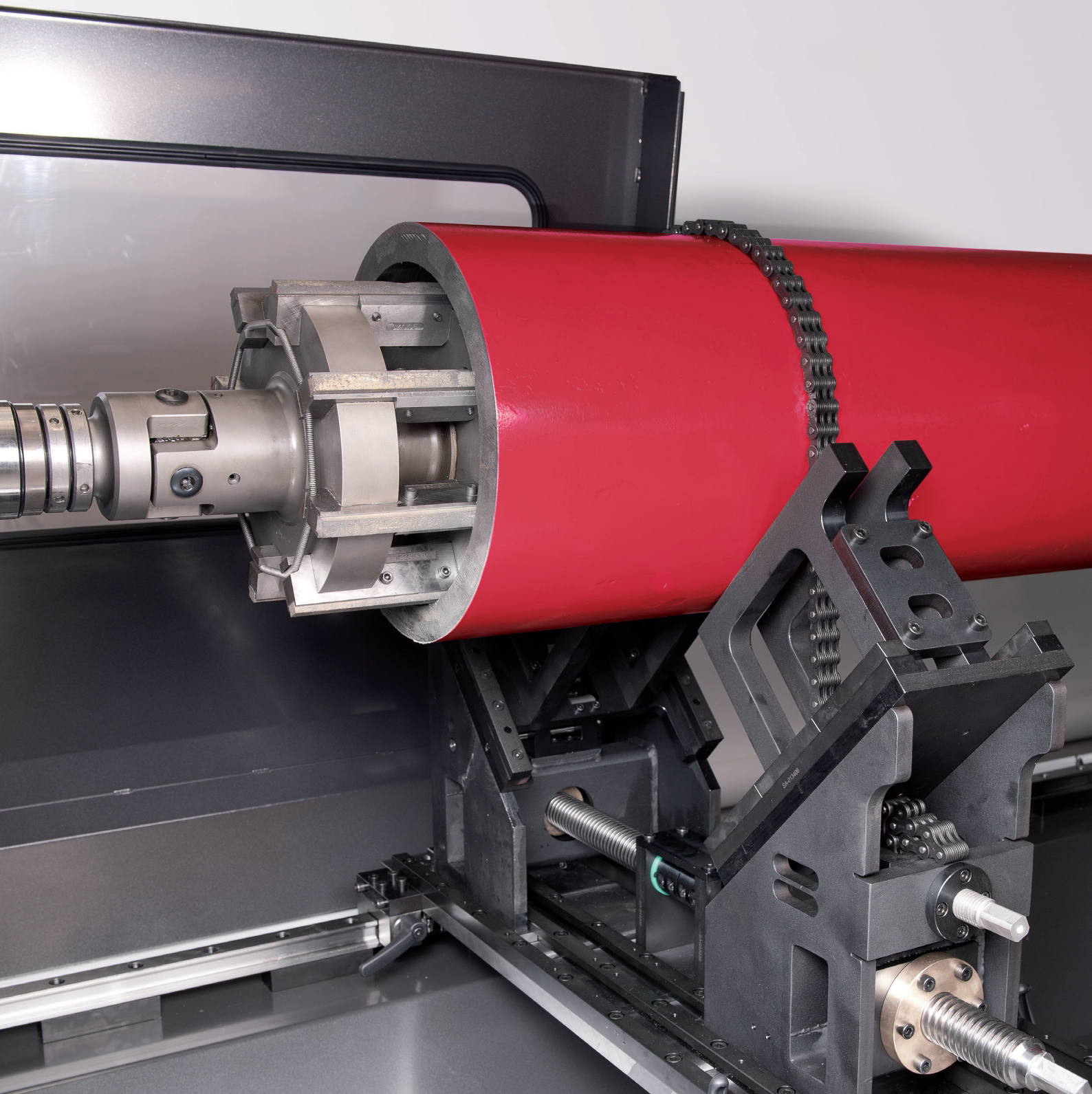




HTS SERIES

Production Tube Hone



Built for demanding applications

Cylinder liners, hydraulic liners,
extrusion cylinders, aircraft
and compressor components



The Sunnen HTS series

Let yourself be inspired by the Swiss HTS series from Sunnen. This new system represents over 30 years of experience. With a state-of-the-art design, the rigid HTS series is completely covered to the floor and comes as a unique modular concept, built to exceed highest demands for production.

The HTS machine reaches up to enormous 1'600 cm³/h.

Anywhere at anytime the system therefore is extendable by either 4 m or 6 m honing length. The rack and pinion stroker system in combination with the 12 kW spindle power and the harmonized gear box ensures optimal and constant power over the whole range. No matter what diameter and tube length you might have, the system will do it. In addition the HTS works with a belt driven tool drive which guarantees smooth working condition and shock protection for the gear box.

With Sunnen's new AutoShift gear box system, the spindle speed will be adjusted automatically guaranteeing maximum possible comfort and safety for the operator. The largest manufacturer of tube honing technology delivers to you major advantages for the future.

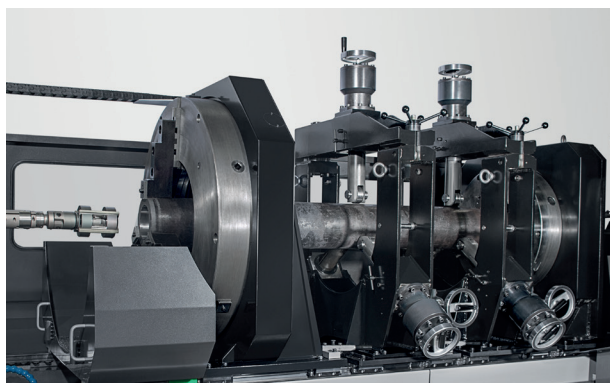
As an **all-inclusive supplier**, Sunnen takes full responsibility for the entire process.



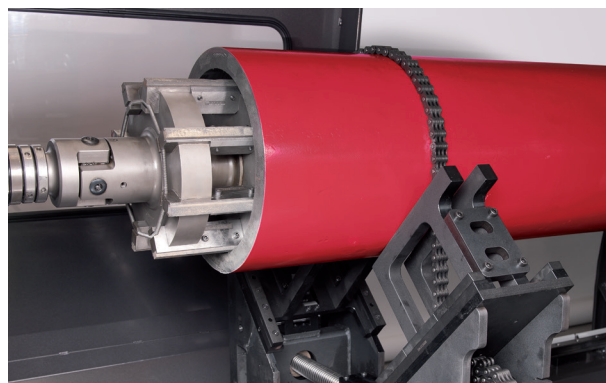


Intuitive touch control with clear, self-explanatory screen. It is the ideal system for optimized process control and fits in all production industries. No programming skills required. A new set-up can be made within 2 minutes, step-by-step. The system recommends the required tool, sets the spindle speed and all necessary cycle parameters. All parameters can be stored.

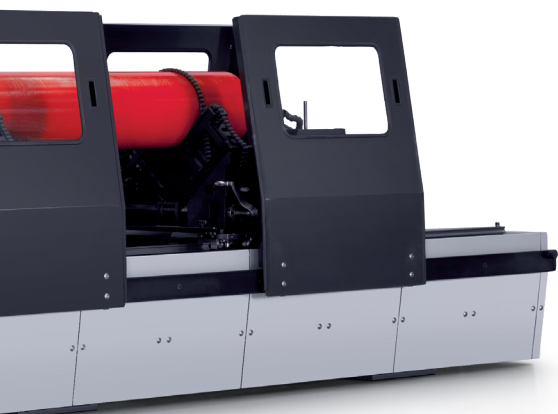
Easy to operate - The 100% control of the process ensures optimal stock removal and protection of the tool. The system indicates high and low spots and corrects the geometry without operator intervention. For best stock removal and optimum stone wear the tool expansion is controlled continuously and avoids overloading of the tooling for maximum protection.



The **rotation device** prevents axis misalignment and guarantees a better bore geometry. The **steady rests** (standard from 6 m) are easily to set up.



The **universal V-type chain fixture** is simple to adjust and has a large diameter range up to 1'000 mm.



KEY FACTS

Highest demand honing

- Diameter up to 1'200 mm
- Bore length up to 13'000 mm
- Stock removal rate up to 1'600 cm³/h

PRECISION PERFORMANCE

Reliable accuracy and consistency

- Repeatable full and short stroke within 0.1 mm
- Automatic bore geometry correction
- Sizerock and stone wear compensation
- Dwell, oscillation feature and sparkout function
- 100% process control with tool overload protection

EASY OPERATION

Reduced cost per bore

- Short setup and changeover time
- Program memory for over 900 setups
- Variable stroke speed during cycle
- Easy to maintain

Technical specifications

CAPACITY

Stock removal power	up to 1'600 cm ³ /h
Inside diameter	20 - 1'000 mm (optional up to 1'200 mm)
Outside diameter	see chapter „WORK HOLDING FIXTURE“ below
Bore length	2'000 / 4'000 / 5'500 / 7'500 / 9'500 / 11'500 / 13'000 mm

DIMENSIONS

Length	8'500 - 32'500 mm
Width	1'500 mm
Weight	5'500 - 15'000 kg

SPINDLE DRIVE SYSTEM

Motor (AC)	15 kW
Speed range (Infinitely variable)	10 - 480 RPM

STROKE SYSTEM

Motor (Servo)	10.6 kW
Speed range (Infinitely variable)	0.1 - 48 m/min

TOOL FEED SYSTEM

Motor (Servo)	3.5 kW
Motion	Rotary tool feed system with overlap gear

COMPUTER CONTROL

IPC, Windows® EMBEDDED control system, screen size 15"

WORK HOLDING FIXTURE

Option 1	Universal V-type chain fixture (40 - 600 mm, 6'000 kg)
Option 2	Universal V-type chain fixture (50 - 810 mm, 8'000 kg)
Option 3	Universal V-type chain fixture (60 - 1'000 mm, 8'000 kg)

SUPPLY REQUIREMENTS

Electrical system	400 - 460 VAC, 50/60 Hz
Pneumatics	6 bar

COOLANT SYSTEM

Option 1	Coolant tank with chiller and magnetic separator (cleaning rate 70%) Capacity of 600 l, 65 l/min
Option 2	Centrifugal filter unit with integrated oil chiller or customer solution

SAFETY FEATURES

CE / Front: Light curtain, Back/Sides: Fence with door (optional)

PAINT

Silver grey RAL 9006 / Anthracite 6482 / Red RAL 3001

OPTIONAL FEATURES

Special fixtures on request
Other spindle motors for special applications (up to 20 kW)
Part rotation device (50 - 525 mm)
Moving steady rests for 2 to 4 meter machines
Double stage tool option (roughing / finishing)
Taper bore option

