

ROTTLER

THE CUTTING EDGE

SG8MTS

Cylinder Head Seat & Guide Machine



CONCEN

MANUALMATIC

Machining Equipment
Created for Performance
Racing & Engine
Remanufacturing.

So Advanced, It's Simple.

SG8MTSMTS CYLINDER HEAD SEAT & GUIDE MACHINE

New SG8MTS MANUALMATIC Touch Screen Control Seat & Guide Machine

The SG8MTS uses the same proven fixed carbide pilot tooling as SG8M but now has a front mount steering wheel for spindle downfeed. The machine has two modes of operation:

MANUALMATIC: Productivity increases of 30% to 50% are experienced due to the new concept of MANUALMATIC operation. Buttons and switches have been eliminated saving operator time. Feed the spindle and Rottler intuitive control easily manages functions such as workhead float/clamp, valve guide pilot centering and spindle power. When seat depth is reached, MANUALMATIC changes the spindle RPM automatically for exacting finishes.

MANUAL MODE: Touch Screen Controls utilize proven Rottler Intuitive Software that displays spindle vertical position vividly on the screen eliminating external dial gauges. Feeding the spindle to the valve seat sets the cutting insert to zero. A quick touch sets the zero position allowing the Digital Display to show exact spindle position at all times. Workhead clamp and float pedals are eliminated saving valuable operator time. Low to High finishing speed transitions are controlled by separate buttons on the touch screen for manual operation.

Fast & Accurate

Heavy duty SGMTS Workheads are robust with the capability to machine large diameter valve seats. The lightweight design is engineered for speed and accurate centering creating the ultimate concentricity.

Concentricity

Rottler's Rigid Precision carbide centering pilots are manufactured to a fine tolerance. Combined with the manoeuvrability of the light weight air float Workhead, the SG8MTS gives perfect centering in the valve guide providing the best concentricity of any machine on the market.

High Torque Spindle Motor

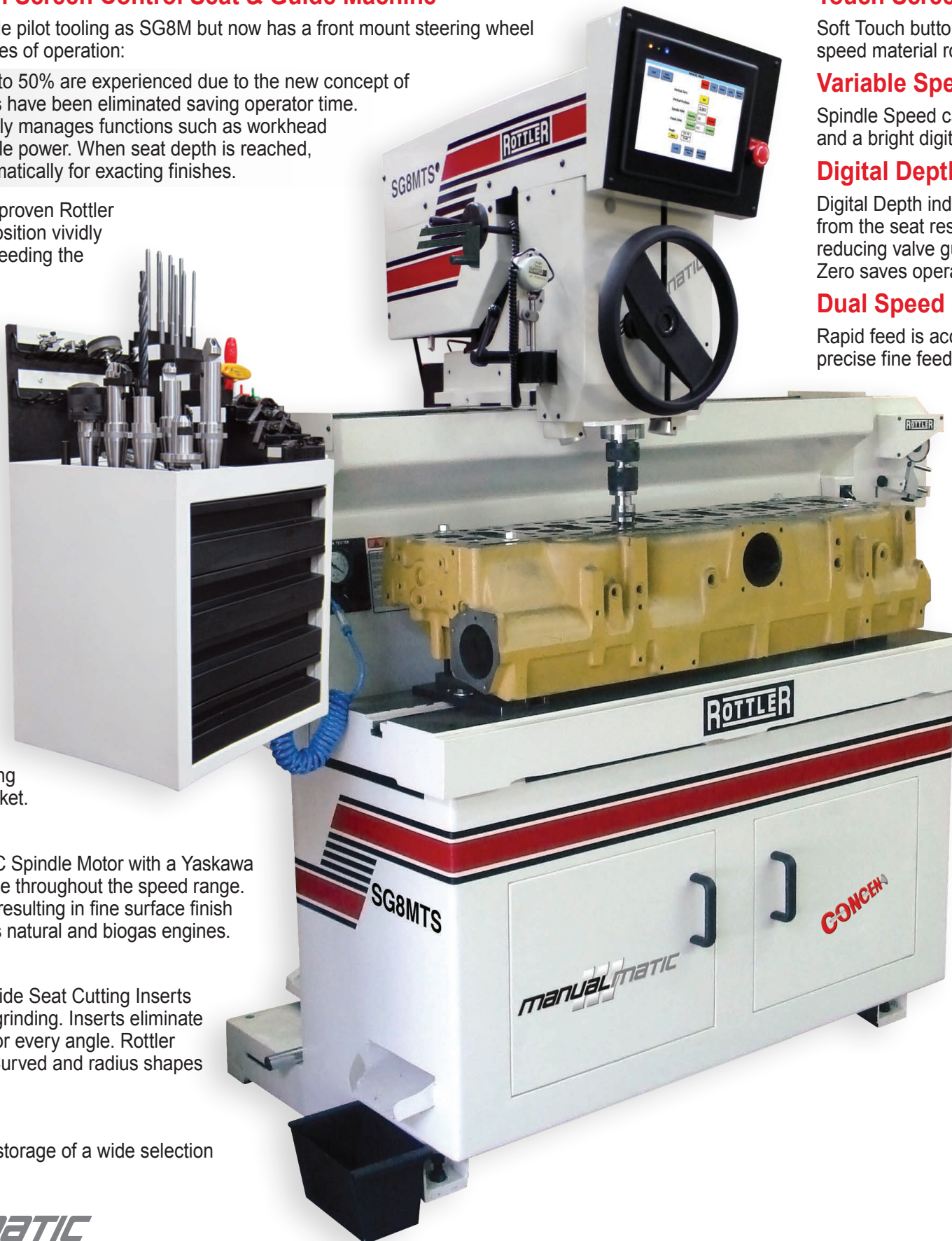
The SG8MTS has a 2HP (1.5kW) High Torque AC Spindle Motor with a Yaskawa Vector Frequency Inverter to control spindle torque throughout the speed range. This control gives maximum torque at all speeds resulting in fine surface finish even with the hardest valve seats found in today's natural and biogas engines.

Precision Seat Cutting Inserts

Rottler's Precision CNC Ground Fine Grain Carbide Seat Cutting Inserts are substantially faster and less expensive than grinding. Inserts eliminate the need to purchase a different grinding stone for every angle. Rottler manufactures inserts in single and multi-angle. Curved and radius shapes are available.

Storage Cabinet

Four Drawers and a Top Tray allows convenient storage of a wide selection of Rottler Tooling.



Touch Screen Control Panel

Soft Touch buttons are conveniently located at eye level height. One touch transitions from high speed material roughing to low speed fine surface finish providing accurate **CONCEN**.

Variable Speed Spindle from 25 to 400 rpm

Spindle Speed can be accurately selected for varying machining operations. Soft Touch Buttons and a bright digital display are located for ease of operation.

Digital Depth Indicator

Digital Depth indication shows operators the exact amount of material that has been removed from the seat resulting in consistent seat depths. Operations such as installing seat rings, reducing valve guides, facing spring seats and more are benefited by digital accuracy. One Touch Zero saves operator time while ensuring accuracy.

Dual Speed Spindle Fine Feed

Rapid feed is accomplished through the large hand wheel. Use the small hand wheel to perform precise fine feed spindle control when depth of cut is required to attain extreme levels of accuracy.

Electronic Level

Digital readout for quick and accurate adjustment.

Built in Vacuum Tester

Quality check valve seats while the cylinder head is still set up on the machine!

Adjustable Spindle Tilt & Depth Stop

Spindle tilts up to 15° from vertical, in both directions, providing quick alignment on all canted valve cylinder heads. Each seat is cut to identical depths for optimal performance of computer controlled engines.

Automatic Spindle Lock Nut

Patented Spindle Locking Nut System automatically tightens tools in the spindle with a wrench free design. Secure tool installation and removal is nearly instantaneous.

Large Diameter Spindle

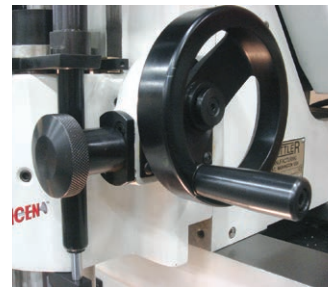
3.150 inch (80mm) diameter heavy duty spindle assures rigidity for chatter free operation. Outer spindle support bearings are adjustable over the entire length of the bearing area. Superior High Precision Rottler design is built in for durable operation.

Optional 360° Rollover Fixture

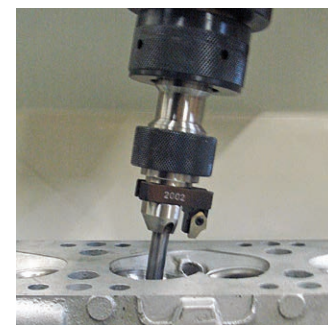
360° roll provides quick and easy access to all sides of the head. Precision adjustments are accomplished fast using the Micro Adjust Feature. Clamps onto table firmly for chatter free cutting and extremely accurate concentricity.

Rigid Cast Iron Construction

Rottler SG8MTS machines are manufactured from heavy thick wall cast iron. The all cast iron rigid platform is precision machined providing superior accuracy as compared to welded steel. Rigidity is vital in producing high quality chatter free valve seat cutting.



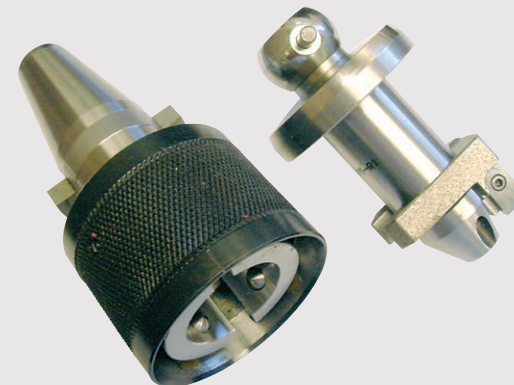
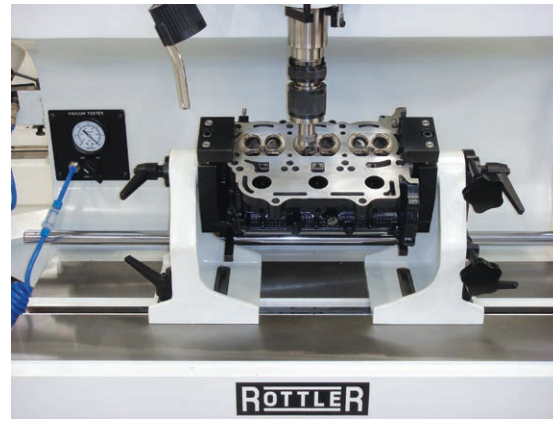
Fine Feed Handle



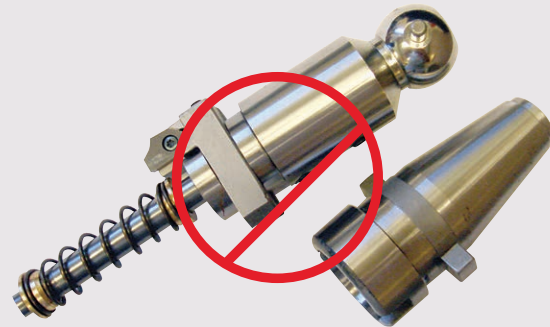
SPRING FREE TOOLING



Rottler Patented exclusive multi-angle seat tooling eliminates the need for bounce springs. Rottler tooling holds the ball driver firmly allowing the ball to float during seat cutting. Ball floating eliminates trouble prone bounce springs while providing the ultimate in valve seat concentricity.



Rottler Patented Spring Free Tooling Eliminates Bounce Springs



Rottler Patented Tooling

Rottler's patented SG tooling totally eliminates any bounce springs. The quick change spherical spindle adapter allows different tool holders to be changed in a few seconds. Change from multi angle seat cutting to pocket boring or reaming in seconds!

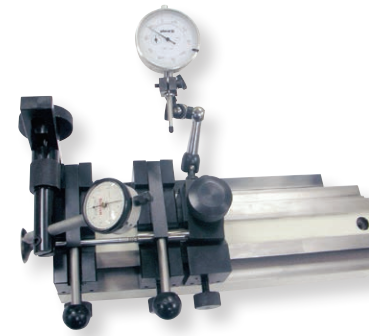
Vertically moving the tool holder down aligns the holder easily over the fixed pilot. Lowering the holder and lifting the collar releases the sphere for precision centering and cutting. Fixed pilots are easily moved from guide to guide with a One Hand Pilot Wrench removal process.



Rottler offers a wide selection of Tooling for Valve Seat Cutting and Insert Ring Replacement, Valve Guide Reaming and Boring, Modifications for Replacement Valve Guides, Spring Seats, Stem Seals and more.

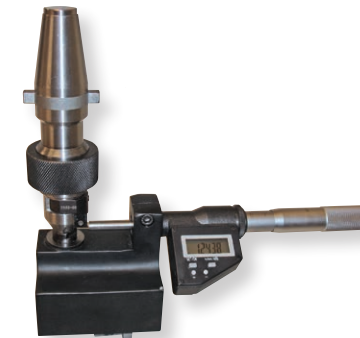


MEASURING INSTRUMENTS



Valve CONCEN Measuring Gauge

Spring loaded V supports allow the valve stem to be rotated around its own center line allowing valve seat run out to be measured with a precision gauge. Resolution is .001" (.002mm) per division. A second dial gauge can be used to check for valve stem run out or bend.



Digital Boring Micrometer

Accurately set the boring diameter to any size with single blade adjustable cutting inserts. Measuring tooling for boring valve seat housings for new seat rings is also accomplished.

WHAT IS CONCEN

The **CONCEN** trademark is Rottler's promise of quality. **CONCEN** creates the most accurate and versatile seat and guide machines on the market today. Rottler combines precision carbide centering pilots with our light weight air float work head to give you perfect centering with the valve guide. The Rottler combination creates the best **CONCEN** of valve seat to valve guide in the industry. Accuracy of .0005" per inch (.01mm per 25mm) is easily obtainable.

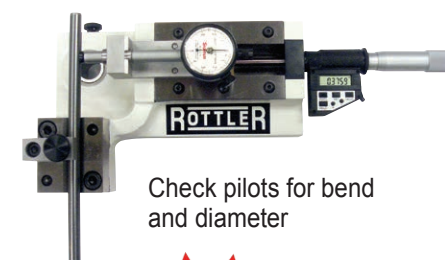


Valve Seat CONCEN Measuring Gauge

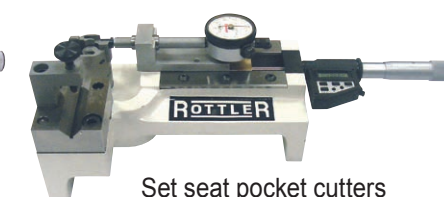
Rottler's **CONCEN** gauge allows concentricity to be easily and quickly checked to ensure accuracy.



6 IN 1 SETTING FIXTURE



Check pilots for bend and diameter



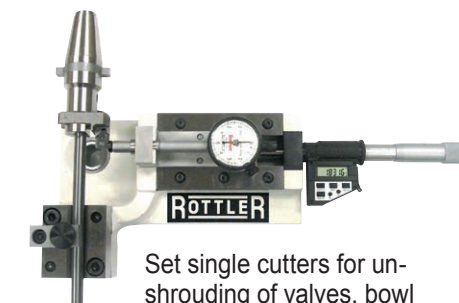
Set seat pocket cutters to proper diameter



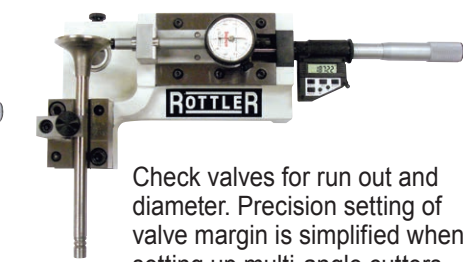
Set multi-angle seat cutters to exact diameter



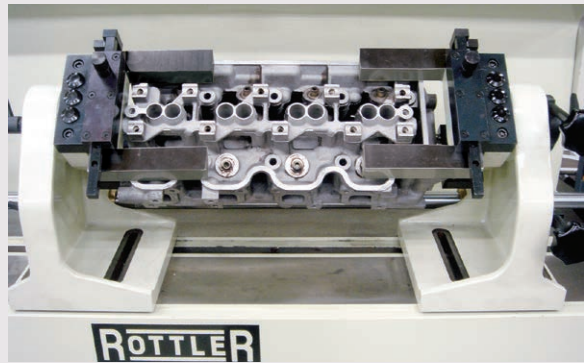
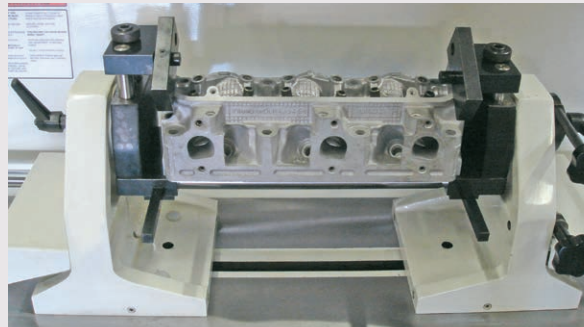
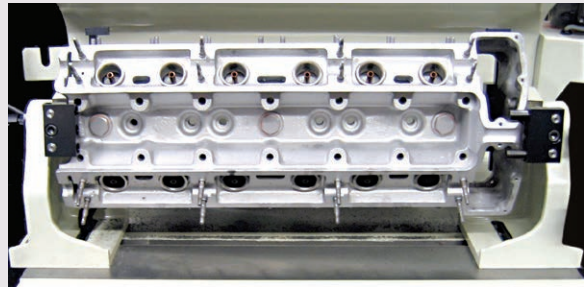
Rottler's 6 in 1 Setting Fixture makes precision valve work simple and fast!



Set single cutters for unshrouding of valves, bowl work or seat ring removal



Check valves for run out and diameter. Precision setting of valve margin is simplified when setting up multi-angle cutters

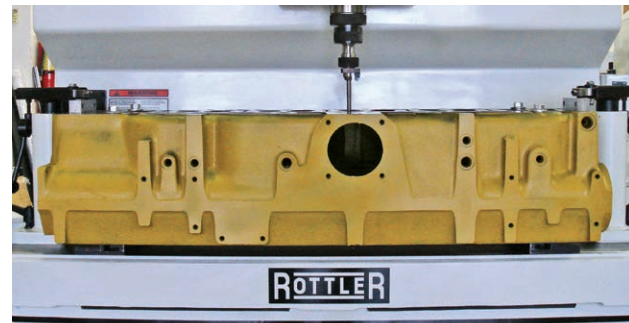
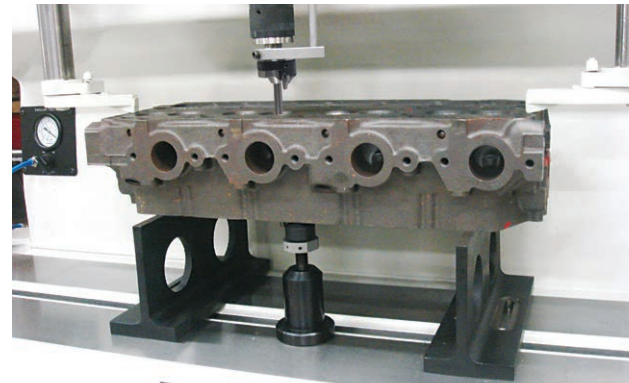


Optional 360° Roll Over Fixture

The optional 360° rolover fixture allows large and long heads, such as this Jaguar XJ6, to be rolled 360° for multiple operations. Boring cam follow bores and repairing broken exhaust studs by drilling and tapping benefit from the 360 action.

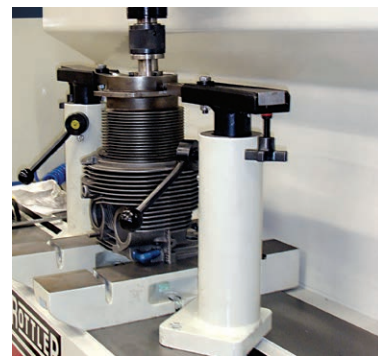
Difficult Angle and Canted heads, such as the GM 2.0L, are easily clamped and rolled 360°.

Included is a two piece frame kit that allows mounting of overhead camshaft and difficult to mount cylinder heads.



Optional Diesel Head Fixture

Optional small to medium diesel head fixture allows fast set up and clamping of in-line cylinder heads. Cat 3406E cylinder head in large diesel head fixture.



Aircraft Cylinders

Rottler offers special fixturing for cutting seats in one piece aircraft cylinders.



So Advanced, It's Simple



Universal Chuck

For general drilling and tapping work. Often used for spring seat and valve guide seal tooling.



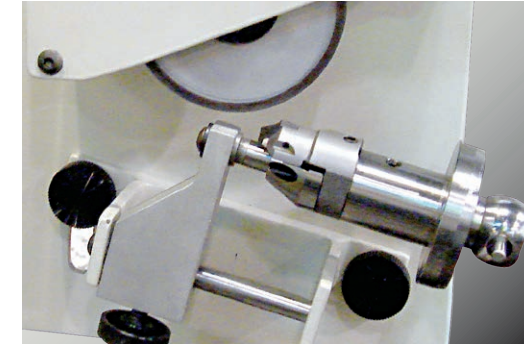
Drivers

Rottler makes an assortment of drivers for our patented spring free spindle drive system. Valve seats from .550" to 3.1" (14mm to 80mm) can be cut on the SG8 when combined with our wide range of insert/bit holders.



Precision Collet Chuck

Allows holding of reamers, cutters, drills, taps and other tools for special machining operations.



Cutting Insert Sharpener

Rottler offers machine mounted diamond wheel cutting insert sharpeners for fast easy sharpening of multi-angle tool bits.



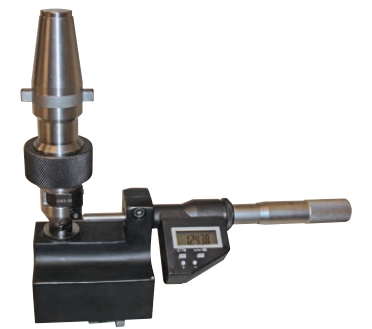
Milling Heads

The engineered milling head bores the correct seat ring housing with press fit interference allowing for adjustment free installation. Four Corner Carbide Inserts are indexed to change out fast without readjusting. Rottler cutterheads can be re-used when inserts get dull reducing tooling and labor costs.



Electronic Level

For precision leveling of valve guides (Shown with canted guide fixture).



Digital Boring Micrometer

Accurately set the boring diameter to any size with single blade adjustable cutting inserts. Measuring tooling for boring valve seat housings for new seat rings is also accomplished.



Triangle Tool Holders

Indexable Triangular Coated Carbide Tool Holders are available in 10°, 20°, 30° and 45°. Ideal and economical when cutting only one seat angle. Designed for boring old Rottler inserts and boring new insert housings.



Spindle Adaptors

.375 (9.52mm) and .500" (12.70mm) inside diameter spindle adaptors for driving standard reamers, core drills, spot facers, etc.

STANDARD EQUIPMENT

- Air Float Workhead with simple Touch Screen Control
- Flexible compact LED lighting is strategically located on the Workhead supplying light where it is needed most
- Rottler R1 Taper 3.150" (80mm) Hardened and Ground Spindle with 8" (200mm) of hand wheel travel
- Rottler Automatic Tightening and Quick Release Spindle Lock Nut System automatically and securely clamps tooling nearly instantly
- Quick Change Tool Retention System accurately centers over the pilot (Patent Pending)
- Infinitely Variable Spindle Rotation Speed from 25 to 400 RPM. RPM is constantly monitored in clear view on the Rottler Color Touch Screen Digital Display
- Quick Change RPM from Low to High with a single button push conveniently located on the bottom of the control panel
- AC High Torque Spindle Motor with Vector Invertor
- A swivel mount 3 drawer Tool Storage Cabinet is included
- Digital Electronic Level for Quick and precise alignment of Fixed Carbide Pilots
- Digital Depth Gauge provides repeatable Spindle depth control
- Built in Vacuum Tester Kit is supplied with seven pads and flexible hose. Heads can be quality checked while still fixtured in the machine
- Standard 360° Roll Over Cylinder Head Length Capacity is 44" (1120mm). Optional Fixture expands length capacity to 52" (1270mm)
- Dimensions with Tool Cabinet mounted = 74"L X 34"D X 80"H (1880MM X 864MM X 2032mm)
- Rapid and Fine Feed Mechanism for Precise Spindle Feed
- Work head tilts 15° in both directions

SG8MTS SPECIFICATIONS



	INCH	METRIC
Valve Seat Diameter Range	.550" - 4.724"	14mm - 120mm
Maximum Cylinder Head Length (with 360° rollover fixture)	44"	1118mm
Maximum Cylinder Head Length (with diesel fixture)	50"	1270mm
Spindle Diameter	3.150"	80mm
Spindle Travel/Stroke Vertical	8"	203mm
Maximum Tilt (either side of zero)		15°
Distance from Table to Spindle	19.5"	495mm
Spindle Speed		25 to 400 rpm
Electrical Requirements		208/220 V, 15A, 50/60Hz, 1PH
Air Requirements	90-100 psi	6-6.6 BAR
Spindle Motor - AC with Vector	2 HP	1.5 kW
Machine Dimensions	53" wide x 32" deep x 74" high	1346 x 813 x 1880mm
Working Dimensions	84" wide x 42" deep x 80" high	2133 x 1067 x 2032mm
Shipping Dimensions	59" wide x 38" deep x 85" high	1499 x 965 x 2159mm
Shipping Weight	2850 lbs	1293 kg
Paint Color Code		RAL9002 (Grey White)

Specifications and design subject to change without notice.

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