HI-POS+™ 17

90° MILL FAMILY WITH FIRST CLASS UPGRADES!

Cutter Series:
12J1G/2J1G
12L1G/2L1G

Insert Series:
AOMT17 / APKT17 /
BOCT17 / BOMT17 /
ZOMT17

Diameters:
Ø .750"-Ø 8.000"

Depth of Cut:
.63" Max.

Corner Radii:
.015", .031", .039", .062", .093", .118", .125", .157", .187" and .250"

Materials:
Aluminum, Iron, Steel, Stainless Steel, Hi-Temps, Titanium

Multi-Purpose

R.015 R.031 R.039 R.062 R.093

R.125 R.156 R.187 R.250

PCD Tip **SS/Hi-Temp/Ti**

R.015 R.031 R.062 R.125 R.250

Polished for Alum **Heavy Duty** **Chip Splitters**

R.031 R.048 R.031 R.031

General Features:

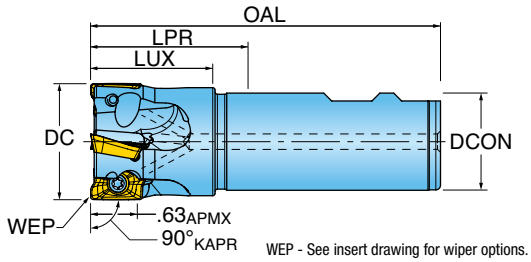
- Cutter selection expanded with coolant to better accommodate non-ferrous, stainless steel, titanium and hi-temp alloy materials
- Ramping and helical interpolation capabilities inherent with cutter designs
- The largest insert corner offering of any milling line (.015"-.250" R)
- Inserts with integrated wiper flats typically produce surface finishes between 32-63 Ra
- Carbide inserts equipped with 2 indexes; PCD with 1 index
- Diverse range of insert grade/geometry additions to accommodate a wide variety of materials

PRODUCT ANNOUNCEMENT UPDATE 2019

Member IMC Group Ingersoll Cutting Tools

HiPOS+™ SERIES: 12J1G (WELDON SHANK)

90° END MILL



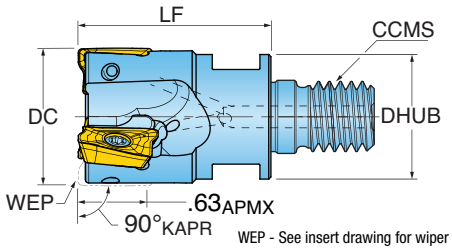
WEP - See insert drawing for wiper options.

Part Number	DC Cutting Diameter	LUX Usable Length Max.	LPR Protruding Length	OAL Overall Length	ZEFF Effective Teeth	DCON Shank Diameter	CSP Coolant	RMPX Ramp Angle Max.
12J1G-0701284R01	0.750	1.25	1.75	3.75	1	0.750	Yes	11
12J1G-1001580R01	1.000	1.50	1.75	4.00	2	1.000	No	5.8
12J1G-1001580R02	1.000	1.50	1.75	4.00	2	1.000	Yes	5.8
12J1G-1003780R01	1.000	3.50	3.75	6.00	2	1.000	Yes	5.8
12J1G-1006080R01	1.000	5.75	6.00	8.00	2	1.000	Yes	Not Recomm.
12J1G-1008080R01	1.000	7.75	8.00	10.00	2	1.000	Yes	Not Recomm.
12J1G-1201681R01	1.250	1.60	2.25	4.50	3	1.250	No	3.5
12J1G-1201681R02	1.250	1.60	2.25	4.50	3	1.250	Yes	3.5
12J1G-1204281R01	1.250	3.75	4.25	6.50	3	1.250	Yes	3.5
12J1G-1205281R01	1.250	5.25	5.75	8.00	3	1.250	Yes	Not Recomm.
12J1G-1207281R01	1.250	7.25	7.75	10.00	3	1.250	Yes	Not Recomm.
12J1G-1501681R01	1.500	2.25	2.25	4.50	4	1.250	Yes	2.3
12J1G-1501681R04	1.500	2.25	2.25	4.50	3	1.250	Yes	2.3
12J1G-1501881R01	1.500	4.25	4.25	6.50	3	1.250	Yes	2.3
12J1G-1505586R01	1.500	5.50	5.50	8.00	3	1.500	Yes	Not Recomm.
12J1G-1507586R01	1.500	7.50	7.50	10.00	3	1.500	Yes	Not Recomm.
12J1G-2001781R01	2.000	2.25	2.25	4.50	5	1.250	Yes	1.6

NOTE: Cutter body must be relieved when using insert corner radii larger than R.062 (Body R" = Insert R" - .02"). BOMT17 produces slightly larger diameter (up to .011") for cutters 1.00" and smaller.

HiPOS+™ SERIES: 12J1G (TOPON M-ADAPTION)

90° MODULAR END MILL



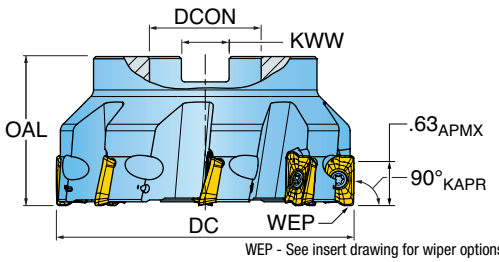
WEP - See insert drawing for wiper options.

Part Number	DC Cutting Diameter	LF Functional Length	ZEFF Effective Teeth	CCMS Connection Code	DHUB Hub Diameter	CSP Coolant	RMPX Ramp Angle Max.
12J1G-10015X7R01	1.000	1.50	2	TopOn M12	0.81	Yes	5.8
12J1G-12017X8R01	1.250	1.75	3	TopOn M16	1.13	Yes	3.5
12J1G-15017X8R01	1.500	1.75	3	TopOn M16	1.13	Yes	2.3

NOTE: Cutter body must be relieved when using insert corner radii larger than R.062 (Body R" = Insert R" - .02"). BOMT17 produces slightly larger diameter (up to .011") for cutters 1.00" and smaller.

HiPOS+™ SERIES: 2J1G

90° FACE MILL



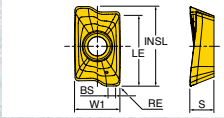
WEP - See insert drawing for wiper options.

Part Number	DC Cutting Diameter	OAL Overall Length	ZEFF Effective Teeth	DCON Bore Diameter	KWW Keyway	DBC Bolt Circle	CSP Coolant	RMPX Ramp Angle Max.
2J1G-20R01	2.000	1.57	5	0.750	0.312	NA	Yes	4.4
2J1G-20R02	2.000	1.57	3	0.750	0.312	NA	Yes	4.4
2J1G-25R01	2.500	1.57	6	0.750	0.312	NA	Yes	3.2
2J1G-30R01	3.000	1.75	7	1.000	0.375	NA	Yes	2.3
2J1G-30R02	3.000	1.75	4	1.000	0.375	NA	Yes	2.3
2J1G-40R03	4.000	2.38	8	1.500	0.625	NA	Yes	1.8
2J1G-40R04	4.000	2.38	6	1.500	0.625	NA	Yes	1.8
2J1G-50R02	5.000	2.38	9	1.500	0.625	NA	Yes	1.4
2J1G-60R01	6.000	2.00	10	2.000	0.750	NA	No	.7
2J1G-60R02	6.000	2.00	8	2.000	0.750	NA	No	.7
2J1G-80R01	8.000	2.37	12	2.500	1.000	4.00	No	.5

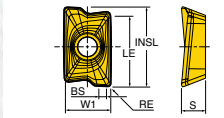
NOTE: Cutter body must be relieved when using insert corner radii larger than R.062 (Body R" = Insert R" - .02"). BOMT17 produces slightly smaller diameter (up to .007") for cutters 3.00" and larger.

HiPOS+ 12J1G, 2J1G INSERTS

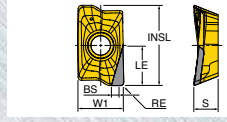
AOMT17



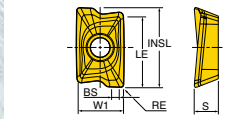
AOMT17_HS



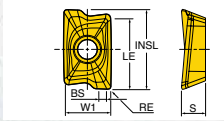
APKT17_DT



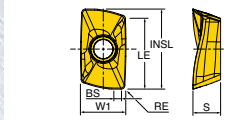
BOCT17_FR-P



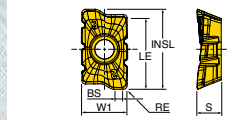
BOCT17_R-HS



BOMT17



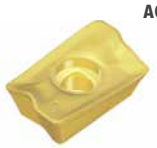
ZOMT17

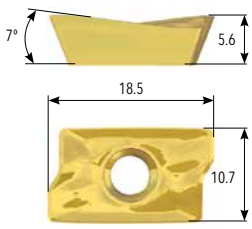


Part Number	Application	RE Corner Radius	BS Wiper Length	LE Cutting Edge Length	INSL Length	W1 Width	S Thick-ness	Grade	IN1030	IN10K	IN2005	IN2035	IN2504	IN2505	IN2510	IN2530	IN2540	IN4030	IN90D	IN7035
AOMT170504R	Multi-Purpose	0.015 R	0.100	0.633	0.728	0.421	0.218		•							•	•			
AOMT170508R	Multi-Purpose	0.031 R	0.088	0.633	0.728	0.421	0.218		•		•			•	•	•	•	•		
AOMT170508R-HS	SS/Hi-Temp/Ti	0.031 R	0.082	0.633	0.728	0.421	0.218		•		•	•				•				
AOMT170510R	Multi-Purpose	0.039 R	0.078	0.633	0.728	0.421	0.218									•				
AOMT170516R	Multi-Purpose	0.062 R	0.054	0.633	0.728	0.421	0.218		•		•				•	•				
AOMT170516R-HS	SS/Hi-Temp/Ti	0.062 R	0.054	0.633	0.728	0.421	0.218									•				•
AOMT170524R	Multi-Purpose	0.093 R	0.035	0.633	0.728	0.421	0.218		•		•									
AOMT170532R	Multi-Purpose	0.125 R	0.051	0.633	0.728	0.421	0.218		•		•					•	•			
AOMT170532R-HS	SS/Hi-Temp/Ti	0.125 R	0.051	0.606	0.683	0.421	0.218									•				•
AOMT170540R	Multi-Purpose	0.156 R	-	0.633	0.728	0.421	0.218		•					•						
AOMT170548R	Multi-Purpose	0.187 R	-	0.633	0.728	0.421	0.218		•		•									
AOMT170564R	Multi-Purpose	0.250 R	-	0.633	0.728	0.421	0.218		•		•				•					
AOMT170564R-HS	SS/Hi-Temp/Ti	0.250 R	-	0.595	0.669	0.421	0.218									•				•
APKT170504R-DT	PCD Tipped	0.015 R	0.080	0.300	0.731	0.421	0.218												•	
BOCT170508FR-P	Grd/Pol for Al	0.031 R	0.124	0.633	0.692	0.421	0.207			•										
BOCT170530FR-P	Grd/Pol for Al	0.118 R	0.060	0.630	0.720	0.425	0.221			•										
BOCT170508R-HS	Precision	0.031 R	0.082	0.633	0.728	0.421	0.218				•					•				
BOMT170608R	Heavy Duty	0.031 R	0.086	0.630	0.744	0.421	0.256					•	•	•	•	•				
ZOMT170508R	Multi-Purpose Splitters	0.031 R	0.088	0.645	0.728	0.421	0.218					•		•		•				

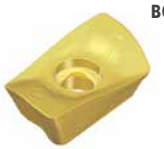
BOMT ADVANTAGES

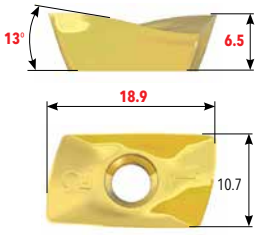
AOMT170508R





BOMT170608R (Heavy Duty)





- Higher positive helix angle (AOMT17: 7°/ BOMT17: 13°) for smoother machining
- Thicker and stronger insert design (AOMT17: 5.6 mm / BOMT17: 6.5 mm)
- Compatible with the exsisting HiPos+ milling cutters for AOMT17

Please note possible cutter diameter deviations when using BOMT insert as follows:

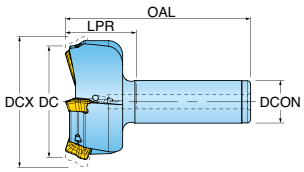
Tool Diameter	Deviation of Diameter Compared to AOMT1705
.750" - 1.00"	+.004" ~ +.011"
1.25" - 2.50"	0
3.00" - 8.00"	−.004" ~ −.007"

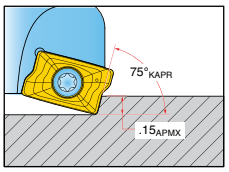
HiPOS+™ SERIES: 12L1G

75° ROUGHING END MILL

Facing

Coolant



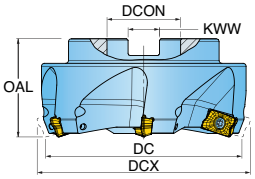


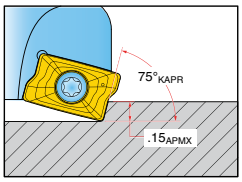
Part Number	DC Cutting Diameter	DCX Cutting Dia. Max.	KAPR Cutting Edge Angle	APMX Depth of Cut Max.	LPR Projection Length	OAL Overall Length	ZEFF Effective Teeth	DCON Shank Diameter	CSP Coolant
12L1G-20012S7R01	2.000	2.300	75	0.15	1.25	3.25	3	0.750	Yes

HiPOS+™ SERIES: 2L1G

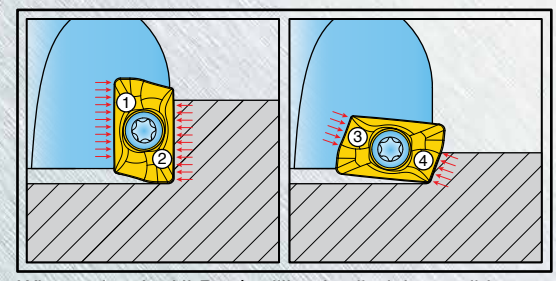
75° ROUGHING FACE MILL

Facing





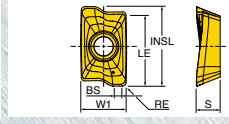
Part Number	DC Cutting Diameter	DCX Cutting Dia. Max.	KAPR Cutting Edge Angle	APMX Depth of Cut Max.	OAL Overall Length	ZEFF Effective Teeth	DCON Shank Diameter	KWW Keyway	CSP Coolant	HAND Hand
2L1G-40R01	4.000	4.35	75.0	0.15	2.000	6	1.500	0.625	No	Right



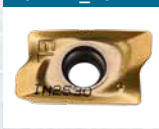
When using the Hi•Pos+ milling family, it is possible to make use of all four cutting edges. The first 2 edges can be used in any Hi•Pos+ 90° or lead angle endmill or facemill, then use edges 3 and 4 in 12L endmills or 2L facemills

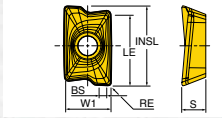
HiPOS+™ 12L1G, 2L1G INSERTS

AOMT17

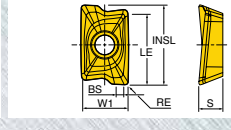


AOMT17_HS

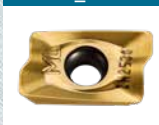


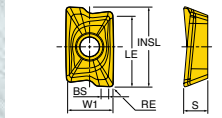


BOCT17_FR-P

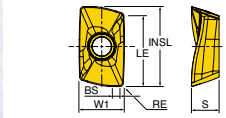


BOCT17_R-HS

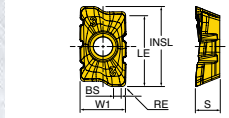




BOMT17



ZOMT17



Part Number	Application	RE Corner Radius	BS Wiper Length	LE Cutting Edge Length	INSL Length	W1 Width	S Thickness	Grade	IN1030	IN10K	IN2005	IN2035	IN2504	IN2505	IN2510	IN2530	IN2540	IN4030	IN7035
AOMT170504R	Multi-Purpose	0.015 R	0.100	0.633	0.728	0.421	0.218		•							•	•		
AOMT170508R	Multi-Purpose	0.031 R	0.088	0.633	0.728	0.421	0.218		•		•			•	•	•	•	•	
AOMT170508R-HS	SS/Hi-Temp/Ti	0.031 R	0.082	0.633	0.728	0.421	0.218		•		•	•				•			
AOMT170510R	Multi-Purpose	0.039 R	0.078	0.633	0.728	0.421	0.218									•			
AOMT170516R	Multi-Purpose	0.062 R	0.054	0.633	0.728	0.421	0.218		•		•				•	•			
AOMT170516R-HS	SS/Hi-Temp/Ti	0.062 R	0.054	0.633	0.728	0.421	0.218									•			•
AOMT170524R	Multi-Purpose	0.093 R	0.035	0.633	0.728	0.421	0.218		•		•								
AOMT170532R	Multi-Purpose	0.125 R	0.051	0.633	0.728	0.421	0.218		•		•					•	•		
AOMT170532R-HS	SS/Hi-Temp/Ti	0.125 R	0.051	0.606	0.683	0.421	0.218									•			•
AOMT170540R	Multi-Purpose	0.156 R	-	0.633	0.728	0.421	0.218		•					•					
AOMT170548R	Multi-Purpose	0.187 R	-	0.633	0.728	0.421	0.218		•		•								
AOMT170550R	Multi-Purpose	0.197 R	-	0.596	0.664	0.421	0.218		•										
AOMT170564R	Multi-Purpose	0.250 R	-	0.633	0.728	0.421	0.218		•		•				•				
AOMT170564R-HS	SS/Hi-Temp/Ti	0.250 R	-	0.595	0.669	0.421	0.218									•			•
BOCT170508FR-P	Grd/Pol for Al	0.031 R	0.124	0.633	0.692	0.421	0.207			•									
BOCT170530FR-P	Grd/Pol for Al	0.118 R	0.060	0.630	0.720	0.425	0.221			•									
BOCT170508R-HS	Precision	0.031 R	0.082	0.633	0.728	0.421	0.218				•					•			
BOMT170608R	Heavy Duty	0.031 R	0.086	0.630	0.744	0.421	0.256					•	•	•	•	•			
ZOMT170508R	Multi-Purpose Splitters	0.031 R	0.088	0.645	0.728	0.421	0.218					•		•		•			

HIPOS+™ HARDWARE

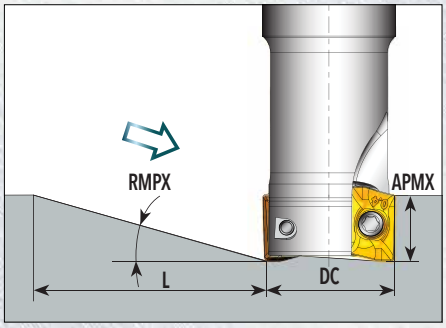
	 Insert Screw	 Driver Handle	 Driver Bit	 **OPTIONAL** Torque Driver Handle	 **OPTIONAL** Preset Torque Bit	 **OPTIONAL** Torque Driver Bit	 Wrench	 Retention Bolt	 **OPTIONAL** Coolant Bolt
12J1G-0701284R01	SM40-084-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
12J1G-1001580R01	SM40-084-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
12J1G-1001580R02	SM40-084-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
12J1G-1003780R01	SM40-084-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
12J1G-1006080R01	SM40-084-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
12J1G-1008080R01	SM40-084-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
12J1G-1201681R01	SM40-093-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
12J1G-1201681R02	SM40-093-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
12J1G-1204281R01	SM40-093-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
12J1G-1205281R01	SM40-093-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
12J1G-1207281R01	SM40-093-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
12J1G-1501681R01	SM40-093-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
12J1G-1501681R04	SM40-093-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
12J1G-1501881R01	SM40-093-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
12J1G-1505586R01	SM40-093-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
12J1G-1507586R01	SM40-093-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
12J1G-2001781R01	SM40-093-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
12J1G-10015X7R01	SM40-093-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	617MM	-	-
12J1G-12017X8R01	SM40-093-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	622MM	-	-
12J1G-15017X8R01	SM40-093-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	622MM	-	-
2J1G-20R01	SM40-120-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	SD-06-46	SD-06-89
2J1G-20R02	SM40-120-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	SD-06-46	SD-06-89
2J1G-25R01	SM40-120-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	SD-06-46	SD-06-89
2J1G-30R01	SM40-120-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	SD-08-47	SD08-C9
2J1G-30R02	SM40-120-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	SD-08-47	SD08-C9
2J1G-40R03	SM40-120-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	SD-12-82	SD-12-99
2J1G-40R04	SM40-120-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	SD-12-82	SD-12-99
2J1G-50R02	SM40-120-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	SD-12-82	SD-12-99
2J1G-60R01	SM40-120-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
2J1G-60R02	SM40-120-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
2J1G-80R01	SM40-120-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
12L1G-20012S7R01	SM40-120-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-
2L1G-40R01	SM40-120-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1	-	-	-

HIPOS+™ OPERATING GUIDELINES - SERIES 12J1G, 12L1G, 2J1G, 2L1G

Series 12J1G, 12L1G, 2J1G, 2L1G					IN10K	IN1030/2530/4030	IN2005/2505	IN2035	IN2504	IN2510	IN2540	IN90D	Coolant
Material		Brinnell Hardness	SFM	Feed per Insert									
Aluminum	6061-T6, 7075-T6, 2024	-	1500 - 5000	.003-.009	1							1	Yes
Cast Iron	Gray	150 - 250	300 - 1000	.004-.008			2		3	1			No
	Nodular		300 - 600				2		3	1			
Steel	Low Carbon 1018, 8620	100 - 250	400 - 1000	.004-.008		1	2		3		4		No
	High Carbon F-6180	250 - 400	350 - 500										
	Alloyed Steel 4140, 4340	150 - 300	300 - 700										
	Tool Steel A-6, D-1, D-2	Up to 300											
Stainless Steel	300 Series, 304, 316	-	300 - 550	.004-.007		2	3	1			4		May not be required at high speeds
	400 Series 15-5 PH	Up to 320	350 - 600										
	13-8 PH	-	200 - 400										Yes
Nickel Alloys	Inconel, Hastelloy, Waspalloy	-	75-120	.003-.006		3	2	1					Yes
Titanium	6AL-4V	-	100 - 150	.003-.006		2	3	1					Yes

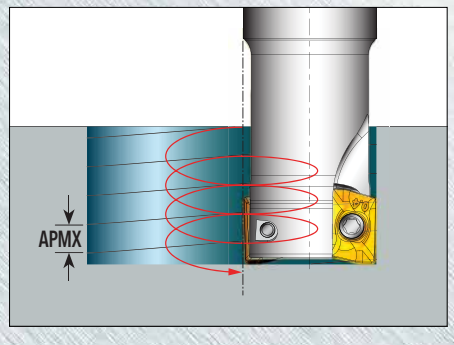
HIPOS+™ RAMPING DATA

STRAIGHT RAMPING



DC Cutter Diameter	RMPX Ramp Angle Max.	APMX Depth of Cut Max.	L
0.750	8.0	0.63	4.5
1.000	5.0	0.63	7.2
1.250	9.0	0.63	4.0
1.500	5.0	0.63	7.2
2.000	4.0	0.63	8.2
2.500	3.0	0.63	11.2
3.000	2.0	0.63	15.7
4.000	1.8	0.63	20.0
5.000	1.4	0.63	26.0
6.000	1.0	0.63	36.0
8.000	0.5	0.63	52.0

HELICAL RAMPING



DC Cutter Diameter (Using R.031 Insert)	Min. Dia. Milled Hole	APMX / Rev.	Max. Dia. Milled Hole	APMX / Rev.
0.750	0.85	0.02	1.50	0.28
1.000	1.24	0.05	2.00	0.20
1.250	1.74	0.20	2.50	0.50
1.500	2.24	0.18	3.00	0.35
2.000	3.24	0.24	4.00	0.40
2.500	4.24	0.25	5.00	0.35
3.000	5.24	0.25	6.00	0.30
4.000	7.24	0.26	8.00	0.30
5.000	9.24	0.27	10.00	0.30
6.000	11.24	0.25	12.00	0.28
8.000	15.24	0.23	16.00	0.25