



# SERDI

# 3.5

**High precision valve seat and valve guide cutting machine especially designed for multi-valve cylinder heads. Patented workhead with triple air-float, patented centering system and built-in spindle motor.**

**Perfect machine for the most demanded motorcycle and automotive multi-valve cylinder heads. Achieves excellent levels of concentricity even in guide sizes as small as 3 mm/0.12".**



**Machining capacity from 16mm to 70mm / 0.6" to 2.75".**

**Patented lightweight workhead : built-in spindle motor and triple air-float centering system. Minimal workhead inertia and maximum floatation for unmatched centering sensitivity.**

**Fully integrated spindle motor, variable speed from 100 to 1200 RPM, paired to a 1.5 kW Siemens inverter.**

**Forward and reverse directions. Extremely wide torque ratings from lowest RPM with constant torque spindle rotation.**

**Digital spindle speed rotation and machining depth read out.**

**Modern modular machine bed design for improved rigidity, using iron casting parts to get chatter free valve seat machining.**

**Manual front-to-back displacement of the cylinder head with pneumatic locking.**

**Available with a dedicated tool bit sharpener and a 360° roll over fixture.**

**LED worklight.**

**Supplied with the new SERDI tooling that decreases the cutting force by 30%, this machine will cut the hardest seats.**

Patent U.S.A. N° 5,769,576  
European Patent N° 0833711

[www.SERDI.com](http://www.SERDI.com)

**SERVICE QUALITY RELIABILITY**

**World Class Technology**



# SERDI

## CONTROL PANEL



Spindle control buttons located just behind the handwheel to change with ease the spindle speed rotation, switch spindle direction or reset the depth control measurement.

Digital depth control accurate until 0.0004 in (0.01 mm). Displayed in inch or millimeter

Two switch buttons to fastly activate both sphere and cylinder cushions, or lock them.

Large handwheel for a better control of machining depth.

## LED LIGHTNING

The machine frame is equipped with LED lightning for an increased light ratio and a better energy saving.



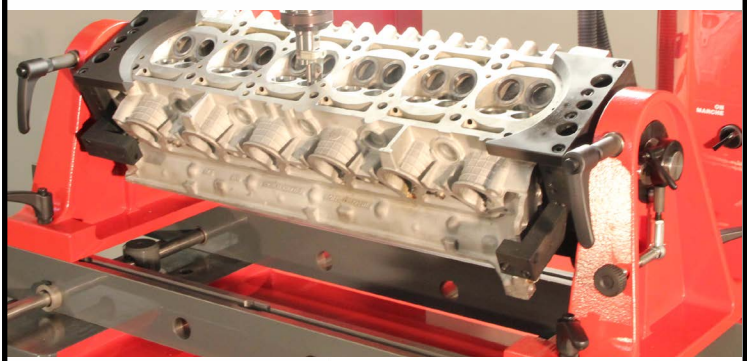
## TOOL SHARPENER

Diamond wheel cutting bit sharpener to increase tooling lifetime.

## INTEGRATED VACUUM TESTER

For a fast valve sealing check before removing the cylinder head.

## 360° ROLL OVER FIXTURE



This feature allows a quick and easy mounting of the cylinder head while keeping a powerful clamping thanks to two jaws. It makes easier operations which require the access to different sides of the head. Guide levelling is made with the fine feed setting.

## TRIPLE

Our triple air cu spindle decrease floating parts w which improve

It does automa guide regardle or angular de pilot

## STURDY MACHINE DE

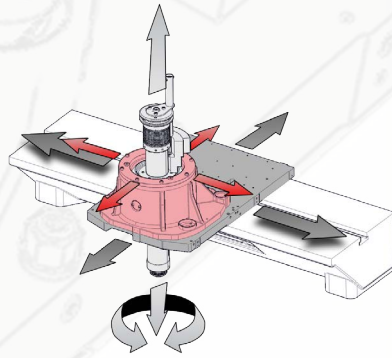
The beam, columns and table bed are made of iron on a welded frame, to keep chatters away



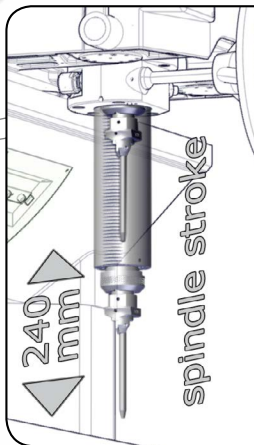
## AIR CUSHION

...shion and built-in motor  
...es dramatically the free  
...weight during centering  
...es speed and accuracy.

...tically align each valve  
...ss of any misalignment  
...flection thanks to live  
...t technology.



## SPINDLE SPECIFICATIONS



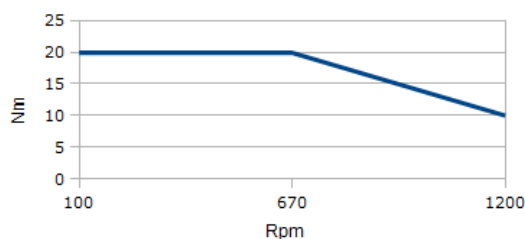
A 1.2 kW built-in motor-spindle paired with a 1.5 kW Siemens Inverter, with a maximum torque from 100 to 670 rpm and a maximum speed of 1200 rpm.

Stator cooled by heat sink

Rigid heavy duty motorspindle of 3.15 in (80 mm) diameter for machining without chatter.

Ensure a considerable machining accuracy thanks to a high precision tooth rack and a whole spindle assembly rigid and concentric to the valve guide.

### MOTOR SPINDLE TORQUE CURVE



## PARALLELS

Parallels can be manually moved back and forth on 160 mm. Then they are locked by two powerful pneumatic jacks, clamping them firmly on the machine bed.

## DESIGN

...n castings, firmly assembled  
...while seat machining.

## Applications:

### Racing:



### Motorcycle:



### Automotive:



### Aeronautics:



### Marine:



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## TECHNICAL FEATURES

### Space requirements

Length (standard)	mm / inch	1690/66.5
Width	mm / inch	1050/41.3
Height	mm / inch	2170/85.4

### Max cylinder head dimensions

Length	mm / inch	1200/47.2
Width	mm / inch	500/19.7
Height	mm / inch	450/17.7
Crosswise work piece tilting	degrees	+42° to -15°

### Table travel

	mm/inch	160/6.7
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### Machining capacity Ø min - max

	mm	16 to 70
	inch	0.6 to 2.75

### Workhead travel

Lengthwise (standard)	mm / inch	930/36.6
Crosswise	mm / inch	50/1.97
Sphere-cylinder travel	mm / inch	14/0.5

### Spindle

Max. spindle inclination	degrees	5
Spindle travel standard	mm / inch	240/9.4
Spindle motor power	KW / HP	1.2 / 1.6
Spindle inverter power	KW / HP	1.5 / 2
Spindle rotation speed	RPM	100 to 1200

### Connections

Power supply	2.5kVA-230V-AC-1Ph-50/60 Hz	
Pneumatic supply	bar / psi	6/87
Max. air flow	l/mn -CFM	400/15
Noise level at 400 RPM	DbA	72
Noise level at 1200 RPM	DbA	82
Net weight approx.	kg / lbs	1085/2362

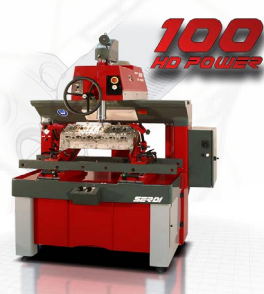
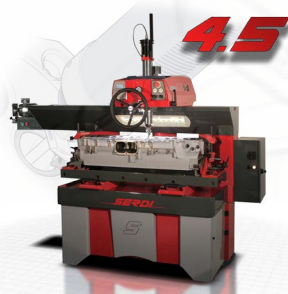
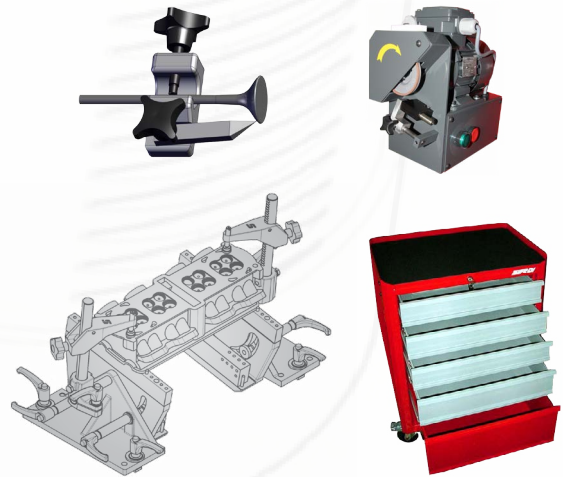
## BASIC EQUIPMENT

### Clamping system kit 020646

011915	Universal quick clamp x 2
010416	Short clamping bar x 2
011425	Clamping block x 2
013958	Tilting fixture
010434	2 Parallels 30x50x242 mm (1.18x1.97x9.53in)
017577	2 Parallels 20x38x300 mm (0.78x1.5x11.8in)
009796	Set of 6 long spins
017576	Set of 6 short pins

### Accessories kit

405882	Magnetic depth stop
014240	Tool cart
010119	Carbide bit sharpener
405580	Tool setting device SERDI 4200
304697	Set of 7 pads



**STronik**  
MULTI-SPINDLE TURN TECHNOLOGY

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Your distributor:

Our machines are  
designed and made in  
France

Our tooling is made in  
France and in the USA

