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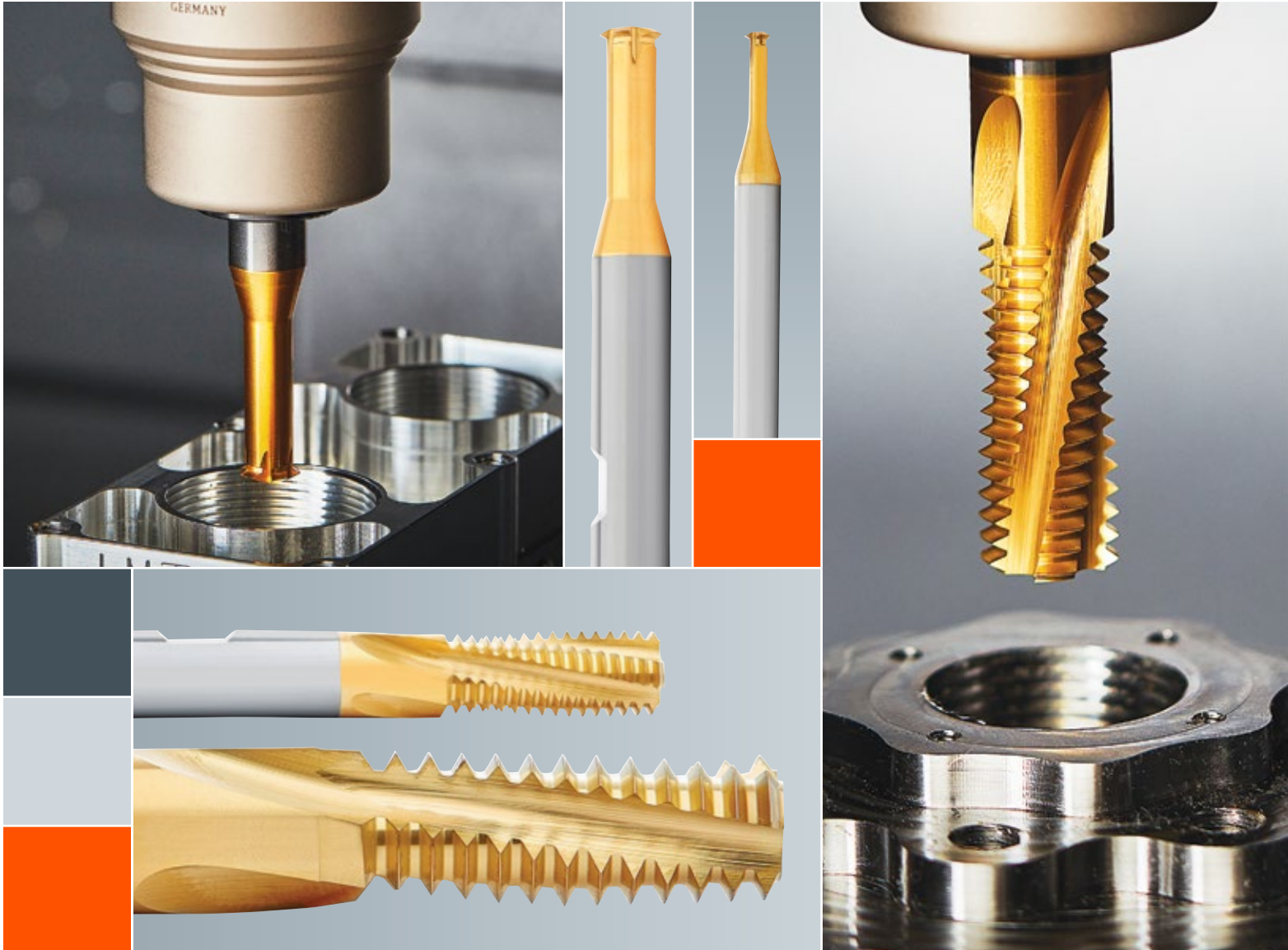
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**EMUGE**  
**FRANKEN**

**NEW**  
Thread Milling Line



**EMUGE**

**Multi** **THREAD**<sup>™</sup>  
MILL

ONE TOOL FOR  
MULTIPLE APPLICATIONS

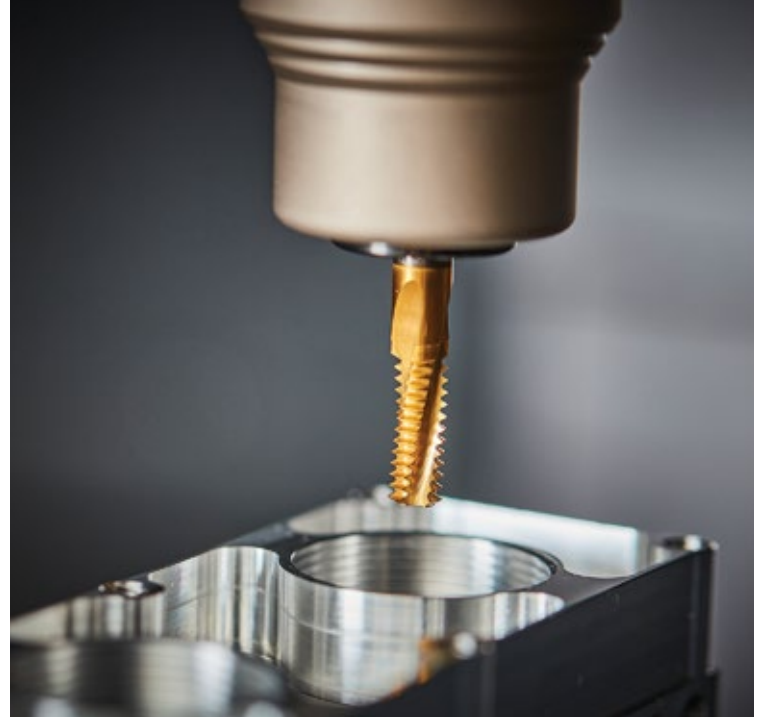
Introducing

# MultiTHREAD™ MILL by EMUGE

EMUGE-FRANKEN, developer of MultiTAP™, the industry's leading high performance multi-purpose tap, has introduced MultiTHREAD MILL, a cost effective universal thread milling solution for job shop manufacturers.

MultiTHREAD features a proprietary TIN T21 coating developed by EMUGE and is offered in a complete size and thread style range in either Full Form or Single Plane types.

EMUGE MultiTHREAD MILLS are an ideal general-purpose thread milling solution designed to cut a wide range of standard materials very efficiently.



## ADVANTAGES OF MultiTHREAD MILLS:

- Save costs – reduce cycle times and operations while eliminating broken taps / scrapped parts
- One tool for both thru and blind holes
- One tool for right or left-hand threads
- Versatile: machines a wide range of materials
- Broad line of tool types / sizes in stock
- High process security / control
- Improved thread accuracy, quality and finish
- Affordable and reliable thread making solution



Made in Germany  
by EMUGE-FRANKEN

The diagram illustrates two types of thread mills: Full Form and Single Plane. The Full Form mill on the left has a complex, multi-fluted design with a central core. The Single Plane mill on the right has a simpler, single-fluted design. A circular inset at the top right shows a close-up of the cutting edge with a 20 µm scale bar. A rectangular inset at the bottom left shows a circular cross-section of sub-micro grain carbide. A rectangular inset at the bottom right shows a cross-section of the TIN T21 coating. The central part of the image shows a large, detailed view of the Full Form mill's cutting edge.

Superior edge prep process

20 µm

Full Form

- Rigid core diameter reduces deflection
- One cutting rotation saves time

Single Plane

- One tool produces multiple thread sizes
- Pitch diameter can be controlled

TIN T21 Coating

Reduces chip welding and improves chip evacuation

Sub-micro grain carbide

# MultiTHREAD™ Full Form

MultiTHREAD Full Form tools redefine the measure of value in solid carbide thread mills. **This new tooling line for applications 1 1/8" and under**, assures quality threads, versatility and ease-of-use in a wide range of standard materials.

This Series is designed and priced to offer a superior level of value for any size machine shop. When combined with the latest CNC technology and smart controllers, outstanding flexibility, process control, tool life and part quality can be realized.



Exceptional balance of performance benefits and price are achieved by combining select design elements:

- **Sub-micro grain carbide** with state-of-the-art grinding techniques
- **Enlarged flute space** for efficient chip evacuation
- **Specially engineered multiple-spiral flutes** eliminate chatter
- **End mill type shank with clamping flat** for secure tool holding
- **Large cutter diameter with high profile correction** ensures true-to-gage threads
- **TIN T21 coating** reduces chip welding and improves material flow away from cutting edge
- **Extended milling portion** allows for length-of-cut to 2XD

## 2XD – TIN T21 COATED – 15° HELIX – SOLID

	Tool Size	Thread Size			Cutter Dia.	Cut Length	# Flutes	Overall Length	Shank Dia.	EDP No.
		UNC	UNF	M						
INCH	10	10-24	–	–	0.136	0.395	3	2 1/2"	1/4"	GFR15105.5007
	1/4	1/4-20	–	–	0.185	0.524	3	2 1/2"	1/4"	GFR15105.5009
	5/16	5/16-18	–	–	0.242	0.637	3	2 1/2"	1/4"	GFR15105.5010
	3/8	3/8-16	–	–	0.301	0.780	3	2 1/2"	5/16"	GFR15105.5011
	7/16	7/16-14	–	–	0.354	0.891	3	3"	3/8"	GFR15105.5012
	1/2	1/2-13	–	–	0.371	1.036	3	3"	3/8"	GFR15105.5013
	5/8	5/8-11	–	–	0.496	1.316	4	3 3/4"	1/2"	GFR15105.5015
	3/4	3/4-10	–	–	0.621	1.548	4	4 1/4"	5/8"	GFR15105.5016
	7/8	7/8-9	–	–	0.621	1.829	4	4 1/4"	5/8"	GFR15105.5017
	1"-8 & 1 1/8-8	1"-8 & 1 1/8-8	–	–	0.746	2.058	4	4 3/4"	3/4"	GFR15105.5018
	10	–	10-32	–	0.150	0.390	3	2 1/2"	1/4"	GFR15105.5041
	1/4	–	1/4-28	–	0.203	0.517	3	2 1/2"	1/4"	GFR15105.5043
	5/16	–	5/16-24	–	0.246	0.644	3	2 1/2"	1/4"	GFR15105.5044
	3/8	–	3/8-24	–	0.309	0.769	3	2 1/2"	5/16"	GFR15105.5045
7/16	–	7/16-20	–	0.371	0.874	3	3"	3/8"	GFR15105.5046	
1/2	–	1/2-20	–	0.371	1.023	3	3"	3/8"	GFR15105.5047	
3/4	–	3/4-16	–	0.621	1.530	4	4 1/4"	5/8"	GFR15105.5050	
METRIC	6	–	–	M6	0.189	0.491	3	2 1/2"	1/4"	GFR15105.0060
	8	–	–	M8	0.246	0.663	3	2 1/2"	1/4"	GFR15105.0080
	10	–	–	M10	0.309	0.796	3	2 1/2"	5/16"	GFR15105.0100
	12	–	–	M12	0.371	0.997	3	3"	3/8"	GFR15105.0112


**MultiTHREAD™ FULL FORM TOOLS:**

- TIN T21 coating reduces chip welding
- Rigid core diameter to reduce deflection
- One cutting rotation to save time
- Efficient chip evacuation
- Produce excellent thread finish and true-to-gage threads

**2XD – TIN T21 COATED – 15° HELIX – COOLANT FED**

	Tool Size	Thread Size			Cutter Dia.	Cut Length	# Flutes	Overall Length	Shank Dia.	EDP No.
		UNC	UNF	M						
INCH	1/4	1/4-20	–	–	0.185	0.524	3	2 1/2"	1/4"	GFR35105.5009
	5/16	5/16-18	–	–	0.242	0.637	3	2 1/2"	1/4"	GFR35105.5010
	3/8	3/8-16	–	–	0.301	0.780	3	2 1/2"	5/16"	GFR35105.5011
	7/16	7/16-14	–	–	0.354	0.891	3	3"	3/8"	GFR35105.5012
	1/2	1/2-13	–	–	0.371	1.036	3	3"	3/8"	GFR35105.5013
	5/8	5/8-11	–	–	0.496	1.316	4	3 3/4"	1/2"	GFR35105.5015
	3/4	3/4-10	–	–	0.621	1.548	4	4 1/4"	5/8"	GFR35105.5016
	7/8	7/8-9	–	–	0.621	1.829	4	4 1/4"	5/8"	GFR35105.5017
	1" & 1 1/8	1"-8 & 1 1/8-8	–	–	0.746	2.058	4	4 3/4"	3/4"	GFR35105.5018
	10	–	10-32	–	0.150	0.390	3	2 1/2"	1/4"	GFR35105.5041
	1/4	–	1/4-28	–	0.203	0.517	3	2 1/2"	1/4"	GFR35105.5043
	5/16	–	5/16-24	–	0.246	0.644	3	2 1/2"	1/4"	GFR35105.5044
	3/8	–	3/8-24	–	0.309	0.769	3	2 1/2"	5/16"	GFR35105.5045
	7/16	–	7/16-20	–	0.371	0.874	3	3"	3/8"	GFR35105.5046
1/2	–	1/2-20	–	0.371	1.023	3	3"	3/8"	GFR35105.5047	
9/16 & 5/8	–	9/16-18 & 5/8-18	–	0.496	1.138	4	3 3/4"	1/2"	GFR35105.5048	
3/4	–	3/4-16	–	0.621	1.530	4	4 1/4"	5/8"	GFR35105.5050	
7/8 & 1"	–	7/8-14 & 1"-14	–	0.621	1.817	4	4 1/4"	5/8"	GFR35105.5051	
METRIC	6	–	–	M6	0.189	0.491	3	2 1/2"	1/4"	GFR35105.0060
	8	–	–	M8	0.246	0.663	3	2 1/2"	1/4"	GFR35105.0080
	10	–	–	M10	0.309	0.796	3	2 1/2"	5/16"	GFR35105.0100
	12	–	–	M12	0.371	0.997	3	3"	3/8"	GFR35105.0112
	14	–	–	M14	0.457	1.140	4	3 3/4"	1/2"	GFR35105.0114
	16	–	–	M16	0.496	1.280	4	3 3/4"	1/2"	GFR35105.0116
	20	–	–	M20	0.621	1.595	4	4 1/4"	5/8"	GFR35105.0120



## MultiTHREAD™ Single Plane

A Complete Line of 2XD Solid Carbide Thread Mills, Plus 3XD Sizes for Maximum Reach



Miniature size thread mills provide a high-quality, dependable threading solution for a variety of materials.

Standard sizes provide manufacturers a ready tooling solution which allows for quick adaptation to a variety of threading requirements in a wide range of materials.

- TIN T21 coating reduces chip welding and improves material flow away from cutting edge
- **Requiring only 8 stock standard tool sizes,** #10 • 1/4 • 5/16 • 3/8 • 7/16 • 1/2 • 5/8 • 3/4, it is now possible to produce 100+ commonly produced screw thread designations
- In addition, MultiTHREAD tools provide **total control over pitch diameter limits** including 2B • 3B • 3BG • and all oversize variants
- One tool produces multiple thread sizes

### 2XD – TIN T21 COATED – 0° HELIX

	Tool Size	Thread Size								Cutter Dia.	Cut Length	# Flutes	Overall Length	Shank Dia.	Shank Type	EDP No.	
		UNC	UNF	STI UNC	STI UNF	UNEF	UNJC	UNJF	M								MJ
MINIATURE SIZES	0	–	0-80	–	–	–	–	0-80	1.6 x .35	1.6 x .35	0.045	0.125	1	1 5/8"	1/8"	HA	GFS13705.5033 •
	1	1-64	1-72	–	–	–	1-64	1-72	2 x .4	2 x .4	0.056	0.146	3	1 5/8"	1/8"	HA	GFS23705.5000 •
	2	2-56	2-64	1-64	–	–	2-56	2-64	2.5 x .45	2.5 x .45	0.064	0.172	3	1 5/8"	1/8"	HA	GFS23705.5001 •
	4	4-40	4-48	2-56	–	–	4-40	4-48	–	–	0.081	0.224	3	1 5/8"	1/8"	HA	GFS23705.5003 •
	STI 4	–	–	4-40	4-48	–	–	–	–	–	0.117	0.295	3	1 5/8"	1/8"	HA	GFS23705.5611 •
	5	5-40	5-44	–	–	–	5-40	5-44	3 x .5	3 x .5	0.095	0.250	3	1 5/8"	1/8"	HA	GFS23705.5004 •
	6	6-32	6-40	–	–	–	6-32	6-40	–	–	0.100	0.276	3	1 5/8"	1/8"	HA	GFS23705.5005 •
	STI 6	–	–	6-32	6-40	–	–	–	5 x .8	5 x .8	0.143	0.364	3	2 1/2"	1/4"	HB	GFS23105.5613 •
	8	8-32	8-36	–	–	–	8-32	8-36	4 x .7	4 x .7	0.124	0.328	3	1 5/8"	1/8"	HA	GFS23705.5006 •
STI 8	–	–	8-32	8-36	1/4-32	–	–	–	–	0.167	0.415	3	2 1/2"	1/4"	HB	GFS23105.5614 •	
STANDARD SIZES	10	10-24	10-32	10-24	10-32	–	10-24	10-32	–	–	0.136	0.380	3	2 1/2"	1/4"	HB	GFS23105.5007 •
	1/4	1/4-20	1/4-28	1/4-20	1/4-28	5/16-32	1/4-20	1/4-28	6 x 1	6 x 1	0.185	0.500	3	2 1/2"	1/4"	HB	GFS23105.5009 •
	5/16	5/16-18	5/16-24	5/16-18	5/16-24	3/8-32	5/16-18	5/16-24	8 x 1.25	8 x 1.25	0.242	0.625	4	2 1/2"	1/4"	HB	GFS33105.5010 ▲
	3/8	3/8-16	3/8-24	3/8-16	3/8-24	7/16-28	3/8-16	3/8-24	10 x 1.5	10 x 1.5	0.301	0.750	5	2 1/2"	5/16"	HB	GFS33105.5011 ▲
	7/16	7/16-14	7/16-20	7/16-14	7/16-20	1/2-28	7/16-14	7/16-20	12 x 1.75	12 x 1.75	0.354	0.875	5	3"	3/8"	HB	GFS33105.5012 ▲
	1/2	1/2-13	1/2-20	1/2-13	1/2-20	5/8-24	1/2-13	1/2-20	14 x 2	14 x 2	0.407	1.000	5	3 3/4"	1/2"	HB	GFS33105.5013 ▲
	5/8	5/8-11	5/8-18	5/8-11	5/8-18	3/4-20	5/8-11	5/8-18	16 x 2	16 x 2	0.512	1.250	5	3 3/4"	1/2"	HB	GFS33105.5015 ▲
	3/4	3/4-10	3/4-16	3/4-10	3/4-16	7/8-20	3/4-10	3/4-16	20 x 2.5	20 x 2.5	0.630	1.500	6	4 1/4"	5/8"	HB	GFS33105.5016 ▲

• With external flood coolant only ▲ With external flood coolant or axial internal coolant hole (MINIATURE SIZES EXTERNAL COOLANT ONLY)

Shank Types: HA-Straight shank without clamping flat, HB-Straight shank with Weldon clamping flat



### BOTH 2XD AND 3XD MultiTHREAD™ SINGLE PLANE TOOLS PROVIDE:

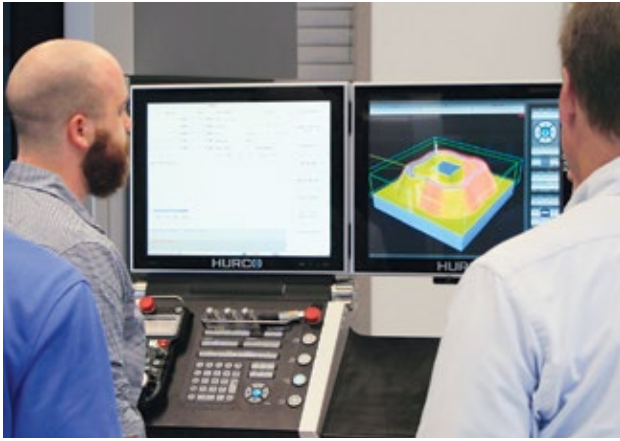
- Easy machining of many materials
- One tool for thru and blind holes
- Pitch diameter that can be easily controlled
- Full bottom threading to within 1 pitch
- STI threads that can be easily produced
- Excellent thread finish and gaging

### 3XD – TIN T21 COATED – 0° HELIX

	Tool Size	Thread Size					Cutter Dia.	Cut Length	# Flutes	Overall Length	Shank Dia.	Shank Type	EDP No.
		UNC	UNF	STI UNC	STI UNF	M							
MINIATURE SIZES	2	2-56	2-64	2-56	2-64	M 2.2	0.067	0.258	3	1.625	1/8"	HA	GFS83705.5001 •
	4	4-40	4-48	4-40	4-48	M 3	0.085	0.336	3	1.625	1/8"	HA	GFS83705.5003 •
	6	6-32	6-40	6-32	6-40	M 3.5	0.106	0.414	3	1.625	1/8"	HA	GFS83705.5005 •
	8	8-32	8-36	8-32	8-36	–	0.132	0.492	3	1.750	3/16"	HA	GFS83705.5006 •
STANDARD SIZES	10	10-24	–	10-24	–	M 5	0.146	0.570	3	1.875	3/16"	HA	GFS83705.5007 •
		–	10-32	–	10-32	–	0.154	0.570	4	1.875	3/16"	HA	GFS83705.5041 •
	1/4	1/4-20	–	1/4-20	–	M 6	0.195	0.750	4	2.375	1/4"	HB	GFS83105.5009 •
		–	1/4-28	–	1/4-28	–	0.207	0.750	4	2.375	1/4"	HB	GFS83105.5043 •
	5/16	5/16-18	–	5/16-18	–	M 8	0.248	0.937	4	2.563	5/16"	HB	GFS83105.5010 ▲
		–	5/16-24	–	5/16-24	–	0.260	0.937	5	2.563	5/16"	HB	GFS83105.5044 ▲
	3/8	3/8-16	–	3/8-16	–	M 10	0.303	1.125	5	2.750	5/16"	HB	GFS83105.5011 ▲
		–	3/8-24	–	3/8-24	–	0.323	1.125	5	2.875	3/8"	HB	GFS83105.5045 ▲
	7/16	7/16-14	–	7/16-14	–	M 12	0.354	1.312	5	3.125	3/8"	HB	GFS83105.5012 ▲
		–	7/16-20	–	7/16-20	–	0.376	1.312	5	3.060	3/8"	HB	GFS83105.5046 ▲
	1/2	1/2-13	1/2-20	1/2-13	1/2-20	–	0.409	1.500	5	3.625	1/2"	HB	GFS83105.5013 ▲
	5/8	5/8-11	5/8-18	5/8-11	5/8-18	M 16	0.514	1.875	5	4.125	5/8"	HB	GFS83105.5015 ▲
3/4	3/4-10	3/4-16	3/4-10	3/4-16	–	0.630	2.250	6	4.500	5/8"	HB	GFS83105.5016 ▲	

• With external flood coolant only ▲ With external flood coolant or axial internal coolant hole (MINIATURE SIZES EXTERNAL COOLANT ONLY)

Shank Types: HA-Straight shank without clamping flat, HB-Straight shank with Weldon clamping flat



## Thread Milling Programming Support

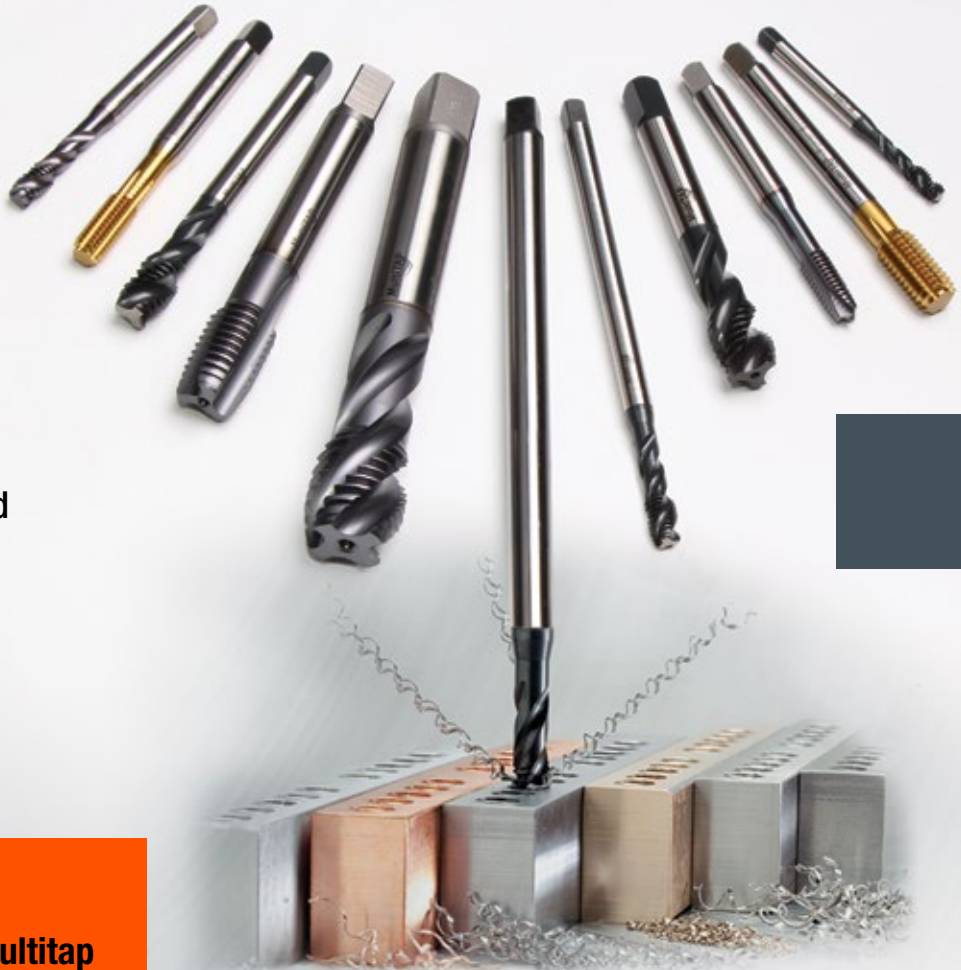
- Remote or onsite support available.
- On-staff EMUGE CNC programmers develop machining cycles in conjunction with the most popular CAD/CAM providers.
- Dedicated application engineering and CAM software team assistance enables cost-effective and efficient manufacturing solutions as well as designs that allow for optimum performance.
- EMUGE-FRANKEN N.A. Technology Center also offers a test cut service that allows manufacturers to run test cuts on actual piece parts or sample materials and also 3-Axis and 5-Axis programming assistance along with programming simulations when required.

Also ask for the original EMUGE MultiTAP line of taps.

**MultiTAP™**

From cut taps to form taps, extended lengths to different coatings, EMUGE-FRANKEN, the developer and leader of the high performance multi-purpose tap, offers the broadest line in the industry.

To learn more, visit:  
[www.emuge.com/products/taps/multitap](http://www.emuge.com/products/taps/multitap)



**EMUGE  
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EMUGE-FRANKEN has been the product technology and performance leader in their field for over 100 years. EMUGE-FRANKEN manufactures an extensive line of taps, drills, thread mills, end mills, toolholders, clamping devices and other rotary cutting tools, over 40,000 items sold through distributors worldwide.