

HI•FEED MINI



Cutter Series:

- 1TG1F
- TG1F

Insert Series:

- UNLU0603MOTR
- UNLU0603MOTR-MM
- UNLU0603MOTR-ML

Insert Grades:

- IN2035
- IN2504
- IN2505
- IN2510
- IN2530
- IN7035

Applications:

- Die & Mold
- Aerospace
- General Purpose

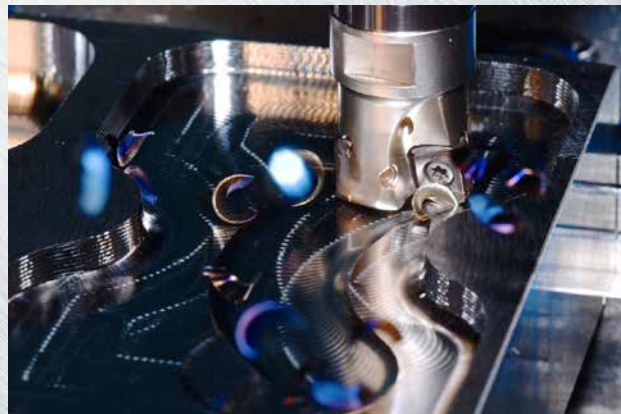


High Feed Milling Cutter Family Offers Increased Productivity!!

The Hi•Feed Mini milling cutters offer exceptional milling performance. The smaller 6mm IC high feed insert allows maximum cutter densities for great productivity! Optimal insert geometries, the latest grades, strong insert clamping and solid high feed design ensure worry-free machining! Let the Hi•Feed Mini stream line your milling process!

FEATURES AND BENEFITS

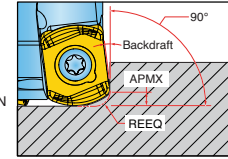
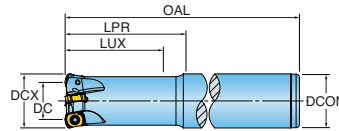
- Available in end mill, modular head and face mill type; Now available in Chip•Surfer style!
- Up to .039" (1 mm) DOC capability
- 4 indexes provide for cost-effective machining
- Strong positive insert rake face angles for efficient milling
- Rigid clamping & high tensile clamping screw, M2.5
- Lower cutting force
- Higher insert densities increase productivity even more!



**PRODUCT
ANNOUNCEMENT
UPDATE
2019**

HI-FEED MINI SERIES 1TG1F

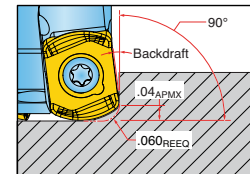
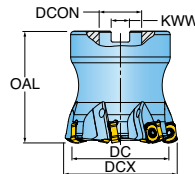
HI-FEED END MILLS WITH 4 INDEXES



Part Number	DCX Cutting Dia. Max.	DC Cutting Dia.	APMX Depth of Cut Max.	LUX Usable Length Max.	LPR Protruding Length	OAL Overall Length	ZEFF Eff. Teeth	REEQ Program Radius Equivalent	DCON Shank Dia.	RPMX Ramp Angle Max.
1TG1F-06015S6R01	0.625	0.365	0.03	2.74	1.40	4.00	2	0.060	0.625	1.5
1TG1F-06015ULR01	0.625	0.365	0.03	2.74	1.40	4.00	2	0.060	15.50 mm	1.5
1TG1F-07017UMR01	0.750	0.476	0.03	1.50	1.66	5.00	3	0.065	18.50 mm	1.4
1TG1F-07017UMR02	0.750	0.476	0.03	1.50	1.66	6.25	3	0.065	18.50 mm	1.4
1TG1F-07022S7R01	0.750	0.476	0.03	2.00	2.17	5.00	3	0.065	0.750	1.4
1TG1F-07032S7R01	0.750	0.476	0.03	3.00	3.15	6.23	3	0.065	0.750	1.4
1TG1F-08019S7R01	0.875	0.573	0.04	1.82	1.93	7.75	3	0.074	0.750	1.1
1TG1F-08019UNR01	0.875	0.573	0.04	1.75	1.93	7.75	3	0.074	21.50 mm	1.1
1TG1F-10022S1R01	1.000	0.696	0.04	2.00	2.17	10.00	4	0.074	1.000	0.8
1TG1F-10022T5R01	1.000	0.696	0.04	2.00	2.16	7.00	4	0.074	25.00 mm	0.8
1TG1F-10022T5R02	1.000	0.696	0.04	2.00	2.16	10.00	4	0.074	25.00 mm	0.8
1TG1F-10032S1R01	1.000	0.696	0.04	2.00	3.17	7.00	4	0.074	1.000	0.8
1TG1F-1203281R01	1.250	0.946	0.04	3.00	3.17	5.50	5	0.074	1.250	0.6
1TG1F-12050E2R01	1.250	0.946	0.04	4.75	4.92	8.00	5	0.074	1.250	0.6
1TG1F-15015E2R01	1.500	1.196	0.04	2.88	3.00	6.00	6	0.074	1.250	0.5

HI-FEED MINI SERIES TG1F

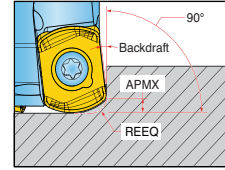
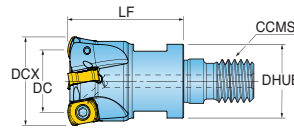
HI-FEED FACE MILL WITH 4 INDEXES



Part Number	DCX Cutting Dia. Max.	DC Cutting Dia.	APMX Depth of Cut Max.	OAL Overall Length	ZEFF Eff. Teeth	REEQ Program Radius Equivalent	DCON Shank Dia.	KWW Keyway	CSP Coolant	RPMX Ramp Angle Max.
TG1F-20R01	2.000	1.696	0.04	1.97	7	0.074	0.750	0.31	Yes	0.5

HI-FEED MINI SERIES 1TG1F (TOP-ON STYLE)

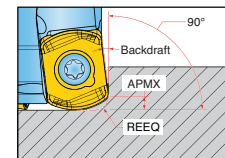
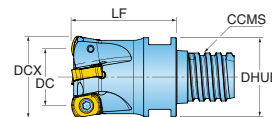
HI-FEED MODULAR END MILLS W/ 4 INDEXES



Part Number	DCX Cutting Dia. Max.	DC Cutting Diameter	APMX Depth of Cut Max.	LF Functional Length	ZEFF Effective Teeth	REEQ Program Radius Equivalent	DHUB Hub Diameter	CCMS Connection Code	RMPX Ramp Angle Max.
1TG1F-06010X5R01	0.625	0.365	0.03	0.98	2	0.060	0.51	TopOn M08	1.5
1TG1F-07011X6R01	0.750	0.476	0.03	1.18	3	0.065	0.51	TopOn M10	1.4
1TG1F-10013X7R01	1.000	0.696	0.04	1.37	4	0.074	0.82	TopOn M12	0.8
1TG1F-12015X8R01	1.250	0.946	0.04	1.57	5	0.074	1.14	TopOn M16	0.6
1TG1F-15015X8R10	1.500	1.196	0.04	1.57	6	0.074	1.14	TopOn M16	0.5
1TG1F-15017X9R01	1.500	1.196	0.04	1.75	6	0.074	1.42	TopOn M20	0.8

HI-FEED MINI SERIES 1TG1F (CHIP-SURFER STYLE)

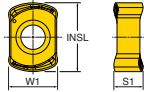
HI-FEED MODULAR END MILLS W/ 4 INDEXES



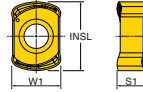
Part Number	DCX Cutting Dia. Max.	DC Cutting Diameter	APMX Depth of Cut Max.	LF Functional Length	ZEFF Effective Teeth	DHUB Hub Diameter	CCMS Connection Code	RMPX Ramp Angle Max.
1TG1F-06008TRR01	0.625	0.365	0.03	0.83	2	0.51	Chip Surfer T10	1.5
1TG1F-07010TSR01	0.750	0.476	0.03	1.02	3	0.51	Chip Surfer T12	1.3
1TG1F-10012TUR01	1.000	0.706	0.04	1.26	4	0.95	Chip Surfer T15	1

HI-FEED MINI 06MM INSERTS

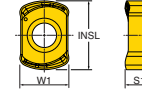
UNLU0603MOTR



UNLU0603MOTR-MM

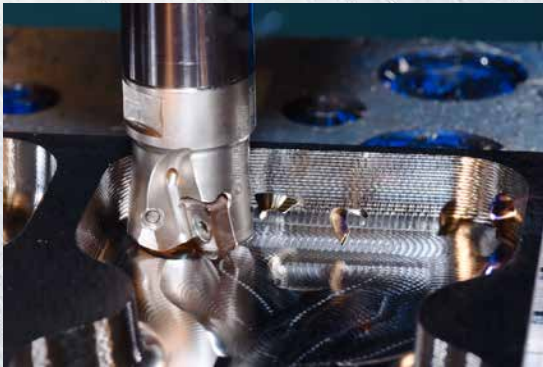


UNLU0603MOTR-ML







Part Number	Application	INSL Length	W1 Width	S Thickness	NOI Number of Inserts	IH Insert Hand	Grade	IN2035	IN2504	IN2505	IN2510	IN2530	IN7035
UNLU0603MOTR	High Feed	0.354	0.251	0.142	4	Right		•	•	•	•	•	
UNLU0603MOTR-MM	High Feed	0.354	0.251	0.142	4	Right		•	•	•		•	•
UNLU0603MOTR-ML	High Feed	0.354	0.251	0.142	4	Right		•		•		•	•

Detail	Insert Number	Description
<p>MOTR</p>	UNLU0603MOTR	<p>Multi-Purpose Extra strong positive rake face geometry for machining steel and various high temp alloys.</p>
<p>MOTR-MM</p>	UNLU0603MOTR-MM	<p>Multi-Purpose - Keen Edge Strong, positive rake face geometry well suited for machining of various high temperature alloys and standard steels. Keen edge, which promotes lower cutting forces and free shearing action.</p>
<p>MOTR-ML</p>	UNLU0603MOTR-ML	<p>High-Positive - Keen Edge Sharp, positive rake face geometry well suited for machining of various high temperature alloys providing optimal shearing action.</p>



HI-FEED MINI HARDWARE

Part Number		Torque Specification			
	Screw		Driver	Retention Bolt	Coolant Bolt
1TG1F-06008TRR01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-07010TSR01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-10012TUR01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-06015ULR01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-06015S6R01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-07017UMR01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-07017UMR02	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-07022S7R01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-07032S7R01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-08019UNR01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-10022T5R01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-10022S1R01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-10022T5R02	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-10032S1R01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-1203281R01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-12050E2R01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-15015E2R01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-06010X5R01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-07011X6R01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-10013X7R01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-12015X8R01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
1TG1F-15015X8R10	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	N/A	N/A
TG1F-20R01	SM25-075-20	Torque 9-11.5 in. lbs.	DS-T08W	SD-06-48	SD-06-89

HI-FEED MINI OPERATING GUIDELINES

HiFeedMini - Series 1TG1F, TG1F		Brinnell Hardness	SFM	Feed per Insert	Grades						Coolant
Material	IN2035				IN2504	IN2505	IN2510	IN2530	IN7035		
Steel	Mild 1018-1045	200-400	425-985	.015 - .050		3	1		2		NO
	Low Alloy 4140, 8620, 4340	150 - 425	350-900			3	1		2		
	Medium Alloy P20, S7, H13, O1, A2		300-850			2	1		3		
	High Alloy A7-D2	375 - 625	400-650		.012-.030	1	2		3		
Hardened Steel	All	375 - 625	400-650	.012-.030	1						NO
Stainless Steel	Free Machining 303, 416	200-425	250-550	.010-.025					1		Yes
	300 Series, 304, 310, 316							3	2		
	400 Series 410, 420, 15-5PH, 17-4PH							3	2		
	PH Series 13-8							3	2		
Titanium	6AL-4V	n/a	90-275	.004-.020	1				3	2	Yes
High Temp Alloy	Inconel	n/a	70-125	.004-.020	1				3	2	Yes
Iron	Gray, Nodular, Malleable	n/a	250-700	.012-.020			2	1			No

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.