



# SERDI

# 100 ES

**Machine designed on the working principle of the double air-float patented centering system, with an electro spindle delivering massive torque, a very high rigidity machining head and frame, being able to carry very heavy cylinder heads.**

**Machine mainly dedicated to the high speed machining of big diameter seats.**



**Machining capacity from 28mm to 120mm / 1.1" to 4.72".**

**Patented centering system: double air cushion, horizontal and spherical.**

**Fully integrated spindle motor, variable speed from 40 to 840 RPM, paired to a 3 kW Siemens inverter.**

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

**The bed can accommodate either the tilting fixture (+ 42° to -15°), the single axis rollover fixture, the dual axis rollover fixture or the flat clamping fixture.**

**Modern modular machine bed made of cast iron, designed for improved rigidity.**

**Front-to-back displacement of the cylinder head on air cushion table and pneumatic clamping.**

**Particularly recommended for guide diameters bigger than 7mm/0.27".**



Patent U.S.A. N° 4.365.917  
European Patent N° E 022.796

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

**SERVICE QUALITY RELIABILITY**

**World Class Technology**



# SERDI

## SPINDLE SPECIFICATIONS



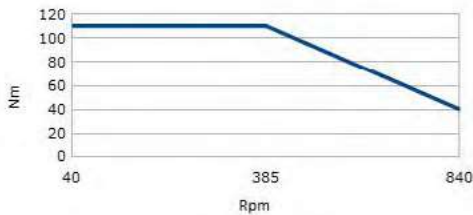
A massive 3 KW (4 HP) built-in motor-spindle with maximum torque from 40 to 385 rpm and a maximum speed of 840 rpm.

Stator cooled by heat sink and fan.

Rigid heavy duty motor-spindle of 4.5" (116 mm) diameter welcoming a motor coupled to a planetary gearbox for a powerful machining without chatter.

Get the best 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



## 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" (0.01 mm). One switch button to fastly enable or lock the sphere air cushion.

Large handwheel for a better control of machining depth.

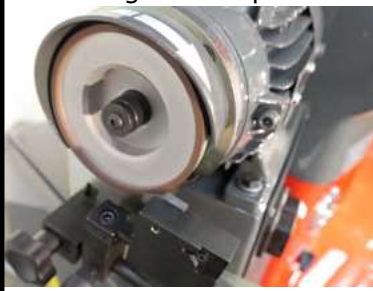
## LED LIGHTNING

The machining head and beam are both equipped with LED lightning for an increased light ratio and a better energy saving.



## TOOL SHARPENER

Diamond wheel cutting bit sharpener



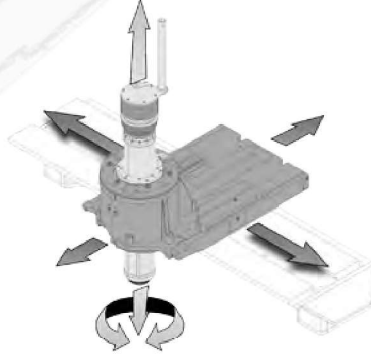
## INTEGRATED VACUUM TESTER

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

## **DOUBLE AIR CUSHION**

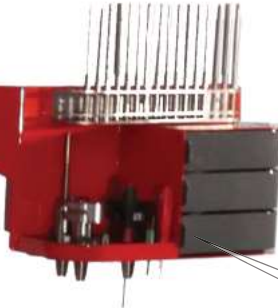
The centering is made by association of a spindle floating on a spherical air cushion and a rigid light weight aluminium head plate floating on a plane air cushion.

It does automatically align each valve guide regardless of any misalignment or angular deflection thanks to live pilot technology.



## **TOOLRACK**

Ergonomic and tiltable, fitted with three drawers. Designed to welcome pilots, tool holders, bit holders and common tools from Serdi.



## **AIR FLOATING SUPPORT TABLE**



Cylinder heads up to 350 kgs can be moved back and forth without any effort and then locked by two powerful pneumatic jacks.

## **PNEUMATIC FOOT PEDAL**

To move the head laterally, or clamp it and to activate the horizontal air cushion for centering.

## **Applications:**

### **Heavy diesel:**



### **Stationary engines:**



### **Marine:**



### **Railways:**



### **Automotive:**



# **100**

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## TECHNICAL FEATURES

### Space requirements

Length (standard)	mm / inch	2000/78.7
Width	mm / inch	1150/45.3
Height	mm / inch	2500/99

### Max cylinder head dimensions

Length	mm / inch	unlimited
Width	mm / inch	500/19.7
Height	mm / inch	500/19.7

### Table travel

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

	mm	28 to 120
	inch	1.1 to 4.73

### Workhead travel

Lengthwise (standard)	mm / inch	1000/44
Crosswise	mm / inch	44/1.7

### Spindle

Max. spindle inclination	degrees	5
Spindle travel standard	mm / inch	345/13.5
Spindle motor power	KW / HP	3 / 4
Spindle rotation speed	RPM	40 to 840

### Connections

Power supply	4kVA-230V-AC-1Ph-50/60 Hz	
Pneumatic supply	bar / psi	6/87
Max. air flow	l/mn -CFM	400/11
Noise level at 300 RPM	DbA	72
Noise level at 800 RPM	DbA	82
Net weight approx.	kg / lbs	1400/3086

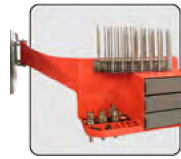
## BASIC EQUIPMENT

### Clamping system kit 020641

011915	Universal quick clamp x 2
010416	Short clamping bar x 2
010426	Long clamping bar x 2
010432	End clamping plate x 2
011425	Clamping block x 2
013958	Tilting fixture
014039	U parallel x 2
010434	2 Parallels 30x50x242 mm (1.18x1.97x9.53in)
017577	2 High parallels 20x38x300mm (0.787x1.5x11.8in)
009796	Set of 6 long pins
017576	Set of 6 short pins

### Optional accessories

034048  
Toolrack



033828  
Carbide bit sharpener



405580  
Setting device SERDI 4200



024298  
Bubble level



033622  
Single axis rollover fixture



033763  
Dual axis rollover fixture



### MACHINES SERDI S.R.

23, avenue des vieux moulins  
B.P. 380  
74012 Annecy Cedex  
France

☎ 00 33 4 50 65 63 00

Fax: 00 33 4 50 52 99 92

www.serdi.com

Email: export@serdi.com

### SERDI CORP.

1526 Litton Drive  
Stone mountain  
Georgia 30083  
USA

☎ (770) 493 8220

Fax: (770) 493 8323

Your distributor:



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Blaaksedijk 30 | 4793 RN Fijnaart | Nederland  
tel. +31 (0)168 46 44 61 info@ftf.nl www.ftfmachines.com