

New Product Announcement

Issued Date: February 26th, 2026
Document No. NPAE 2602



1st-cut

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Prozessoptimierung
Zerspanungslösung
Werkzeugvertrieb



Fragen zum Produkt oder
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EV MILLS

**Economical High Performance
Solid Carbide End Mills**

- **Chatter free design for High-Speed Milling**
- **Short plain and from Flat adapted shank to save material**
- **Short 1xD Length-of-Cut to cover most applications and to maintain stability**
- **Up to 3xD Length of Cut to cover Die & Mold industry**

NEW



EV Mill EMEA Version

Targeting short Length-of-Cut slotting, side milling and profiling applications.

Newly addition delivers a balanced combination of performance, reliability, and cost efficiency, making it an ideal solution for Die & Mold applications

Main Concept

- **The EV Mill is an Economical high-performance solid Carbide End Mill strategically designed for Die & Mold and General Engineering applications where stability, reliability, and cost efficiency are critical.**
- Designed with a reduced shank and shorter cutting length, significantly lowering raw material and grinding costs—resulting in a more competitive price without compromising quality or performance. With an effective 1xD cutting length, it covers a wide range of applications.
- Very few tooling suppliers in the competitive arena use this concept on High-Performance tools; most use conventional geometries on either HSS or carbide substrates. Instead, EV Mill features advanced cutting geometries and a state-of-the-art coating for maximum performance and exceptional value.
- Skip the hassle of regrinding and enjoy 100% performance with every new EV Mill—eliminating downtime, logistics, and the unpredictability of reconditioning services.
- **EV Mill for Die & Mold** is developed specifically for mold machining operations requiring high stability, surface quality, and cost control.

Product Features

- Due to the short overhang design, the bending momentous is reduced and therefore the tools are more stable. This allows the shank to be shortened without decreasing cutting performance.
- The EV Mill product offering consists of 4 Product categories, all sharing the Y-Coating (AlCrN) and a wear resistant carbide substrate:
- **Die & Mold Optimized Geometry** Engineered for stable machining of pre-hardened steels used in injection molds, die casting molds, and press dies.








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EV Mill EMEA Version

Product Features

Flute	Shape	Size Range	Features
 2 Flute	Ball Nose	Ø 1mm – Ø 12mm	Ensures smooth chip evacuation and easy programming
	Square		
   3 Flute	Ball Nose	Ø 1.8mm – Ø 11.7mm	Low cutting forces and undersize corner radius diameters for key-way cutting
	Square		
	Corner Radius		
   4 Flute	Ball Nose	Ø 2mm – Ø 12mm	Highest Metal Removal Rates and Tool life
	Square		
	Corner Radius		

- 2-Flute Ball Nose and Square – machining with higher precision
- 3-Flute Ball Nose, Square – lower cutting forces than 4-Flute
- 3-Flute Undersize Corner Radius – optimal for keyway cutting according to DIN standard
- 4- Flute Ball Nose and Square with Corner Chamfer – highest productivity and tool life
- All 3- and 4-flute tools feature a multiple helix design and unequal flute indexing.

Work Material

- EV Mills cover most materials, with the primary focus being on all varieties of steel

◎ : Excellent ○ : Good

ISO	P										M				K												
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11.1	11.2	12	13	14.1	14.2	15	16	17	18	19	20					
HRc	13	25	28	32	32	10	29	32	38	15	35	44	15	23	10	10	10	26	3	25							
HB	125	190	250	270	300	180	275	300	350	200	325	409	200	240	180	180	180	260	160	250	130	230					
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○					
ISO	N										S						H										
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys				Titanium Alloys		Hardened steel				Chilled Cast iron	Hardened Cast iron				
VDI 3323	21	22	23	24	25	26	27	28	29.1	29.2	29.3	30	31	32	33	34	35	36	37	38.1	38.2	39.1	39.2	39.3	40	41	
HRc													15	30	25	38	34			45-49	50-55	56-60	61-65	66-70	42	55	
HB	60	100	75	90	130	110	90	100					200	280	250	350	320	400 Rm	1050 Rm	421-469	481-560	577-654	670-739			400	550
Recommended						○	○	○	○				○	○	○	○	○	○	○	○					○		



Target Customers

- Many parts have features to be machined that do not require long flute, long reach end mills:
 - spot facing, edge removal, small breakthroughs, shallow slots and grooves
 - torque and mounting flats, shallow cavities
 - Keyway slots and other type of radius transitions from floor to wall
- Customers with machining centers are of course the major target. Also, customers with Swiss type lathes, which require more compact tooling, will have a particular interest in EV Mill due to its shorter lengths.
- EV Mill allows cross selling to Turning Insert customers. Driven units on lathes and Swiss CNCs are very common. These driven units are less stable by nature. EV Mills short overhang reduces the stress on the driven unit bearings, coupled with the shorter shank will allow for higher cutting parameters and higher quality of the parts produced.
- The EV Mill for Die & Mold is ideal for high-speed machining centers used in mold and die manufacturing.
It offers a cost-effective high-performance solution for mold makers seeking consistent quality without compromising productivity.

Target Market

- The main market will clearly be General Engineering and Die & Mold industry.
- Adjacent markets such as Energy, Aerospace, Automotive, Defense, and Medical will have an interest in EV Mill.

Sales Strategy

- EV Mill is clearly targeting Competitor's end mills with the same dimensions to allow for instant replacement of those products. Other competitors have followed a similar concept but did not focus on these specifically.
- Competitors offering regular geometries in dimensions similar to K-2 G9553 or G9G46 will not be able to keep up with the performance and productivity EV Mill is able to provide.
- EV Mill is a totally new design concept within the YG-1 offering, there are similarities in regard to the geometry with established product lines such as 4G Mill, V7Plus and K-2 Multi Helix, but is not replacing any other product line.



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EV Mill EMEA Version

New Product Line Summary

Series	GMK31	GMK49	GMK51	GMK32	GMK33
Flute	2	2	4	2	4
Helix Angle	30°	30°	30°/33°	30°	37°, 35°/38° (Multiple Helix)
Cutting Edge Shape	Ball Nose	Ball Nose Long Neck	Corner Radius	Square	Square
Size Min	R0.5	R1.5	D1.0	D1.0	D1.0
Size Max	R6.0	R6.0	D12.0	D12.0	D12.0
Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating
Picture					

Sizes

Description	Series	Shank Type	Size Range		No of Items
			Min	Max	
EV MILLS 2FLUTE 30deg. Helix Square E/M	GMK55	Plain	2	12	8
EV MILLS 2FLUTE 30deg. Helix Square E/M	GMK56	Weldon Shank	2	12	8
EV MILLS 2FLUTE 30deg. Helix Ball E/M	GMK57	Plain	2	12	8
EV MILLS 3FLUTE Multiple Helix Square E/M	GMK58	Plain	2	12	8
EV MILLS 3FLUTE Multiple Helix Square E/M	GMK59	Weldon Shank	2	12	8
EV MILLS 3FLUTE Multiple Helix Corner Radius E/M	GMK60	Plain	1.8	11.7	8
EV MILLS 3FLUTE Multiple Helix Corner Radius E/M	GMK61	Weldon Shank	1.8	11.7	8
EV MILLS 3FLUTE Multiple Helix Ball E/M	GMK62	Plain	2	12	8
EV MILLS 4FLUTE Multiple Helix Square E/M	GMK63	Plain	2	12	8
EV MILLS 4FLUTE Multiple Helix Square E/M	GMK64	Weldon Shank	2	12	8
EV MILLS 4FLUTE Multiple Helix Ball E/M	GMK65	Plain	2	12	8
NEW EV MILLS 2FLUTE Ball E/M	GMK31	Plain	1	12	22
NEW EV MILLS 2FLUTE Square E/M	GMK32	Plain	1	12	11
NEW EV MILLS 2FLUTE Ball Long Neck E/M	GMK49	Plain	3	12	19
NEW EV MILLS 4FLUTE Square Multiple Helix E/M	GMK33	Plain	1	12	12
NEW EV MILLS 4FLUTE Corner Radius E/M	GMK51	Plain	1	12	11
Total					163



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Marketing Materials

<Brochure>



Catalog coming in the first week of March.

***Available now from stock.**

**If you need further information or have questions, please feel free to reach out to our Headquarter PMs:

Mr. David Shin(soshin@yg1.solutions)

and also, Product Manager for Round Tools in EMEA

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