



HY-PRO[®] CARB VGM

High Performance Variable Geometry End Mills

Designed for Dynamic Milling in Steel and Stainless Steel

PRIMARY TARGETS

- Customers looking for the next generation tool for Dynamic Milling / HEM (High Efficiency Milling)
- Shops who cut difficult to machine alloys
- Customers desiring consistent milling tool life

SOLUTIONS

- Dynamic Milling
- 5, 6 & 7 Flute Count Offerings

WHAT OUR CUSTOMERS SEE

- "The VGM series is the real deal end mill. We *doubled our tool life* and the cost is cheaper than our current tool!"

HOW DOES IT WORK?

Variable Index

- Proven geometry to reduce vibrations

Unique Flute Geometry

- Flute shape creates excellent chip shape for easy evacuation

OSG's EXO Coating

- A proprietary TiAlN coating that provides excellent wear resistance in the toughest materials and conditions

Nicked Edge Option

- Breaks chips into manageable shapes



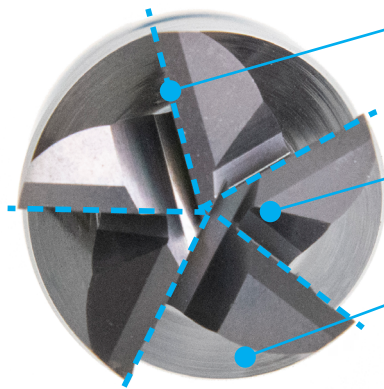
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HY-PRO® CARB VGM Series

High Performance Variable Geometry End Mills



Variable Index

Reduces vibration during machining.

Unique Flute Geometry

Maintains excellent cutting edge sharpness and tool rigidity.

EXO Coating

Provides longer tool life through exceptional wear and heat resistance.

Variable Index & Unique Flute Geometry

Reduces Vibration and Chatter & Promotes Smooth, Stable Cutting w/Low Cutting Forces

Variable Index:

Unequal flute spacing reduces vibration during machining by altering the timing of each flute engaging in the workpiece.



Unique Flute Geometry:

Sharp rake angle, high helix and adjusted core diameter maintain excellent cutting edge sharpness and tool rigidity to promote smooth, stable cutting with low cutting force.

EXO Coating

Provides Long Tool Life

OSG's proprietary multi-layer coating provides longer tool life through higher wear and heat resistance than conventional TiAlN coatings.

Series	Coating	Type	Hardness (HV)	Thickness (µm)	Coefficient of Friction	Oxidation Temp (C)
VGx		TiAlN	2,800	3	0.3	800
VGM		TiAlN Multilayer	2,800	3	0.3	850

VGM Series Comprehensive Offering

5-, 6-, and 7-Flute Lineups

OSG's VGM offering features 5-, 6-, and 7-flute lineups, and is available with multiple Lengths of Cut, with both Square End and Corner Radius variations.

Name	No. of Flutes	End Cut Type	Reduced Neck	LOC	Neck Length	Total # of EDPs
VGM5	5	SQ & CR	N/A	1.25 to 6xD	-	326
VGM5-NIK	5	SQ & CR	N/A	1.25 to 6xD	-	135
VGM5-LN	5	SQ & CR	Yes	1.25xD	3 to 10xD	211
VGM6	6	SQ & CR	N/A	1.25 to 6xD	-	186
VGM7	7	SQ & CR	N/A	1.25 to 6xD	-	110
VGM7-NIK	7	SQ & CR	N/A	1.25 to 6xD	-	87

For more information use your phone to scan the QR code to the right and visit: osgtool.com/hypro-carb-vgm-series



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EDP#800336CA-V2

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