

BEST OF SELECTION HIGH PERFORMANCE PRODUCTS 2024-2025







Page

10

12

14

CONTENTS





TURNING

• MILLING

Product

• PARTING & GROOVING

• DRILLING



HOLEMAKING TOOLS

• DREAM DRILL X

• DREAM DRILLS - FLAT BOTTOM

• DREAM DRILLS - HIGH FEED

• i-ONE DRILL



THREADING TOOLS

• PRIME TAP

• YG TAP CHIP BREAKER

COMBO TAP

• YG TAP FORMING



MILLING TOOLS

• X1-EH

• V7 PLUS

• TITANOX-POWER

• 4G MILLS

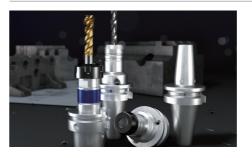
• X5070

• ALU-POWER HPC

• i-XMILL

• ONLY ONE

• COMPOSITE MATERIALS



TOOLING SYSTEM

• HYDRAULIC CHUCK

SHRINK FIT HOLDER

19















2





76 YG-1 CO., LTD. • www.yg1.solutions

76 YG-1 CO., LTD. • www.yg1.solutions















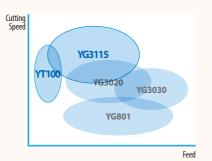
YG3115 First Choice Garde for High Cutting Speed in Steels



First Choice Grade for General Steel Application



YG3030 Interrupted Cutting of Steel





Stainless Steel



First Choice for Finishing Steel





High Wear Resistance Grade

for Stainless steel

CVD Grade for Interrupted Cutting of Stainless steel





First Choice Grade on Low Cutting Speed of Stainless steel



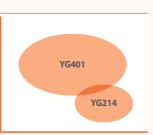
Heavy Interrupted Cut for Stainless steel







PVD Turning Grade for Heat-resistant Super alloy



Cutting Speed

YG2025

YG214

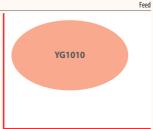
YG213



ISO K05-K15



YG1010 First Choice for Cast Iron







Uncoated

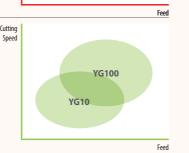


YG100

YG10

First Choice Grade for Aluminum with DLC Coating

Uncoated Grade for General Aluminum



TURN CHIP BREAKERS

Chip breakers for Steel





For Finishing







Medium (for Unstable Condition)



Medium (for Stable Condition)











Medium Roughing

Heavy Interrupted Cut

Chip breakers for heavy Turning







Medium Heavy





Heavy Roughing

Chip breakers for Cermet











Cermet Medium













Cermet Medium

Chip breakers for Cast iron



Medium Roughing



Roughing and Heavy Interrupted Cut



Cast Iron Heavy Roughing (Flat type)



Cast Iron heavy Roughing (Big K-land)

Chip breakers for Stainless steel



Finishing







Chip breakers for Superalloys





Medium



Chip breakers for Non-ferrous Metals

Roughing

Finishing





76 YG-1 CO., LTD. • www.yg1.solutions

from Roughing to Finishing









GRADES





YG012 P10-P30 H10-H30

Optimized Milling Grade for Pre-Hardened & Hardened steel



YG501 K05-K25

Hard Milling grade for Cast Iron



YG712 P10-P30

Milling Grade for Medium of Steel Application



YG5020 K01-K30 CVD grade for Cast Iron



YG612 P20 - P40 M20 - M40 S20 - S40

Specialized Multi-Nano Coated Grade with high wear resistance and chipping resistance



6

YG613 P30 - P50 M30 - M40 Milling Grade for Stainless Steel Application



YG50 N05 - N20 **Uncoated Milling Grade for Aluminium**

CHIP BREAKERS





APPLICATION

High feed milling, profiling, face milling, ramping, plunging, helical interpolation

FEATURES

- Cutter Diameter range: 16~125mm (.625"~6")
- Double-sided insert with 4 corners
- Wide flank face with reinforced insert shape
- Positive rake angle & Small entering angle



ENMX[©] General Carbon Steel Low Alloy Steel

Alloy Steel



-TR Reinforced Edge High Alloy Steel Hardened Steel Cast Iron

Positive Rake Angle for Lower Cutting Force Small Entering Angle for High Feed Rate

Small Size for Narrow Application

(Minimum Ø16)



ENMX[©]

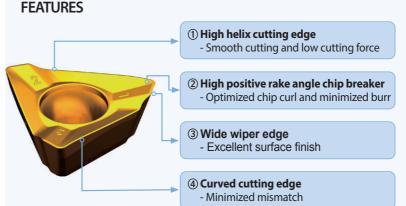
Sharp Geometry Stainless Steel Sticky Material Super Alloy















KEYTECHNOLOGY





Larger core size - Higher rigidity



Optimal insert placement - More inserts for high productivity





Side Cutting



Slotting



Helical Interpolation



Face Milling

76 YG-1 CO., LTD. • www.yg1.solutions







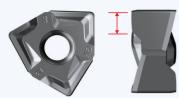




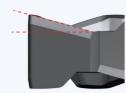


- 6 Cutting edges for shouldering high cost-efficiency
- · High positive helical cutting edge
- High chipping resistance with reinforced cutting edge
- Ground insert high precision tolerance and excellent surface finish
- Diameter range: Ø32mm Ø200mm
- Ap (max): 7mm

KEYTECHNOLOGY



Wider wiper edge length



High Helix cutting edge



APPLICATION

Shouldering

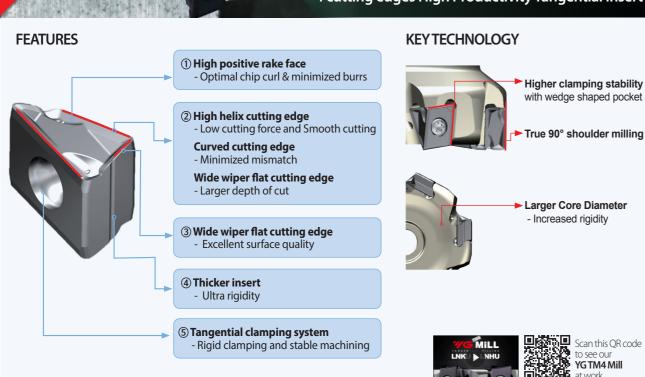
Face Milling

can this OR code

to see our

Unique chip groove

Mill LNKU 4 cutting edges High Productivity Tangential Insert





GRADES

YG602

YG602G

P20 - P35 M20 - M40 K20 - K40 Universal grade for Parting & Groove Turn

• TiAIN PVD Coating for General Application

P20 - P35 M20 - M40 K20 - K40

Universal grade for Parting & Groove Turn

•TiAIN/TiN PVD Coating with Good wear resistance

YG603

PVD Parting & Grooving Grade for Stainless Steel

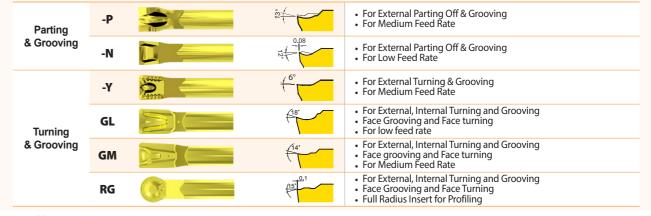
• First Choice for stainless steel





TDY-RG - YG602G

CHIP BREAKERS



* width: 2, 3, 4 mm

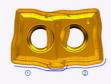


FEATURES

- · Economic square type 4 cutting edge insert
- One kind of insert in outer and inner pocket
- · Twisted coolant channel and enlarged chip gullet for better chip evacuation
- Highly durable drill body due to high hardness and optimized material
- Polished flute enables to improved chip evacuation in deeper machining

KEYTECHNOLOGY

- · Only 1 Chip formation per flute
- Full usage of all 4 corners





SYMX Series

True 4 corner drill insert SYMX 05, 06, 07, 08 Diameter Ø 14mm ~ Ø28mm

*****/GDR!LL** GRADE & CHIP BREAKER



YG602 P20-P35 M20-M40 K20-K40 S15-S25



Drilling Grade for General Steel Application



76 YG-1 CO., LTD. • www.yg1.solutions

YG613 P30 - P50 M30 - M50

Drilling Grade for Stainless Steel Application

WCMX Series

Popular 3 corner drill insert WCMX 03, 04, 05, 06, 08 Diameter Ø 16mm ~ Ø 60mm **SPMX Series**

Economic 4 corner drill insert SPMX 05, 06, 07, 09, 11, 14 Diameter Ø 13mm ~ Ø 50mm





Scan this QR code to see our





New Coating Technology "RCH-Coating"

Combining the major benefits of TiAIN and AICrN into a new Multi-Layer coating generation provides unique advantages such as:



Extreme Wear Resistance

High Heat

Endurance

Chipping Protection









FEATURES & BENEFITS

- · Universal Point Grinding Soft cutting action and reduced axial forces; Easy to Recondition
- Provides very good self centering even at low feed rates and unstable situations
- Tailored Flute Design Excellent Chip Breaking and Evacuation
- Edge Preparation Maximizing Tool life in various materials

DREAM DRILLS-FLAT BOTTOM FAST AND STABLE DRILLING FOR A WIDE VARIETY OF APPLICATIONS

X-Coated(2XD), TiAIN Coated(5XD), Flat Bottom Solid Carbide Drills for Drilling a Variety of Contoured and Sloped Surfaces

Point Anale

180 Degree

FEATURES & BENEFITS

- 180 degree point angle enables drilling of horizontal and sloped surfaces
- Excellent chip evacuation by optimized flute shape
- High strength cutting edge to improve tool life
- Can be used in a variety of drilling applications

RANGE

- Ø 3mm Ø 20mm (.1181"-.7874")
- Drill Depth: 2XD, 5XD

APPLICATION





























Blind Hole for Threadin



No Chamfer





Point Angle









Scan this OR code

DREAM DRILLS-HIGH FEED INCREASE YOUR PRODUCTIVITY UP TO 2 TIMES HIGHER H- Coated 3 Flute Solid Carbide Drills with Coolant Holes for Faster Drilling on Steels and Cast Iron **FEATURES & BENEFITS RANGE** • Ø 5mm - Ø 20mm (.1969"-.7874") • For Carbon Steels, Alloy Steels (-HRc35), Cast Iron • Increases productivity due to 1.5 to 2 times faster feeding speed than • Drill Depth: 3xD, 5xD · Multi-layered coating delivers outstanding productivity and reliability **Productivity** (Carbon Steel) 1.4 times UP Ø6.0 5XD 3-Flute 1,592 mm/min.

lute 1,600 mm/min.

2-Flutes 1,114 mm/min.

1.6 times UP

2-Flutes 1,003 mm/min.

Ø10.0 5XD





Special grinding process provides an unique geometry on spiral flute and spiral point taps to help control chip evacuation, preventing nest formation and enhance flute space.



FEATURES & BENEFITS

Prime Tap is the tap for customers who demand versatility with improved tool life and consistent performance. Especially effective for end users with modern CNC equipment looking for productivity gains with consistent gauging and excellent

Prime Tap is YG-1's answer high performance tapping across a range of materials including carbon and alloy steels, ductile irons, aluminum, and stainless steel

Prime Tap utilizes YG-1's latest tap geometries to reduce or eliminate bird nest problems associated with blind hole tapping with spiral flute taps.

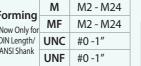
Powdered metal technology for higher spindle speeds, longer tool life, and excellent thread finish.



RANGE

	М	M2 - M30		М	M2 - M24
Spiral	MF	M4 - M30	Spiral	MF	M4 - M24
Flute	UNC	#4 - 1-1/2"	Point	UNC	#2 - 1"
	UNF	#4 - 1-1/2"		UNF	#2 - 1"

M2 - M24	Formi
M4 - M24	* Now Onl
#2 - 1"	DIN Leng
#2 - 1"	ANSI Sha











Combo Tap's geometry provides enough flute space resulting in smooth chip evacuation and therefore a continuous production process. Guarantee a high level of process reliability even under unfavorable conditions.

FEATURES & BENEFITS

- · For Steels, Stainless steels, Cast iron and Non-ferrous materials
- · Prevent over & under feeding by its optimized flank geometry
- Constant threading quality preventing oversized threading

RANGE

Spiral Flute	M	M2 - M52		
	MF	M4 - M52		
	UNC	#4 - 1-1/2"		
-	UNF	#4 - 1-1/2"		
Spiral Point	М	M2 - M52		
	MF	M4 - M52		
	UNC	#4 - 1-1/2"		
	UNF	#4 - 1-1/2"		









Combo Tap

YGTAP FORMING

3 TIMES FASTER THAN CONVENTIONAL TAPS TiCN, TiN-Coated HSS-PM Taps for High-Speed Synchronous Tapping

FEATURES & BENEFITS

- · The strongest threads with greater pull strength, increased productivity, reduced breakage, longer tool life
- Superior thread finish with roll form taps.
- Roll formed threads are created using a deformation process during the tapping cycle moving metal grains into position versus cutting.

with Oil Groove Steam Nitride

without Oil Groove Steam Nitride Tempered

RANGE M2 - M20 MF with Oil Groove M4 - M20 UNC #5 - 3/4" without Oil Groove M M2 - M20







Plus HEAVY CUTTING APPLICATIONS (-HRc40)
Y-Coated Solid Carbide End Mills for Heavy Cutting



FEATURES & BENEFITS

- Over 800 different variants allow Length-to-Diameter and Stick-out optimization of Fine-Finishing applications without compromises
- Total High Accuracy setup including not only ball accuracy but shank, neck and conical transition accuracy

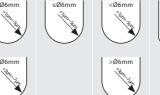
New C-Coating

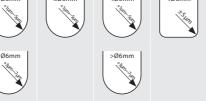
- Next Performance Level within ISO H machining
- Excellent Wear and Heat resistance beyond typical Si-based coatings

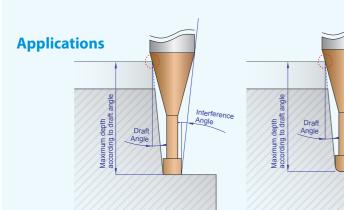
RANGE

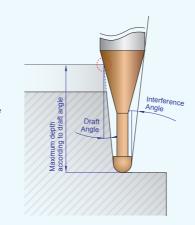
• Square Ø 0.1mm - Ø 6mm Corner Radius Ø 0.2mm - Ø 3mm Ball Nose Ø 0.1mm - Ø 20mm

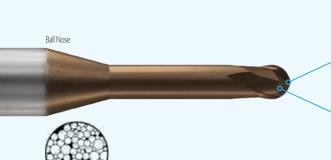












Ball Nose Gash Transition

Optimized transition from end mill center to flute for improved chip flow.

Reinforced Back Relief

Strengthened cutting edge design for greater stability while not interfering with chip flow.

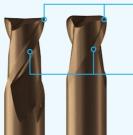
14

Newly developed fine-grain nanostructure substrate for improved thermal shock stability and higher hardness.

Special High Technology Coating

Excellent wear and heat resistance with improved thermal shock stability.

The nanolayer structure prevents the propagation of microcracks and coating elasticity promotes increased tool life.



YG-1's High performance corner geometries, including corner radius, for longer tool life in high-hardness machining.

Optimal edge preparation applied to prevent chipping and achieve excellent surface finishes with longer tool life in high speed machining.

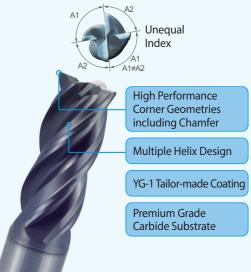
FEATURES & BENEFITS RANGE • High volume cutting with excellent surface finish (heavy cutting) Square Ø 3mm - Ø 25mm (1/8 - 1") · Excellent on Stainless Steels, Mild Steels and Cast Iron Corner Radius Ø 3mm - Ø 25mm (1/8 - 1") • Unique flute and corner design for chip formation and longer tool life Ball Nose Ø 3mm - Ø 25mm (1/8 - 1") • Optimized coating for wear reduction and heat resistance · Great performance with trochoidal machining



Special Chip Splitter Design Shorter Chip Length at high axial machining, improving chip removal



Chip Splitters





Square

Corner Radius

Ball Nose



Square

Corner Radius

Scan this OR code to see our V7Plus Chip Splitters



FEATURES & BENEFITS

- · For Titanium, Stainless Steels and also excellent for Steels
- · For high-speed machining and heavy cutting
- Dual stepped-core on 4 flute, 5 flute with multiple helix

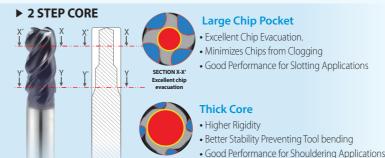
RANGE

 Square Ø 6mm - Ø 25mm (1/8 - 1-1/4")

• Corner Radius Ø 6mm - Ø 25mm (1/8 - 1-1/4")

 Roughing Ø 6mm - Ø 25mm

4 Flute Double Core End Mills With Corner Radius













Scan this QR code TitaNox Power

TitaNox-Power HPC

5 FLUTE DESIGN for **HEAVY CUTTING**

- · New design enhances chip space in heavy cuts, while still maintaining rigidity in peel milling
- Full eccentric relief for edge strength
- · Unequal index design for Chatter-Free cutting

 Square Ø 6mm - Ø 25mm (1/4 - 1") • Corner Radius Ø 6mm - Ø 25mm (1/4 - 1")





YG-1's High Performance Core Design







FEATURES & BENEFITS

- Large product line with various sizes & shapes
- Edge preparation preventing chipping, achieving excellent finish, and longer tool life in high-speed cutting
- Unequal index & multiple helix exclusively designed to reduce vibration and also to achieve excellent chip evacuation

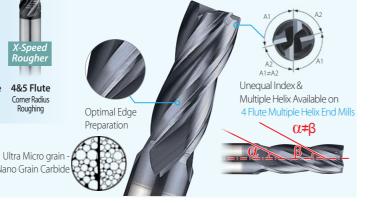
4G Mills Line up







Scan this QR code



Ø 0.1mm - Ø 25mm (.004 - 1")

Ø 0.2mm - Ø 20mm (.008 - 3/4")

Ø 0.1mm - Ø 25mm (.004 - 3/4")

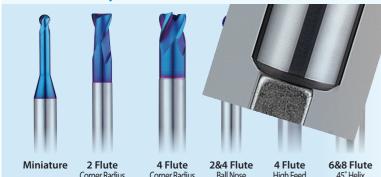
Ø 6mm - Ø 20mm (1/4 - 1")



FEATURES & BENEFITS

- · Made from premium grade carbide material for oil mist / high-speed machining
- YG-1's customized coating, along with negative rake angles
- Excellent finished surface

X 5070 Line up





16



Scan this QR code to see our X5070

RANGE

RANGE

• Corner Radius

X-Speed Rougher

Square

Ball Nose

Ø 0.1mm - Ø 25mm (.004 - 1") Square Corner Radius Ø 0.5mm - Ø 20mm (1/16 - 1")

 Ball Nose Ø 0.1mm - Ø 25mm (1/32 - 1/4")





ALU-POWER HPC

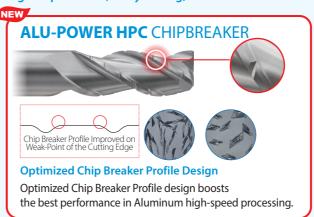
HIGH PERFORMANCE END MILLS for ALUMINUM

DLC-Coated & Non-Coated Solid Carbide End Mills for Aluminum Alloy, Non-Ferrous & Non-Metallic Materials

FEATURES & BENEFITS

- Designed for Aluminum Alloys used in Aerospace industries
- Special geometries applied to control weight balance for quality performance on higher RPM making an excellent surface finish through stable machining
- High corner protection made from special shape and rake angle inside the radius

Excellent performance with High feed, High RPM, High chip removal(heavy cutting)





RANGE * Available in Non-coated & DLC coated items TYPE(SERIES) 3 Flute Square Ø3~25mm Ø 1/8~1 3 Flute Square with Neck Ø6~20mm Ø 1/4~1 3 Flute Corner Radius Ø 6~20mm (R0.3~4mm) Ø 1/8~1(R.010~.250) 3 Flute Corner Radius with Neck | Ø6~20mm (R0.3~4mm) | Ø1/4~1 (R.010~.250) 3 Flute Square with Chip Breakers | Ø 6~20mm (R0.25~4mm) | Ø 1/2~3/4 (R0.10~.60) 3 Flute Corner Radius with Chip Breakers Ø 6~20mm (R0.25~4mm) Ø 1/8~1 (R0.10~.60)





Scan this QR code Alu-Power HPC



For Pre-Hardened Steel

(XMB120C, XMR120C)



HIGH PRECISION CUTTING with COST EFFICIENCY

Coated Exchangeable Carbide Inserts with both Carbide & Steel Holders for Various Materials

HOLDER FEATURES



Carbide Holders

- ▶ Repairable in case of collision due to blunt brazing Lower deflection than steel holder
- Preferred shank for use with shrink fit holders
- ▶ Ball nose shanks also accept both corner radius and high feed inserts



Steel Holders

- ► Economic solution for short reach applications
- ▶ Taper neck shape for less deflection on 5 axis machines ▶ Ball nose shanks also accept both corner radius
- and high feed inserts



For General Purpose

(XMR110A XMR110A)

Modular Type of i-Xmill Tooling

▶ Highest flexibility using market common coupling

For High-Hardened Steels

(XMB260T, XMR260T)

Internal coolant or air blow supply

INSERT FEATURES

- Optimal for machining deep cavities or around obstacles e.g. fixtures
- Favorable solution for larger diameters beyond Solid Carbide
- · High accuracy for Semi and Fine Finishing operations
- · Various geometries and coating variants available covering almost all materials

RANGE

 Ball Ø 8mm - Ø 33mm (5/16 - 1-1/4")

• Corner Radius Ø 8mm - Ø 33mm (5/16 - 1-1/4")



Full Radius

(XMM110V)



Scan this QR code





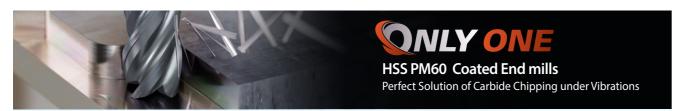


For Stainless Steel (XMB130A, XMR110A)



For Graphite / Diamond Coated

(XMR110D XMR110D)



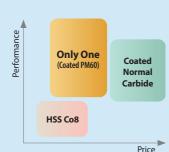
FEATURES & BENEFITS

- Y-coated PM60 High Speed Steel
- First Choice alternative to carbide in less stable conditions
- Higher cutting speeds than regular HSS Co
- · HSS-PM60 allows for machining harder materials

To protect chipping problems under the unstable machining conditions with vibration



Higher Toughness than HSS Co8, Cutting Speed (Vc) can be as high as Coated Normal Carbide.



Better performance than HSS Co8, Better price than Coated Normal Carbide.



2~4 Flute



Multi Flute

RANGE

2 Flute

 Ball Ø 0.5mm - Ø 25.0mm

 Square Ø1.0mm - Ø25.0 Roughing Ø 6.0mm - Ø 2.5mm





Scan this QR code Only One

COMPOSITE MATERIALS

High Performance machining Tool for Composite Material

Specially designed & optimized for high efficiency milling & drilling.

Diamond Coated Chip Breaker Routers

- The unique flute structure provides good surface finish, longer tool life and requires less cutting force
- Reduce delamination and uncut fibers
- Roughing and finishing processes
- · Diamond coating with excellent abrasion resistance





















Diamond Coated Compression Routers

- The unique flute structure provides good surface finish, longer tool life and requires less cutting force
- Reduce delamination and fibers pullout
- Roughing and finishing processes
- Diamond coating with excellent abrasion resistance



18







Diamond Coated Drills

A combination of perfect carbide choice with innovative design and adapted CVD coating make YG-1 CFRP drills a good choice for Composite



industries.



cutting tools commonly used within Aerospace,

Automotive, Energy and Sporting Goods



PCDTOOLS YG-1 PCD Series for CFRP and stacks offer cutters designed for drilling, countersinking and milling operations. It covers the complete range of





****/** TOOLING SYSTEM





HYDRAULIC CHUCK - Power E Hydro



Superb T.I.R. Accuracy & Repeatability ≤ 0.003mm (Direct Clamping)

Clamping Force

- ID 12mm: 110 Nm
- ID 20mm: 520 Nm
- ID 32mm: 900 Nm
- Basic G2.5 25,000 RPM Balanced
- Various Size of Reduction Sleeve Ø 3mm - Ø 25mm

Advantage

- Covering up to milling(roughing & finishing)
- No slippage or pull out of tool
- Rigid body design to withstand side thrust
- Avoid tool bending during machining.

Strong Torque Power

Hydraulic Chuck	Tool Shank	Applicable RPM	Minimum Clamp	oing Depth (mm)	Min. Torque Power (Nm)	
I.D(mm)	0.D(mm)		Slim	Power E Hydro	Slim	Power E Hydro
6	6	40,000	27		16	
8	8	40,000	27		23	
10	10	40,000	32		45	
12	12	40,000	27	41	90	110
14	14	40,000	37		110	
16	16	40,000	42		185	
18	18	40,000	42		240	
20	20	40,000	42	48	330	520
25	25	25,000	48		400	
32	32	25,000	55	57	650	900

[•] Tool holder I.D tolerance: H6

SHRINK FIT HOLDER



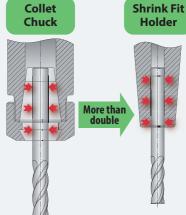
Basic Balancing Grade Standard and Slim Design

Superb T.I.R Accuracy Strong Torque Power ≤ 0.003mm

Min. G2.5/25,000rpm

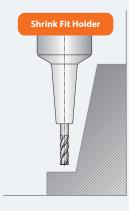
- Min. 18Nm ~ 550Nm
 - Standard 4.5° • Extra Slim 3.0°

Strong and Consistent Torque Power



· Achieving strong torque power by integration of chuck and tool

Deep hole Machining



19



HEAD OFFICE

13-40, Songdogwahak-ro 16beon-gil, Yeonsu-gu, Incheon 21984, South Korea

Phone: +82-32-526-0909

https://www.yg1.solutions E-mail: yg1@yg1.solutions

YG-1 or publishers are not liable for any damage for use of the information.

Note The information is provided for reference only. Tool specifications are subject to change without prior notice.

Although we endeavor to supply accurate and timely information, there can be no guarantee to cover every particular application.





