



HiPos+™

09,13,17

MILLING PRODUCTS

Cutter Series:

12J1P, 2J1P: 90° Mill (.35" DOC)
12J1R, 2J1R: 90° Mill (.47" DOC)
12J1G, 2J1G: 90° Mill (.63" DOC)
22J3P, 22J3R, 22J3G: 90° Long Edge
12_1R: Chamfer End Mill
22_3R: Chamfer Long Edge Mill
12L, 2L: 70° Mill

Diameters:

.500" - 8.00" (12mm - 160mm)

Cutting Edge Angles:

15°, 30°, 45°, 60°, 70°, 75° & 90°

Insert Series:

BOMT09, BOCT09, BODT09, ZOMT09
BOMT13, BOCT13, ZOMT13
AOMT17, BOMT17, BOCT17, ZOMT17

Insert Corners:

.015", .031", .039", .047", .062",
.078", .093", .120", .125", .156",
.187" & .250" R

Materials:

Aluminum, Iron, Steel,
Stainless Steel, High-Temps,
Titanium & Hard Steel



Our Highest Positive Milling Geometry!

Designed with diversity and efficiency in mind, Ingersoll's HiPos+ Milling line features three popular insert sizes (9mm, 13mm & 17mm) that are common to several cutter body styles. Having the largest cutter diameter/length/adaption selection and the largest insert corner offering of any Ingersoll milling line, HiPos+ is an ideal multi-purpose mill that excels on low horsepower machines and long chipping materials.

Features & Benefits:

- BOMT inserts offer 2X positive rake and 2X face clearance when compared to APKT; resulting in higher efficiency, less heat and more aggressive ramping capability
- Diverse range of insert grade/geometry additions to accommodate a wide variety of materials
- Inserts with integrated wiper flats typically produce surface finishes between 32-63 Ra
- Carbide inserts equipped with 2 indexes; PCD with 1 index; Add series 12L/2L cutter to get 4 indexes
- Cutters ported with coolant to accommodate non-ferrous, stainless steel, titanium and hi-temp alloy materials

HI-POS⁺ SERIES: 12J1P (WELDON SHANK)

90° END MILL (9MM INSERT)



Facing

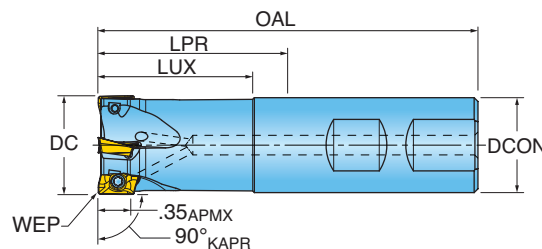
Shoulder

Channeling

Ramping

Helical/Corkscrew

Coolant



WEPP - 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.
12J1P-0501379R01	0.500	1.18	1.34	3.25	1	0.625	Yes	1.5
12J1P-0601379R01	0.625	1.18	1.34	3.25	2	0.625	Yes	10.0
12J1P-0701784R01	0.750	1.18	1.75	3.75	2	0.750	Yes	7.0
12J1P-0701784R02	0.750	1.18	1.75	3.75	3	0.750	Yes	7.0
12J1P-0702784R01	0.750	2.75	2.75	4.75	2	0.750	Yes	7.0
12J1P-0704084R01	0.750	2.75	4.00	6.00	2	0.750	Yes	Not Recomm.
12J1P-0801784R01	0.875	1.18	1.75	3.75	3	0.750	Yes	5.5
12J1P-1001784R01	1.000	1.75	1.75	3.75	3	0.750	Yes	4.4
12J1P-1001784R02	1.000	1.75	1.75	3.75	4	0.750	Yes	4.4
12J1P-1201584R01	1.250	1.50	1.50	3.75	5	0.750	Yes	2.8
12J1P-1501780R01	1.500	1.75	1.75	4.00	6	1.000	Yes	2.4

NOTE: Cutter body must be relieved when using insert corner radii larger than R.031: Body R" = Insert R" - .02"

METRIC

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.
12J1P012020W3R00	12.00 mm	20.0 mm	32.0 mm	80.0 mm	1	16.00 mm	Yes	1.5
12J1P016026W3R00	16.00 mm	26.0 mm	37.0 mm	85.0 mm	2	16.00 mm	Yes	10.0
12J1P020030W4R00	20.00 mm	30.0 mm	40.0 mm	90.0 mm	3	20.00 mm	Yes	7.0
12J1P020075W4R00	20.00 mm	75.0 mm	75.0 mm	125.0 mm	2	20.00 mm	Yes	7.0
12J1P025040W5R00	25.00 mm	40.0 mm	44.0 mm	100.0 mm	4	25.00 mm	Yes	4.4
12J1P025085W5R00	25.00 mm	85.0 mm	89.0 mm	145.0 mm	3	25.00 mm	Yes	4.4
12J1P025085W5R01	25.00 mm	85.0 mm	89.0 mm	145.0 mm	4	25.00 mm	Yes	4.4

NOTE: Cutter body must be relieved when using insert corner radii larger than R0.8mm: Body R = Insert R - 0.5mm



HIPOST[™] SERIES: 12J1P (TOPON M-ADAPTION)

90° MODULAR END MILL (9MM INSERT)



Facing

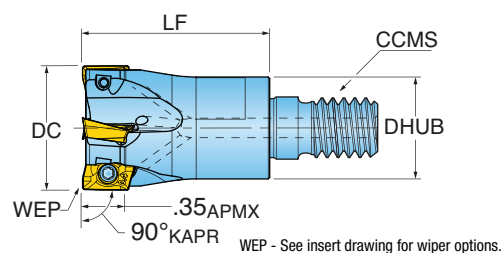
Shoulder

Channeling

Ramping

Helical/Corkscrew

Coolant



Part Number	DC Cutting Diameter	LF Functional Length	ZEFF Effective Teeth	CCMS Connection Code	DHUB Hub Diameter	CSP Coolant	RMPX Ramp Angle Max.
12J1P-06015X5R01	0.625	1.50	2	TopOn M08	0.50	Yes	10.0
12J1P-07015X6R01	0.750	1.50	3	TopOn M10	0.69	Yes	7.0
12J1P-10015X7R01	1.000	1.50	4	TopOn M12	0.81	Yes	4.4
12J1P-12017X8R01	1.250	1.75	5	TopOn M16	1.13	Yes	2.8

NOTE: Cutter body must be relieved when using insert corner radii larger than R.031: Body R" = Insert R" - .02"

METRIC

Part Number	DC Cutting Diameter	LF Functional Length	ZEFF Effective Teeth	CCMS Connection Code	DHUB Hub Diameter	CSP Coolant	RMPX Ramp Angle Max.
12J1P012030X4R00	12.00 mm	30.0 mm	1	TopOn M06	11.8 mm	Yes	1.5
12J1P015030X5R00	15.00 mm	30.0 mm	2	TopOn M08	13.0 mm	Yes	12.0
12J1P016035X5R00	16.00 mm	35.0 mm	2	TopOn M08	13.0 mm	Yes	10.0
12J1P020035X6R00	20.00 mm	35.0 mm	3	TopOn M10	18.0 mm	Yes	7.0
12J1P025035X7R00	25.00 mm	35.0 mm	4	TopOn M12	21.0 mm	Yes	4.4
12J1P032043X8R00	32.00 mm	43.0 mm	5	TopOn M16	29.0 mm	Yes	2.8
12J1P035043X8R00	35.00 mm	43.0 mm	5	TopOn M16	29.0 mm	Yes	2.5

NOTE: Cutter body must be relieved when using insert corner radii larger than R 0.8: Body R = Insert R - 0.5mm



HIPOST[™] SERIES: 2J1P

90° FACE MILL (9MM INSERT)



Facing

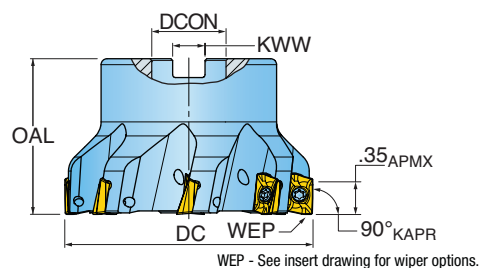
Shoulder

Channeling

Ramping

Helical/Corkscrew

Coolant



Part Number	DC Cutting Diameter	OAL Overall Length	ZEFF Effective Teeth	DCON Bore Diameter	KWW Keyway	CSP Coolant	RMPX Ramp Angle Max.
2J1P-15R01	1.500	1.57	6	0.500	0.250	Yes	2.4
2J1P-20R01	2.000	1.57	7	0.750	0.312	Yes	1.3
2J1P-25R01	2.500	1.57	8	0.750	0.312	Yes	1.0
2J1P-30R01	3.000	1.75	9	1.000	0.375	Yes	0.7

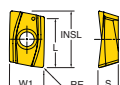
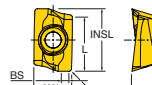
NOTE: Cutter body must be relieved when using insert corner radii larger than R.031: Body R" = Insert R" - .02"

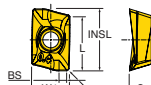
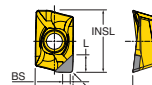
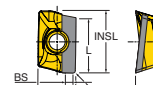
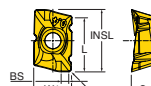
METRIC

Part Number	DC Cutting Diameter	OAL Overall Length	ZEFF Effective Teeth	DCON Bore Diameter	KWW Keyway	CSP Coolant	RMPX Ramp Angle Max.
2J1P032R00	32.00 mm	32.00 mm	5	16.00 mm	8.40 mm	Yes	2.8
2J1P032R01	32.00 mm	32.00 mm	4	16.00 mm	8.40 mm	Yes	2.8
2J1P035R00	35.00 mm	32.00 mm	6	16.00 mm	8.40 mm	Yes	2.5
2J1P040R00	40.00 mm	40.00 mm	6	16.00 mm	8.40 mm	Yes	2.4
2J1P040R01	40.00 mm	40.00 mm	4	16.00 mm	8.40 mm	Yes	2.4
2J1P050R00	50.00 mm	40.00 mm	7	22.00 mm	10.40 mm	Yes	1.3
2J1P050R01	50.00 mm	40.00 mm	4	22.00 mm	10.40 mm	Yes	1.3
2J1P063R00	63.00 mm	40.00 mm	8	22.00 mm	10.40 mm	Yes	1.0
2J1P063R01	63.00 mm	40.00 mm	6	22.00 mm	10.40 mm	Yes	1.0
2J1P080R00	80.00 mm	50.00 mm	10	27.00 mm	12.40 mm	Yes	0.6
2J1P100R00	100.00 mm	50.00 mm	12	32.00 mm	14.40 mm	Yes	0.5

NOTE: Cutter body must be relieved when using insert corner radii larger than R0.8mm: Body R = Insert R - 0.5mm

HI-POSTM 12J1P, 2J1P INSERTS

BOCT09

BODT09_R

BODT09_R-001

BOMT09

BOMT09_R-DT1

BOMT09_R-DT2

ZOMT09


Part Number	Application	RE Corner Radius	BS Wiper Length	L Cutting Edge Length	INSL Length	W1 Width	S Thickness	Grade	IN10K	IN2010	IN2035	IN2504	IN2505	IN2530	IN4030	IN90D
BOCT09T304FR-P	Grd/Pol for Al	0.015 R	-	0.350	0.417	0.260	0.146	•								
BOCT09T308FR-P	Grd/Pol for Al	0.031 R	-	0.350	0.414	0.260	0.144	•								
BODT09T308R	Finishing	0.031 R	0.057	0.330	0.421	0.258	0.148					•				
BODT09T308R-001	Finishing	0.031 R	0.057	0.120	0.421	0.254	0.148					•				
BOMT09T304R	Multi-Purpose	0.015 R	0.050	0.350	0.421	0.258	0.148		•				•	•	•	
BOMT09T308R	Multi-Purpose	0.031 R	0.034	0.350	0.421	0.259	0.148				•	•	•	•	•	
BOMT09T316R	Multi-Purpose	0.062 R	-	0.350	0.421	0.259	0.148				•		•	•		
BOMT09T320R	Multi-Purpose	0.078 R	-	0.350	0.421	0.259	0.148						•			
BOMT09T331R	Multi-Purpose	0.120 R	-	0.350	0.421	0.259	0.148				•		•	•		
BOMT09T304R-DT1	PCD Tipped	0.015 R	0.060	0.120	0.421	0.260	0.147									•
BOMT09T304R-DT2	PCD Tipped	0.015 R	0.060	0.370	0.421	0.260	0.147									•
ZOMT09T304R	Positive-Splitters	0.015 R	0.050	0.350	0.421	0.259	0.148				•		•	•	•	



HIPOSTTM 12J1P, 2J1P HARDWARE

								
	Insert Screw	Screw Driver	Retention Bolt	Retention Bolt w/Coolant	Wrench	**OPTIONAL**	**OPTIONAL**	**OPTIONAL**
12J1P-0501379R01	SM25-054-00	DS-T08W	-	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P-0601379R01	SM25-054-00	DS-T08W	-	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P-0701784R01	SM25-064-00	DS-T08W	-	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P-0701784R02	SM25-064-00	DS-T08W	-	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P-0702784R01	SM25-064-00	DS-T08W	-	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P-0704084R01	SM25-064-00	DS-T08W	-	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P-0801784R01	SM25-064-00	DS-T08W	-	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P-1001784R01	SM25-064-00	DS-T08W	-	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P-1001784R02	SM25-064-00	DS-T08W	-	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P-1201584R01	SM25-064-00	DS-T08W	-	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P-1501780R01	SM25-064-00	DS-T08W	-	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P-06015X5R01	SM25-054-00	DS-T08W	-	-	610MM	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P-07015X6R01	SM25-064-00	DS-T08W	-	-	615MM	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P-10015X7R01	SM25-064-00	DS-T08W	-	-	617MM	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P-12017X8R01	SM25-064-00	DS-T08W	-	-	622MM	DS-A00-.25-S	DT-11-.25	DS-T08B
2J1P-15R01	SM25-064-00	DS-T08W	SD-04-85	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
2J1P-20R01	SM25-064-00	DS-T08W	SD-06-46	SD-06-89	-	DS-A00-.25-S	DT-11-.25	DS-T08B
2J1P-25R01	SM25-064-00	DS-T08W	SD-06-46	SD-06-89	-	DS-A00-.25-S	DT-11-.25	DS-T08B
2J1P-30R01	SM25-064-00	DS-T08W	SD-08-48	SD-08-C9	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P012020W3R00	SM25-054-00	DS-T08W	-	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P016026W3R00	SM25-054-00	DS-T08W	-	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P020030W4R00	SM25-064-00	DS-T08W	-	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P020075W4R00	SM25-064-00	DS-T08W	-	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P025040W5R00	SM25-064-00	DS-T08W	-	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P025085W5R00	SM25-064-00	DS-T08W	-	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P025085W5R01	SM25-064-00	DS-T08W	-	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P012030X4R00	SM25-054-00	DS-T08W	-	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P015030X5R00	SM25-054-00	DS-T08W	-	-	610mm	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P016035X5R00	SM25-054-00	DS-T08W	-	-	610mm	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P020035X6R00	SM25-064-00	DS-T08W	-	-	615mm	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P025035X7R00	SM25-064-00	DS-T08W	-	-	617mm	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P032043X8R00	SM25-064-00	DS-T08W	-	-	622mm	DS-A00-.25-S	DT-11-.25	DS-T08B
12J1P035043X8R00	SM25-064-00	DS-T08W	-	-	622mm	DS-A00-.25-S	DT-11-.25	DS-T08B
2J1P032R00	SM25-064-00	DS-T08W	ISO4762M8X20-12.9	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
2J1P032R01	SM25-064-00	DS-T08W	ISO4762M8X20-12.9	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
2J1P035R00	SM25-064-00	DS-T08W	ISO4762M8X20-12.9	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
2J1P040R00	SM25-064-00	DS-T08W	ISO4762M8X30-12.9	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
2J1P040R01	SM25-064-00	DS-T08W	ISO4762M8X30-12.9	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
2J1P050R00	SM25-064-00	DS-T08W	ISO4762M10X25-12.9	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
2J1P050R01	SM25-064-00	DS-T08W	ISO4762M10X25-12.9	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
2J1P063R00	SM25-064-00	DS-T08W	ISO4762M10X25-12.9	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
2J1P063R01	SM25-064-00	DS-T08W	ISO4762M10X25-12.9	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
2J1P080R00	SM25-064-00	DS-T08W	ISO4762M12X35-12.9	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B
2J1P100R00	SM25-064-00	DS-T08W	ISO4762M16X30-12.9	-	-	DS-A00-.25-S	DT-11-.25	DS-T08B

SERIES: 12J1R (WELDON SHANK)

90° END MILL (13MM INSERT)



Facing



Shoulder



Channeling



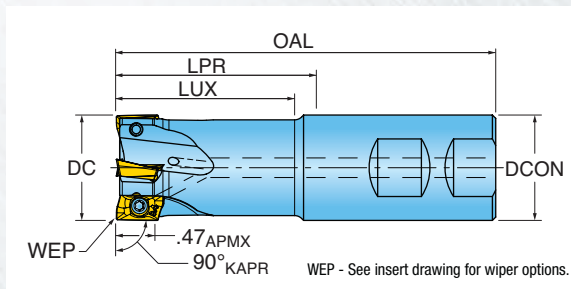
Ramping



Helical/Corkscrew



Coolant



WEPP - 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.
12J1R-0701284R01	0.750	1.22	1.25	3.25	2	0.750	Yes	6.3
12J1R-0702084R01	0.750	1.97	2.00	4.00	1	0.750	Yes	6.3
12J1R-0703084R01	0.750	2.97	3.00	5.00	2	0.750	Yes	6.3
12J1R-1001780R01	1.000	1.72	1.75	4.00	3	1.000	Yes	7.9
12J1R-1003780R01	1.000	3.72	3.75	6.00	3	1.000	Yes	7.9
12J1R-1202281R01	1.250	2.22	2.25	4.50	4	1.250	Yes	3.1
12J1R-1204281R01	1.250	4.22	4.25	6.50	4	1.250	Yes	3.1
12J1R-1501781R01	1.500	1.72	1.75	4.00	5	1.250	Yes	2.3
12J1R-1502281R01	1.500	2.22	2.25	4.50	4	1.250	Yes	2.3
12J1R-1504281R01	1.500	4.22	4.25	6.50	4	1.250	Yes	2.3

NOTE: Cutter body must be relieved when using insert corner radii larger than R.078: Body R" = Insert R" - .02"

METRIC

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.
12J1R020030W4R00	20.00 mm	30.0 mm	40.0 mm	90.0 mm	2	20.00 mm	Yes	7.0
12J1R025040W5R00	25.00 mm	40.0 mm	44.0 mm	100.0 mm	3	25.00 mm	Yes	7.9
12J1R025040W5R01	25.00 mm	40.0 mm	44.0 mm	100.0 mm	2	25.00 mm	Yes	7.9
12J1R032038W6R00	32.00 mm	38.0 mm	40.0 mm	100.0 mm	4	32.00 mm	Yes	5.0
12J1R032040W5R00	32.00 mm	40.0 mm	44.0 mm	100.0 mm	4	25.00 mm	Yes	5.0

NOTE: Cutter body must be relieved when using insert corner radii larger than R2.0mm: Body R = Insert R - 0.5mm

SERIES: 12J1R (TOPON M-ADAPTION)

90° MODULAR END MILL (13MM INSERT)



Facing



Shoulder



Channeling



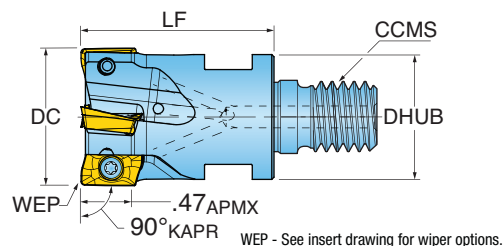
Ramping



Helical/Corkscrew



Coolant



Part Number	DC Cutting Diameter	LF Functional Length	ZEFF Effective Teeth	CCMS Connection Code	DHUB Hub Diameter	CSP Coolant	RMPX Ramp Angle Max.
12J1R-07015X6R01	0.750	1.50	2	TopOn M10	0.69	Yes	6.3
12J1R-10015X7R01	1.000	1.50	3	TopOn M12	0.81	Yes	4.6
12J1R-12017X8R01	1.250	1.75	4	TopOn M16	1.13	Yes	3.1
12J1R-15017X8R01	1.500	1.75	5	TopOn M16	1.13	Yes	2.3

NOTE: Cutter body must be relieved when using insert corner radii larger than R.078: Body R" = Insert R" - .02"

METRIC

Part Number	DC Cutting Diameter	LF Functional Length	ZEFF Effective Teeth	CCMS Connection Code	DHUB Hub Diameter	CSP Coolant	RMPX Ramp Angle Max.
12J1R020035X6R00	20.00 mm	35.0 mm	2	TopOn M10	18.0 mm	Yes	7.0
12J1R025035X7R00	25.00 mm	35.0 mm	3	TopOn M12	21.0 mm	Yes	7.9
12J1R032043X8R00	32.00 mm	43.0 mm	4	TopOn M16	29.0 mm	Yes	5.0
12J1R035043X8R00	35.00 mm	43.0 mm	4	TopOn M16	29.0 mm	Yes	4.2
12J1R040043X8R00	40.00 mm	43.0 mm	5	TopOn M16	29.0 mm	Yes	3.2

NOTE: Cutter body must be relieved when using insert corner radii larger than R2.0mm: Body R = Insert R - 0.5mm



HIPOST⁺ SERIES: 2J1R

90° FACE MILL (13MM INSERT)



Facing

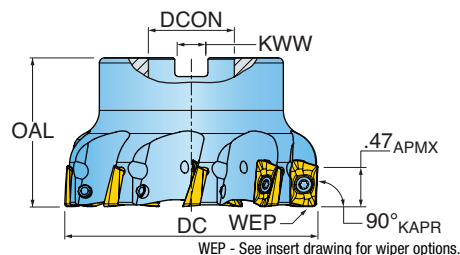
Shoulder

Channeling

Ramping

Helical/Corkscrew

Coolant



Part Number	DC Cutting Diameter	OAL Overall Length	ZEFF Effective Teeth	DCON Bore Diameter	KWW Keyway	CSP Coolant	RMPX Ramp Angle Max.
2J1R-20R01	2.000	1.57	5	0.750	0.312	Yes	1.5
2J1R-20R02	2.000	1.57	6	0.750	0.312	Yes	1.5
2J1R-25R01	2.500	1.57	6	0.750	0.312	Yes	1.1
2J1R-30R01	3.000	1.75	9	1.000	0.375	Yes	.9
2J1R-40R01	4.000	2.38	11	1.500	0.625	Yes	.6
2J1R-50R01	5.000	2.38	13	1.500	0.625	Yes	.5

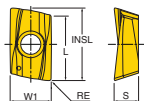
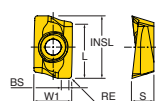
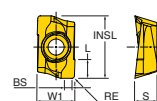
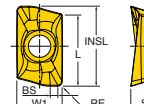
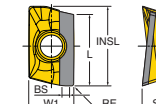
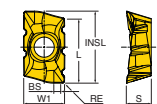
NOTE: Cutter body must be relieved when using insert corner radii larger than R.078: Body R" = Insert R" - .02"

METRIC

Part Number	DC Cutting Diameter	OAL Overall Length	ZEFF Effective Teeth	DCON Bore Diameter	KWW Keyway	CSP Coolant	RMPX Ramp Angle Max.
2J1R035R00	35.00 mm	35.00 mm	4	16.00 mm	8.40 mm	Yes	4.2
2J1R040R00	40.00 mm	40.00 mm	5	16.00 mm	8.40 mm	Yes	3.2
2J1R040R01	40.00 mm	40.00 mm	5	22.00 mm	10.40 mm	Yes	3.2
2J1R040R02	40.00 mm	40.00 mm	4	16.00 mm	8.40 mm	Yes	3.2
2J1R040R03	40.00 mm	40.00 mm	4	22.00 mm	10.40 mm	Yes	3.2
2J1R050R00	50.00 mm	40.00 mm	6	22.00 mm	10.40 mm	Yes	2.1
2J1R050R01	50.00 mm	40.00 mm	4	22.00 mm	10.40 mm	Yes	2.1
2J1R052R00	52.00 mm	50.00 mm	5	22.00 mm	10.40 mm	Yes	2.0
2J1R063R00	63.00 mm	40.00 mm	7	22.00 mm	10.40 mm	Yes	1.4
2J1R063R01	63.00 mm	40.00 mm	6	22.00 mm	10.40 mm	Yes	1.4
2J1R066R00	66.00 mm	50.00 mm	6	27.00 mm	12.40 mm	Yes	1.2
2J1R080R00	80.00 mm	50.00 mm	9	27.00 mm	12.40 mm	Yes	1.0
2J1R080R01	80.00 mm	50.00 mm	6	27.00 mm	12.40 mm	Yes	1.0
221R100R00	100.00 mm	50.00 mm	11	32.00 mm	14.40 mm	Yes	0.8
2J1R100R01	100.00 mm	50.00 mm	8	32.00 mm	14.40 mm	Yes	0.8
2J1R125R00	125.00 mm	63.00 mm	13	40.00 mm	16.00 mm	Yes	0.6
2J1R125R01	125.00 mm	63.00 mm	10	40.00 mm	16.00 mm	Yes	0.6

NOTE: Cutter body must be relieved when using insert corner radii larger than R 2.0 mm: Body R = Insert R - 0.5mm

HIPOSTTM 12J1R, 2J1R INSERTS

BOCT13

BODT13

BODT13_001

BOMT13

BOMT13_DT2

ZOMT13


Part Number	Application	RE Corner Radius	BS Wiper Length	L Cutting Edge Length	INSL Length	W1 Width	S Thickness	IH Insert Hand	Grade	IN10K	IN2005	IN2035	IN2504	IN2505	IN2530	IN4030	IN90D
BOCT130404FR-P	Grd/Pol for Al	0.015 R	-	0.490	0.557	0.320	0.189	Right	•								
BOCT130408FR-P	Grd/Pol for Al	0.031 R	-	0.490	0.555	0.319	0.187	Right	•								
BODT130408R	Neutral; Precision	0.031 R	0.076	0.490	0.558	0.320	0.190	Right		•			•				
BODT130408R-001	Neutral; Precision	0.031 R	0.076	0.170	0.558	0.319	0.190	Right		•			•				
BOMT130404R	Multi-Purpose	0.015 R	0.067	0.490	0.558	0.320	0.190	Right				•		•	•	•	
BOMT130408R	Multi-Purpose	0.031 R	0.051	0.490	0.558	0.320	0.190	Right				•		•	•	•	
BOMT130416R	Multi-Purpose	0.062 R	0.019	0.490	0.561	0.320	0.190	Right						•	•		
BOMT130420R	Multi-Purpose	0.078 R	-	0.490	0.561	0.320	0.190	Right						•	•		
BOMT130424R	Multi-Purpose	0.093 R	-	0.490	0.560	0.320	0.190	Right						•	•		
BOMT130431R	Multi-Purpose	0.125 R	-	0.480	0.546	0.320	0.180	Right				•		•	•		
BOMT130440R	Multi-Purpose	0.156 R	-	0.480	0.538	0.320	0.183	Right						•			
BOMT130404R-DT2	PCD Tipped	0.015 R	0.055	0.490	0.557	0.320	0.190	Right									•
ZOMT130404R	Positive-Splitters	0.015 R	0.067	0.490	0.558	0.320	0.190	Right						•	•		
ZOMT130408R	Positive-Splitters	0.031 R	0.051	0.490	0.561	0.320	0.190	Right						•			



HiPOS⁺ 12J1R, 2J1R HARDWARE

									
	Insert Screw	Driver Handle	Driver Bit	Wrench	Retention Bolt	Coolant Bolt	Torque Driver Handle	Preset Torque Bit	Torque Driver Bit
12J1R-0701284R01	SM35-076-10	DS-A00T	DS-T106B	-	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R-0702084R01	SM35-088-10	DS-A00T	DS-T106B	-	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R-0703084R01	SM35-076-10	DS-A00T	DS-T106B	-	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R-1001780R01	SM35-088-10	DS-A00T	DS-T106B	-	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R-1003780R01	SM35-088-10	DS-A00T	DS-T106B	-	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R-1202281R01	SM35-088-10	DS-A00T	DS-T106B	-	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R-1204281R01	SM35-076-10	DS-A00T	DS-T106B	-	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R-1501781R01	SM35-076-10	DS-A00T	DS-T106B	-	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R-1502281R01	SM35-088-10	DS-A00T	DS-T106B	-	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R-1504281R01	SM35-076-10	DS-A00T	DS-T106B	-	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R-07015X6R01	SM35-076-10	DS-A00T	DS-T106B	615MM	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R-10015X7R01	SM35-076-10	DS-A00T	DS-T106B	617MM	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R-12017X8R01	SM35-076-10	DS-A00T	DS-T106B	622MM	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R-15017X8R01	SM35-076-10	DS-A00T	DS-T106B	622MM	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R-20R01	SM35-088-10	DS-A00T	DS-T106B	-	SD-06-46	SD-06-89	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R-20R02	SM35-088-10	DS-A00T	DS-T106B	-	SD-06-46	SD-06-89	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R-25R01	SM35-088-10	DS-A00T	DS-T106B	-	SD-06-46	SD-06-89	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R-30R01	SM35-088-10	DS-A00T	DS-T106B	-	SD-08-46	SD-08-92	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R-40R01	SM35-088-10	DS-A00T	DS-T106B	-	SD-12-82	SD-12-99	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R-50R01	SM35-088-10	DS-A00T	DS-T106B	-	SD-12-82	SD-12-99	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R020030W4R00	SM35-088-10	DS-A00T	DS-T106B	-	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R025040W5R00	SM35-088-10	DS-A00T	DS-T106B	-	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R025040W5R01	SM35-088-10	DS-A00T	DS-T106B	-	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R032038W6R00	SM35-088-10	DS-A00T	DS-T106B	-	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R032040W5R00	SM35-088-10	DS-A00T	DS-T106B	-	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R020035X6R00	SM35-088-10	DS-A00T	DS-T106B	615mm	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R025035X7R00	SM35-088-10	DS-A00T	DS-T106B	617mm	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R032043X8R00	SM35-088-10	DS-A00T	DS-T106B	622mm	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R035043X8R00	SM35-088-10	DS-A00T	DS-T106B	622mm	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
12J1R040043X8R00	SM35-088-10	DS-A00T	DS-T106B	622mm	-	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R035R00	SM35-088-10	DS-A00T	DS-T106B	-	ISO4762M8X20-12.9	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R040R00	SM35-088-10	DS-A00T	DS-T106B	-	ISO4762M8X25-12.9	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R040R01	SM35-088-10	DS-A00T	DS-T106B	-	ISO4762M10X25-12.9	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R040R02	SM35-088-10	DS-A00T	DS-T106B	-	ISO4762M8X25-12.9	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R040R03	SM35-088-10	DS-A00T	DS-T106B	-	ISO4762M10X25-12.9	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R050R00	SM35-088-10	DS-A00T	DS-T106B	-	ISO4762M10X25-12.9	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R050R01	SM35-088-10	DS-A00T	DS-T106B	-	ISO4762M10X25-12.9	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R052R00	SM35-088-10	DS-A00T	DS-T106B	-	ISO4762M10X35-12.9	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R063R00	SM35-088-10	DS-A00T	DS-T106B	-	ISO4762M10X25-12.9	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R063R01	SM35-088-10	DS-A00T	DS-T106B	-	ISO4762M10X25-12.9	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R066R00	SM35-088-10	DS-A00T	DS-T106B	-	ISO4762M12X35-12.9	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R080R00	SM35-088-10	DS-A00T	DS-T106B	-	ISO4762M12X35-12.9	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R080R01	SM35-088-10	DS-A00T	DS-T106B	-	ISO4762M12X35-12.9	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
221R100R00	SM35-088-10	DS-A00T	DS-T106B	-	ISO4762M16X30-12.9	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R100R01	SM35-088-10	DS-A00T	DS-T106B	-	ISO4762M16X30-12.9	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R125R00	SM35-088-10	DS-A00T	DS-T106B	-	ISO4762M20X40-12.9	-	DS-A00-.25-T	DT-30-.25	DS-T10B1
2J1R125R01	SM35-088-10	DS-A00T	DS-T106B	-	ISO4762M20X40-12.9	-	DS-A00-.25-T	DT-30-.25	DS-T10B1

HI-POS⁺ SERIES: 12J1G (WELDON SHANK)

90° END MILL (17MM INSERT)



Facing

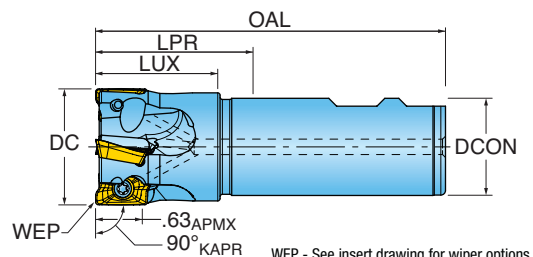
Shoulder

Channeling

Ramping

Helical/Corkscrew

Coolant



WEPP - 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.

METRIC

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.
12J1G025040W5R00	25.00 mm	40.0 mm	44.0 mm	100.0 mm	2	25.00 mm	Yes	5.0
12J1G032040W6R00	32.00 mm	36.0 mm	40.0 mm	100.0 mm	2	32.00 mm	Yes	9.0
12J1G032120W6R00	32.00 mm	120.0 mm	125.0 mm	185.0 mm	2	32.00 mm	Yes	9.0
12J1G040050W6R00	40.00 mm	50.0 mm	50.0 mm	110.0 mm	3	32.00 mm	Yes	5.0
12J1G040130W6R00	40.00 mm	130.0 mm	135.0 mm	195.0 mm	3	32.00 mm	Yes	5.0

NOTE: Cutter body must be relieved when using insert corner radii larger than R1.6mm: Body R = Insert R - 0.5mm
BOMT17 produces slightly larger diameter (up to .25mm) for 25mm cutter.

SERIES: 12J1G (TOPON M-ADAPTION)

90° MODULAR END MILL (17MM INSERT)



Facing



Shoulder



Channeling



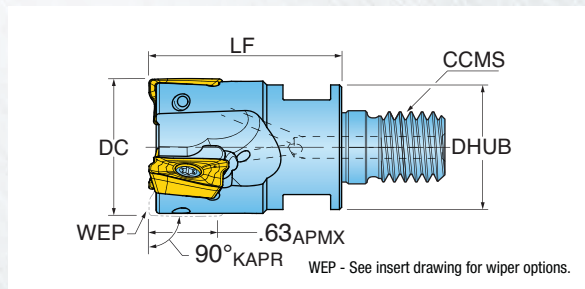
Ramping



Helical/Corkscrew



Coolant



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.

HI-POS⁺ SERIES: 2J1G

90° FACE MILL (17MM INSERT)



Facing

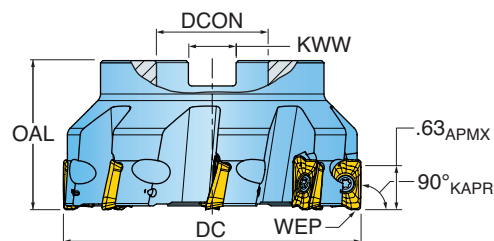
Shoulder

Channeling

Ramping

Helical/Corkscrew

Coolant



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.

METRIC

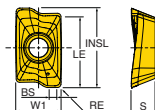
Part Number	DC Cutting Diameter	OAL Overall Length	ZEFF Effective Teeth	DCON Bore Diameter	KWW Keyway	CSP Coolant	RMPX Ramp Angle Max.
2J1G040R00	40.00 mm	40.00 mm	3	16.00 mm	8.40 mm	Yes	5.0
2J1G050R00	50.00 mm	40.00 mm	4	22.00 mm	10.40 mm	Yes	4.4
2J1G050R01	50.00 mm	40.00 mm	5	22.00 mm	10.40 mm	Yes	4.4
2J1G063R00	63.00 mm	40.00 mm	5	22.00 mm	10.40 mm	Yes	3.2
2J1G063R01	63.00 mm	40.00 mm	6	22.00 mm	10.40 mm	Yes	3.2
2J1G080R00	80.00 mm	50.00 mm	6	27.00 mm	12.40 mm	Yes	2.3
2J1G080R01	80.00 mm	50.00 mm	8	27.00 mm	12.40 mm	Yes	2.3
2J1G100R00	100.00 mm	50.00 mm	6	32.00 mm	14.40 mm	Yes	1.8
2J1G100R01	100.00 mm	50.00 mm	9	32.00 mm	14.40 mm	Yes	1.8
2J1G125R00	125.00 mm	63.00 mm	7	40.00 mm	16.00 mm	No	1.4
2J1G160R00	160.00 mm	63.00 mm	8	40.00 mm	16.00 mm	No	0.7

NOTE: Cutter body must be relieved when using insert corner radii larger than R 1.6mm (Body R = Insert R - .5mm)

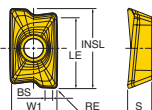
BOMT17 produces slightly smaller diameter (up to .17mm) for cutters 80mm and larger.

HI-POS⁺ 12J1G, 2J1G INSERTS

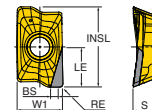
AOMT17



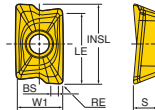
AOMT17_HS



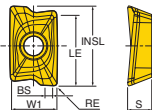
APKT17_DT



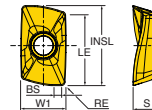
BOCT17_FR-P



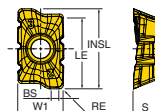
BOCT17_R-HS



BOMT17

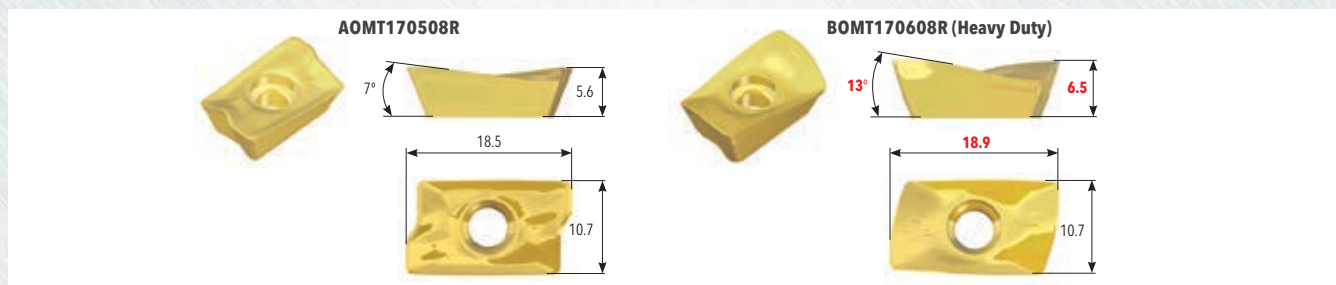


ZOMT17



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					•		•		•				

BOMT17 DIAMETER DEVIATION



- 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 existing 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"



12J1G, 2J1G HARDWARE

									
	Insert Screw	Driver Handle	Driver Bit	Wrench	Retention Bolt	Coolant Bolt	Torque Driver Handle	Preset Torque Bit	Torque Driver Bit
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	617MM	-	-	DS-A00.25-T	DT-35-.25	DS-T15B1
12J1G-12017X8R01	SM40-093-20	DS-A00T	DS-T156B	622MM	-	-	DS-A00.25-T	DT-35-.25	DS-T15B1
12J1G-15017X8R01	SM40-093-20	DS-A00T	DS-T156B	622MM	-	-	DS-A00.25-T	DT-35-.25	DS-T15B1
2J1G-20R01	SM40-120-20	DS-A00T	DS-T156B	-	SD-06-46	SD-06-89	DS-A00.25-T	DT-35-.25	DS-T15B1
2J1G-20R02	SM40-120-20	DS-A00T	DS-T156B	-	SD-06-46	SD-06-89	DS-A00.25-T	DT-35-.25	DS-T15B1
2J1G-25R01	SM40-120-20	DS-A00T	DS-T156B	-	SD-06-46	SD-06-89	DS-A00.25-T	DT-35-.25	DS-T15B1
2J1G-30R01	SM40-120-20	DS-A00T	DS-T156B	-	SD-08-47	SD08-C9	DS-A00.25-T	DT-35-.25	DS-T15B1
2J1G-30R02	SM40-120-20	DS-A00T	DS-T156B	-	SD-08-47	SD08-C9	DS-A00.25-T	DT-35-.25	DS-T15B1
2J1G-40R03	SM40-120-20	DS-A00T	DS-T156B	-	SD-12-82	SD-12-99	DS-A00.25-T	DT-35-.25	DS-T15B1
2J1G-40R04	SM40-120-20	DS-A00T	DS-T156B	-	SD-12-82	SD-12-99	DS-A00.25-T	DT-35-.25	DS-T15B1
2J1G-50R02	SM40-120-20	DS-A00T	DS-T156B	-	SD-12-82	SD-12-99	DS-A00.25-T	DT-35-.25	DS-T15B1
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
12J1G025040W5R00	SM40-120-20	DS-A00T	DS-T156B	-	-	-	DS-A00.25-T	DT-35-.25	DS-T15B1
12J1G032040W6R00	SM40-120-20	DS-A00T	DS-T156B	-	-	-	DS-A00.25-T	DT-35-.25	DS-T15B1
12J1G032120W6R00	SM40-120-20	DS-A00T	DS-T156B	-	-	-	DS-A00.25-T	DT-35-.25	DS-T15B1
12J1G040050W6R00	SM40-120-20	DS-A00T	DS-T156B	-	-	-	DS-A00.25-T	DT-35-.25	DS-T15B1
12J1G040130W6R00	SM40-120-20	DS-A00T	DS-T156B	-	-	-	DS-A00.25-T	DT-35-.25	DS-T15B1
2J1G040R00	SM40-120-20	DS-A00T	DS-T156B	-	ISO4762M8X25-12.9	-	DS-A00.25-T	DT-35-.25	DS-T15B1
2J1G050R00	SM40-120-20	DS-A00T	DS-T156B	-	ISO4762M10X25-12.9	-	DS-A00.25-T	DT-35-.25	DS-T15B1
2J1G050R01	SM40-120-20	DS-A00T	DS-T156B	-	ISO4762M10X25-12.9	-	DS-A00.25-T	DT-35-.25	DS-T15B1
2J1G063R00	SM40-120-20	DS-A00T	DS-T156B	-	ISO4762M10X25-12.9	-	DS-A00.25-T	DT-35-.25	DS-T15B1
2J1G063R01	SM40-120-20	DS-A00T	DS-T156B	-	ISO4762M10X25-12.9	-	DS-A00.25-T	DT-35-.25	DS-T15B1
2J1G080R00	SM40-120-20	DS-A00T	DS-T156B	-	ISO4762M12X30-12.9	-	DS-A00.25-T	DT-35-.25	DS-T15B1
2J1G080R01	SM40-120-20	DS-A00T	DS-T156B	-	ISO4762M12X30-12.9	-	DS-A00.25-T	DT-35-.25	DS-T15B1
2J1G100R00	SM40-120-20	DS-A00T	DS-T156B	-	ISO4762M16X30-12.9	-	DS-A00.25-T	DT-35-.25	DS-T15B1
2J1G100R01	SM40-120-20	DS-A00T	DS-T156B	-	ISO4762M16X30-12.9	-	DS-A00.25-T	DT-35-.25	DS-T15B1
2J1G125R00	SM40-120-20	DS-A00T	DS-T156B	-	ISO4762M20X40-12.9	-	DS-A00.25-T	DT-35-.25	DS-T15B1
2J1G160R00	SM40-120-20	DS-A00T	DS-T156B	-	ISO4762M20X40-12.9	-	DS-A00.25-T	DT-35-.25	DS-T15B1

SERIES: 22J3P (WELDON SHANK)

90° END MILL; ALL EFFECTIVE, RH HELIX (9MM INSERT)



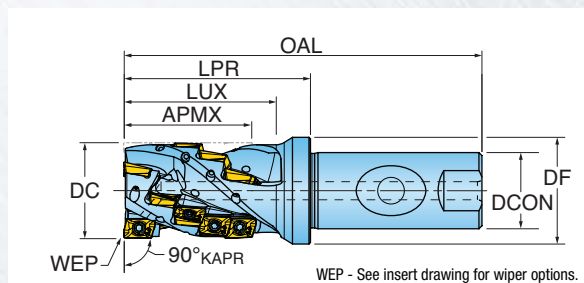
Facing

Shoulder

Channeling

Slabbing

Coolant



Part Number	DC Cutting Diameter	APMX Depth of Cut Max.	LUX Usable Length Max.	LPR Protruding Length	OAL Overall Length	ZNF Face Insert Count	ZNP Periphery Insert Count	NOF Flute Count	DF Flange Diameter	DCON Shank Diameter	RMPX Ramp Angle Max.
22J3P-1001780R01	1.000	1.35	1.75	1.75	4.00	2	6	2	-	1.000	4
22J3P-1202480R01	1.250	1.68	2.00	2.45	4.70	3	12	3	1.400	1.000	2.5
22J3P-1502881R01	1.500	2.00	2.36	2.80	5.00	4	20	4	1.650	1.250	2

NOTE: Total Number of Inserts = ZNF + ZNP.

Cutter body must be relieved when using insert corner radii larger than R.031: (Body R" = Insert R" - .02")

METRIC

Part Number	DC Cutting Diameter	APMX Depth of Cut Max.	LUX Usable Length Max.	LPR Protruding Length	OAL Overall Length	ZNF Face Insert Count	ZNP Periphery Insert Count	NOF Flute Count	DCON Shank Diameter	RMPX Ramp Angle Max.
22J3P025026W5R00	25.00 mm	25.00 mm	40.0 mm	44.0 mm	100.0 mm	2	4	2	25 mm	4.4
22J3P032034W6R00	32.00 mm	32.00 mm	50.0 mm	50.0 mm	110.0 mm	3	9	3	32 mm	2.8

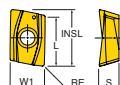
NOTE: Total Number of Inserts = ZNF + ZNP.

Cutter body must be relieved when using insert corner radii larger than R0.8 (Body R = Insert R - 0.5)

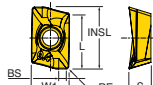


HIOPOS⁺ 22J3P INSERTS

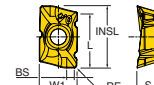
BOCT09



BOMT09

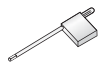


ZOMT09



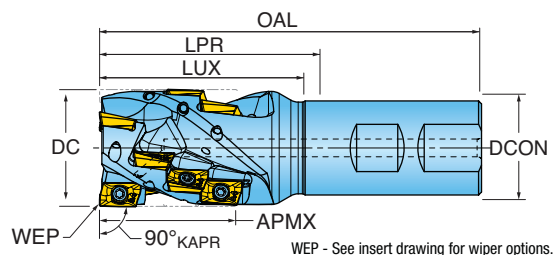
Part Number	Application	Insert Station	RE Corner Radius	BS Wiper Length	L Cutting Edge Length	INSL Length	W1 Width	S Thickness	Grade	IN10K	IN2010	IN2035	IN2504	IN2505	IN2530	IN4030
BOCT09T304FR-P	Grd/Pol for Al	Face/Periph	0.015 R	-	0.350	0.417	0.260	0.146	•							
BOCT09T308FR-P	Grd/Pol for Al	Face/Periph	0.031 R	-	0.350	0.414	0.260	0.144	•							
BOMT09T304R	Multi-Purpose	Face/Periph	0.015 R	0.050	0.350	0.421	0.258	0.148		•				•	•	•
BOMT09T308R	Multi-Purpose	Face/Periph	0.031 R	0.034	0.350	0.421	0.259	0.148				•	•	•	•	•
BOMT09T316R	Multi-Purpose	Face	0.062 R	-	0.350	0.421	0.259	0.148				•		•	•	
BOMT09T331R	Multi-Purpose	Face	0.120 R	-	0.350	0.421	0.259	0.148				•		•	•	
ZOMT09T304R	Positive-Splitters	Face/Periph	0.015 R	0.050	0.350	0.421	0.259	0.148				•		•	•	•

HIOPOS⁺ 22J3P HARDWARE

					
	Insert Screw	Screw Driver	Torque Driver Handle	Preset Torque Bit	Torque Driver Bit
22J3P-1001780R01	SM25-064-00	DS-T08W	DS-A00-.25-S	DT-11-.25	DS-T08B
22J3P-1202480R01	SM25-064-00	DS-T08W	DS-A00-.25-S	DT-11-.25	DS-T08B
22J3P-1502881R01	SM25-064-00	DS-T08W	DS-A00-.25-S	DT-11-.25	DS-T08B
22J3P025026W5R00	SM25-064-00	DS-T08W	DS-A00-.25-S	DT-11-.25	DS-T08B
22J3P032034W6R00	SM25-064-00	DS-T08W	DS-A00-.25-S	DT-11-.25	DS-T08B

HI-POS⁺ SERIES: 22J3R (WELDON SHANK)

90° END MILL, ALL EFFECTIVE, RH HELIX (13MM INSERT)



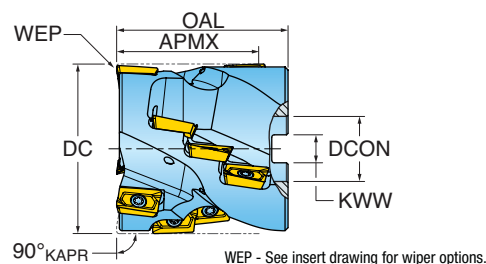
Part Number	DC Cutting Diameter	APMX Depth of Cut Max.	LUX Usable Length Max.	LPR Protruding Length	OAL Overall Length	ZNF Effective Teeth	ZNP Peripheral Insert Count	NOF Flute Count	DCON Shank Diameter	RMPX Ramp Angle Max.
22J3R032035W6R00	32.00 mm	35.00 mm	48.0 mm	48.0 mm	110.0 mm	2	4	2	32.00 mm	5.0
22J3R040046W6R00	40.00 mm	46.00 mm	65.0 mm	65.0 mm	130.0 mm	3	9	3	32.00 mm	3.2

NOTE: Total Number of Inserts = ZNF + ZNP.

Cutter body must be relieved when using insert corner radii larger than R 2.0 (Body R = Insert R - 0.5)

HI-POS⁺ SERIES: 22J3R (SHELL MILL)

90° SHELL MILL ALL EFFECTIVE, RH HELIX (13MM INSERT)



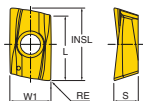
Part Number	DC Cutting Diameter	APMX Depth of Cut Max.	OAL Overall Length	ZNF Face Insert Count	ZNP Peripheral Insert Count	NOF Flute Count	DCON Shank Diameter	KWW Keyway	RMPX Ramp Angle Max.
22J3R040035F0R00	40.00 mm	35.00 mm	55.0 mm	3	6	3	16.00 mm	8.4 mm	3.2
22J3R050046F1R00	50.00 mm	46.00 mm	70.0 mm	4	12	4	22.00 mm	10.4 mm	2.1
22J3R050046F2R00	50.00 mm	46.00 mm	70.0 mm	4	12	4	27.00 mm	12.4 mm	2.1
22J3R063046F2R00	63.00 mm	46.00 mm	70.0 mm	4	12	4	27.00 mm	12.4 mm	1.4
22J3R080046F3R00	80.00 mm	46.00 mm	70.0 mm	5	15	5	32.00 mm	14.4 mm	1.0

NOTE: Total Number of Inserts = ZNF + ZNP.

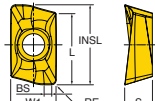
Cutter body must be relieved when using insert corner radii larger than R 2.0 (Body R = Insert R - 0.5)

SERIES 22J3R INSERTS

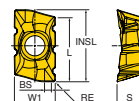
BOCT13



BOMT13



ZOMT13



Part Number	Application	Station	RE Corner Radius	BS Wiper Length	L Cutting Edge Length	INSL Length	W1 Width	S Thickness	IH Insert Hand	Grade	IN10K	IN2035	IN2505	IN2530	IN4030
BOCT130404FR-P	Grd/Pol for Al	Face/Periphery	0.015 R	-	0.490	0.557	0.320	0.189	Right	•					
BOCT130408FR-P	Grd/Pol for Al	Face/Periphery	0.031 R	-	0.490	0.555	0.319	0.187	Right	•					
BOMT130404R	Multi-Purpose	Face/Periphery	0.015 R	0.067	0.490	0.558	0.320	0.190	Right		•	•	•	•	•
BOMT130408R	Multi-Purpose	Face/Periphery	0.031 R	0.051	0.490	0.558	0.320	0.190	Right		•	•	•	•	•
BOMT130416R	Multi-Purpose	Face	0.062 R	0.019	0.490	0.561	0.320	0.190	Right			•	•		
BOMT130420R	Multi-Purpose	Face	0.078 R	-	0.490	0.561	0.320	0.190	Right			•	•		
BOMT130424R	Multi-Purpose	Face	0.093 R	-	0.490	0.560	0.320	0.190	Right			•	•		
BOMT130431R	Multi-Purpose	Face	0.125 R	-	0.480	0.546	0.320	0.180	Right		•	•	•		
BOMT130440R	Multi-Purpose	Face	0.156 R	-	0.480	0.538	0.320	0.183	Right			•	•		
ZOMT130404R	Positive-Splitters	Face/Periphery	0.015 R	0.067	0.490	0.558	0.320	0.190	Right			•	•		
ZOMT130408R	Positive-Splitters	Face/Periphery	0.031 R	0.051	0.490	0.561	0.320	0.190	Right			•	•		

22J3R HARDWARE

	Insert Screw	Driver Handle	Driver Bit	Torque Driver Handle	Preset Torque Bit	Torque Driver Bit
22J3R	SM35-088-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1

HIPOSTTM SERIES 22J3G (SHELL MILL)

90° ROUGH & FINISH END MILL
ALL-EFFECTIVE RH HELIX (17MM INSERT)



Facing



Shoulder



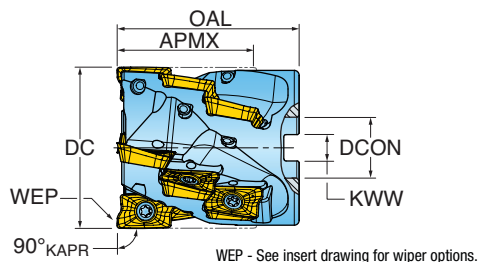
Slabbing



Channel



Coolant



Part Number	DC Cutting Diameter	APMX Depth of Cut Max.	OAL Overall Length	ZNF Face Insert Count	ZNP Peripheral Insert Count	NOF Flute Count	DCON Bore Diameter	KWW Keyway	RMPX Ramp Angle Max.
22J3G-20022D1R02	2.000	1.71	2.25	4	8	4	0.750	0.312	4
22J3G-20041D3R02	2.000	2.80	4.17	4	20	4	1.000	0.375	4
22J3G-25030D3R02	2.500	2.27	3.00	5	15	5	1.000	0.375	3
22J3G-25040D3R02	2.500	3.35	4.00	5	25	5	1.000	0.375	3
22J3G-30040D4R02	3.000	3.35	4.00	6	30	6	1.250	0.500	2

NOTES: Total Number of Inserts = ZNF + ZNP.

Cutter body must be relieved when using insert corner radii larger than R.062 (Body R" = Insert R" - .02").

METRIC

Part Number	DC Cutting Diameter	APMX Depth of Cut Max.	OAL Overall Length	ZNF Face Insert Count	ZNP Peripheral Insert Count	NOF Flute Count	DCON Bore Diameter	KWW Keyway	RMPX Ramp Angle Max.
22J3G063045F2R00	63.00 mm	45.00 mm	63.0 mm	3	6	3	27.00 mm	12.40 mm	3.2
22J3G063059F2R00	63.00 mm	59.00 mm	75.0 mm	3	9	3	27.00 mm	12.40 mm	3.2
22J3G063059F2R01	63.00 mm	59.00 mm	75.0 mm	4	12	4	27.00 mm	12.40 mm	3.2
22J3G080074F3R00	80.00 mm	74.00 mm	95.0 mm	4	16	4	32.00 mm	14.40 mm	2.3
22J3G080074F3R01	80.00 mm	74.00 mm	95.0 mm	5	20	5	32.00 mm	14.40 mm	2.3
22J3G100088F4R00	100.00 mm	88.00 mm	110.0 mm	6	30	6	40.00 mm	16.00 mm	1.8

NOTES: Total Number of Inserts = ZNF + ZNP.

Cutter body must be relieved when using insert corner radii larger than R1.6 (Body R" = Insert R" - 0.5)

HIPOST⁺ SERIES 22J3G (WELDON SHANK)

90° ROUGH & FINISH END MILL
ALL-EFFECTIVE RH HELIX (17MM INSERT)



Facing



Shoulder



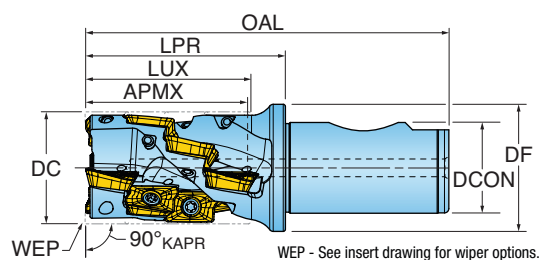
Slabbing



Channel



Coolant



WEP - See insert drawing for wiper options.

Part Number	DC Cutting Diameter	APMX Depth of Cut Max.	LUX Usuable Length Max.	LPR Protruding Length	OAL Overall Length	ZNF Face Insert Count	ZNP Peripheral Insert Count	NOF Flute Count	DF Flange Diameter	DCON Shank Diameter	RMPX Ramp Angle Max.
22J3G-1502781R01	1.500	2.27	2.40	2.75	5.00	3	9	3	1.750	1.250	5
22J3G-1503381R01	1.500	2.82	3.00	3.30	5.50	3	12	3	1.750	1.250	5
22J3G-2002782R01	2.000	2.25	2.70	2.75	6.00	4	12	4	-	2.000	4
22J3G-2005082R01	2.000	4.16	4.90	5.00	8.25	4	24	4	-	2.000	4

NOTES: Total Number of Inserts = ZNF + ZNP.

Cutter body must be relieved when using insert corner radii larger than R.062 (Body R" = Insert R" - .02").

HIPOST⁺ SERIES 22J3G (50 TAPER)

90° ROUGH & FINISH END MILL
ALL-EFFECTIVE RH HELIX



Facing



Shoulder



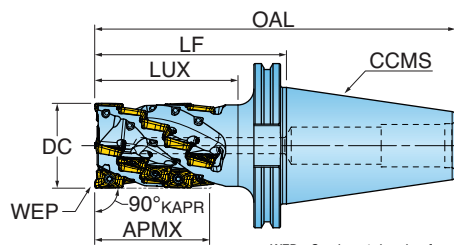
Slabbing



Channel



Coolant



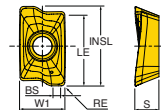
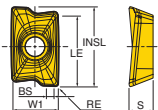
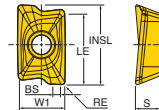
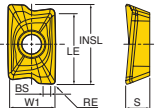
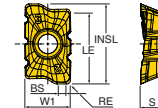
WEP - See insert drawing for wiper options.

Part Number	DC Cutting Diameter	APMX Depth of Cut Max.	LUX Usuable Length Max.	LF Functional Length	OAL Overall Length	ZNF Face Insert Count	ZNP Peripheral Insert Count	NOF Flute Count	CCMS Connection Code Machine Side	RMPX Ramp Angle Max.
22J3G-2004548R01	2.000	2.80	3.38	4.500	8.50	4	16	4	ICTC #50 .125 Draw	4
22J3G-2006048R01	2.000	4.16	4.88	6.000	10.00	4	24	4	ICTC #50 .125 Draw	4

NOTES: Total Number of Inserts = ZNF + ZNP.

Cutter body must be relieved when using insert corner radii larger than R.062 (Body R" = Insert R" - .02").

Hi-POS⁺ SERIES 22J3G INSERTS

AOMT17

AOMT17_HS

BOCT17_FR-P

BOCT17_R-HS

ZOMT17


Part Number	Application	Station	RE Corner Radius	BS Wiper Length	LE Cutting Edge Length	INSL Length	W1 Width	S Thickness	Grade	IN1030	IN10K	IN2005	IN2035	IN2505	IN2510	IN2530	IN2540	IN4030
AOMT170504R	Multi-Purpose	Face & Periphery	0.015 R	0.100	0.633	0.728	0.421	0.218	•							•	•	
AOMT170508R	Multi-Purpose	Face & Periphery	0.031 R	0.088	0.633	0.728	0.421	0.218	•			•		•	•	•	•	•
AOMT170508R-HS	SS/Hi-Temp/Ti	Face & Periphery	0.031 R	0.082	0.633	0.728	0.421	0.218	•			•	•			•		
AOMT170510R	Multi-Purpose	Face & Periphery	0.039 R	0.078	0.633	0.728	0.421	0.218								•		
AOMT170516R	Multi-Purpose	Face & Periphery	0.062 R	0.054	0.633	0.728	0.421	0.218	•			•			•	•		
AOMT170524R	Multi-Purpose	Face	0.093 R	0.035	0.633	0.728	0.421	0.218	•			•						
BOCT170508FR-P	Grd/Pol for Al	Face & Periphery	0.031 R	0.124	0.633	0.692	0.421	0.207			•							
BOCT170508R-HS	Precision	Face & Periphery	0.031 R	0.082	0.633	0.728	0.421	0.218				•				•		
ZOMT170508R	Chip Splitters	Face & Periphery	0.031 R	0.088	0.645	0.728	0.421	0.218					•	•		•		

HI-POST⁺ SERIES 22J5G

90° ROUGH & FINISH END MILL
1/2-EFFECTIVE RH HELIX (17MM INSERT)



Facing



Shoulder



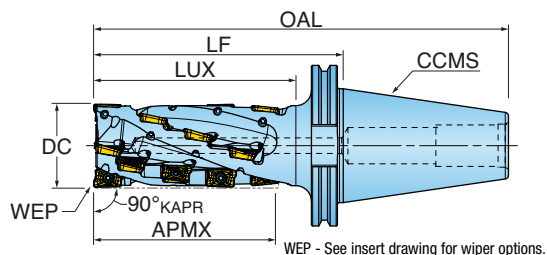
Slabbing



Channel



Coolant



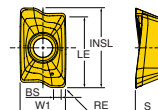
Part Number	DC Cutting Diameter	APMX Depth of Cut Max.	LUX Usuable Length Max.	LF Functional Length	OAL Overall Length	ZEFP Eff. Teeth Periphery	ZNF Face Insert Count	ZNZ Peripheral Insert Count	NOF Flute Count	KAPR Cutting Edge Angle	CCMS Connection Code Machine Side	CSP Coolant	RMPX Ramp Angle Max.
22J5G-2006048R01	2.000	4.40	4.88	6.000	10.00	2	4	14	4	90	ICTC #50 .125 Draw	Yes	4

NOTES: Total Number of Inserts = ZNF + ZNZ.

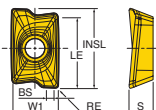
Cutter body must be relieved when using insert corner radii larger than R.062 (Body R" = Insert R" - .02").

HI-POS⁺ SERIES 22J5G INSERTS

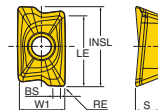
AOMT17



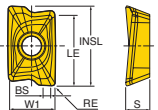
AOMT17_HS



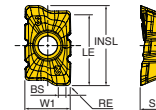
BOCT17_FR-P



BOCT17_R-HS



ZOMT17



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

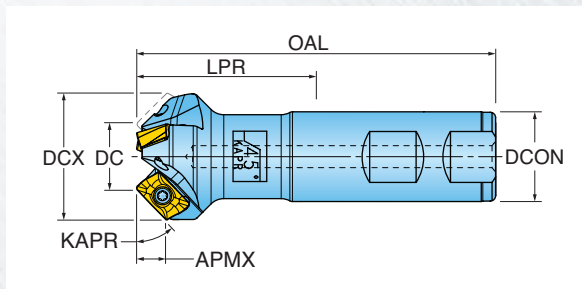


HIPOST⁺ 22J3G, 22J5G HARDWARE

								
	Insert Screw	Driver Handle	Driver Bit	Socket Head Cap Screw	Socket Set Screw	**OPTIONAL**	**OPTIONAL**	**OPTIONAL**
22J3G-20022D1R02	SM40-093-20	DS-A00T	DS-T156B	SD-06-50	-	DS-A00.25-T	DT-35-.25	DS-T15B1
22J3G-20041D3R02	SM40-093-20	DS-A00T	DS-T156B	SD-08-97	-	DS-A00.25-T	DT-35-.25	DS-T15B1
22J3G-25030D3R02	SM40-093-20	DS-A00T	DS-T156B	SD-08-52	SA030-01	DS-A00.25-T	DT-35-.25	DS-T15B1
22J3G-25040D3R02	SM40-093-20	DS-A00T	DS-T156B	SD-08-D3	SA030-01	DS-A00.25-T	DT-35-.25	DS-T15B1
22J3G-30040D4R02	SM40-093-20	DS-A00T	DS-T156B	SD-10-73	SA030-01	DS-A00.25-T	DT-35-.25	DS-T15B1
22J3G-1502781R01	SM40-093-20	DS-A00T	DS-T156B	-	-	DS-A00.25-T	DT-35-.25	DS-T15B1
22J3G-1503381R01	SM40-093-20	DS-A00T	DS-T156B	-	-	DS-A00.25-T	DT-35-.25	DS-T15B1
22J3G-2002782R01	SM40-093-20	DS-A00T	DS-T156B	-	SA030-01	DS-A00.25-T	DT-35-.25	DS-T15B1
22J3G-2005082R01	SM40-093-20	DS-A00T	DS-T156B	-	SA030-01	DS-A00.25-T	DT-35-.25	DS-T15B1
22J3G-2004548R01	SM40-093-20	DS-A00T	DS-T156B	-	SA030-01	DS-A00.25-T	DT-35-.25	DS-T15B1
22J3G-2006048R01	SM40-093-20	DS-A00T	DS-T156B	-	SA030-01	DS-A00.25-T	DT-35-.25	DS-T15B1
22J5G-2006048R01	SM40-093-20	DS-A00T	DS-T156B	-	SA030-01	DS-A00.25-T	DT-35-.25	DS-T15B1

HI-POS⁺ SERIES: 12_1R

CHAMFER END MILL (13MM INSERT)



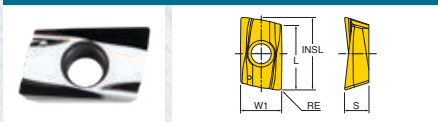
Part Number	DC Cutting Diameter	DCX Cutting Dia. Max.	KAPR Cutting Edge Angle	APMX Depth of Cut Max.	LPR Projection Length	OAL Overall Length	ZEFF Effective Teeth	DCON Shank Diameter
12L1R-0801780R01	0.875	1.123	75	0.46	1.75	4.00	3	1.000
12M1R-0701780R01	0.750	1.220	60	0.40	1.75	4.00	3	1.000
12N1R-0701780R01	0.750	1.408	45	0.32	1.75	4.00	3	1.000
12P1R-0701780R01	0.750	1.546	30	0.22	1.75	4.00	3	1.000
12Q1R-0701780R01	0.750	1.641	15	0.12	1.75	4.00	3	1.000

METRIC

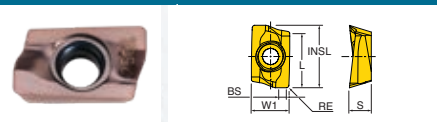
Part Number	DC Cutting Diameter	DCX Cutting Dia. Max.	KAPR Cutting Edge Angle	APMX Depth of Cut Max.	LPR Projection Length	OAL Overall Length	ZEFF Effective Teeth	DCON Shank Diameter
12L1R020044W5R00	20.00 mm	26.20 mm	75	11.60 mm	44.0 mm	100.0 mm	3	25 mm
12M1R020044W5R00	20.00 mm	31.90 mm	60	10.30 mm	44.0 mm	100.0 mm	3	25 mm
12N1R020044W5R00	20.00 mm	36.90 mm	45	8.40 mm	44.0 mm	100.0 mm	3	25 mm
12P1R020044W5R00	20.00 mm	40.40 mm	30	5.90 mm	44.0 mm	100.0 mm	3	25 mm
12Q1R020044W5R00	20.00 mm	42.10 mm	15	2.90 mm	44.0 mm	100.0 mm	3	25 mm

12_1R INSERTS

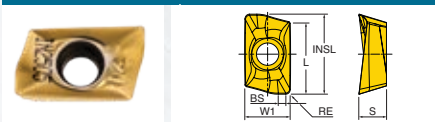
BOCT13



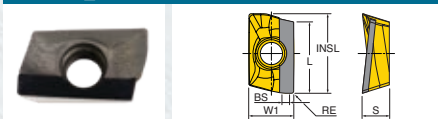
BODT13



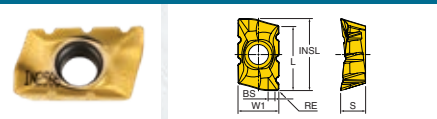
BOMT13



BOMT13_DT2



ZOMT13



Part Number	Application	RE Corner Radius	BS Wiper Length	L Cutting Edge Length	INSL Length	W1 Width	S Thickness	IH Insert Hand	Grade	IN10K	IN2005	IN2035	IN2504	IN2505	IN2530	IN4030	IN6535	IN90D
BOCT130404FR-P	Grd/Pol for Al	0.015 R	-	0.490	0.557	0.320	0.189	Right	•									
BOCT130408FR-P	Grd/Pol for Al	0.031 R	-	0.490	0.555	0.319	0.187	Right	•									
BODT130408R	Neutral; Precision	0.031 R	0.076	0.490	0.558	0.320	0.190	Right		•			•					
BOMT130404R	Multi-Purpose	0.015 R	0.067	0.490	0.558	0.320	0.190	Right				•		•	•	•		
BOMT130408R	Multi-Purpose	0.031 R	0.051	0.490	0.558	0.320	0.190	Right				•	•	•	•	•		
BOMT130416R	Multi-Purpose	0.062 R	0.019	0.490	0.561	0.320	0.190	Right						•	•		•	
BOMT130404R-DT2	PCD Tipped	0.015 R	0.055	0.490	0.557	0.320	0.190	Right										•
ZOMT130404R	Positive-Splitters	0.015 R	0.067	0.490	0.558	0.320	0.190	Right						•	•			
ZOMT130408R	Positive-Splitters	0.031 R	0.051	0.490	0.561	0.320	0.190	Right						•				

12_1R HARDWARE

	Insert Screw	Driver Handle	Driver Bit	Torque Driver Handle	Preset Torque Bit	Torque Driver Bit
12M1R-0701780R01	SM35-076-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1
12N1R-0701780R01	SM35-076-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1
12P1R-0701780R01	SM35-088-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1
12Q1R-0701780R01	SM35-088-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1
12L1R-0801780R01	SM35-076-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1
12L1R020044W5R00	SM35-088-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1
12M1R020044W5R00	SM35-088-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1
12N1R020044W5R00	SM35-088-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1
12P1R020044W5R00	SM35-088-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1
12Q1R020044W5R00	SM35-088-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1

SERIES: 22_3R

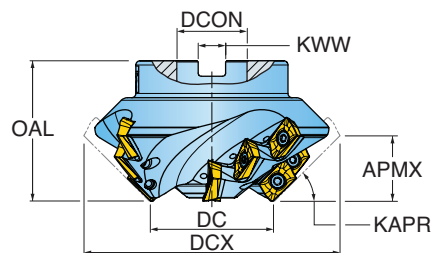
CHAMFER SHELL MILL (13MM INSERT)



Chamfer



Coolant



Part Number	DC Cutting Diameter	DCX Cutting Dia. Max.	KAPR Cutting Edge Angle	APMX Depth of Cut Max.	OAL Overall Length	ZNF Face Insert Count	ZNP Peripheral Insert Count	NOF Flute Count	DCON Shank Diameter	KWW Keyway
22L3R-17020D3R01	1.750	2.445	75	1.29	2.00	4	8	4	1.000	0.375
22M3R-17020D3R01	1.750	3.082	60	1.15	2.00	4	8	4	1.000	0.375
22N3R-17020D3R01	1.750	3.621	45	0.93	2.00	4	8	4	1.000	0.375
22P3R-17020D4R01	1.750	4.034	30	0.66	2.00	4	8	4	1.250	0.500
22Q3R-17020D4R01	1.750	4.305	15	0.34	2.00	4	8	4	1.250	0.500

METRIC

Part Number	DC Cutting Diameter	DCX Cutting Dia. Max.	KAPR Cutting Edge Angle	APMX Depth of Cut Max.	OAL Overall Length	ZNF Face Insert Count	ZNP Peripheral Insert Count	NOF Flute Count	DCON Shank Diameter	KWW Keyway
22L3R045050F1R00	45.00 mm	63.20 mm	75	33.90 mm	50.0 mm	4	8	4	22.00 mm	10.40 mm
22M3R045050F2R00	45.00 mm	80.00 mm	60	30.20 mm	50.0 mm	4	8	4	27.00 mm	12.40 mm
22N3R045050F2R00	45.00 mm	94.40 mm	45	24.60 mm	50.0 mm	4	8	4	27.00 mm	12.40 mm
22P3R045050F2R00	45.00 mm	105.40 mm	30	17.30 mm	50.0 mm	4	8	4	27.00 mm	12.40 mm
22Q3R045050F2R00	45.00 mm	112.50 mm	15	9.00 mm	50.0 mm	4	8	4	27.00 mm	12.40 mm



HIPOST⁺ 22_3R INSERTS



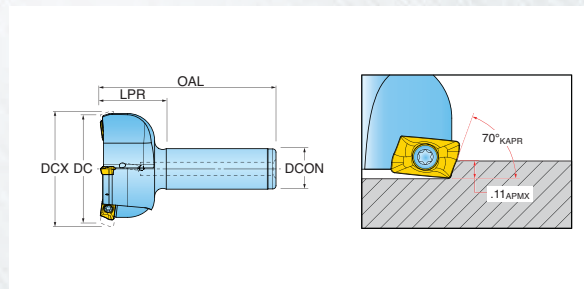
Part Number	Application	RE Corner Radius	BS Wiper Length	L Cutting Edge Length	INSL Length	W1 Width	S Thickness	IH Insert Hand	Grade	IN10K	IN2035	IN2504	IN2505	IN2530	IN4030
BOCT130404FR-P	Grd/Pol for Al	0.015 R	-	0.490	0.557	0.320	0.189	Right	•						
BOCT130408FR-P	Grd/Pol for Al	0.031 R	-	0.490	0.555	0.319	0.187	Right	•						
BOMT130404R	Multi-Purpose	0.015 R	0.067	0.490	0.558	0.320	0.190	Right		•			•	•	•
BOMT130408R	Multi-Purpose	0.031 R	0.051	0.490	0.558	0.320	0.190	Right			•	•	•	•	•
ZOMT130404R	Positive-Splitters	0.015 R	0.067	0.490	0.558	0.320	0.190	Right					•	•	
ZOMT130408R	Positive-Splitters	0.031 R	0.051	0.490	0.561	0.320	0.190	Right					•		

HIPOST⁺ 22_3R HARDWARE

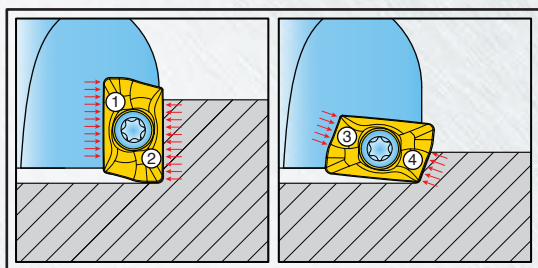
						
	Insert Screw	Driver Handle	Driver Bit	Torque Driver Handle	Preset Torque Bit	Torque Driver Bit
22L3R-17020D3R01	SM35-088-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1
22M3R-17020D3R01	SM35-088-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1
22N3R-17020D3R01	SM35-088-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1
22P3R-17020D4R01	SM35-088-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1
22Q3R-17020D4R01	SM35-088-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1
22L3R045050F1R00	SM35-088-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1
22M3R045050F2R00	SM35-088-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1
22N3R045050F2R00	SM35-088-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1
22P3R045050F2R00	SM35-088-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1
22Q3R045050F2R00	SM35-088-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1

Hi•POS⁺ SERIES: 12L1P

70° ROUGHING END MILL (9MM INSERT)



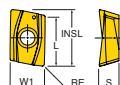
Part Number	DC Cutting Diameter	DCX Cutting Dia. Max.	KAPR Cutting Edge Angle	APMX Depth of Cut Max.	LPR Protruding Length	OAL Overall Length	ZEFF Effective Teeth	DCON Shank Diameter	CSP Coolant
12L1P-20012S7R01	2.000	2.130	70	0.12	1.25	3.25	3	0.750	Yes



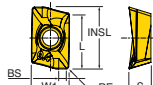
When using the Hi•Pos⁺ milling family, it is possible to make use of all four cutting edges. The first 2 edges can be used in any Hi•Pos⁺ 90° or lead angle endmill or facemill, then use edges 3 and 4 in 12L endmills or 2L facemills

HIoPOS⁺ 12L1P INSERTS

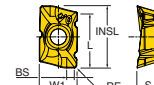
BOCT09



BOMT09



ZOMT09



Part Number	Application	Insert Station	RE Corner Radius	BS Wiper Length	L Cutting Edge Length	INSL Length	W1 Width	S Thickness	Grade	IN10K	IN2010	IN2035	IN2504	IN2505	IN2530	IN4030
BOCT09T304FR-P	Grd/Pol for Al	End/Side	0.015 R	-	0.350	0.417	0.260	0.146	•							
BOCT09T308FR-P	Grd/Pol for Al	End/Side	0.031 R	-	0.350	0.414	0.260	0.144	•							
BOMT09T304R	Multi-Purpose	End/Side	0.015 R	0.050	0.350	0.421	0.258	0.148		•				•	•	•
BOMT09T308R	Multi-Purpose	End/Side	0.031 R	0.034	0.350	0.421	0.259	0.148				•	•	•	•	•
BOMT09T316R	Multi-Purpose	End	0.062 R	-	0.350	0.421	0.259	0.148				•		•	•	
BOMT09T320R	Multi-Purpose	End	0.079 R	-	0.350	0.421	0.259	0.148						•		
BOMT09T331R	Multi-Purpose	End	0.120 R	-	0.350	0.421	0.259	0.148				•		•	•	
ZOMT09T304R	Positive-Splitters	End/Side	0.015 R	0.050	0.350	0.421	0.259	0.148				•		•	•	•

HIoPOS⁺ 12L1P HARDWARE



Insert Screw



Screw Driver


OPTIONAL
Torque Driver Handle

OPTIONAL
Preset Torque Bit

OPTIONAL
Torque Driver Bit

12L1P-20012S7R01

SM25-064-00

DS-T08W

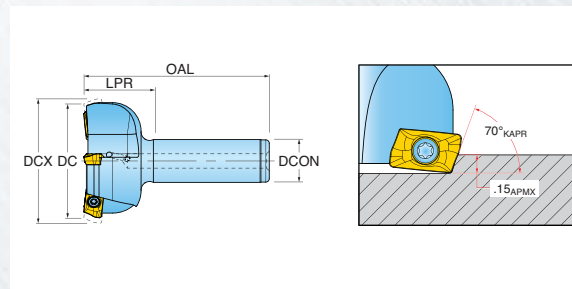
DS-A00-.25-S

DT-11-.25

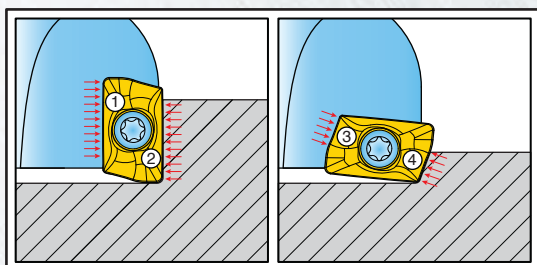
DS-T08B

Hi-POS⁺ SERIES: 12L1R

70° ROUGHING END MILL (13MM INSERT)



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
12L1R-20012S7R01	2.000	2.170	70	0.15	1.25	3.25	3	0.750	Yes

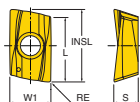


When using the Hi-Pos⁺ milling family, it is possible to make use of all four cutting edges. The first 2 edges can be used in any Hi-Pos⁺ 90° or lead angle endmill or facemill, then use edges 3 and 4 in 12L endmills or 2L facemills

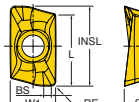


HIOPOS+ 12L1R INSERTS

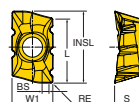
BOCT13



BOMT13



ZOMT13



Part Number	Application	RE Corner Radius	BS Wiper Length	L Cutting Edge Length	INSL Length	W1 Width	S Thickness	IH Insert Hand	Grade	IN10K	IN2035	IN2504	IN2505	IN2530	IN4030	IN6535
BOCT130404FR-P	Grd/Pol for Al	0.015 R	-	0.490	0.557	0.320	0.189	Right	•							
BOCT130408FR-P	Grd/Pol for Al	0.031 R	-	0.490	0.555	0.319	0.187	Right	•							
BOMT130404R	Multi-Purpose	0.015 R	0.067	0.490	0.558	0.320	0.190	Right		•			•	•	•	
BOMT130408R	Multi-Purpose	0.031 R	0.051	0.490	0.558	0.320	0.190	Right			•	•	•	•	•	
BOMT130416R	Multi-Purpose	0.062 R	0.019	0.490	0.561	0.320	0.190	Right					•	•		
BOMT130420R	Multi-Purpose	0.078 R	-	0.490	0.561	0.320	0.190	Right					•	•		
BOMT130424R	Multi-Purpose	0.093 R	-	0.490	0.560	0.320	0.190	Right					•	•		
BOMT130431R	Multi-Purpose	0.125 R	-	0.480	0.546	0.320	0.180	Right		•			•	•		
BOMT130440R	Multi-Purpose	0.156 R	-	0.480	0.538	0.320	0.183	Right					•			
ZOMT130404R	Positive-Splitters	0.015 R	0.067	0.490	0.558	0.320	0.190	Right					•	•		
ZOMT130408R	Positive-Splitters	0.031 R	0.051	0.490	0.561	0.320	0.190	Right					•			

HIOPOS+ 12L1R HARDWARE



Insert Screw



Driver Handle



Driver Bit



OPTIONAL

Torque Driver Handle



OPTIONAL

Preset Torque Bit



OPTIONAL

Torque Driver Bit

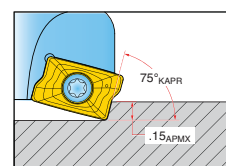
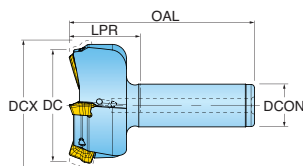
12L1R-20012S7R01	SM35-088-10	DS-A00T	DS-T106B	DS-A00-.25-T	DT-30-.25	DS-T10B1
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HIoPOS⁺ SERIES: 12L1G

75° ROUGHING END MILL (17MM INSERT)



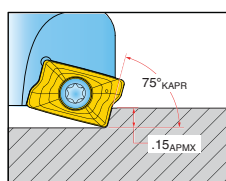
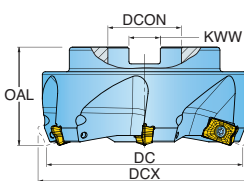
Coolant



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

HIoPOS⁺ SERIES: 2L1G

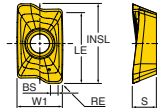
75° ROUGHING FACE MILL (17MM INSERT)



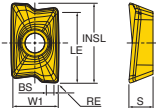
Part Number	DC Cutting Diameter	DCX Cutting Dia. Max.	KAPR Cutting Edge Angle	APMX Depth of Cut Max.	OAL Overall Length	ZEFF Effective Teeth	DCON Bore Diameter	KWW Keyway	CSP Coolant
2L1G-40R01	4.000	4.35	75.0	0.15	2.000	6	1.500	0.625	No

Hi•POS⁺ 12L1G, 2L1G INSERTS

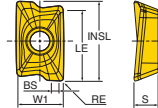
AOMT17



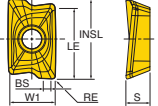
AOMT17_HS



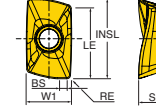
BOCT17_FR-P



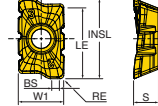
BOCT17_R-HS



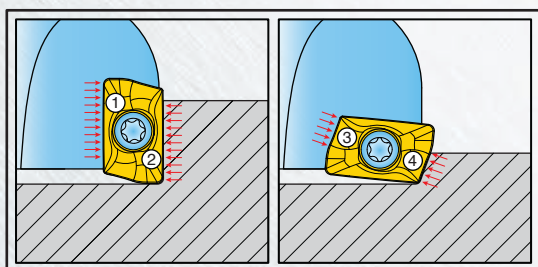
BOMT17



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					•		•		•			



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

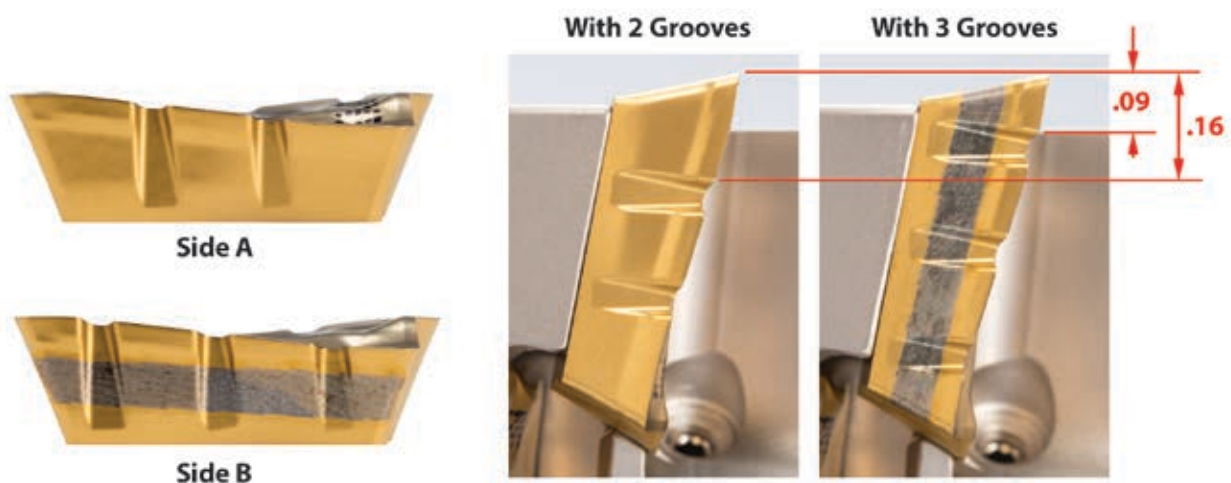


HIoPOS⁺ 12L1G, 2L1G HARDWARE

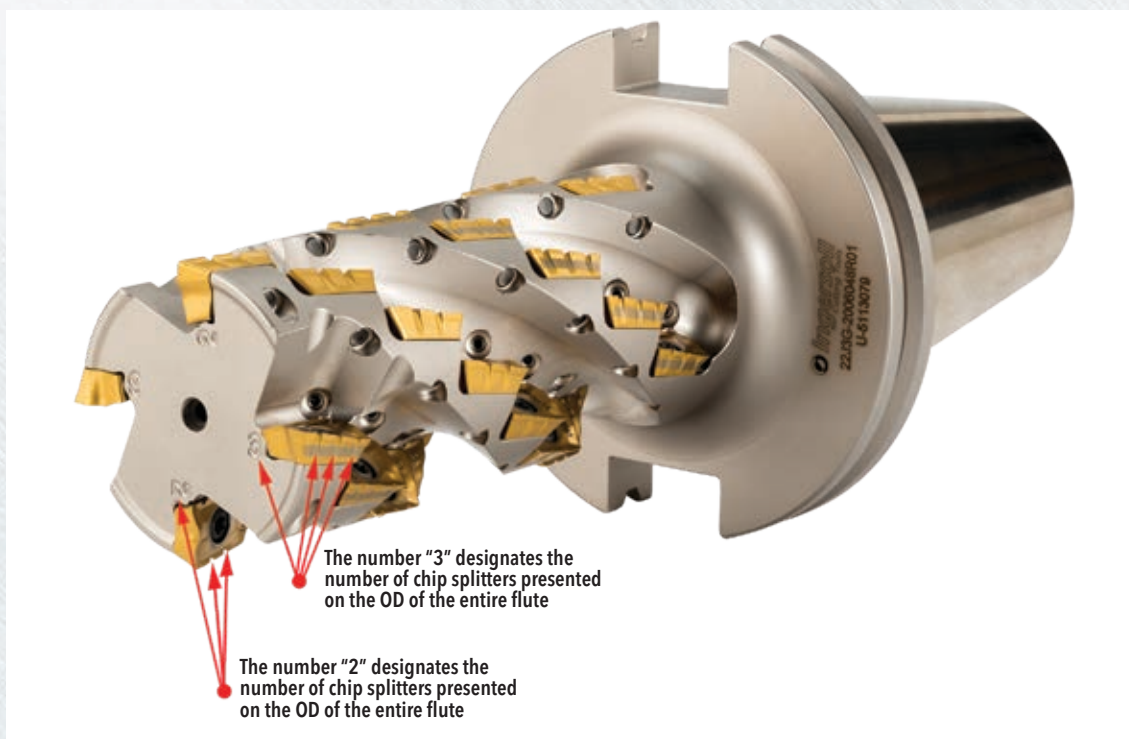
				 **OPTIONAL**	 **OPTIONAL**	 **OPTIONAL**
	Insert Screw	Driver Handle	Driver Bit	Torque Driver Handle	Preset Torque Bit	Torque Driver Bit
12L1G-20012S7R01	SM40-120-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1
2L1G-40R01	SM40-120-20	DS-A00T	DS-T156B	DS-A00.25-T	DT-35-.25	DS-T15B1

HI-POST⁺ CHIP SPLITTER INFORMATION

- Draws less horsepower
- Reduces cutting force and vibration/chatter
- Improves chip evacuation (Chips split into small pieces)
- Reduces heat generation
- Suitable for long overhang machining (Weak machining and fixture applications)
- Mountable on all standard cutter lines without any modification



For best performance and surface finish results, alternate grooves from one flute to the next.





OPERATING GUIDELINES - SERIES 12J1P, 12L1P, 2J1P

Series 12J1P, 12L1P, 2J1P					Grades								
Material		Brinnell Hardness	SFM	Feed per Insert	IN10K	IN2010	IN2035	IN2504	IN2505	IN2530	IN4030	IN90D	Coolant
Aluminum	6061-T6, 7075-T6, 2024	-	1500 - 5000	.003 - .008	2							1	Yes
Cast Iron	Gray	150 - 250	300 - 1000	.003-.006		1			2		3		No
	Nodular		300 - 600										
Steel	Low Carbon 1018, 8620	100 - 250	400 - 1000	.003-.006					3	2	1		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	.003-.005			1		4	3	2		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-.005			1		2	4	3		Yes
Titanium	6AL-4V	-	100 - 150	.003-.005			1		4	3	2		Yes
Hard <54 HRC	All	-	300 - 450	.003-.004				1	2				No
Hard <63 HRC	All	-	150 - 300	.003-.004				1	2				No



OPERATING GUIDELINES - SERIES 12J1R, 2J1R, 12_1R, 12L1R

Series 12J1R, 2J1R, 12_1R,, 12L1R					Grades							
Material		Brinnell Hardness	SFM	Feed per Insert	IN10K	IN2035 6535	IN2504	IN2505	IN2530	IN4030	IN90D	Coolant
Aluminum	6061-T6, 7075-T6, 2024	-	1500 - 5000	.003-.008	1						1	Yes
Cast Iron	Gray	150 - 250	300 - 1000	.004-.007				1		2		No
	Nodular		300 - 600									
Steel	Low Carbon 1018, 8620	100 - 250	400 - 1000	.004-.007				3	2	1		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-.006		1		4	3	2		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-.005		1		2	4	3		Yes
Titanium	6AL-4V	-	100 - 150	.003-.005		1		4	3	2		Yes
Hard < 54 HRC	All	-	300 - 450	.003-.004			1	2				No
Hard < 63 HRC	All	-	150 - 300	.003-.004			1	2				No



HIPOST⁺ OPERATING GUIDELINES - SERIES 12J1G, 12L1G, 2J1G, 2L1G

Series 12J1G, 12L1G, 2J1G, 2L1G					Grades								Coolant
					IN10K	IN1030	IN2530	IN4030	IN2005	IN2505	IN2035	IN2504	
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										
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										
Nickel Alloys	Inconel, Hastelloy, Waspalloy	-	75-120	.003-.006		3	2	1				Yes	
Titanium	6AL-4V	-	100 - 150	.003-.006		2	3	1				Yes	

HIPOST⁺ OPERATING GUIDELINES - SERIES 22J3P

Series 22J3P					Grades							Coolant	
					IN10K	IN2010	IN2035	IN2504	IN2505	IN2530	IN4030		
Material	Brinnell Hardness	SFM	Feed per Insert										
Aluminum	6061-T6, 7075-T6, 2024	-	1300 - 2000	.003-.007	1							Yes	
Cast Iron	Gray	150 - 250	300 - 650	.003-.006		1		4	2		3	No	
	Nodular		300 - 500										
Steel	Low Carbon 1018, 8620	100 - 250	275 - 600	.003-.006				4	3	2	1	No	
	High Carbon F-6180	250 - 400											
	Alloyed Steel 4140, 4340	150 - 300											
	Tool Steel A-6, D-1, D-2	Up to 300											
Stainless Steel	300 Series, 304, 316	-	250 - 400	.003-.005		1		4	3	2	May not be required at high speeds		
	400 Series 15-5 PH	Up to 320											
	13-8 PH	-											Yes
Nickel Alloys	Inconel, Hastelloy, Waspalloy	-	65-110	.003-.005			1		2	4	3	Yes	
Titanium	6AL-4V	-	90 - 130	.003-.005			1		4	3	2	Yes	

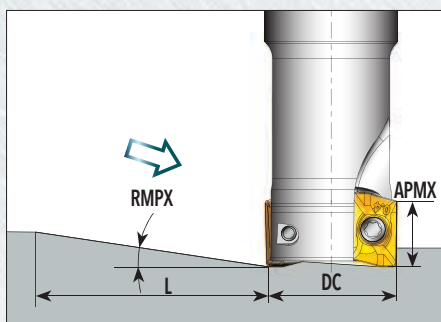


HIPOPOS⁺ OPERATING GUIDELINES - SERIES 22J3R, 22_3R

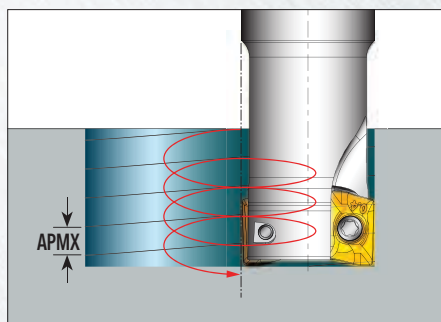
Series 22J3R, 22_3R					Grades							Coolant
					IN10K	IN2035 IN6535	IN2504	IN2505	IN2530	IN4030	IN90D	
Material		Brinnell Hardness	SFM	Feed per Insert								
Aluminum	6061-T6, 7075-T6, 2024	-	1300 - 2000	.003-.008	1						1	Yes
Cast Iron	Gray	150 - 250	300 - 630	.004-.007				1		2		No
	Nodular		300 - 500				1		2			
Steel	Low Carbon 1018, 8620	100 - 250	275 - 600	.004-.007								No
	High Carbon F-6180	250 - 400					3	2	1			
	Alloyed Steel 4140, 4340	150 - 300										
	Tool Steel A-6, D-1, D-2	Up to 300										
Stainless Steel	300 Series, 304, 316	-	250-400	.004-.006				4	3	2		May not be required at high speeds
	400 Series 15-5 PH	Up to 320			1							
	13-8 PH	-										Yes
Nickel Alloys	Inconel, Hastelloy, Waspalloy	-	65-110	.003-.005		1		2	4	3		Yes
Titanium	6AL-4V	-	90 - 130	.003-.005		1		4	3	2		Yes

HIPOPOS⁺ OPERATING GUIDELINES - SERIES 22J3G

Hi-Pos+17 Long Edge Cutters - Series 22J3G					Grades							Coolant
					IN10K	IN2005 IN2505	IN1030 IN2530 IN4030	IN2035	IN2510	IN2540		
Aluminum	6061-T6, 7075-T6, 2024	-	1000 - 1500	.004 - .010	1	3			2		Yes	
Cast Iron	Gray	150 - 250	300 - 600	.004 - .008		2	3		1		No	
	Nodular		300 - 500									
Steel	Low Carbon 1018, 8620	100 - 250	400 - 600	.003 - .008		2	1			3	No	
	High Carbon F-6180	250 - 400	350 - 500	.003 - .007								
	Alloyed Steel 4140, 4340	150 - 300	300 - 600	.003 - .008								
	Tool Steel A-6, D-1, D-2	Up to 300										
Stainless Steel	300 Series, 304, 316	-	250 - 400	.003 - .007		3	2	1			May not be required at high speeds	
	400 Series 15-5 PH	Up to 320	300 - 400									
	13-8 PH	-	200 - 350								Yes	
Nickel Alloys	Inconel, Hastelloy, Waspalloy	-	65-110	.003 - .006		3	2	1			Yes	
Titanium	6AL-4V	-	90 - 120	.003 - .007		3	2	1			Yes	
	5553	-	70 - 100	.003 - .006								
	10-23	-	60 - 80	.003 - .007								

HIPOST⁺
RAMPING DATA 12J1P, 2J1P, 22J3P
Straight ramping


DC Cutter Diameter	RMPX Ramp Angle Max.	APMX Depth of Cut Max.	L
0.500	10.0	0.35	1.9
0.625	10.0	0.35	1.9
0.750	7.0	0.35	2.8
0.875	5.5	0.35	3.6
1.000	4.4	0.35	4.5
1.250	2.8	0.35	7.1
1.500	2.4	0.35	8.3
2.000	1.3	0.35	15.4
2.500	1.0	0.35	20.0
3.000	0.7	0.35	28.6

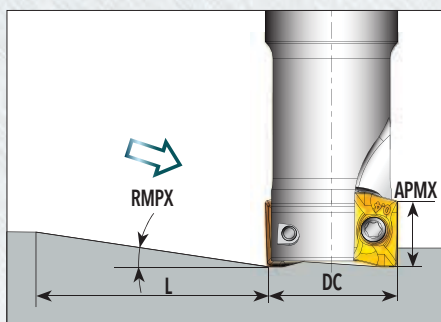
Helical ramping


DC Cutter Diameter (Using R.031 Insert)	Min. Dia. Milled Hole (Bottom with Cusp)	APMX / Rev.	Max. Dia. Milled Hole (Flat Bottom)	APMX / Rev.
0.500	0.62	0.08	0.96	0.23
0.625	0.78	0.08	1.21	0.33
0.750	1.02	0.11	1.46	0.28
0.875	1.27	0.11	1.71	0.24
1.000	1.52	0.11	1.96	0.22
1.250	2.02	0.11	2.46	0.18
1.500	2.52	0.14	2.96	0.20
2.000	3.52	0.10	3.96	0.13
2.500	4.52	0.10	4.96	0.12
3.000	5.52	0.10	5.96	0.10

HI-POS⁺

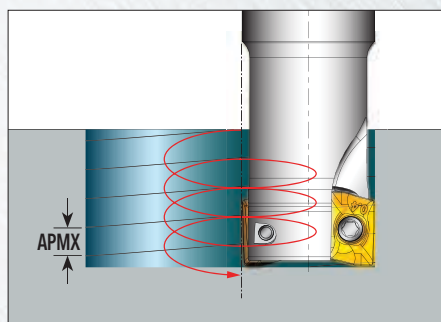
RAMPING DATA 12J1R, 2J1R, 22J3R

Straight ramping



DC Cutter Diameter	RMPX Ramp Angle Max.	APMX Depth of Cut Max.	L
0.750	7.0	0.47	3.8
1.000	7.9	0.47	3.3
1.250	5.0	0.47	5.3
1.500	3.2	0.47	8.4
2.000	2.1	0.47	12.8
2.500	1.4	0.47	19.2
3.000	1.0	0.47	26.9
4.000	0.8	0.47	33.7
5.000	0.6	0.47	44.9

Helical ramping

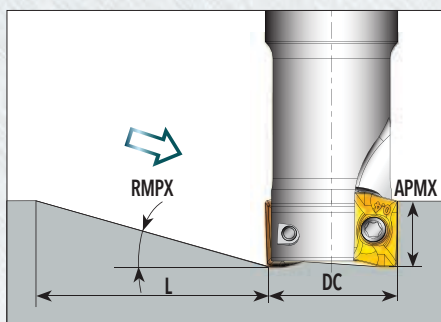


DC Cutter Diameter (Using R.031 Insert)	Min. Dia. Milled Hole (Bottom with Cusp)	APMX / Rev.	Max. Dia. Milled Hole (Flat Bottom)	APMX / Rev.
0.750	1.01	0.09	1.46	0.28
1.000	1.41	0.20	1.96	0.40
1.250	1.91	0.18	2.46	0.33
1.500	2.41	0.16	2.96	0.26
2.000	3.41	0.16	3.96	0.22
2.500	4.41	0.14	4.96	0.18
3.000	5.41	0.13	5.96	0.16
4.000	7.41	0.14	7.96	0.16
5.000	9.41	0.14	9.96	0.15

HI-POS⁺

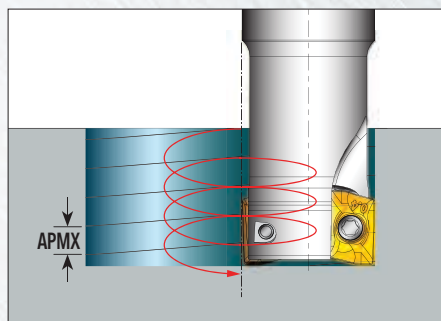
RAMPING DATA 12J1G, 2J1G, 22J3G

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