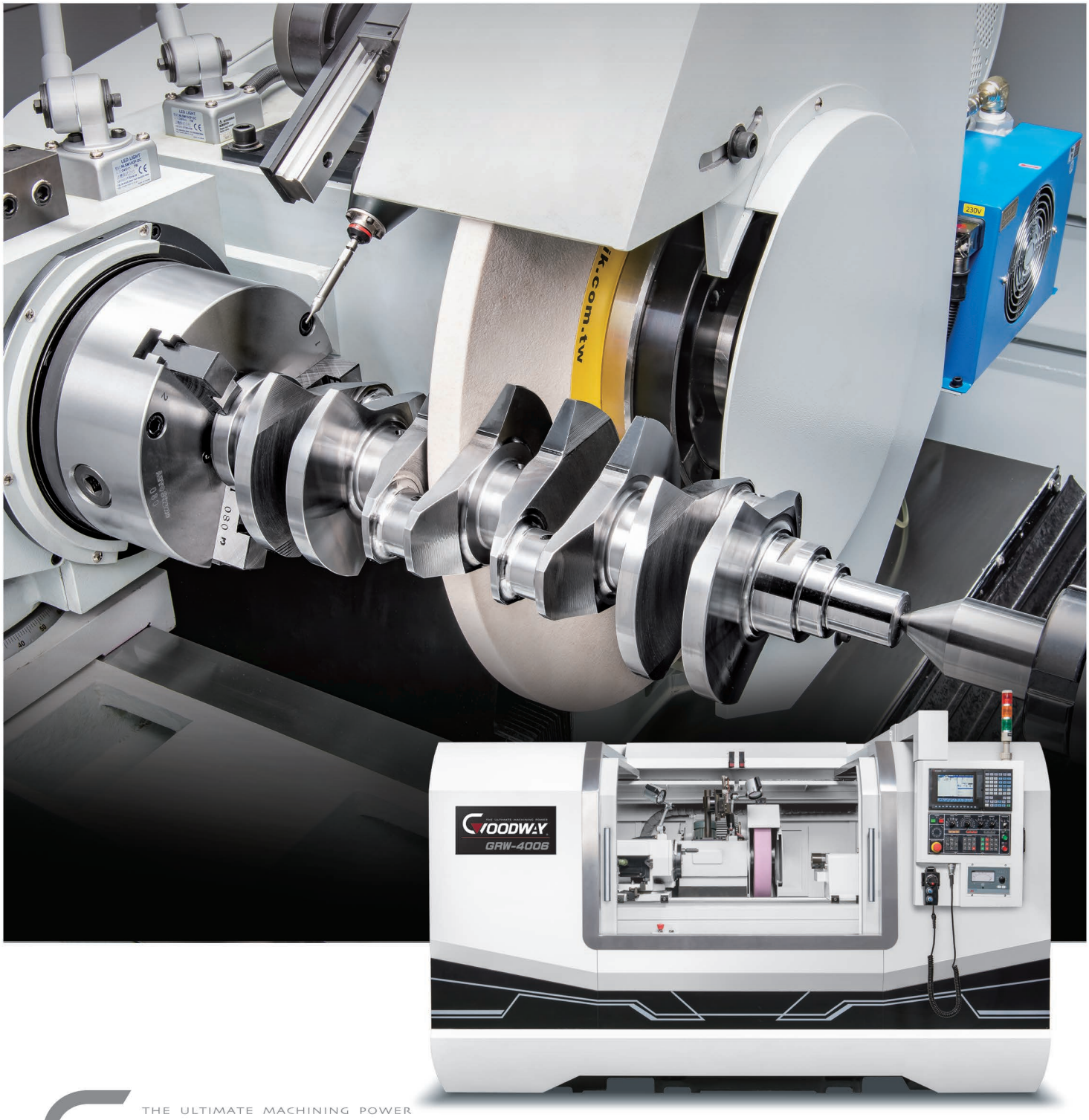
GR SERIES

CNC Cylindrical Grinder / Center Hole Grinder



THE ULTIMATE MACHINING POWER

GOODWAY

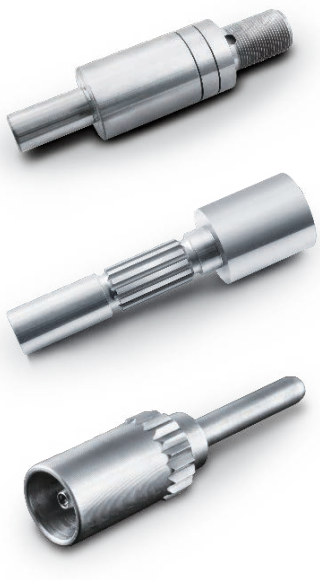
GRU PLUNGE CNC CYLINDRICAL GRINDER

420 mm / 620 mm
Max. Distance Between Centers

Ø200 mm
Max. Swing Over Table

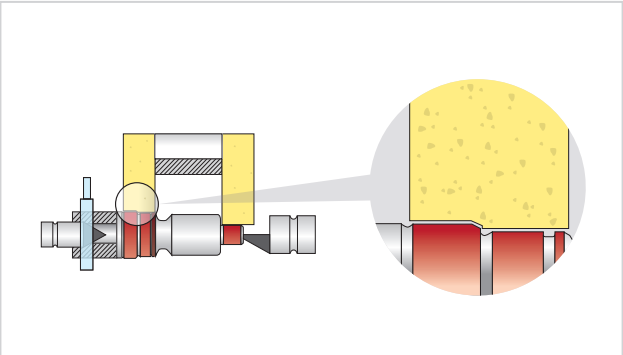
Ø190 mm
Max. Grinding Diameter

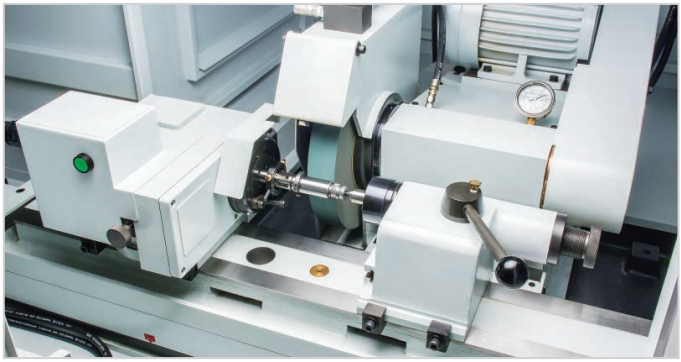
Roundness ▷ **0.8 μm** **Positioning Accuracy** ▷ **1 μm**



- The grinding wheel spindle designs by high rigidity, low temperature raise and non-contact hydro-static bearing which makes accuracy less than 0.001 mm.
- Spindle Head :
  - Spindle head is driven by servo motor which provides variable speed change.
  - Both fixed type and non fixed type spindles are available to meet various applications.
  - Optional I.D. grinding wheel provides more flexible applications.

Plunge Grinding Examples





Machine Specifications

Capacity	GRU-2040	GRU-2060
Distance between centers	420 mm 16.5"	620 mm 24.4"
Max. swing over table	Ø200 mm 7.8"	
Max. load between centers	80 kg 176 lb	
Max. external grinding diameter	Ø190 mm 7.4"	
Roundness	0.8 μm	
Machine positioning accuracy	1 μm	
Wheel spindle		
Swivel angle	±30°	
Wheel O.D. x width x I.D.	Ø405 x Max. 80 x Ø127 mm Ø15.9" x Max. 3.1" x Ø5"	
Wheel spindle travel	180 mm 7"	
Max. travel	180 mm 7"	
Min. setting unit	0.001 mm 0.00003"	
Max. rapid traverse speed	8 m/min. 315 IPM	
Grinding feed rate	0.0001 - 6,000 mm/min.	
Work table		
Swivel angle	-3° ~ +12°	
Max. travel	420 mm 16.5"	620 mm 24.4"
Max. rapid traverse speed	10 m/min. 393 IPM	
Min. setting unit	0.001 mm 0.00003"	
Grinding feed rate	0.0001 - 8,000 mm/min.	

Work-piece spindle	GRU-2040	GRU-2060
Spindle motor	SERVO MOTOR	
Swivel angle	+90° ~ -30°	
Center taper	MT#3	
Tailstock		
Travel	20 mm 0.78"	
Center taper	MT#3	
Motor		
Axes drive motor	X-axis 1 kW 1.3 HP	
	Z-axis 1.5 kW 2 HP	
Wheel spindle	5 HP	
Work-piece spindle	0.75 kW 1 HP	
Hydraulic pump	2 HP	
Coolant pump	1/4 HP	
General		
Dimensions (mm)	2,700 x 2,130 x 1,950 107" x 84" x 77"	2,900 x 2,130 x 1,950 115" x 84" x 77"
Net weight	3,500 kg 7,720 lb	3,800 kg 8,380 lb

Specifications are subject to change without notice.

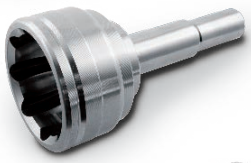
GRA ANGULAR CNC CYLINDRICAL GRINDER

620 mm
Max. Distance Between Centers

Ø200 mm
Max. Swing Over Table

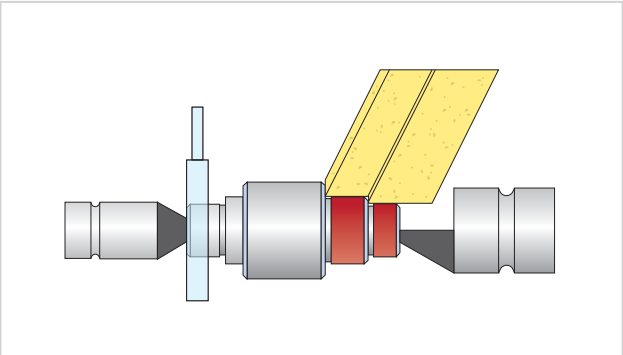
Ø190 mm
Max. Grinding Diameter

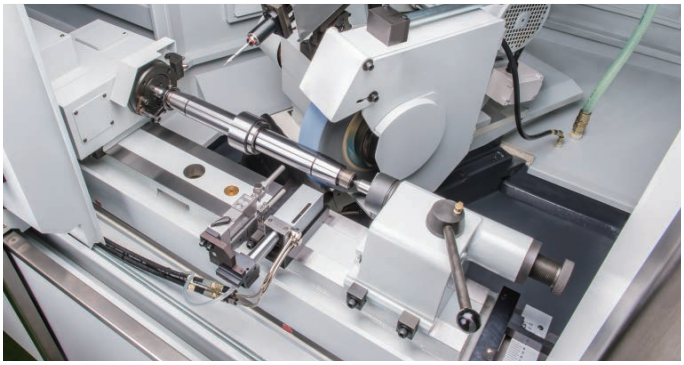
Roundness ▷ **0.8 μm** **Positioning Accuracy** ▷ **1 μm**



- The grinding wheel spindle designs by high rigidity, low temperature raise and non-contact hydro-static bearing which makes accuracy less than 0.001 mm.
- Spindle Head :
  - Spindle head is driven by servo motor which provides variable speed change.
  - Both fixed type and non fixed type spindles are available to meet various applications.

Angular Grinding Examples





Machine Specifications

Capacity	GRA-2060
Distance between centers	620 mm 24.4"
Max. swing over table	Ø200 mm 7.8"
Max. load between centers	80 kg 176 lb
Max. external grinding diameter	Ø190 mm 7.4"
Roundness	0.8 μm
Machine positioning accuracy	1 μm
Wheel spindle	
Swivel angle	±30°
Wheel O.D. x width x I.D.	Ø405 x Max. 80 x Ø127 mm Ø15.9" x Max. 3.1" x Ø5"
Wheel spindle travel	180 mm 7"
Max. travel	180 mm 7"
Min. setting unit	0.001 mm 0.00003"
Max. rapid traverse speed	8 m/min. 315 IPM
Grinding feed rate	0.0001 - 6,000 mm/min.
Work table	
Max. travel	620 mm 24.4"
Max. rapid traverse speed	10 m/min. 393 IPM
Min. setting unit	0.001 mm 0.00003"
Grinding feed rate	0.0001 - 8,000 mm/min.

Work-piece spindle	GRA-2060
Spindle motor	SERVO MOTOR
Swivel angle	+90° ~ -30°
Center taper	MT#3
Tailstock	
Travel	20 mm 0.78"
Center taper	MT#3
Motor	
Axes drive motor	X-axis 1 kW 1.3 HP
	Z-axis 1.5 kW 2 HP
Wheel spindle	5 HP
Work-piece spindle	0.75 kW 1 HP
Hydraulic pump	2 HP
Coolant pump	1/4 HP
General	
Dimensions (mm)	3,020 x 2,130 x 1,950 119" x 84" x 77"
Net weight	3,800 kg 8,380 lb

Specifications are subject to change without notice.

GRW TRAVELING HEAD CNC CYLINDRICAL GRINDER

630 mm | 1,030 mm | 1,530 mm | 2,030 mm
Max. Distance Between Centers

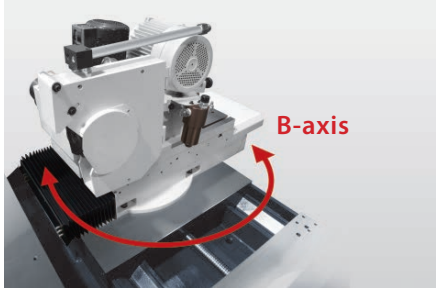
Ø420 mm
Max. Swing Over Table

Ø400 mm
Max. Grinding Diameter

Roundness ▹ **1.5 μm**

Positioning Accuracy **≤ 2 μm**

■ Variations

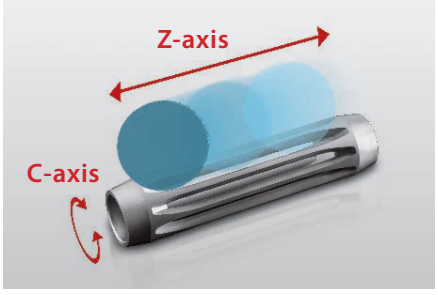


GRW-B series (opt.)

Application : Plunge / Angular grinding for O.D. / I.D.

GRW-C series (opt.)

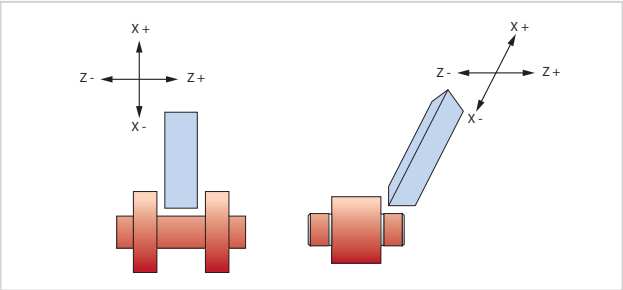
Application : Camshaft / Cam grinding



GRW-S series (opt.)

Application : Spline / Keyway grinding

Traveling Head Grinding Examples



Combine Plunge and Angular Grinding in One Machine

The specially designed GRW series form GOODWAY is suitable for both plunge grinding and angular grinding. It helps the customer to save investment cost, dramatically upgrade machining efficiency and create more profits.

Machine Specifications

Capacity	GRW-4006	GRW-4010	GRW-4015	GRW-4020
Distance between centers	630 mm 24.8"	1,030 mm 40.5"	1,530 mm 60.2"	2,030 mm 79.9"
Max. swing over table	Ø420 mm Ø16.5"			
Max. load between centers	750 kg 1,653 lb			
Max. external grinding diameter	Ø400 mm Ø15.7"			
Roundness	1.5 μm			
Machine positioning accuracy	≤ 2 μm			
Wheel spindle				
Swivel angle	0~35°			
Wheel O.D. x width x I.D.	Ø600 x Max. 100 x Ø203 mm Ø23.6" x Max. 3.9" x Ø7.9"			
Wheel spindle travel	220 mm 8.6"			
Max. travel	230 mm 9"			
Min. setting unit	0.001 mm 0.00003"			
Max. rapid traverse speed	6 m/min. 236 IPM			
Grinding feed rate	0.001 - 6,000 mm/min.			
Work table				
Swivel angle	-3°~+12°	-3° ~ +8°		
Max. travel	630 mm 24.8"	1,030 mm 40.5"	1,530 mm 60.2"	2,030 mm 79.9"
Max. rapid traverse speed	10 m/min. 393 IPM			
Min. setting unit	0.001 mm 0.00003"			
Grinding feed rate	0.001 - 8,000 mm/min.			
Work-piece spindle				
Spindle motor	SERVO MOTOR			
Swivel angle	+90° ~ -30°			
Center taper	MT#5			

Tailstock	GRW-4006	GRW-4010	GRW-4015	GRW-4020
Travel	35 mm 1.37"			
Center taper	MT#5			
Motor				
Axes drive motor	X-axis 3.5 kW 4.6 HP			
	Z-axis 4.5 kW 6 HP			
Wheel spindle	15 HP 6P			
Work-piece spindle	3.0 kW 4 HP			
Hydraulic pump	2 HP			
Coolant pump	1/4 HP			
General				
Dimensions (mm)	GRW-4006 : 3,250 x 2,550 x 2,100 128" x 101" x 83" GRW-4010 : 4,050 x 2,550 x 2,100 160" x 101" x 83" GRW-4015 : 4,050 x 2,550 x 2,100 160" x 101" x 83" GRW-4020 : 5,275 x 2,550 x 2,100 208" x 101" x 83"			
Net weight	8,500 kg 18,800 lb	9,500 kg 21,000 lb	9,700 kg 21,400 lb	11,000 kg 24,300 lb

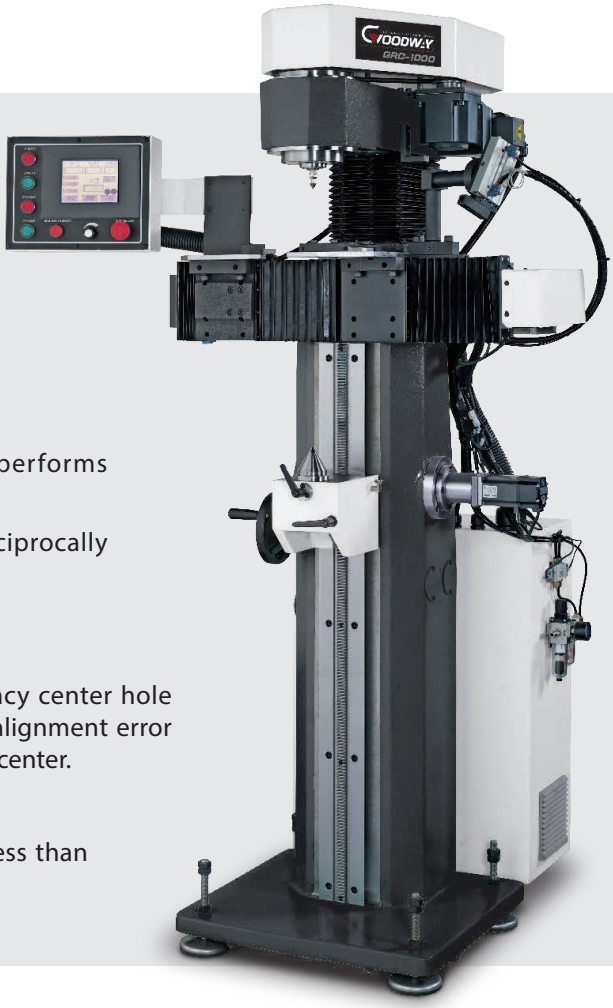
Also available with
GRW-4025 / 4030
GRW-6006 / 6010 / 6015 / 6020
GRW-8006 / 8010 / 8015 / 8020
Please contact with Goodway for more information.

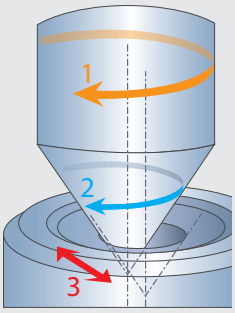
Specifications are subject to change without notice.

GRC CENTER HOLE GRINDER

EXCLUSIVE GRINDING MOTIONS

3D synchronizde grinding guarantees high accuracy of center holes.

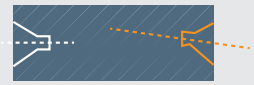




[1] Grinding wheel rotation.

[2] Grinding wheel spindle performs planetary motion.

[3] Grinding wheel moves reciprocally along the conic surface.

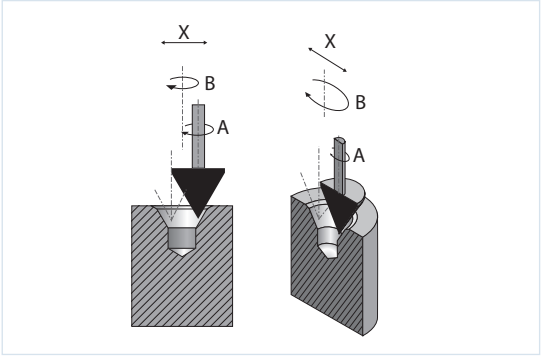


Extra high positioning accuracy center hole achieves less than 10 μm of alignment error between center hole and axial center.

Internal taper angle error is less than 10 seconds.

- High accuracy workpiece setup permits roundness error less than 1 μm.
- Center hole surface roughness N4 ~ N6 = 0.2 – 0.8 μm.
- Grinding wheel dressing is NC controlled with dressing amount compensation function.
- Automatic centering for workpiece clamping simplifies workpiece setup.

Center Hole Grinding Examples



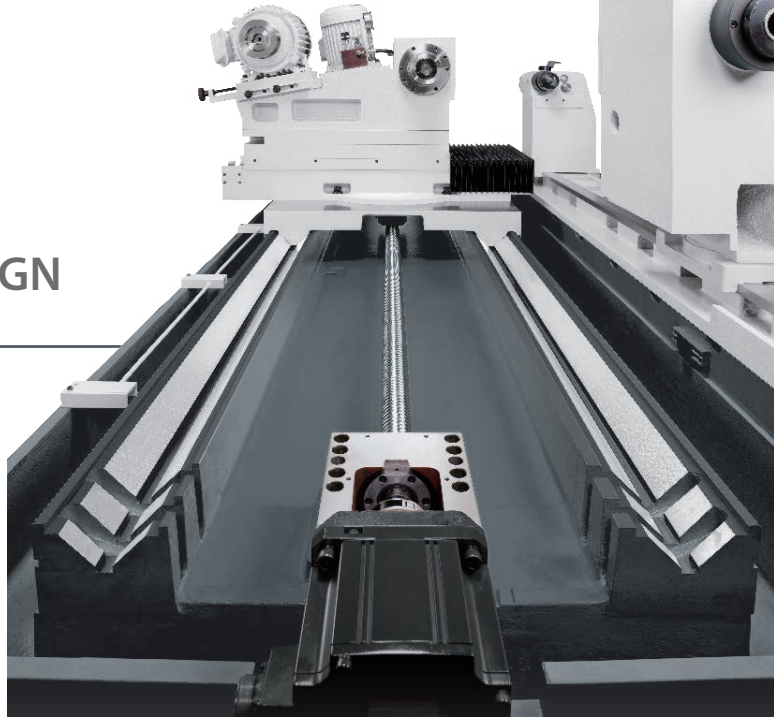
Machine Specifications

	GRC-1000	GRC-1500
Center hole dia.	Ø1 ~ Ø60 mm Ø0.039" ~ Ø2.36"	
Work-piece clamping range	Ø4 ~ Ø220 mm Ø0.15" ~ Ø8.66"	
Work-piece length and weight	50 ~ 1,000 mm, 1.96" ~ 39.3" max. 120 kgs 264 lbs	50 ~ 1,500 mm, 1.96" ~ 59" max. 120 kgs 264 lbs
Center hole angle	60°	
Grinder wheel spindle speed	45,000 rpm/min.	

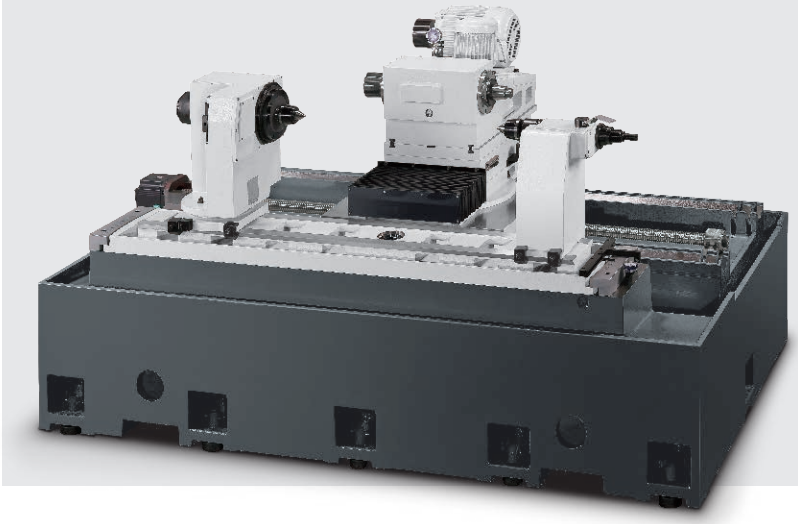
ADVANCED CONSTRUCTION DESIGN

- X-axis with hand scraping extra large V type guide way to ensure the best dynamic accuracy and balance loading.*1
- C_1 class (X-axis) / C_3 class (Z-axis) hardened precision ground ball screws ensure the highest accuracy and durability possible. Plus, pretension on all axes minimizes thermal distortion.

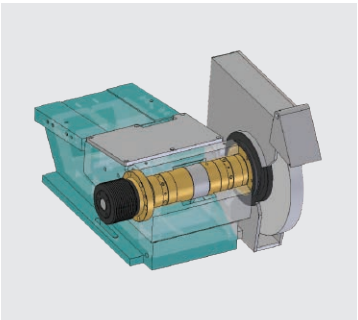
*1 X & Z axes are all V type guide way design on GRW series.



(GRW series super rigidity construction)

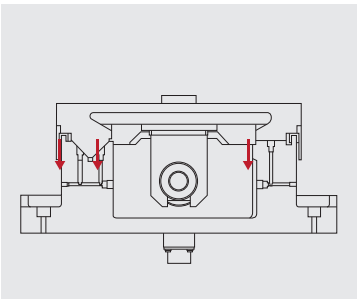


Built to endure years and years of rigorous high production grinding, the heavily ribbed, one-piece thermally balanced bed and casting components are of MEEHANIT casting.



Grinding Wheel Spindle Supported by Hydro-static Bearing

The grinding wheel spindle is precision machined from Nickel Chromolybedenum alloy steel (SNCM-220) . It is supported by hydro-static bearing, which greatly upgrades the spindle running stability while reducing temperature growth to a minimum.



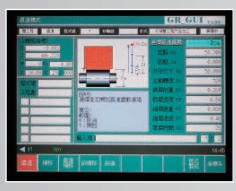
Hydro-static Lubrication on X、Z axes Slideways

The cross and longitudinal slideways for the grinding wheel head are lubricated by a hydro-static automatic lubrication system. This outstanding lubrication system allows for extremely smooth movement of the grinding wheel head, accurate feed and ensures high grinding accuracy.

ADVANCED CNC CONTROLLER

- Available with FANUC / MITSUBISHI / SIEMENS controller.
- Conversational programming to allow operator can easy to learn and operate when equipped MITSUBISHI controller.
- Machining programs are automatically generated through graphic dialog. This greatly saves on preparation time while increasing efficiency.

Sequential grinding mode



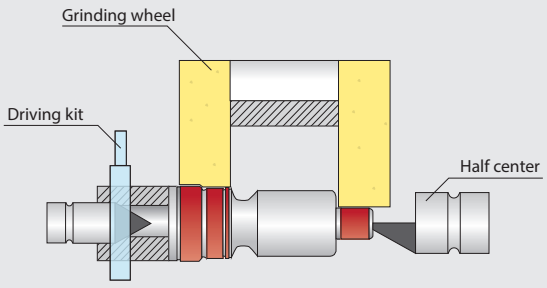
Single cycle plunge feed grinding mode

Single cycle plunge feed cross traverse grinding mode

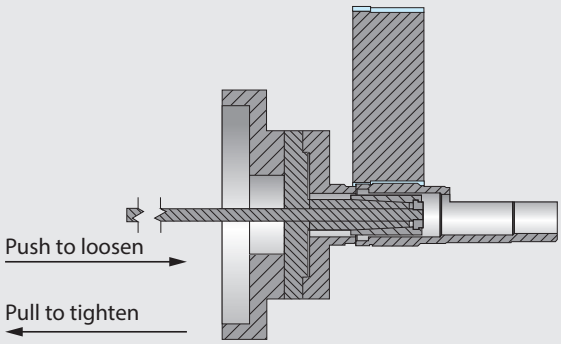
Single cycle angular feed grinding mode (GRA series)

Single cycle angular feed cross traverse grinding mode

Single cycle cross traverse grinding mode

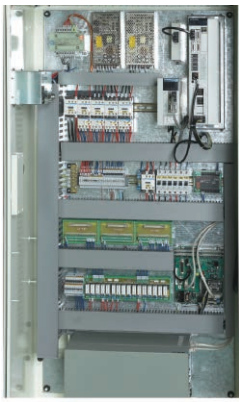


Multi-step simultaneous grinding



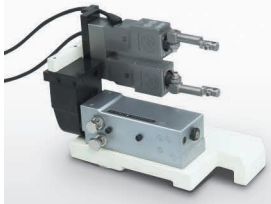
Internal expansion clamping grinding

STANDARD & OPTIONAL ACCESSORIES



Control System Meets European Standards

- The control system consists of top quality electronic components which comply with European safety requirements.
- The control system has a self-diagnostic function and warning light for clear identification.
- The interior of the control cabinet is dust-proof and fluid-proof.



Outside Diameter Measuring Device

End Face Touch Probe

Standard Accessories
Grinding wheel and flange x 1 set
Diamond tool holder x 1 set
Carbide center taper x 2 pcs
Coolant equipment x 1 set
Hydraulic pump and oil tank x 1 set
Tool box x 1set
Work light x 1set
Optional Accessories
Internal grinding attachment (including 3-jaw chuck anode spindle)
Diamond tool holder for internal and external grinding wheel dressing (upward open type)
Diamond tool holder for internal and external grinding wheel dressing (sideward open type)
Diamond tool holder (tailstock mounted type)
Angle trimming device
Radius trimming device
Cam locked driving dogs
Work steady rest
2-point steady rest
3-point steady rest
Adjustable 3-jaw scroll chuck
Adjustable 4-lock chuck
Magnetic coolant separator
Magnetic filter with paper
Wheel balancing stand and arbor
End face touch probe (RENISHAW / MARPOSS)
O.D. measuring device (MARPOSS / TOKYO SEIMITSU)

Specifications are subject to change without notice.

THE ULTIMATE MACHINING POWER

GOODWAY®

GOODWAY MACHINE CORP.

GOODWAYCNC.com

Official distributor for Benelux

THOLITEC

Jan Doustraat 37
1689 XK Zwaag (NH)
The Netherlands

Tel. +31(0)85 0022937
info@tholitec.nl
www.tholitec.nl

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