



NUMAX ILOCK™

MILLING PRODUCTS

Cutter Series:
2XJ3J Shellmills
2XJ3J Endmills

Diameters:
2.000"-3.000"

Insert Series:
IPM324 ML/MM
IPM426 ML/MM

Grades:
IN2505/IN4005
IN2530/IN4030
IN2535/IN4035

Insert Corners:
.031", .062", .093", .125", .250"

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



Endmills & Shellmills With Interlocking Inserts For Smooth and Reliable Operation

Features & Benefits:

- Overlapping "V-Notch" inserts that allow for smooth chip formation at high feed-rates.
- The patented end-station fully supports the insert for reliable operation and unobstructed chip evacuation.
- Tangentially mounted inserts with dovetailed seating for greater cutter reliability and insert stability.
- End-station inserts with corner radii from .031" to .250" and that fit the same cutter body, no cutter modifications needed.
- High axial shear for smooth chip formation in both keen and landed insert geometries.



NUMAX ILOCK™ SERIES 2XJ3J

90° SHELL MILL



Facing



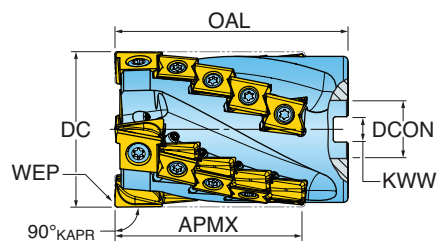
Shoulder



Channel



Coolant



WEP - See insert drawing for wiper options.

Part Number	DC Cutting Dia.	APMX Depth of Cut Max.	OAL Overall Length	ZEFF Effective Teeth	ZFP Eff. Teeth Periphery	ZNF Face Insert Count	ZNP Peripheral Insert Count	NOF Flute Count	DCON Bore Dia.	KWW Keyway
2XJ3J-20023D1R01	2.000	1.512	2.35	4	4	4	8	4	0.750	0.312
2XJ3J-20027D1R01	2.000	1.971	2.75	4	4	4	12	4	0.750	0.312
2XJ3J-20027D1R02	2.000	1.512	2.75	3	3	3	6	3	0.750	0.312
2XJ3J-20030D1R01	2.000	2.430	3.00	4	4	4	16	4	0.750	0.312
2XJ3J-20035D1R01	2.000	2.889	3.50	4	4	4	20	4	0.750	0.312
2XJ3J-25035D3R02	2.500	2.886	3.50	4	4	4	20	4	1.000	0.375
2XJ3J-25030D3R01	2.500	2.431	3.00	5	5	5	20	5	1.000	0.375
2XJ3J-25035D3R01	2.500	2.886	3.50	5	5	5	25	5	1.000	0.375
2XJ3J-25035D3R02	2.500	2.886	3.50	4	4	4	20	4	1.000	0.375
2XJ3J-25040D3R01	2.500	3.348	4.00	5	5	5	30	5	1.000	0.375
2XJ3J-25045D3R01	2.500	3.806	4.50	5	5	5	35	5	1.000	0.375
2XJ3J-30037D4R01	3.000	2.890	3.75	5	5	5	25	5	1.250	0.500
2XJ3J-30037D4R02	3.000	2.890	3.75	6	6	6	30	6	1.250	0.500
2XJ3J-30042D4R01	3.000	3.348	4.25	5	5	5	30	5	1.250	0.500
2XJ3J-30050D4R01	3.000	3.807	5.00	5	5	5	35	5	1.250	0.500
2XJ3J-30050D4R02	3.000	3.807	5.00	6	6	6	42	6	1.250	0.500

* End station insert screw tightening torque: 40-45 in*lb. Side station insert screw tightening torque: 30-35 in*lb.

** Total number of inserts = ZNF + ZNP.

NUMAX ILOCK™ SERIES 2XJ3J

90° WELDON DIMPLE STYLE END MILL



Facing



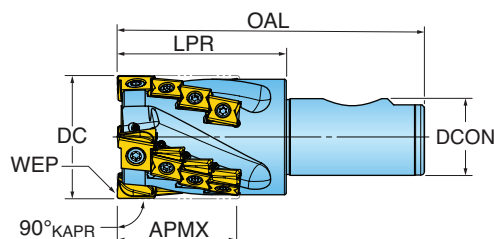
Shoulder



Channel



Coolant



WEP - See insert drawing for wiper options.

Part Number	DC Cutting Dia.	APMX Depth of Cut Max.	LUX Usable Length Max.	LPR Protruding Length	LF Functional Length	OAL Overall Length	ZEFF Effective Teeth	ZEFP Eff. Teeth Periphery	ZNF Face Insert Count	ZNP Peripheral Insert Count	NOF Flute Count	DCON Shank Dia.
2XJ3J-2002281R01	2.000	1.510	2.250	2.250	2.250	4.500	4	4	4	8	4	1.250
2XJ3J-2002781R01	2.000	1.971	2.750	2.750	2.750	5.000	4	4	4	12	4	1.250
2XJ3J-2003081R01	2.000	2.430	3.000	3.000	3.000	5.250	4	4	4	16	4	1.250

*End station insert screw tightening torque: 40-45 in*lb. Side station insert screw tightening torque: 30-35 in*lb.

** Total number of inserts = ZNF + ZNP.

NUMAX ILOCK™ SERIES 2XJ3J

90° WELDON STYLE END MILL



Facing



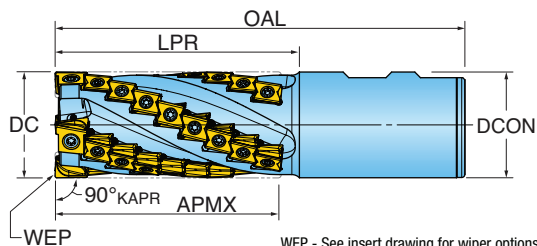
Shoulder



Channel



Coolant



WEP - See insert drawing for wiper options.

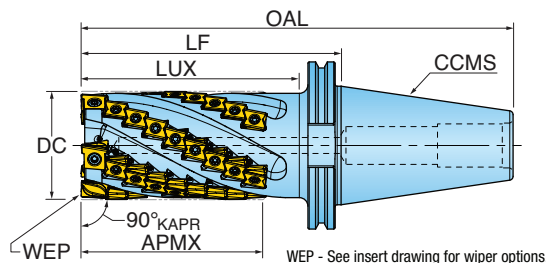
Part Number	DC Cutting Dia.	APMX Depth of Cut Max.	LUX Usable Length Max.	LPR Protruding Length	LF Functional Length	OAL Overall Length	ZEFF Effective Teeth	ZEFP Eff. Teeth Periphery	ZNF Face Insert Count	ZNP Peripheral Insert Count	NOF Flute Count	DCON Shank Dia.
2XJ3J-2004082R01	2.000	4.262	4.650	4.650	4.650	7.750	4	4	4	32	4	2.000

*End station insert screw tightening torque: 40-45 in*lb. Side station insert screw tightening torque: 30-35 in*lb.

** Total number of inserts = ZNF + ZNP.

NUMAX ILOCK™ SERIES 2XJ3J

90° V-FLANGE STYLE END MILL



Part Number	DC Cutting Dia.	APMX Depth of Cut Max.	LUX Usable Length Max.	LF Functional Length	OAL Overall Length	ZEFF Effective Teeth	ZEFP Eff. Teeth Periphery	ZNF Face Insert Count	ZNP Peripheral Insert Count	NOF Flute Count	CCMS Connection Code Machine Side
2XJ3J-2006048R01	2.000	4.262	4.625	6	10	4	4	4	32	4	ICTC #50 .125 Draw
2XJ3J-2006048R02	2.000	4.262	4.625	6	10	3	3	3	24	3	ICTC #50 .125 Draw
2XJ3J-2506048R01	2.500	4.262	4.625	6	10	5	5	5	40	5	ICTC #50 .125 Draw
2XJ3J-2508048R01	2.500	6.099	6.625	8	12	5	5	5	60	5	ICTC #50 .125 Draw

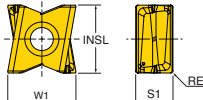
*End station insert screw tightening torque: 40-45 in*lb. Side station insert screw tightening torque: 30-35 in*lb.

** Total number of inserts = ZNF + ZNP.

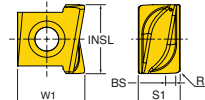
NUMAX ILOCK™ INSERTS



IPM324



IPM426



Part Number	Application	Station	RE Corner Radius	BS Wiper Length	LE Cutting Edge Eff. Length	INSL Insert Length	W1 Insert Width	S Thickness	NOI Number of Indexes	IH Insert Hand	Grade	IN4005	IN2505	IN4030	IN2530	IN4035	IN2535
IPM324R001-ML	Multi-Purpose, Keen Edge	Periphery	0.015	.	0.482	0.512	0.514	0.281	4	Right				•	•	•	•
IPM324R001-MM	Multi-Purpose/Heavy-Duty	Periphery	0.015	.	0.512	0.512	0.512	0.281	4	Right		•	•	•	•		
IPM426R001-ML	Multi-Purpose, Keen Edge	Face	0.030	0.103	0.617	0.617	0.595	0.375	2	Right				•	•	•	•
IPM426R001-MM	Multi-Purpose/Heavy-Duty	Face	0.030	0.103	0.617	0.617	0.595	0.375	2	Right		•	•	•	•		
IPM426R002-ML	Multi-Purpose, Keen Edge	Face	0.060	0.103	0.620	0.620	0.594	0.375	2	Right				•	•	•	•
IPM426R002-MM	Multi-Purpose/Heavy-Duty	Face	0.060	0.103	0.620	0.620	0.594	0.375	2	Right		•	•	•	•		
IPM426R003-ML	Multi-Purpose, Keen Edge	Face	0.090	0.103	0.623	0.623	0.586	0.375	2	Right				•	•	•	•
IPM426R003-MM	Multi-Purpose/Heavy-Duty	Face	0.090	0.103	0.623	0.623	0.586	0.375	2	Right		•	•	•	•		
IPM426R004-ML	Multi-Purpose, Keen Edge	Face	0.125	0.104	0.626	0.626	0.585	0.375	2	Right				•	•	•	•
IPM426R004-MM	Multi-Purpose/Heavy-Duty	Face	0.125	0.104	0.626	0.626	0.585	0.375	2	Right		•	•	•	•		
IPM426R009-ML	Multi-Purpose, Keen Edge	Face	0.250	0.020	0.630	0.630	0.567	0.375	2	Right				•	•	•	•
IPM426R009-MM	Multi-Purpose/Heavy-Duty	Face	0.250	0.020	0.630	0.630	0.567	0.375	2	Right		•	•	•	•		



NUMAX ILOCK™ HARDWARE

								
	Face Driver Bit	Periphery Driver Bit	Driver Handle	Face Insert Screw	Periphery Insert Screw	Retention Bolt	Coolant Hole Socket Set Screw	Alt. Coolant Blocking Socket Set Screw
2XJ3J-20023D1R01	DS-T206B	DS-T156B	DS-A00T	SM50-140-10	SM40-123-H0	SD-06-50	SA030-01	SA030-02
2XJ3J-20027D1R01	DS-T206B	DS-T156B	DS-A00T	SM50-140-10	SM40-123-H0	SD-06-A2	SA030-01	SA030-02
2XJ3J-20027D1R02	DS-T206B	DS-T156B	DS-A00T	SM50-140-10	SM40-123-H0	SD-06-79	SA030-01	SA030-02
2XJ3J-20030D1R01	DS-T206B	DS-T156B	DS-A00T	SM50-140-10	SM40-123-H0	SD-06-79	SA030-01	SA030-02
2XJ3J-20035D1R01	DS-T206B	DS-T156B	DS-A00T	SM50-140-10	SM40-123-H0	SD-06-B2	SA030-01	SA030-02
2XJ3J-25030D3R01	DS-T206B	DS-T156B	DS-A00T	SM50-160-10	SM40-123-H0	SD-08-52	SA030-01	SA030-02
2XJ3J-25035D3R01	DS-T206B	DS-T156B	DS-A00T	SM50-160-10	SM40-123-H0	SD-08-81	SA030-01	SA030-02
2XJ3J-25035D3R02	DS-T206B	DS-T156B	DS-A00T	SM50-160-10	SM40-123-H0	SD-08-81	SA030-01	SA030-02
2XJ3J-25040D3R01	DS-T206B	DS-T156B	DS-A00T	SM50-160-10	SM40-123-H0	SD-08-D3	SA030-01	SA030-02
2XJ3J-25045D3R01	DS-T206B	DS-T156B	DS-A00T	SM50-160-10	SM40-123-H0	SD-08-97	SA030-01	SA030-02
2XJ3J-30037D4R01	DS-T206B	DS-T156B	DS-A00T	SM50-160-10	SM40-123-H0	SD-10-54	SA030-01	SA030-02
2XJ3J-30037D4R02	DS-T206B	DS-T156B	DS-A00T	SM50-160-10	SM40-123-H0	SD-10-54	SA030-01	SA030-02
2XJ3J-30042D4R01	DS-T206B	DS-T156B	DS-A00T	SM50-160-10	SM40-123-H0	SD-10-73	SA030-01	SA030-02
2XJ3J-30042D4R02	DS-T206B	DS-T156B	DS-A00T	SM50-160-10	SM40-123-H0	SD-10-73	SA030-01	SA030-02
2XJ3J-30050D4R01	DS-T206B	DS-T156B	DS-A00T	SM50-160-10	SM40-123-H0	SD-10-04	SA030-01	SA030-02
2XJ3J-30050D4R02	DS-T206B	DS-T156B	DS-A00T	SM50-160-10	SM40-123-H0	SD-10-04	SA030-01	SA030-02
2XJ3J-2002281R01	DS-T206B	DS-T156B	DS-A00T	SM50-160-10	SM40-123-H0	-	SA030-01	SA030-02
2XJ3J-2002781R01	DS-T206B	DS-T156B	DS-A00T	SM50-160-10	SM40-123-H0	-	SA030-01	SA030-02
2XJ3J-2003081R01	DS-T206B	DS-T156B	DS-A00T	SM50-160-10	SM40-123-H0	-	SA030-01	SA030-02
2XJ3J-2004082R01	DS-T206B	DS-T156B	DS-A00T	SM50-160-10	SM40-123-H0	-	SA030-01	SA030-02
2XJ3J-2006048R01	DS-T206B	DS-T156B	DS-A00T	SM50-160-10	SM40-123-H0	-	SA030-01	SA030-02
2XJ3J-2006048R02	DS-T206B	DS-T156B	DS-A00T	SM50-160-10	SM40-123-H0	-	SA030-01	SA030-02
2XJ3J-2506048R01	DS-T206B	DS-T156B	DS-A00T	SM50-160-10	SM40-123-H0	-	SA030-01	SA030-02
2XJ3J-2508048R01	DS-T206B	DS-T156B	DS-A00T	SM50-160-10	SM40-123-H0	-	SA030-01	SA030-02

OWIKO TORQUE optional preset torque components recommended for proper tightening screws. All components are sold separately.

NUMAX ILOCK™ OPERATING GUIDELINES

ISO	Materials			V _c Cutting Speed SFM	H _{ex} Max. Chip Thickness (inch)	Harder <-----> Tougher						Coolant	Geometry	
	Mat'l Group #VDI 3323	Type	Examples			IN4005	IN2505	IN4030	IN2530	IN4035	IN2535		MM 	ML 
P	1 thru 5	Non-alloy Steel	1018, A36, 1045, A572, 1070	150 - 400	.004 - .015	4	3	2	1			NO	1	2
	6 thru 9	Low-alloy Steel	4140, 4340, P20, 8620, 300M	150 - 300	.004 - .012	4	3	2	1			NO	1	2
	10, 11	High-alloy Steel	H13, A2, D2, M2, T1	150 - 250	.004 - .008	4	3	2	1			NO	1	2
M	12 thru 13	Stainless Steel (Ferritic & Martensitic)	410, 416, 440	150 - 300	.006 - .012			4	3	2	1	YES	1	2
	14	Stainless Steel (Austenitic)	303, 304, 316, 15-5, 17-4	150 - 350	.004 - .008			4	3	2	1	YES	2	1
K	15 thru 16	Gray Cast Iron	CLS. 20, 30, 45	150 - 400	.004 - .015	4	3	2	1			YES	1	2
	17 thru 20	Nodular Cast Iron	60-40-18, 100-70-03	150 - 300	.004 - .012	4	3	2	1			NO	1	2
N	21 thru 30	Aluminum	7075, 6061	150 - 700	.004 - .025	1	2	3	4			YES	2	1
S	31 thru 35	High-Temp Alloys	Inconel, Hastelloy, Nimonic, Monel	50 - 100	.002 - .004				3	2	1	YES	2	1
	36 thru 37	Titanium Alloys	6AL-4V, 5Al-5Mo-5V-3Cr	100 - 190	.002 - .008				3	2	1	YES	2	1
H	38 thru 39	Hardened Steel >48	A2, O1, D2	50 - 150	.003 - .005	4	3	2	1			NO	1	

Note: Feed and speed recommendations are starting operating parameters. They are only guidelines from which further optimization should take place. Operating parameters are influenced by many machining variables. These variables may cause for reductions in feeds and speed or dramatic increases. Additionally, DOC and WOC may need to be revised to optimize the tools performance.