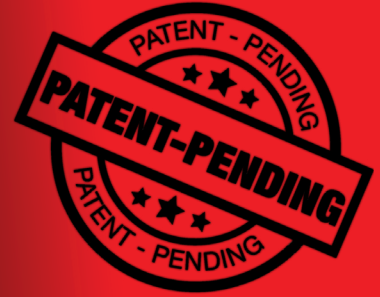




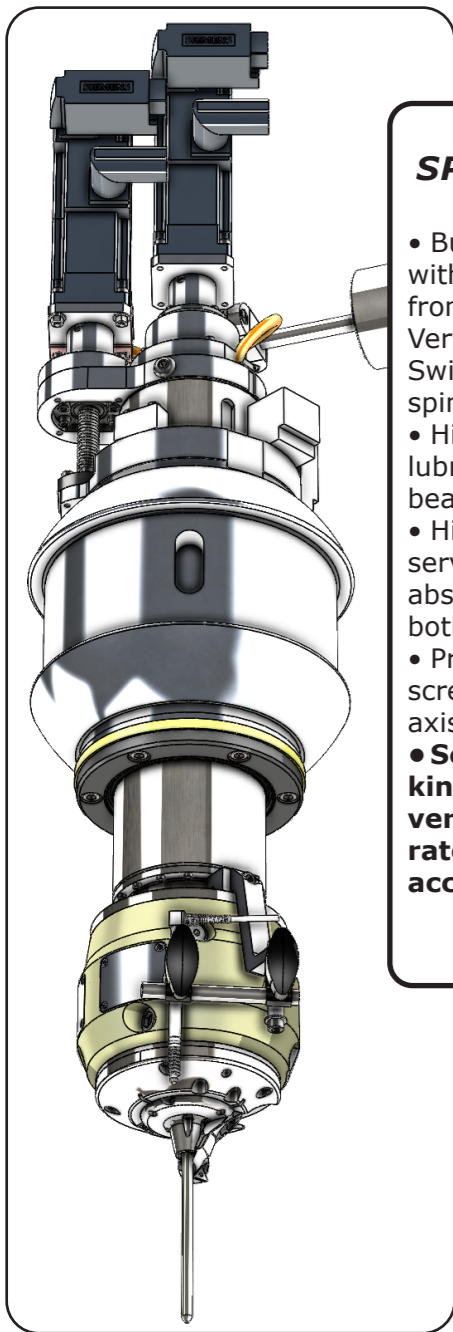
# PROFILE

The latest single point CNC Machine from Serdi. More than 10 years of experience in single point technology condensed into the most advanced machine on the market. Ease of use, speed and accuracy brought to a whole new level, leaving all competition behind.

Extremely versatile machine appropriate for machining any kinds of cylinder heads, from small motorcycle to large stationary engine. It does it all.



- Single point seat cutting machine with CNC driven Z and U axes.
- Gantry architecture workhead for ease of use and maximal machine rigidity.
- Latest generation Siemens CNC, drives and motors.
- User friendly software on a multi-touch screen.
- 3 kW built-in spindle motor, variable speed from 0 to 3000 RPM. High machining accuracy even at low speed thanks to a direct drive transmission.
- Intake and exhaust seats can be performed simultaneously without tool holder changes.
- Machining capacity from 14mm to 120mm (0.55in to 4.73in) and way more with special tooling.
- Built-in spindle motor and triple air-float centering system. Minimal floating parts inertia (30% lighter than the previous generation) and maximal flotation for unmatched centering sensitivity.
- Powerful mechanical clamping of the work head on the machine bed. Normally closed gantry system clamping.
- Redesigned and FEA optimized cast iron machine base for improved rigidity.

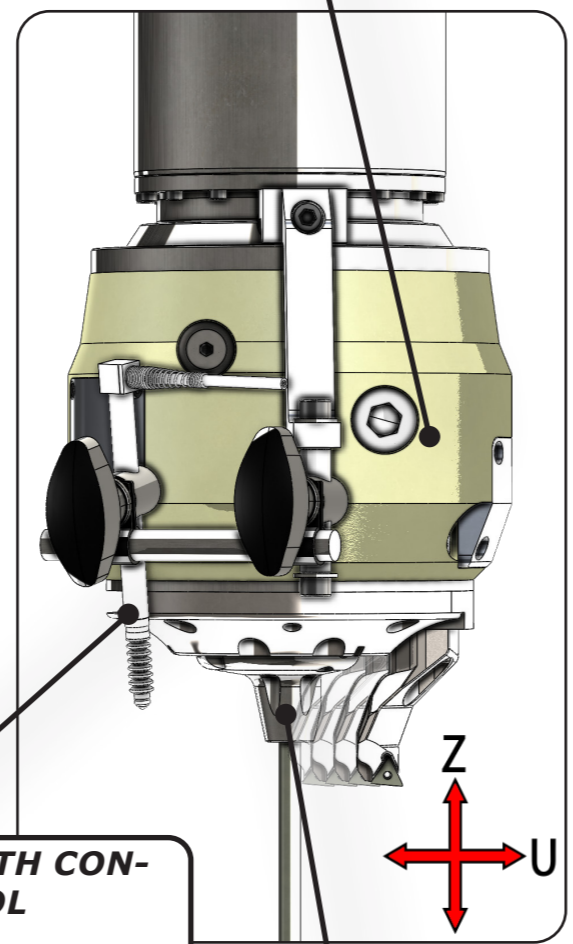


**SPINDLE SPECIFICATIONS**

- Built-in motor-spindle with maximum torque from 0 to 3000 rpm. Very high power density Swiss made synchronous spindle motor.
- High precision life lubricated spindle bearings.
- High dynamic Siemens servomotors with absolute encoders on both Z and U axis
- Preloaded precision ball screws on both Z and U axis.
- **Serdi designed kinematics allow very high machining rates with unmatched accuracy.**

**U-AXIS**

- Large 22mm (0.86in) travel reduces the need for tool change/adjustment.
- **Automatic balancing system** for a smooth operation even at the highest speeds.

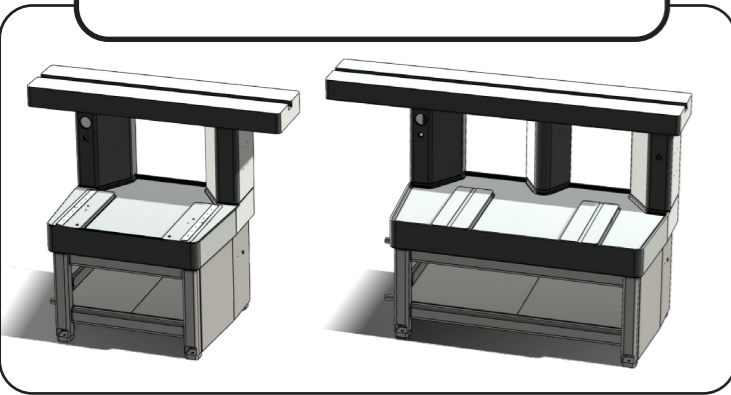


**LVDT DEPTH CONTROL**

- LVDT gauge to guarantee the same accurate machining depth on all the seats, regardless of the cylinder head inclination.
- Very easy to adjust articulated arm.

**LARGER BASE AVAILABLE**

- Wider footprint for increased stability.
- Longer beam with a **parking area**.
- Eases the handling of large cylinder heads.
- 1500mm (59in) workhead travel.



**HYDRAULIC EXPANSION PILOT HOLDER**

- High clamping force combined with the highest concentricity level.
- Screw actuated.
- Radially and angularly adjustable.
- Fits all standard Serdi Pilots.

**GANTRY DESIGN**

- The whole spindle and centering system assembly moves up and down along rigid preloaded guideways.
- Manual vertical movement guaranties the ease of pilot insertion.
- The sturdy design coupled with a short spindle travel greatly increase global rigidity.
- Safe "normally closed" clamping system for increased safety : The gantry is clamped when no pressure is applied.
- Perfectly balanced spindle whatever the working height.
- Adjustable stop.

**AIR FLOAT CENTERING SYSTEM**

- Serdi's proven triple air float and the built-in motor combination results in an unequaled centering accuracy.
- **30% floating mass reduction** (all floating parts when centering) compared to the previous single point generation.
- New machine architecture greatly reduce the lever arm between the pilot and the floating system. Pilot flexion due to the floating mass is thus kept to a minimum.

**LATEST GENERATION CNC**

- Siemens 840dsI CNC / Sinamics S120 Drives / Simotics S Servo motors for a perfectly coherent and integrated solution.
- **Multi-touch HMI screen.**
- Sinumerik OS with custom designed interfaces.
- Very easy conversational programming.
- Sinumerik Openness allows for continuous software improvement and custom features development.
- Connectivity and network integration : USB and Ethernet. Ethernet connection allows for remote monitoring, data transfer and **teleservice**.



**INTEGRATED VACUUM TESTER**

- Quick valve sealing check.
- Various pads fit all port types.

**Y TABLES**

- Both parallel bars mounted on preloaded guideways.
- Manual locks on both guideways
- Accommodates any Serdi fixture.

## TECHNICAL FEATURES

### Space requirements

Width	mm / inch	2800 / 110
Depth	mm / inch	1400 / 55
Height	mm / inch	2400 / 98.5

### Max cylinder head dim. on parallels with standard pilot

Length	mm / inch	unlimited
Width	mm / inch	500 / 19.7
Height	mm / inch	400 / 15.3

### Max cylinder head dim. on roll over fixture with standard pilot

Length	mm / inch	1050 / 41.3
Width	mm / inch	300 / 11.8
Height	mm / inch	190 / 7.5

### Parallel bars travel

	mm / inch	210 / 8.26
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### Machining capacity Ø min - max

	mm	14 to 120+
	inch	0.55 to 4.73+

### Workhead travel

Lengthwise	mm / inch	990 / 39
Crosswise	mm / inch	50 / 1.97
Vertical	mm / inch	330 / 13
Sphere-cylinder travel	mm / inch	14 / 0.5

### S-axis (spindle)

Max. spindle inclination	degrees	4
Spindle motor power	KW	3
Spindle rotation speed	RPM	0 to 3000
Cutting speed	m.min <sup>-1</sup>	0 to 300

### Z-axis (vertical stroke)

Spindle travel	mm / inch	120 / 4.73
Machining feed	mm.min <sup>-1</sup>	0 to 3000

### U-axis (carriage)

Travel (radius)	mm / inch	22 / 0.86
Machining feed	mm.min <sup>-1</sup>	0 to 2000

### Connections

Power supply	6.3kVA-3x400V+PE-50/60 Hz	
Pneumatic supply	bar / psi	6/90
Max. air flow	L/mn -CFM	120/4
Net weight approx.	kg / lbs	1500/3300

## Applications:

### Motorcycle:



### Automotive:



### Racing:



### Marine:



### Heavy diesel:



### Railway:



### Stationary engines:



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