



DOWELL[®]

High Precision Grinding Machines

Abrasive grinding solutions for manufacturing and machining applications throughout North America. Our experienced staff and network of resources are consolidated to provide a one-stop experience.

- Rotary Surface Grinding -

GMSi Group, Inc.



Vertical Rotary Grinding Machines

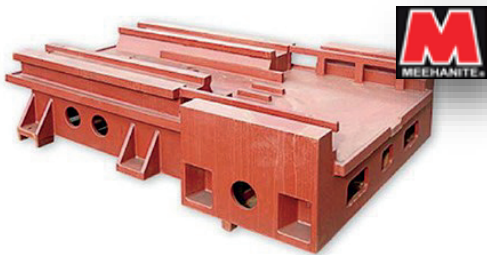
Vertical spindle rotary table grinders that are fabricated for high efficiency, stability and high production demands.

Slideways are coated with TURCITE-B and then hand scraped for precision and longevity. Automatic lubrication provides oil to all ways and screw surfaces.

Upholding a continued commitment to developing and supporting the most efficient, productive and user friendly machines for your production needs.



All machine structure are manufactured from high quality **MEEHANITE** class FC-30 cast iron.



Using 3D simulation and analysis software to obtain the optimum layout to assuring high rigidity and strength of the cast iron.

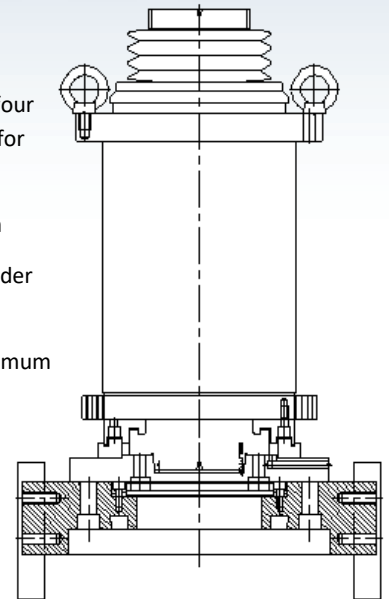
Direct Type Vertical Spindle

Fully enclosed precision spindle using four P4 grade angular ball bearings sealed for best thermal stability.

Spindle nose run-out is less than 1.5µm

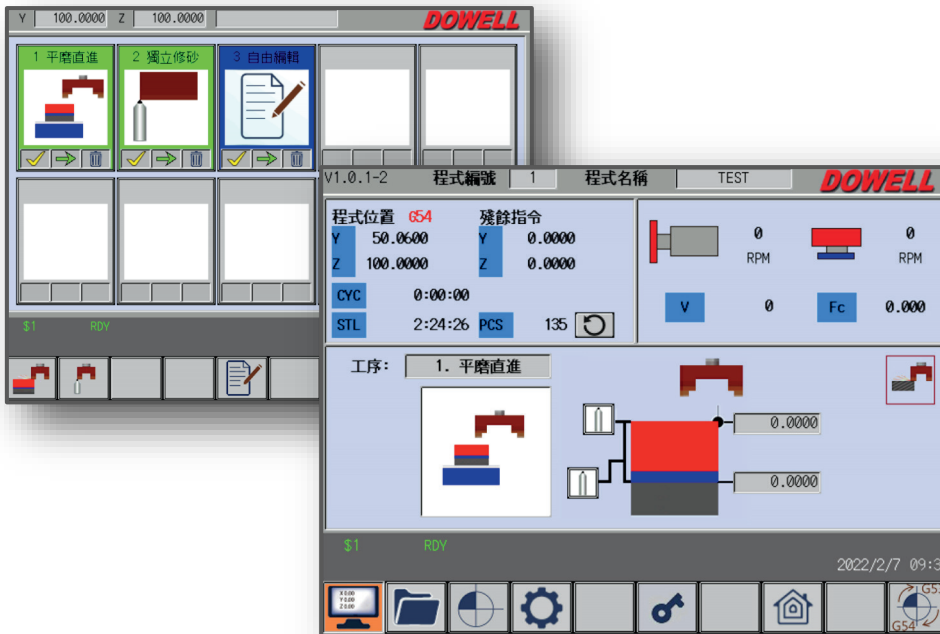
We offer both segments or type-2 cylinder grinding wheel.

Coolant Through Spindle (CTS) for maximum coolant coverage to the workpiece.



Mitsubishi CNC

Vertical CNC Applications



CNC Advantages

High accuracy and repeatability

One touch program pause can be used to flip parts and resume grinding

Fully programmable flip program up to 10 interruptions

Auto dressing with two axis machines

Custom Programs available upon request

What stands us apart, is our proprietary conversational programming. Operator friendly easy to select menu options, in a color touch screen Mitsubishi display.



Precision Guide Ways

Slide ways are coated with TURCITE-B and then hand scraped for precision and longevity. Extra wide box guide ways for strength and high rigidity.

Linear Guide Ways

Applied for precise positioning and multi axis movements with CNC applications. Heavy duty trucks for maximum load. precision movement via ball screw and fine resolution encoder.

Lubrication

Central lubrication system automatically supplies oil to all critical points, assuring reliable maintenance and longevity to all wear surfaces.

Precision Spindles

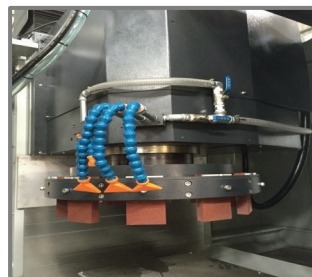
Large high precision spindles supported by CP6 precision angular contact ball bearings. Lateral design creates stability during heavy cutting.

Vertical Rotary Grinders

	VR-500AND	VR-600AND	VR-800AND*	VR-1000AND	VR-1200AND
Rotary Chuck Dia.	500mm	600mm	800mm	1000mm	1200mm
Rotary Chuck Speed	5 ~ 50 rpm		5 ~ 20 rpm		
Max Grinding Radius	250mm	325mm	400mm	500mm	500 mm
Rotary Chuck HP	2kw	3kw	7kw	7kw	7kw
Spindle Motor (60Hz)	15hp (opt. 20hp)			60-hp	
Spindle Speed	1750-rpm			1175-rpm	
Grinding Segment	8-pcs	25 x 50 x 150mm	10-pcs	90 x 30 x 160mm	
Grinding Head Dia.	366mm	366mm	568mm	568mm	668mm
Gross Weight	3100-kg	5500-kg	13000-kg	14000-kg	15500 kg



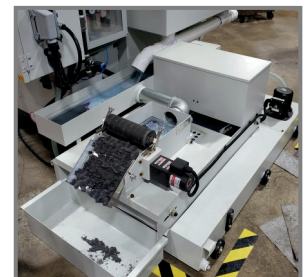
FAGO DRO
For repeatable accuracy up to five place decimal.



Segmented Grinding Head
Powerful high precision spindle and grinding motor.



LOSMA Mist Collector
Standard equipped on all machines with water tight enclosures



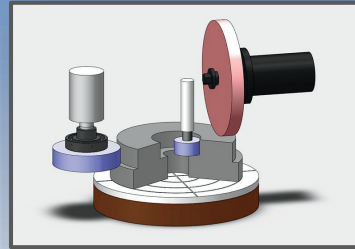
Coolant Filtration
Standard equipped is our paper filter tank w/ magnetic separator

Innovative Solutions

Machinery built to the requirements of your applications with maximum efficiency to meet production demands. Smart solutions you can count on.

All equipment is sold with our *Total Cooperation Policy* where the factory, our American based support-team and domestic resources are aligned and bound to keeping your equipment operating at maximum efficiency.

In cooperation with our support team we can organize custom programming and robotic automation for reliable minimal human-machine involvement.



GMSi Group

Abrasive grinding solutions for manufacturing

Operator training, new machine installation, readily available replacement parts and remote online services.

VHR-500 CNC

VHR-600 CNC

High Precision Multi Function (Vertical / Horizontal) Grinding

Intuitive CNC rotary table grinding with multi spindle arrangement in a single setup. Please contact us with your applications. Current diameters: 500mm (20") and 600mm (24") diameters.

DR-350 AND

DR-500 AND

End Face Rotary Grinding Machine



- Angle grinding or surface grinding
- Workpiece tilting +/- 45°
- Electromagnetic chuck or three jaw
- Cup Wheel, optional
- Grinding motor up to 7.5-hp
- Workpiece diameter up to 500mm

High rigidity, high accuracy, and innovative design

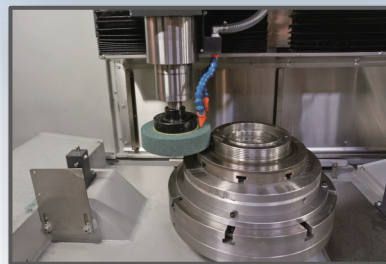


Machine

ent for surface, OD and ID grinding in a
ly manufactured in two table sizes,



ID Grinding Spindle High-speed spindle can be refitted with different length arbors to achieve greater depths.



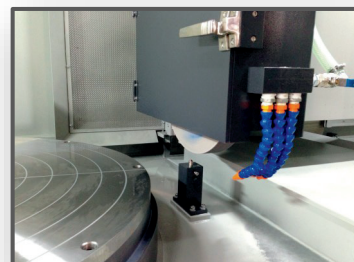
OD Grinding Spindle and increased efficiency for large inside diameter.



Horizontal Grinding Spindle for grinding surfaces and steps.



Nitrogen counterweight mechanism to reduce the screw and servo motor loading.



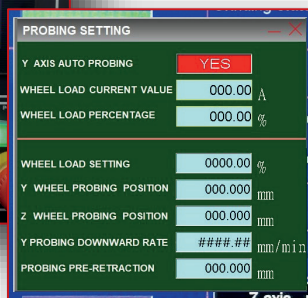
Automatic Dressing Cycle for all spindles.

AND Operator Panel



All base model machines are using our highly efficient and easy to navigate AND PLC automation operator control package. In-process dressing, wheel wear compensation, and automatic touch detection are standard features.

Boasting accurate repeatability in all machine models.



Touch detection by measuring spindle current



Variable electromagnet control



MPG hand wheel Graduations: 0.001, 0.005 and 0.01mm

Horizontal Rotary Grinding Machines

Horizontal spindle rotary table surface grinders that are fabricated for high efficiency and high production demands.

All machine castings are manufactured and naturally aged at our Dowell / Tong Yi owned foundry.

Upholding a continued commitment to developing and supporting the most efficient, productive and user friendly machines for your production needs.

Applications in ceramics, quartz, sawblade bodies, spindle parts, tools, carbide materials and many types of precision machine parts.



Rotary Table Design

Our tables use high precision bearings with proper pre-load, providing rotary accuracy within 3µm. Rotary speed can be adjusted as per workpiece dimension from touch screen. Cross movements use an electronic distance adjusting system for better positioning.

The on screen dressing program allows for auto dressing after grinding cycle, bringing more efficiency to your operation.

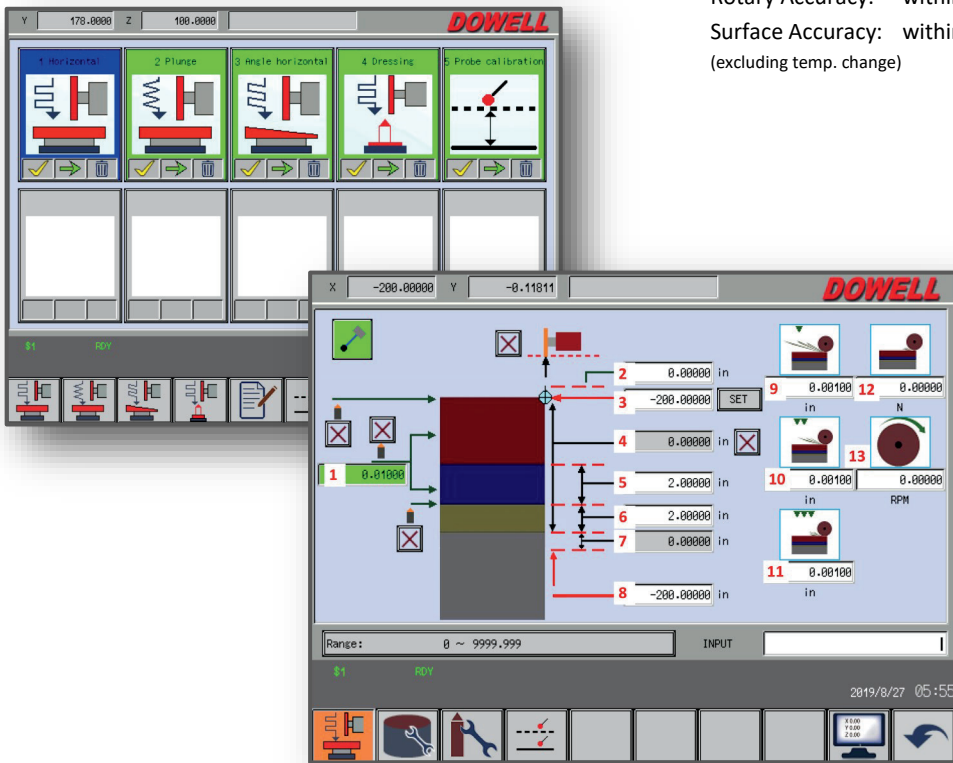
1000mm diameter table

Rotary Accuracy: within 0.005mm

Surface Accuracy: within 0.01mm /300mm
(excluding temp. change)

Mitsubishi CNC

Horizontal CNC Applications



CNC Advantages

High accuracy and repeatability

Minimize operator interaction with Renishaw probe and touch detection

Renishaw measuring accuracy, 2µm

Easy select from surface, plunge, step and taper canned programs

Custom Programs available upon request.

What stands us apart, is our proprietary conversational programming. Operator friendly easy to select menu options, in a color touch screen Mitsubishi display.



Electromagnetic Work Tables

Standard equipment with all machines is a powerful fine pitch electromagnetic chuck. Pole pitch and holding forces that conform to your requirements can be specified.

Vacuum Tables

Vacuum tables for holding non-magnetic work pieces such as aluminum, polymers and tungsten can be specified.

Coolant Filtration

Standard coolant filtration is an easily maintained and reliable paper filter and/or magnetic separator tank. More options are available with chillers and application specific micro filter effects.

Oil Mist Collector

LOSMA mist collector and water tight enclosures are supplied as standard equipment with all of our rotary table grinders.

Horizontal Rotary Grinders

	HR-200AND	HR-300AND	HR-400AND	HR-500AND	HR-600AND	HR-800AND	HR-1000AND	HR-1200AND
Rotary Chuck Dia.	200mm	300mm	400mm	500mm	600mm	800mm	1000mm	1200mm
Rotary Chuck Speed	20 ~ 250 rpm	20 ~ 250 rpm	20 ~ 250 rpm	10 ~ 150 rpm	10 ~ 150 rpm	10 ~ 60 rpm	10 ~ 60 rpm	10 ~ 50 rpm
Rotary Chuck HP	400w	750w	1.5kw	2kw	3kw	4.5kw	7kw	10kw
Spindle Motor (60Hz)	3-hp	3-hp	10-hp	10-hp	20-hp	25-hp	25-hp	25-hp
Spindle Runout	0.005mm							
Spindle to Table Distance	250mm	350mm	450mm	450mm	450mm	580mm	700mm	700mm
Grinding Wheel (mm)	180 x 13 x 31.75	180 x 13 x 31.75	355 x 38 x 127	355 x 38 x 127	355 x 38 x 127	405 x 230 x 127	500 x 50 x 203	500 x 50 x 203
Gross Dimensions (cm)	205 x 180 x 205	205 x 215 x 205	240 x 190 x 210	240 x 210 x 210	280 x 220 x 220	400 x 230 x 245	510 x 295 x 320	530 x 315 x 320
Gross Weight	1450-kg	1800-kg	3800-kg	4000-kg	8000-kg	8000-kg	13500-kg	15500-kg



Temperature Controls
Control cabinet AC and way lubricant cooling



PY-2700 Balancer
Online wheel balancing system.
Measurable runout less than 1µm



Renishaw LP2 Probe
In process measuring accuracy of 2µm.



VM9 Touch Detector
Detects wheel contact w/ workpiece or dressing post

www.gmsigroup.com



GMSi Group, Inc.
17 Town Forest Road
Oxford, Massachusetts 01540

PO Box 123
Oxford, Massachusetts 01540

Tel: +1 (508) 987-0121
Fax: +1 (508) 987-1233

eMail: info@gmsigroup.com



Follow us on Facebook
www.facebook.com/gmsigroup

www.gmsigroup.com