

HIPOS[®]ALU[™]



Cutter Styles:

- End Mill 1AX2K, 1AX2Q
- Face Mill AX2K, AX2Q

Cutter Diameters:

- 1.000" - 6.000"

Inserts Sizes:

- 16mm
- 22mm

Inserts Radii:

- .015", .020", .031", .062",
.094", .125", .197", .250"

Grade:

- IN10K



**NEW
PRODUCT
ANNOUNCEMENT
2017**

HiPos-Alu[™] High-Speed Aluminum Machining

Features and Benefits

- Exceptional productivity for machining of Aluminum and non-ferrous materials
- 2 insert I.C. sizes: 16mm & 22mm for heavy roughing
- Crowned cutting edge for side-wall finish machining
- Wide range of corner radii from .015"R to .250"R
- Safe, stable, secure seating combines unique "V" Bottom with Key insert design
- No movement during high RPM or high ramping machining

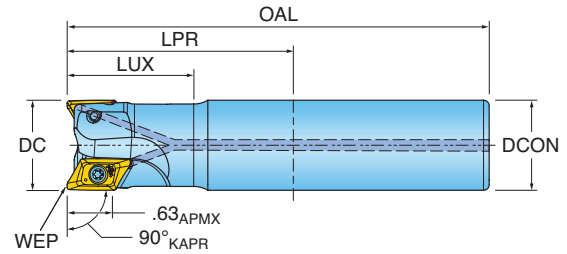
Member IMC Group
Ingersoll
Cutting Tools

AHB Tooling & Machinery, Inc.
Complete Metalworking Solutions
Roseville Saginaw & Jackson, MI

ISO Certified
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HIPOS^oALU SERIES 1AX2K (CYLINDRICAL SHANK)

90° HIGH-SPEED ROUTER END MILL FOR ALUMINUM



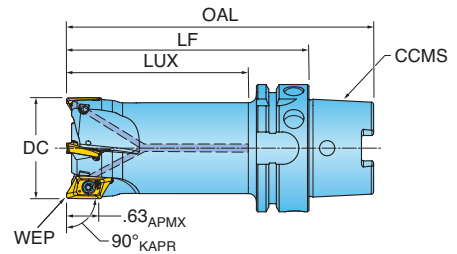
WEP - See insert drawing for wiper options.

Part Number	DC Cutting Dia.	LPR Protruding Length	LUX Usable Length Max.	OAL Overall Length	ZEFF Eff. Teeth	DCON Shank Dia.	CSP Coolant	RMPX Ramp Angle Max.
1AX2K-10022S1R01	1.000	2.20	2.05	7.00	2	1.000	Y	22.0
1AX2K-10032S1R01	1.000	3.20	3.05	8.00	2	1.000	Y	22.0
1AX2K-12022S9R01	1.250	2.20	2.05	6.00	3	1.250	Y	20.5
1AX2K-12032S9R01	1.250	3.20	3.05	8.00	3	1.250	Y	20.5
1AX2K-15032S9R01	1.500	3.20	3.05	10.00	3	1.250	Y	15.5

Ramp angle measured using insert XEVT160508FR-P.

HIPOS^oALU SERIES 1AX2K (HSK ADAPTION)

90° HIGH-SPEED ROUTER END MILL FOR ALUMINUM

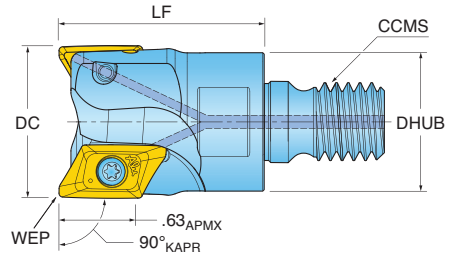


WEP - See insert drawing for wiper options.

Part Number	DC Cutting Dia.	LF Functional Length	LUX Usable Length Max.	OAL Overall Length	ZEFF Eff. Teeth	CCMS Connection Code	CSP Coolant	RMPX Ramp Angle Max.
1AX2K-10032H5R01	1.000	3.25	2.10	4.50	2	HSK 63A	Y	22.0
1AX2K-10042H5R01	1.000	4.25	3.10	5.50	2	HSK 63A	Y	22.0
1AX2K-12032H5R01	1.250	3.25	2.10	4.50	3	HSK 63A	Y	16.5
1AX2K-12042H5R01	1.250	4.25	3.10	5.50	2	HSK 63A	Y	16.5
1AX2K-15042H5R01	1.500	4.25	3.10	5.50	3	HSK 63A	Y	15.5
1AX2K-20042H5R01	2.000	4.25	3.10	5.50	4	HSK 63A	Y	10.5
1AX2K-20052H5R01	2.000	5.25	4.10	6.50	3	HSK 63A	Y	10.5
1AX2K-10032HQR01	1.000	3.25	2.00	4.50	2	HSK 80F	Y	22.0
1AX2K-10042HQR01	1.000	4.25	3.10	5.50	2	HSK 80F	Y	22.0
1AX2K-20042HQR01	2.000	4.25	3.10	5.50	3	HSK 80F	Y	10.5
1AX2K-20052HQR01	2.000	5.25	4.10	6.50	3	HSK 80F	Y	10.5

HIPOS^oALU SERIES 1AX2K (TOP-ON STYLE)

90° HIGH-SPEED ROUTER END MILL FOR ALUMINUM

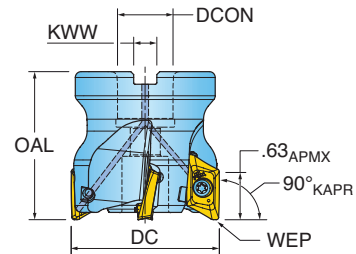


WEP - See insert drawing for wiper options.

Part Number	DC Cutting Dia.	LF Functional Length	ZEFF Eff. Teeth	CCMS Connection Code	DHUB Hub Dia.	CSP Coolant	RMPX Ramp Angle Max.
1AX2K-10017X7R01	1.000	1.75	2	M12	.81	Y	22.0
1AX2K-12017X8R01	1.250	1.75	2	M16	1.13	Y	20.5
1AX2K-12017X8R02	1.250	1.75	3	M16	1.13	Y	20.5
1AX2K-15017X8R01	1.500	1.75	2	M16	1.13	Y	15.5
1AX2K-15017X8R02	1.500	1.75	3	M16	1.13	Y	15.5

HIPOS^oALU SERIES AX2K

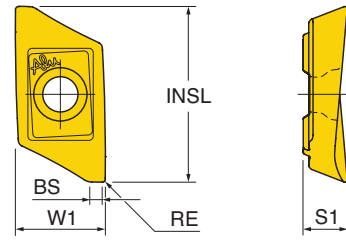
90° HIGH SPEED ROUTER FACE MILL FOR ALUMINUM



WEP - See insert drawing for wiper options.

Part Number	DC Cutting Dia.	OAL Overall Length	ZEFF Eff. Teeth	DCON Bore Dia.	KWW Keyway	CSP Coolant	RMPX Ramp Angle Max.
AX2K-20R01	2.000	2.000	2	0.750	0.31	Y	8.5
AX2K-20R02	2.000	2.000	3	0.750	0.31	Y	8.5
AX2K-20R03	2.000	2.250	3	0.750	0.31	Y	10.5
AX2K-25R01	2.500	2.000	3	1.000	0.38	Y	5.0
AX2K-25R02	2.500	2.250	4	1.000	0.38	Y	8.0
AX2K-30R01	3.000	2.000	3	1.000	0.38	Y	4.0
AX2K-30R02	3.000	2.000	5	1.000	0.38	Y	4.0
AX2K-40R01	4.000	2.375	5	1.500	0.63	Y	3.0
AX2K-60R01	6.000	2.375	7	1.500	0.63	Y	2.0

HIPOS^oALU INSERTS & HARDWARE - SERIES 1AX2K, AX2K



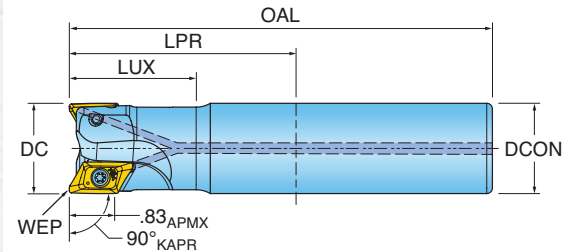
Part Number	Application	INSL Length	W1 Width	S1 Thickness	RE Corner Radius	BS Wiper Length	Grade
							IN10K
XEVT160504FR-P	Gr/Pol for Al	0.874	0.441	0.217	0.015	0.059	●
XEVT160508FR-P	Gr/Pol for Al	0.874	0.441	0.217	0.031	0.043	●
XEVT160516FR-P	Gr/Pol for Al	0.835	0.441	0.217	0.062	0.043	●
XEVT160524FR-P	Gr/Pol for Al	0.795	0.441	0.209	0.094	0.043	●
XEVT160532FR-P	Gr/Pol for Al	0.756	0.441	0.205	0.125	0.043	●
XEVT160550FR-P	Gr/Pol for Al	0.720	0.441	0.201	0.197	0.024	●

*Cutter Body must be relieved to accept .197" radius insert. Modify as follows: (Body R = Insert R - .015")

Part Number	Insert Size					
		Screw	Retention Bolt	Driver Handle	Screw Driver Blade	Top-On Wrench
1AX2K-10022S1R01	XEVT1605	SM40-079-20	-	DS-A00T	DS-T156B	-
1AX2K-10032S1R01	XEVT1605	SM40-079-20	-	DS-A00T	DS-T156B	-
1AX2K-10032H5R01	XEVT1605	SM40-079-20	-	DS-A00T	DS-T156B	-
1AX2K-10032HQR01	XEVT1605	SM40-079-20	-	DS-A00T	DS-T156B	-
1AX2K-10042H5R01	XEVT1605	SM40-079-20	-	DS-A00T	DS-T156B	-
1AX2K-10042HQR01	XEVT1605	SM40-079-20	-	DS-A00T	DS-T156B	-
1AX2K-10017X7R01	XEVT1605	SM40-079-20	-	DS-A00T	DS-T156B	617MM
1AX2K-12022S9R01	XEVT1605	SM40-093-20	-	DS-A00T	DS-T156B	-
1AX2K-12032S9R01	XEVT1605	SM40-093-20	-	DS-A00T	DS-T156B	-
1AX2K-12032H5R01	XEVT1605	SM40-093-20	-	DS-A00T	DS-T156B	-
1AX2K-12042H5R01	XEVT1605	SM40-093-20	-	DS-A00T	DS-T156B	-
1AX2K-12017X8R01	XEVT1605	SM40-093-20	-	DS-A00T	DS-T156B	622MM
1AX2K-12017X8R02	XEVT1605	SM40-093-20	-	DS-A00T	DS-T156B	622MM
1AX2K-15032S9R01	XEVT1605	SM40-093-20	-	DS-A00T	DS-T156B	-
1AX2K-15042H5R01	XEVT1605	SM40-093-20	-	DS-A00T	DS-T156B	-
1AX2K-15017X8R01	XEVT1605	SM40-093-20	-	DS-A00T	DS-T156B	622MM
1AX2K-15017X8R02	XEVT1605	SM40-093-20	-	DS-A00T	DS-T156B	622MM
1AX2K-20042H5R01	XEVT1605	SM40-093-20	-	DS-A00T	DS-T156B	-
1AX2K-20042HQR01	XEVT1605	SM40-093-20	-	DS-A00T	DS-T156B	-
1AX2K-20052H5R02	XEVT1605	SM40-093-20	-	DS-A00T	DS-T156B	-
1AX2K-20052HQR01	XEVT1605	SM40-093-20	-	DS-A00T	DS-T156B	-
AX2K-20R01	XEVT1605	SM40-093-20	SD-06-47	DS-A00T	DS-T156B	-
AX2K-20R02	XEVT1605	SM40-093-20	SD-06-47	DS-A00T	DS-T156B	-
AX2K-20R03	XEVT1605	SM40-093-20	SD-06-48	DS-A00T	DS-T156B	-
AX2K-25R01	XEVT1605	SM40-093-20	SD-08-47	DS-A00T	DS-T156B	-
AX2K-25R02	XEVT1605	SM40-093-20	SD-08-48	DS-A00T	DS-T156B	-
AX2K-30R01	XEVT1605	SM40-093-20	SD-08-47	DS-A00T	DS-T156B	-
AX2K-30R02	XEVT1605	SM40-093-20	SD-08-47	DS-A00T	DS-T156B	-
AX2K-40R01	XEVT1605	SM40-093-20	SD-12-82	DS-A00T	DS-T156B	-
AX2K-60R01	XEVT1605	SM40-093-20	SD-12-82	DS-A00T	DS-T156B	-

HIPOS^oALU SERIES 1AX2Q (CYLINDRICAL SHANK)

90° HIGH-SPEED ROUTER END MILL FOR ALUMINUM



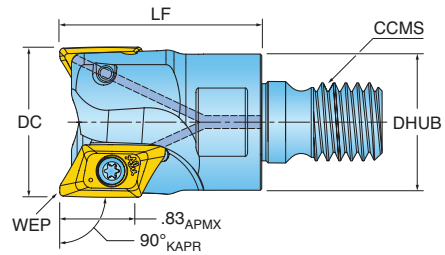
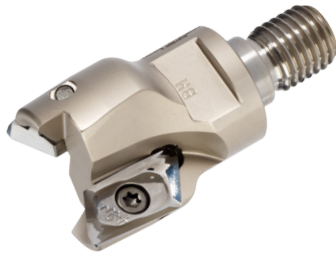
WEP - See insert drawing for wiper options.

Part Number	DC Cutting Dia.	LPR Protruding Length	LUX Usable Length Max.	OAL Overall Length	ZEFF Eff. Teeth	DCON Shank Dia.	CSP Coolant	RMPX Ramp Angle Max.
1AX2Q-12020S9R01	1.250	2.00	1.81	8.00	2	1.250	Y	17.0
1AX2Q-15020S9R01	1.500	2.00	1.84	10.00	3	1.250	Y	18.0

Ramp angle measured using insert XEVT220608FR-P.

HIPOS^oALU SERIES 1AX2Q (TOP-ON STYLE)

90° HIGH-SPEED ROUTER END MILL FOR ALUMINUM

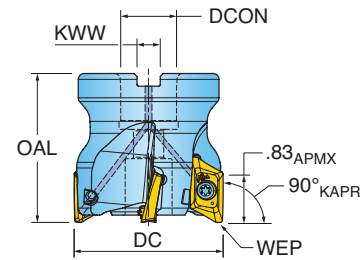


WEP - See insert drawing for wiper options.

Part Number	DC Cutting Dia.	LF Functional Length	ZEFF Eff. Teeth	CCMS Connection Code	DHUB Hub Dia.	CSP Coolant	RMPX Ramp Angle Max.
1AX2Q-12017X8R01	1.250	1.75	2	M16	1.13	Y	17.0
1AX2Q-15018X8R01	1.500	1.88	2	M16	1.13	Y	18.0

HIPOS^oALU SERIES AX2Q

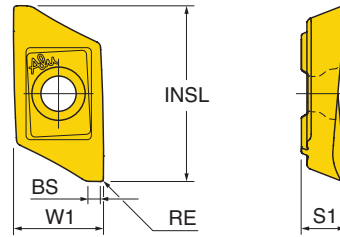
90° HIGH SPEED ROUTER FACE MILL FOR ALUMINUM



WEP - See insert drawing for wiper options.






Part Number	DC Cutting Dia.	OAL Overall Length	ZEFF Eff. Teeth	DCON Bore Dia.	KWW Keyway	CSP Coolant	RMPX Ramp Angle Max.
AX2Q-20R01	2.000	2.000	2	0.750	0.31	Y	8.0
AX2Q-20R02	2.000	2.000	3	0.750	0.31	Y	8.0
AX2Q-25R01	2.500	2.000	3	1.000	0.38	Y	6.0
AX2Q-25R02	2.500	2.000	4	1.000	0.38	Y	6.0
AX2Q-30R01	3.000	2.000	3	1.000	0.38	Y	5.0
AX2Q-30R02	3.000	2.000	5	1.000	0.38	Y	5.0
AX2Q-40R01	4.000	2.375	3	1.500	0.63	Y	3.0
AX2Q-40R02	4.000	2.375	5	1.500	0.63	Y	3.0
AX2Q-60R01	6.000	2.375	3	1.500	0.63	Y	2.0
AX2Q-60R02	6.000	2.375	7	1.500	0.63	Y	2.0

HIPOS^oALU INSERTS & HARDWARE - SERIES 1AX2Q, AX2Q



Part Number	Application	INSL Length	W1 Width	S1 Thickness	RE Corner Radius	BS Wiper Length	Grade
							IN10K
XEVT220504FR-P	Gr/Pol for Al	1.102	0.535	0.291	0.020	0.067	●
XEVT220508FR-P	Gr/Pol for Al	1.102	0.535	0.291	0.031	0.051	●
XEVT220516FR-P	Gr/Pol for Al	1.075	0.535	0.287	0.062	0.051	●
XEVT220524FR-P	Gr/Pol for Al	1.020	0.535	0.283	0.118	0.047	●
XEVT220532FR-P	Gr/Pol for Al	0.937	0.535	0.276	0.197	0.051	●
XEVT220550FR-P	Gr/Pol for Al	0.882	0.535	0.268	0.250	0.051	●

*Cutter Body must be relieved to accept .197" or .250" radius insert. Modify as follows: (Body R = Insert R - .015")

Part Number	Insert Size					
		Screw	Retention Bolt	Driver Handle	Screw Driver Blade	Top-On Wrench
1AX2Q-12020S9R01	XEVT2206	SM50-096-20	-	DS-A00T	DS-T206B	-
1AX2Q-12017X8R01	XEVT2206	SM50-096-20	-	DS-A00T	DS-T206B	622MM
1AX2Q-15020S9R01	XEVT2206	SM50-113-20	-	DS-A00T	DS-T206B	-
1AX2Q-15018X8R01	XEVT2206	SM50-113-20	-	DS-A00T	DS-T206B	622MM
AX2Q-20R01	XEVT2206	SM50-113-20	SD-06-47	DS-A00T	DS-T206B	-
AX2Q-20R02	XEVT2206	SM50-113-20	SD-06-47	DS-A00T	DS-T206B	-
AX2Q-25R01	XEVT2206	SM50-113-20	SD-08-47	DS-A00T	DS-T206B	-
AX2Q-25R02	XEVT2206	SM50-113-20	SD-08-47	DS-A00T	DS-T206B	-
AX2Q-30R01	XEVT2206	SM50-113-20	SD-08-47	DS-A00T	DS-T206B	-
AX2Q-30R02	XEVT2206	SM50-113-20	SD-08-47	DS-A00T	DS-T206B	-
AX2Q-40R01	XEVT2206	SM50-113-20	SD-12-82	DS-A00T	DS-T206B	-
AX2Q-40R02	XEVT2206	SM50-113-20	SD-12-82	DS-A00T	DS-T206B	-
AX2Q-60R01	XEVT2206	SM50-113-20	SD-12-82	DS-A00T	DS-T206B	-
AX2Q-60R02	XEVT2206	SM50-113-20	SD-12-82	DS-A00T	DS-T206B	-

● = P ● = M ● = K ● = N ● = S ○ = H

HIPOS^oALU OPERATING GUIDELINES

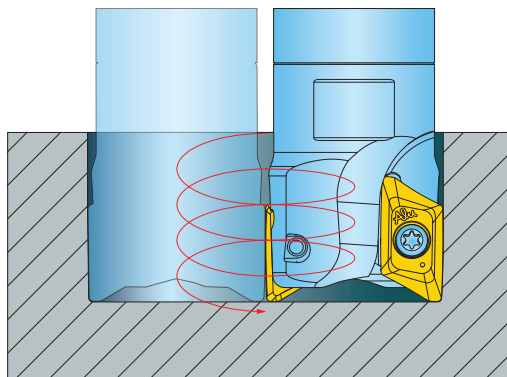
Series 1AX2K, AX2K						
Material	Brinell Hardness	SFM	Feed per Insert (FRM Included)	IN10K	Coolant	
Aluminum	7075-T6, 6061-T2, 2024	-	2000 - 15000	.004 - .020	1	YES

Series 1AX2Q, AX2Q						
Material	Brinell Hardness	SFM	Feed per Insert (FRM Included)	IN10K	Coolant	
Aluminum	7075-T6, 6061-T2, 2024	-	2000 - 15000	.008 - .025	1	YES

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 reductions or increases in feeds and speeds. Additionally, DOC and WOC may need to be revised to optimize the tools performance.

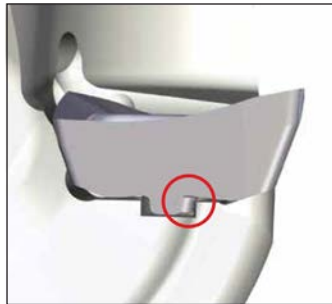
HIPOS^oALU TECHNICAL INFORMATION

Helical Milling



Safe Stop Pocket Design

Stronger insert design including a unique "V" shape insert pocket bottom and key system means safer, more secure performance under high-speed cutting conditions.



HELICAL MILLING TABLE

Insert I.C.	Nominal Dia.	Max. Dia. w/Cusp	Max. Dia. w/o Cusp	Min. Dia. w/Cusp	Min. Dia. w/o Cusp
16 mm	1.00	2.000	1.935	1.160	1.845
	1.25	2.500	2.437	1.620	2.347
	1.50	3.000	2.937	2.120	2.849
	2.00	4.000	3.935	3.158	3.847
	2.50	5.000	4.933	4.158	4.845
	3.00	6.000	5.932	5.158	5.844
	4.00	8.000	7.931	7.158	7.844
22 mm	1.25	2.500	2.439	1.484	2.343
	1.50	3.000	2.937	1.938	2.839
	2.00	4.000	3.932	2.974	3.834
	2.50	5.000	4.929	3.974	4.831
	3.00	6.000	5.928	4.974	5.830
	4.00	8.000	7.926	6.974	7.828
	6.00	12.000	11.924	10.974	11.826