



HIPO^μS™

Precision "Micro" Tooling for Cutting All Materials

- High helix geometry for smoothest cutting action
- High density for faster feed rates and greater productivity
- Coolant thru for efficient chip evacuation
- Modular cutters, long-edge cutters and lead angle cutters for complete versatility

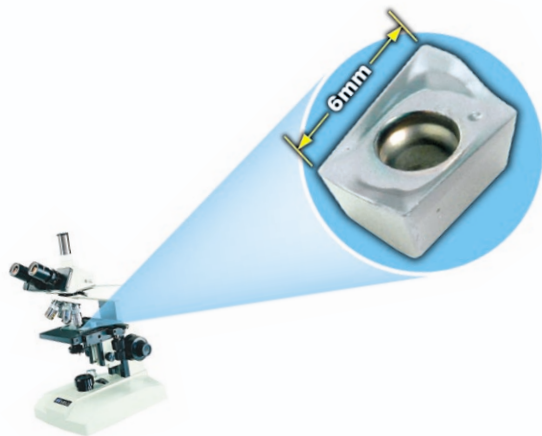


Ingersoll
CHASE
line

Member IMC Group
Ingersoll
Cutting Tools

Ingersoll **CHASE** line

- ▶ **MATERIAL**
STEEL, STAINLESS STEEL, HI-TEMP ALLOYS,
IRON, ALUMINUM AND OTHER NON-FERROUS
MATERIAL
- ▶ **DEPTH OF CUT**
.220"
- ▶ **GRADES**
IN1030, IN2030, IN2005, IN30M
- ▶ **CORNER CONFIGURATION**
.008"R FOR ADMT SERIES
.015"R FOR AOCT SERIES
- ▶ **GEOMETRY**
HELICAL POSITIVE
- ▶ **SIZE RANGE**
.375" TO 1.50" SINGLE ROW CUTTERS
.625" TO 1.00" LONG EDGE CUTTERS



12J1D Combo Pak [3019005]:

- Includes: (1) 12J1D-03009R8R01
(1) 12J1D-05009S4R01
(1) 12N1D-0303287R01
(1) Wrench DS-TP06S



FEATURES AND BENEFITS:

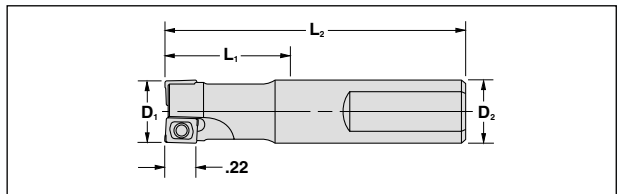
- High helix geometry for smooth cutting action
- Highest precision inserts for accurate repeatability
- Top-On end mills for modular convenience
- AOCT up-sharp, polished geometry for Aluminum
- Unique “Micro Pak” features .375”, .500” and a 45° chamfer mill in a starter kit with a reduced price
- Weldon and Cylindrical style shanks
- Coolant through for efficient chip evacuation
- 30°, 45° and 60° angle end mills in stock

APPLICATIONS:

- HiPosMicro cutting tools replace solid carbide tools with no more re-grind hassle or “tool float” issues
- Replace expensive extended reach solid carbide tools with the HiPosMicro Top-On heads and our wide selection of steel and carbide shanks
- HiPosMicro offer greater productivity in current milling applications where more effective cutting teeth increases feed rates by 300% or more.
- HiPosMicro tools are a perfect choice for lathes with live milling tool applications
- HiPosMicro tools are particularly well suited for aerospace and other Hi-temperature alloys

0° END MILL SERIES 12J1D

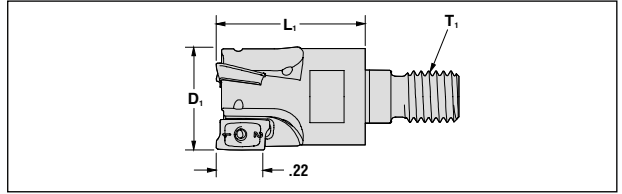
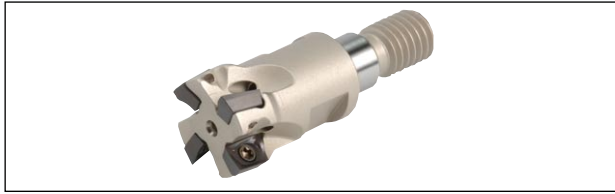
Diameters .375"-1.00"
Cutting Edge Length .22
Insert Corner .008" and .015"R



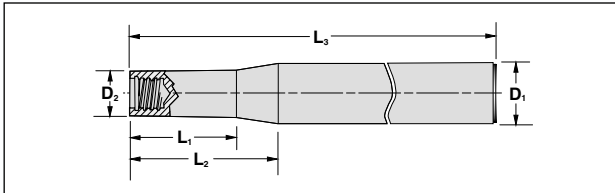
D ₁ Nominal Diameter	Cutter Number	Projection Length	L ₁ Extension Length	L ₂ Overall Length	D ₂ Shank Size/Style	Number of Inserts
.375	12J1D-0300587R01	.520	.72	2.50	.500 Weldon	2
.375	12J1D-03009R8R01	.900	1.00	2.50	.375 Cylindrical	2
.500	12J1D-0500979R01	.900	1.09	3.00	6.25 Weldon	3
.490	12J1D-04009S4R01	.900	1.00	2.75	.500 Cylindrical	2
.500	12J1D-05011S4R01	1.150	1.25	3.00	.500 Cylindrical	2
.500	12J1D-05009S4R01	.900	1.00	2.75	.500 Cylindrical	3
.620	12J1D-0601479R01	1.40	1.50	3.50	.625 Weldon	4
.620	12J1D-06014S6R01	1.40	4.00	6.00	.625 Cylindrical	3
.720	12J1D-0701684R02	1.65	1.75	3.75	.750 Weldon	4
.750	12J1D-0701684R01	1.65	1.75	3.75	.750 Weldon	5
.750	12J1D-07016S7R01	1.65	4.00	6.00	.750 Cylindrical	4
.875	12J1D-0801784R01	1.75	1.75	3.75	.750 Weldon	5
1.00	12J1D-1001784R01	1.75	1.75	3.75	.750 Weldon	7
1.00	12J1D-1001784R02	1.75	1.75	3.75	.750 Weldon	5
1.00	12J1D-1001780R01	1.65	1.75	4.00	1.00 Weldon	7
1.00	12J1D-1001780R02	1.65	1.75	4.00	1.00 Weldon	5
1.00	12J1D-1003480R01	3.40	3.50	5.75	1.00 Weldon	5
1.00	12J1D-10021S1R01	2.15	5.75	8.00	1.00 Cylindrical	5

0° END MILL SERIES 12J1D

Diameters .500"-1.500"
Cutting Edge Length .22"
Insert Corner .008" and .015"R



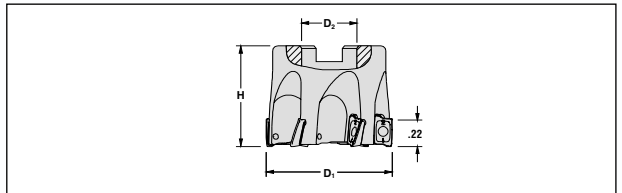
D ₁ Nominal Diameter	T ₁ Adaption	New Cutter Number	L ₁ Extension	Number of Inserts	Wrench Size
.500	M6	NEW 12J1D-05010X4R01	1.00	3	7mm
.620	M8	12J1D-06010X5R01	1.00	4	10mm
.750	M10	12J1D-07015X6R01	1.50	5	15mm
1.000	M12	12J1D-10015X7R01	1.50	7	17mm
1.250	M16	12J1D-12017X8R01	1.75	8	22mm
1.500	M16	12J1D-15017X8R01	1.75	9	22mm



T ₁ Internal Thread	New Part Number	Material	D ₁ Shank Diameter	D ₂ Mating Diameter	L ₂ Extension Length	L ₃ Overall Length
M6	S012MOD06CA-40	Carbide	12mm	11,8mm	40mm	88mm
NEW M6	S050MOD06CA-40	Carbide	.500	.460	1.575	3.35
M6	S050MOD06CA-80	Carbide	.500	.460	3.150	4.93
M6	W050MOD165K	Steel	.500	.470	2.25	4.00

0° FACE MILL SERIES 2J1D

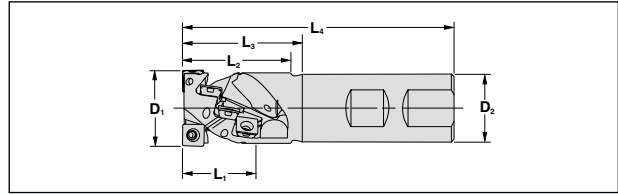
Diameters 1.50"
Cutting Edge Length .22"
Insert Corner .008" and .015"R



D ₁ Effective Diameter	New Cutter Number	Number of Inserts	H Height	D ₂ Bore Diameter	Retention Bolt	Keyway Dimensions
1.50	2J1D-15R01	9	1.57	.500	SD04-85	.250

0° Ext. Flute END MILL SERIES 22J3D

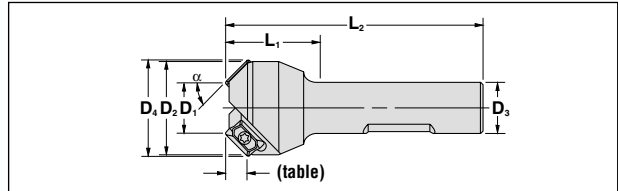
Diameters .625"-1.000"
Cutting Edge Length .650" to 1.27"
Insert Corner .008" and .015"R



D ₁ Nominal Diameter	New Cutter Number	L ₁ Length of Cut	L ₂ Projection	L ₃ Extension	L ₄ Overall Length	D ₂ Shank Size/Style	No. of Flutes Effective	No. of Flutes Total	Number of Inserts
.625	22J3D-0601179R01	.650	1.18	1.25	3.50	.625 Weldon	2	2	6
.750	22J3D-0701484R01	.865	1.43	1.50	3.50	.750 Weldon	3	3	12
1.00	22J3D-1001880R01	1.27	1.75	1.80	4.00	1.00 Weldon	4	4	24

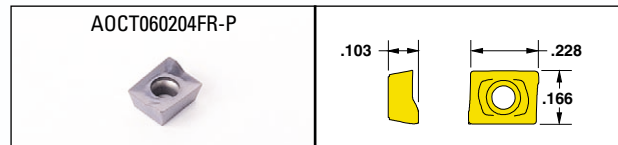
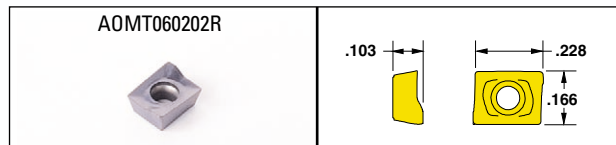
0° Lead Angle END MILL SERIES 12P1D 12N1D 12M1D

Diameters .312"-.690"
Cutting Edge Length .106" to .189"
Insert Corner .008" and .015"R



α Lead Angle	New Cutter Number	D ₁ Minor Dia.	D ₂ Major Dia.	Max. Depth of Cut	L ₁ Extension	L ₂ Overall Length	D ₃ Shank Size/Style	D ₄ Overall Diameter	Number of Inserts
30°	12P1D-0303287R01	.312	.690	.189	3.22	5.00	.500 Weldon	.660	2
45°	12N1D-0303287R01	.312	.618	.153	3.22	5.00	.500 Weldon	.588	2
60°	12M1D-0303287R01	.312	.524	.106	3.22	5.00	.500 Weldon	.484	2

END MILL & FACE MILL INSERTS

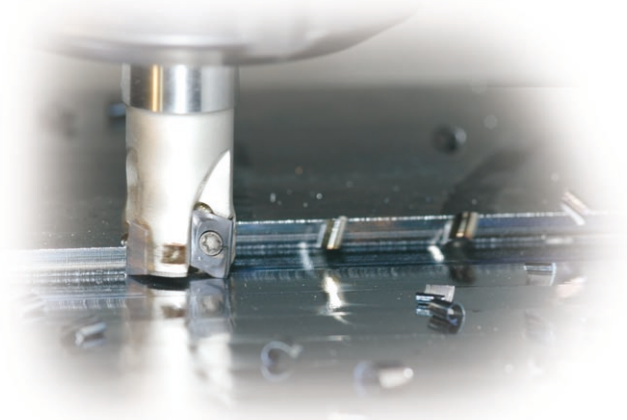
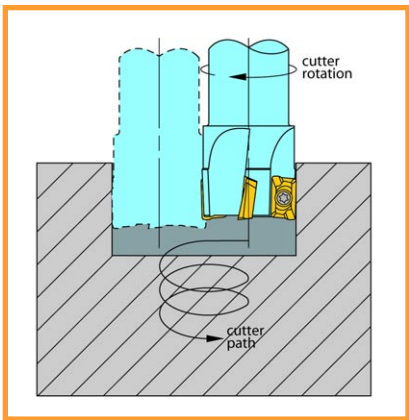


Insert Number	Application	Corner	Grades			
			IN	2005	2030	1030 30M
AOMT060202R	Multipurpose	.008R	■	■	■	
AOCT060204FR-P	Ground/Polished	.015R				■

Insert Screw		Driver	Preset Torque Driver	Torx Bit
Part No.	Torque	Part No.	Part No.	Part No.
SM18-041-00	5 in. lbs.	DS-TP06S (Tx Plus 06)	DTN005S	DS-TP06TB

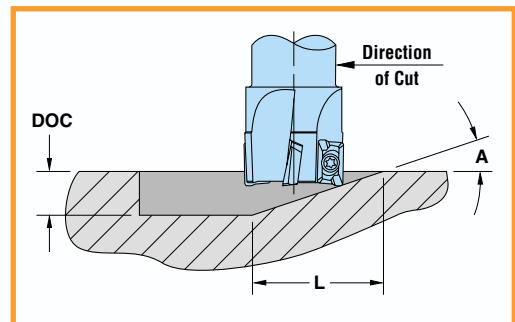
12J1D/22J3D HIPOSMICRO RAMPING DATA

End Mill Using AOMT0602 Insert w/ .008"R	Cutter Diameter	A Min. Dia. Milled Hole	Max Advance Per Cutter Path Rev. (APCPR)	A Min. Dia. Milled Hole	Max Advance Per Cutter Path Rev. (APCPR)
12J1D or 22J3D	0.375	0.495	0.050	0.73	0.175
	0.500	0.735	0.063	0.98	0.150
	0.625	0.985	0.067	1.23	0.130
	0.750	1.220	0.059	1.47	0.102
	0.867	1.460	0.063	1.73	0.102
	1.000	1.830	0.069	1.98	0.102
	1.250	2.245	0.075	2.48	0.106
	1.375	2.485	0.071	2.73	0.102
	1.500	2.720	0.071	2.98	0.102



12J1D/22J3D HIPOSMICRO RAMP ANGLES

12J1D & 22J3D End Mills Using AOMT0602 Insert			
Cutter Diameter	A ^o Ramp Angle	L	DOC
0.375	9.6	1.3	0.22
0.500	6.0	2.1	0.22
0.625	4.0	3.1	0.22
0.750	2.6	4.8	0.22
0.875	2.3	5.4	0.22
1.000	1.9	6.6	0.22
1.250	1.6	7.8	0.22
1.375	1.4	9.0	0.22
1.500	1.2	10.5	0.22



TECHNICAL INFORMATION

Series 12J1D, 22J3D, 12P1D, 12N1D, 12M1D		Brinell Hardness	SFM	Feed per Insert	Grades*				Coolant
Material					IN30M (2035)	IN2005 (804)	IN1030 (105)	IN2030 (805S)	
Aluminum	6061 T-6, 7075 T-6, 2024	-	1000-8000	.003-.008	1	2			Yes
Cast Iron	Gray	150-250	500-1200	.002-.004	1	2	1		No
	Nodular		400-800						
Steel	Low Carbon 1018-8620	150-250	600-1200	.002-.004	3	1	2		No
	High Carbon F-6180, Nitralloy 52100	250-400	400-600	.002-.004	3	2	1		
	Alloyed Steel 4140, 4340, 6150	150-300	400-800						
	Tool Steel A-6, D-1, D-2, P-20	Up to 300							
Stainless Steel	300 Series, 304, 316	-	400-800	.002-.004	1	3	2	May not be required at high speeds	
	400 Series 15-5 PH, 17-4 PH	Up to 320	500-1000					Yes	
	13-8 PH	-	200-400						
Nickel Alloys	Inconel, Hastelloy, Waspalloy	-	75-120	.002-.003	2	3	1	Yes	
Titanium	6AL-4V	-	80-150	.002-.003	1	3	2	Yes	

*In order of preference.

The success of any cutter application is a function of many variables. Our initial preference of grade is based on applying a more tough grade.



Ingersoll Cutting Tools for the Americas

Marketing & Technology Center
845 S. Lyford Road
Rockford, IL 61108-2749 U.S.A.
Tel: 815.387.6600
Fax: 815.387.6968
Email: info@ingersoll-imc.com
Internet: www.ingersoll-imc.com

Ingersoll Cutting Tool Ltd.
4510 Rhodes Drive, Unit #100
Windsor, Ontario N8W 5K5, Canada
Tel: 519.974.1019
Fax: 519.974.2260

Ingersoll Cutting Tools de México S.A. de C.V.
Carr. Saltillo Monterrey Km. 5.5, Local 2 y 3
Saltillo, Coahuila C.P. 25200, México
Tel: (844) 432.2546, (844) 432.2547
Fax: (844) 432.2544

Ingersoll Cutting Tools for Europe

Marketing & Technology Center
Ingersoll Werkzeuge GmbH
Kalteiche-Ring 21-25
35708 Haiger, Germany
Tel: 02773.742 0
Fax: 02773.742 812/814
Email: info@ingersoll-imc.de
Internet: www.ingersoll-imc.de

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