

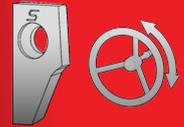


# SERDI

# 100 ES L

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 on very large cylinder heads.



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  
the flat clamping fixture  
to install very large  
cylinder heads.

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

Front-to-back  
displacement of the  
cylinder head on  
guiding rail 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



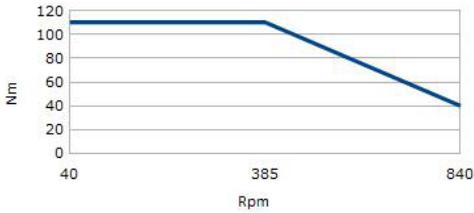
A massive 3 KW (4 HP) built-in motor-spindle with maximum torque from 40 to 385 rpm and a maximum speed of 840 rpm.

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.

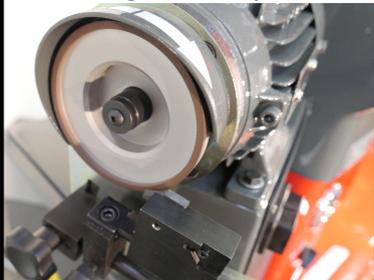
Large handwheel for a better control of machining depth.

## 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.

## TWO PNEUMATIC FUNCTIONS

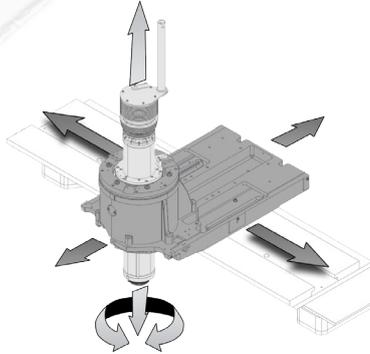
One to move the head laterally, or clamp it with air cushion for centering. The second to...



## 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.



## SUPPORT TABLE



The support table is mounted on two guiding rails.

It can move cylinder heads up to 850 kgs (1870 lbs) back and forth without any effort.

The table is then firmly clamped by four pneumatic jacks.

## FOOT PEDALS

... and to activate the horizontal air  
to unlock or clamp the table

## Applications:

### Heavy diesel:



### Stationary engines:



### Marine:



### Railways:



# 100 ES L

## TECHNICAL FEATURES

### Space requirements

Length (standard)	mm / inch	2200/86
Width	mm / inch	1150/45.3
Height	mm / inch	2500/99

### Max cylinder head dimensions

Length	mm / inch	1370/54
Width	mm / inch	500/19.7
Height	mm / inch	790/31
(to fit under the beam)	mm / inch	(550/21.6)

### Table travel

	mm/inch	300/11.8
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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	1500/59
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	2000/4400

## BASIC EQUIPMENT

### Flat clamping system kit 034826

011915	Universal quick clamp x 2
010416	Short clamping bar x 2
010426	Long clamping bar x 2
010432	End clamping plate x 2
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



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