D	5	450	.0018	.0027	.0037	.0046	.0055
K	Cast Iron Malleable	Slotting	.5 x D	1 x D	5	300	.0010	.0014	.0019	.0024	.0029
		Peripheral - Rough	1.25 x D	.3 x D	5	375	.0012	.0018	.0024	.0030	.0036
		Finish	1.5 x D	.01 x D	5	450	.0016	.0024	.0033	.0041	.0049
P	Low Carbon Steels 1018, 12L14, 8620	Slotting	.5 x D	1 x D	5	350	.0012	.0017	.0023	.0029	.0035
		Peripheral - Rough	1.25 x D	.3 x D	5	425	.0015	.0022	.0029	.0036	.0044
		Finish	1.5 x D	.01 x D	5	500	.0020	.0030	.0039	.0049	.0059
	Medium Carbon Steels 4140, 4340	Slotting	.5 x D	1 x D	5	300	.0011	.0016	.0022	.0027	.0032
		Peripheral - Rough	1.25 x D	.3 x D	5	375	.0014	.0020	.0027	.0034	.0041
		Finish	1.5 x D	.01 x D	5	450	.0018	.0027	.0037	.0046	.0055
Tool & Die Steels < 48 Rc A2, D2, H13, P20	Slotting	.5 x D	1 x D	5	300	.0010	.0016	.0021	.0026	.0031	
	Peripheral - Rough	1.25 x D	.3 x D	5	375	.0013	.0020	.0026	.0033	.0039	
	Finish	1.5 x D	.01 x D	5	450	.0016	.0024	.0033	.0041	.0049	
M	Martensitic Stainless Steels 416, 410, 440C	Slotting	.5 x D	1 x D	5	300	.0010	.0016	.0021	.0026	.0031
		Peripheral - Rough	1.25 x D	.3 x D	5	375	.0013	.0020	.0026	.0033	.0039
		Finish	1.5 x D	.01 x D	5	450	.0016	.0024	.0033	.0041	.0049
	Austenitic Stainless Steels 303, 304, 316	Slotting	.5 x D	1 x D	5	275	.0012	.0018	.0024	.0029	.0035
		Peripheral - Rough	1.25 x D	.3 x D	5	325	.0015	.0022	.0029	.0037	.0044
		Finish	1.5 x D	.01 x D	5	400	.0018	.0027	.0037	.0046	.0055
Precipitation Hardening Stainless Steels 17-4 PH, 15-5 PH, 13-8 PH	Slotting	.5 x D	1 x D	5	250	.0008	.0012	.0017	.0021	.0025	
	Peripheral - Rough	1.25 x D	.3 x D	5	300	.0010	.0016	.0021	.0026	.0031	
	Finish	1.5 x D	.01 x D	5	375	.0013	.0019	.0026	.0032	.0039	
S	Titanium Alloys	Slotting	.5 x D	1 x D	5	250	.0009	.0013	.0017	.0022	.0026
		Peripheral - Rough	1.25 x D	.3 x D	5	300	.0011	.0016	.0022	.0027	.0033
		Finish	1.5 x D	.01 x D	5	375	.0014	.0020	.0027	.0034	.0041

D = Tool Diameter

Information on tips and adjustments can be found in our Technical Resources section beginning on page 129.

## Common Machining Formulas

$$RPM = \frac{SFM \times 3.82}{D}$$

$$SFM = RPM \times D \times .262$$

$$IPM = RPM \times IPT \times Z$$

$$MRR = RDOC \times ADOC \times IPM$$

$$RPM = \frac{M/min \times 318.3}{D}$$

$$M/min = RPM \times D \times .00314$$

$$MMPM = RPM \times MMPT \times Z$$

$$MRR = RDOC \times ADOC \times MMPM$$

- D Tool Diameter
- Z Number of Flutes
- RPM Revolutions per Minute
- SFM Surface Feet per Minute
- IPM Inches per Minute
- IPT Inch per Tooth
- MRR Metal Removal Rate
- RDOC Radial Depth of Cut
- ADOC Axial Depth of Cut

