ROTTLER

THE CUTTING EDGE

VR12

Centerless Grinding Valve Refacing Machine

Designed to grind a set of valves to equal length from Stem/Butt end to Valve Seat

Machining Equipment Created for Performance Racing & Engine Remanufacturing.

So Advanced, It's Simple.

VR12 CENTERLESS GRINDING MACHINE

9” (230mm) Large Diameter Main Grinding Wheel

Digital Valve Face Angle

Digital display shows exact valve face angle and is easily adjusted by one locking handle from 10 to 60 degrees.

New Standards

The VR12 sets new standards for Performance Racing and Remanufacturing work. The Centerless Technology eliminates collets and chucks. Valve face is machined concentric to the valve stem for improved sealing, better heat transfer and reduced mechanical stresses on valves.

Grinding Wheels

The VR12 is supplied standard with vitrified wheels, grinding oil and diamond dresser. CBN wheels are optional and must be ordered separately. Special wheels available for grinding difficult metals such as Titanium, Inconell, etc.

Variable Valve Rotation Speed

Allows the operator to adjust surface speed for different diameter valves for best surface finish on a wide range of valve head diameters from small multi valve to large diesel valves.

Canted Roller Drive System

Eliminates the need to manually feed valves into or away from grinding wheel during refacing. Canted rollers feed valves against a precision stop which accurately controls valve length on every valve - automatically.

Centerless Grinding System

Handles large range of valve stem diameters without changing any collets or chucks!

Main Wheel Diamond Dresser

The fold away diamond dresser is set to the exact position of the wheel face to dress, just drop the dresser down into place and the diamond is positioned, ready to dress minimum material from the main grinding wheel.

Control Lever

Allows the valve to move away from the grinding wheel.

Large Capacity Coolant

Tank and filter system built into standard base cabinet.

Solid Cast Iron Construction

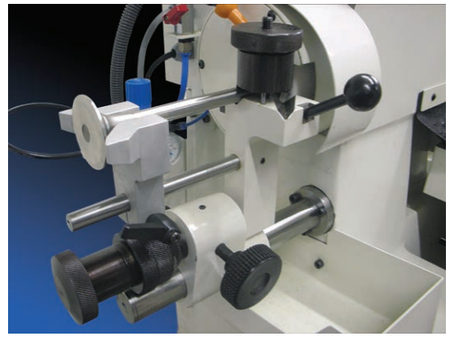
Dampens harmonics, eliminates chatter, and maintains accuracy for a long service life.

Open Sided Pneumatic Steady Rest

No need to switch off the motors when changing valves, reducing machining time and increasing the life of motors.

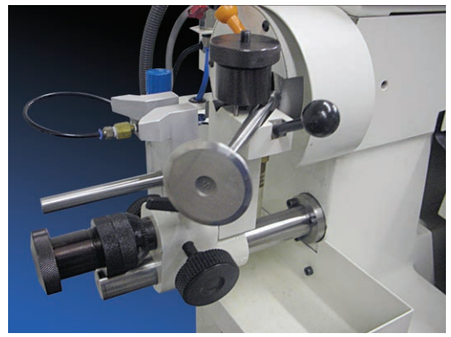
Stroking Handwheel

Rotational Stroking Handle moves the valve effortlessly back and forth over the grinding wheel. When handle released, the valve stays in the same position and does not fall to the end stop.



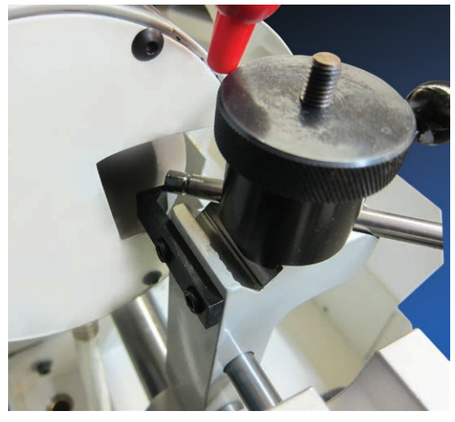
Stem/Butt End Grinding

Grind Valve Stem End square to the valve centerline. The V rest allows all valves in a set to be ground to the same distance from valve seat to stem end - essential for overhead camshaft type cylinder heads. Exact amount of material removed from the stem end can be measured with the micrometer adjustment system.



Stem/Butt End Chamfering

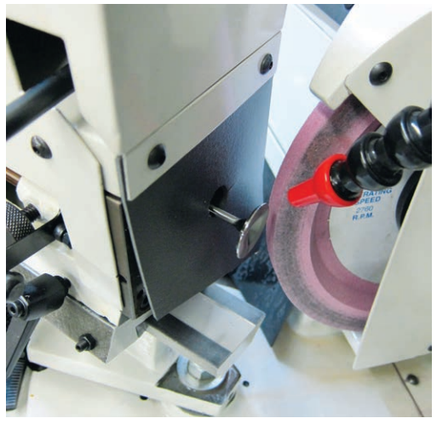
Grind Valve Stem End with chamfer to allow easy entry to new valve stem oil seals to ensure reliable installation for minimum oil consumption between valve stem and valve guide.

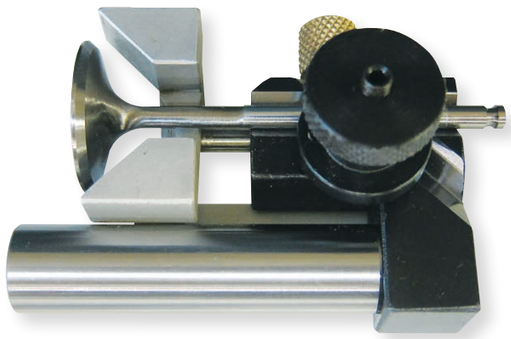


Chamfering is able to be equal all-round the stem end by the chamfering end stop system.

FEATURES

The VR12 allows very small diameter and short valves to be reground.





The VR12 has a special device to allow regrinding and chamfering on very short valve stem butt ends.

Large Valve Capacity

The VR12 Double Slideway and micrometer feed system allow large valves up to 15.75” (400mm) long to be easily set up and ground.

Base Cabinet

Standard Base Storage Cabinet includes a large five gal (20 litre) removable coolant tank with replaceable paper filter system. The coolant tank has a drain plug and is easily removed for quick cleaning. This large capacity filtered coolant system allows machine use for months and months with no cleaning or maintenance required saving time and money.

STANDARD EQUIPMENT

- Centerless Grinding System includes Pneumatic Steady Rest for Valve Stem Diameters from .138" to .630" (3.5mm - 16mm)
- Grinding Wheel Speed for different metals – 2500 RPM
- Valve Rotation Speed for different valve diameters – Variable up to 230 RPM
- Digital Display Valve Face Angle Device from 10 to 60 degrees including calibration device
- Double Dove Tail Slides for Valves up to 15.75" (400mm) Overall Length
- End Stop System to grind valves in a set to equal length from butt end to seat face
- Motor Controller converts single phase incoming power to 3-phase motor
- Butt Grinding and Chamfering Device including micrometer, adjustable V Nest
- Small/Short Valve Butt/Stem End grinding device
- Main Wheel Dressing Device mounted on the machine
- Main Grinding Wheel 9.0" (230mm) Diameter, General Purpose
- Butt Grinding Wheel 4.0" (100mm) Diameter, General Purpose
- Diamond for dressing butt wheel
- Diamond dresser for dressing main grinding wheel
- Base Storage Cabinet including removable coolant tank for easy cleaning
- High Grade Grinding Oil 7609C 5 Gal (20 Liters)
- Coolant Filter Paper (20 sheets)
- Prices (US Funds) FOB -EXW, Kent, Washington, USA

SPECIFICATIONS

	INCH	METRIC
Valve Stem Diameter Range	0.138” to 0.630”	3.5mm to 16mm
Valve Stem Length Range	1.970” to 10.250”	50mm to 260mm
Valve Head Diameter Range	0.710” to 3.940”	18mm to 100mm
Valve Total Length Range	2.750” to 15.750”	70mm to 400mm
Above Specifications may vary depending on seat angle		
Valve Face Angle Range	10° to 60°	
Valve Grinding wheel Diameter	9”	225mm
Butt Grinding Wheel Diameter	4”	100mm
Valve & Butt Grinding Wheel Speed	2500 RPM Max.	
Valve Rotation Speed	Variable up to 230 RPM Max.	
Coolant Capacity with Cabinet	5 Gallon	20 Lit.
Air Pressure Requirement	90 Psi	6 Bar
Electricals Requirement	208-240 VAC, 60/50 Hz, 10 Amps, 1Ph.	
Valve Grinding Motor Power	0.75 HP, AC	0.56 KW, AC
Chuck Gear Motor Power	1/17 HP, DC	0.044 KW, DC
Grinding Oil Pump Power - Flow	.025HP - 300GPH	02KW - 20LPM
Working Dimensions	30” D x 24” L x 59” H	762” D x 610” L x 1500 H
Shipping Dimensions	36” D x 29” L x 66” H	915” D x 737” L x 1676 H
Shipping Weight	540 Lbs	235 Kg
Paint Color Code	RAL9002 (Grey White)	

Specifications and design subject to change without notice.

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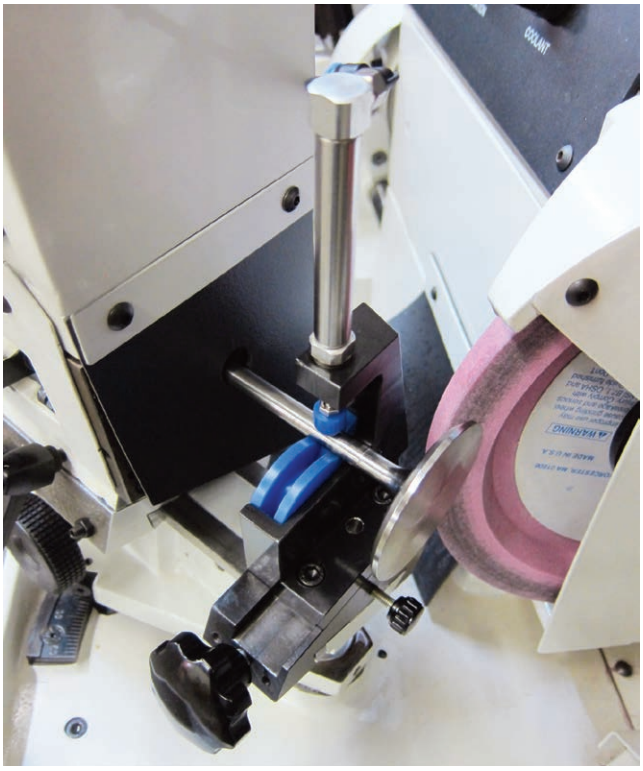
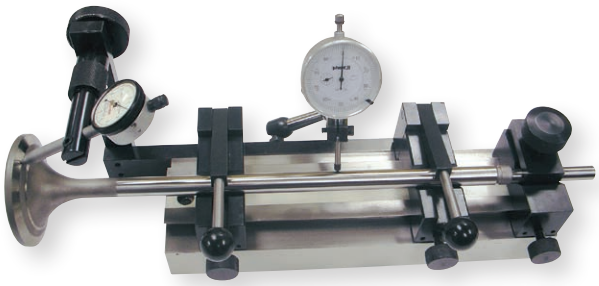
VR12 CENTERLESS GRINDING SYSTEM

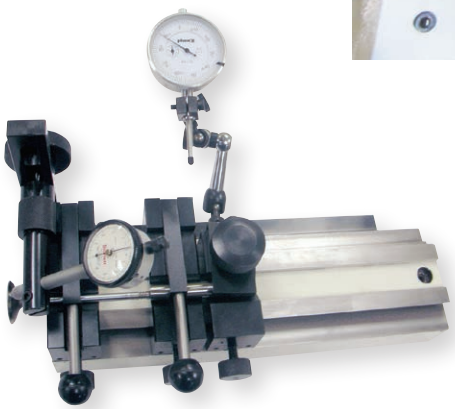
Rottler's Centerless Grinding System rotates the valve stem on it's own centerline. Precision drive rollers rotate the valve stem and a pneumatic low friction steady rest support the valve stem similar to a precision balancing machine, resulting in extremely accurate valve stem to valve seat run out less than .0002" (.005mm) TIR. The Rottler Centerless System allows a wide range of valve stem diameters to be ground without changing any collets or chucks.





Valve CONCEN Measuring Gage

Spring loaded V supports allow valve stem to be rotated around it's own centerline and valve seat run out to be measured with a precision gage .0001" (.002mm) per division. A second dial gage can be used to check that the valve stem has no run out or bend.



CONCEN

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