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ABOVE AND BEYOND HONING



Production Tube Hone

# HTC-W Series

design: vegraphics.ch

X-SAG-HTC-E-C

# Built for high volume production

## The Sunnen HTC-W Series

The HTC-W Series is the result of 30 years experience in tube hone design and manufacturing, combined with inputs from our customers around the globe. Most of the systems are custom-built and have enough power and sensibility to work from diameter 25 mm up to 1000 mm. The stock removal rate is given through a 7.0 kW servo drive and a 4-step gearbox. This configuration ensures optimum power in the whole diameter range and a stock removal rate up to 900 cm<sup>3</sup>/h. Together with the Sunnen tools, abrasives and coolant oils, all the HTC-W Systems are working at their top performance and will meet everybody's production demands.

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



## Features and Benefits

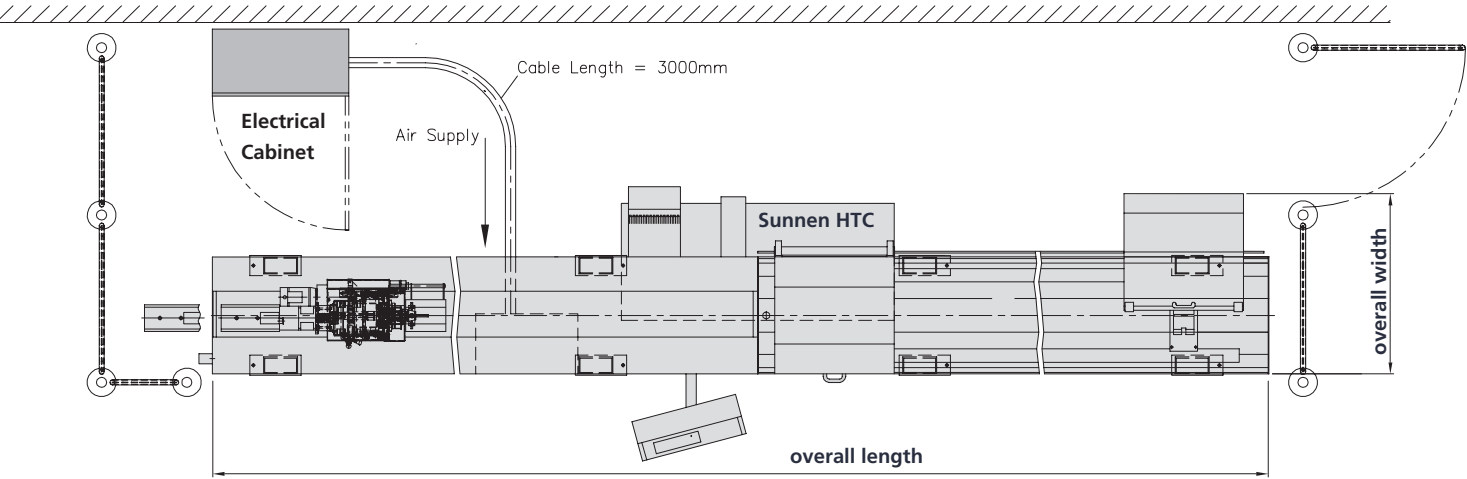
- **Large diameter range with stock removal rate of 900 cm<sup>3</sup>/h and more**
- **Automatic bore geometry correction**
- **Direct cross-grinding of rough parts, without expensive bore drilling**
- **100% process control with tool overload protection**
- The 3-axis function control manages stroke positions, motion control, stone feed, spindle speed and the cutting pressure guarantees the most favorable accuracy and bore geometry
- Repeat position of stroke within 0.1 mm during operation, independent of different stroke speeds
- Stroke speed variable (stroke rate adjustable in 0.1 m/min increments through operator interface adjustable during cycle)
- Size lock system with stone wear compensation
- Dwell and oscillation feature
- Spark out function
- All axes are electrical driven (efficiency up to 90%)
- Storage facility for over 900 programmed set-ups
- Spindle jog, short stroke at any position
- Digital stroke position indicator
- Digital stroke speed indicator
- Digital spindle RPM readout

HTC-W Series		Variation of HTC-6300W to HTC-10300W
<b>Capacity</b> <ul style="list-style-type: none"><li>• Stock Removal Power</li><li>• I.D. Capacity</li><li>• O.D. Capacity Standard</li><li>• O.D. Capacity Optional</li><li>• O.D. Capacity Special</li></ul>	up to 900 cm <sup>3</sup> /h (55 in <sup>3</sup> /h) 25 - 1000 mm (1 - 40 in) 60 - 400 mm (2.4 - 15.8 in) 350 - 600 mm (13.8 - 23.6 in) (with additional HT-350 Fixture) 70 - 1000 mm (2.8 - 40 in) (with special work base)	
<b>Spindle Drive System</b> <ul style="list-style-type: none"><li>• SERVO-Spindle Motor</li><li>• Spindle Speeds-Ininitely Variable</li></ul>	7.0 kW 15 to 450 RPM	
<b>Stroke System</b> <ul style="list-style-type: none"><li>• Stroke Servo Motor</li><li>• Stroking Speeds</li></ul>	4.2 kW 0.1 - 40 m/min	
<b>Tool Feed System</b> <ul style="list-style-type: none"><li>• Feed Servo Motor</li><li>• Feed System</li></ul>	1.0 kW Rotary tool feed system by servo motor and overlap gear	
<b>Computer Control</b> <ul style="list-style-type: none"><li>• IPC (Industrial PC Control), Windows EMBEDDED control system / Screen size 15"</li><li>• Languages E/D/I/F/S</li></ul>		
<b>Work Holding Fixture</b> <ul style="list-style-type: none"><li>• 2 Standard</li><li>• Optional HT-350</li><li>• Optional special work base</li></ul>	Universal V-Type chain fixture (30 - 400 mm) Universal V-Type chain fixture (350 - 600 mm) Universal scissor fixture (70 - 1000 mm)	
<b>Supply Requirements</b> <ul style="list-style-type: none"><li>• Electrical system</li><li>• Compressed air</li></ul>	400 - 460 Volt; 50/60 Hz; 3-phase 30 liter per minute at 6 bar	
<b>Lubrication System</b> <ul style="list-style-type: none"><li>• Way Bearings</li><li>• Spindle Bearings</li><li>• Gear Reducers</li></ul>	Live time lubrication Oil Bath Oil Bath	
<b>Coolant System</b> <ul style="list-style-type: none"><li>• Tank</li><li>• Supply Pump</li><li>• Magnetic Separator</li><li>• Filter System Optional</li></ul>	300 liter reservoir (500 liter optional for HTC-2300W to HTC-4300W) 38 l/min (50 l/min optional for HTC-2300W to HTC-4300W) Cleaning rate 70 % External, Turbo Separator Centrifugal filter unit with integrated Oil Chiller or Customer Solution	500 liter reservoir  50 l/min
<b>Safety Features</b> CE Version: <ul style="list-style-type: none"><li>• Standard</li></ul>	1 Light Curtain on front of spindle table 1 Fence with door for back side protection	
<b>Paint</b> <ul style="list-style-type: none"><li>• Grey RAL 9002/RAL 7043</li></ul>		
<b>Optional Features</b> <ul style="list-style-type: none"><li>• PF-401 Filter unit with paper cartridge filter elements for non ferrous application or very fine surface finish requirements</li><li>• IPG-50 In-process gaging system for I.D. 25 - 230 mm</li><li>• Chiller unit</li><li>• Steady Rest for HTC-2300W to HTC-4300W (Stroke length minus 500 mm)</li><li>• Double stage tools option (roughing/finishing Tooling)</li><li>• Taper bore option</li><li>• Part rotary device</li><li>• Special applications can be addressed as required</li></ul>		Standard



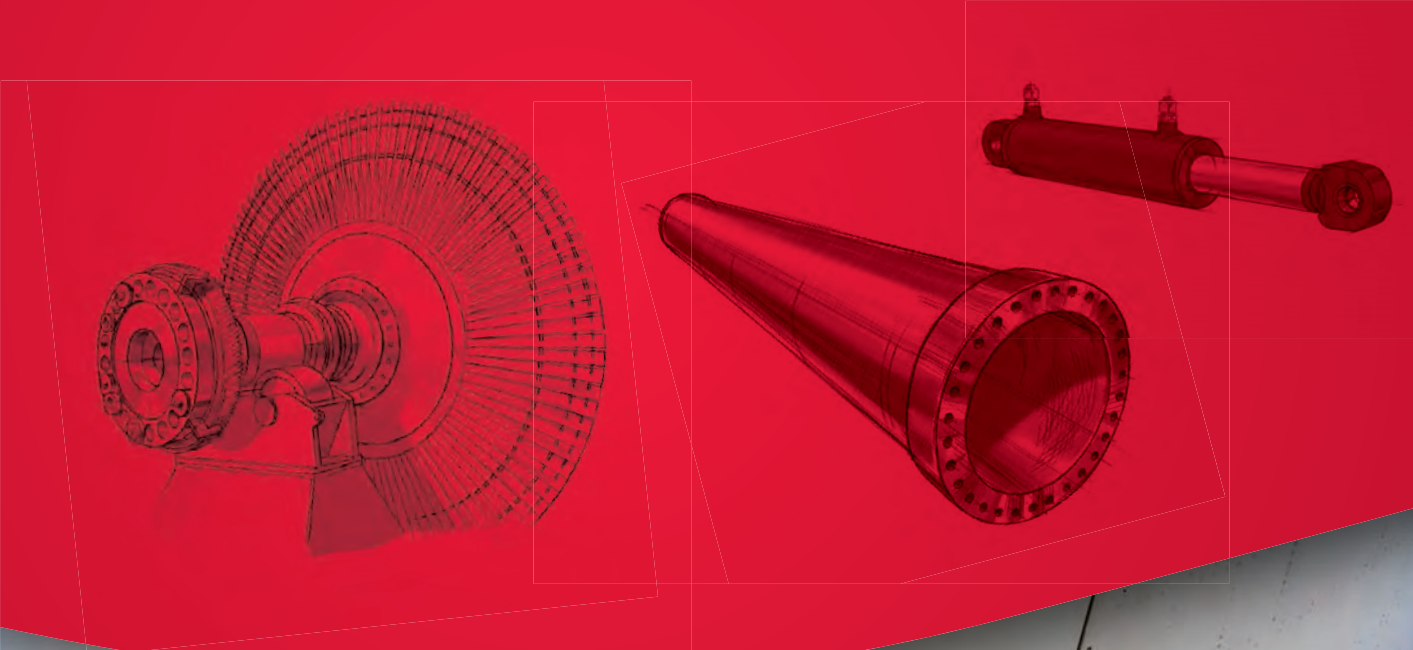
Technical Specifications

HTC-X300W Series Specifications	HTC-2300W	HTC-3300W	HTC-4300W	HTC-6300W	HTC-8300W	HTC-10300W
Maximum Stroke Length	2'000 mm	3'000 mm	4'000 mm	6'000 mm	8'000 mm	10'000 mm
No. of Steady Rests	Optional	Optional	Optional	1	1	2
Overall Length	6'200 mm	8'200 mm	10'200 mm	14'700 mm	18'700 mm	23'200 mm
Overall Width	1'200 mm	1'200 mm	1'200 mm	1'500 mm	1'500 mm	1'500 mm
Spindle Center Height to Floor	1'100 mm	1'100 mm	1'100 mm	1'100 mm	1'100 mm	1'100 mm
Height	1'523 mm	1'523 mm	1'523 mm	1'523 mm	1'523 mm	1'523 mm
Weight	2'600 kg	3'000 kg	3'400 kg	4'600 kg	5'400 kg	6'200 kg
Coolant Capacity	300 l	300 l	300 l	500 l	500 l	500 l



**NOTE:** Sunnen reserves the right to change or revise specifications and product design in connection with any feature of our products contained herein. Such changes do not entitle the buyer to corresponding changes, improvements, additions, or replacements for equipment, supplies or accessories previously sold. Information contained herein is considered to be accurate based on available information at the time of printing. Should any discrepancy of information arise, Sunnen recommends that user verify the discrepancy with Sunnen before proceeding in any bore sizing and finishing operation.

Main Focus: *Cylinder Liners, Hydraulic Cylinders, Extrusion Cylinders, Aircraft Components, Compressor Components*



Aircraft Industry





**Four-Stone GL Tool**  
ø 12.7 - 65 mm  
4 abrasive stones in use



The **unique touch screen control** of  
Sunnen guarantees lowest manufacturing costs per part due to:

**Automatic bore geometry correction**

The system indicates high and low spots and corrects the geometry with appropriate short strokes without operator intervention.

**Easy set-up**

All parameters are stored and the system recommends the required tool, sets the spindle speed and all necessary cycle parameters. A new set-up can be made within 2 minutes, step-by-step.

**Tool overload protection**

The 100% control of the process ensures optimal stock removal and protection of the tool.



**The flexible fixture system**

Standard or with optional part rotary device, the HTC-W can be equipped according to tube shapes and customer needs



**The versatile HTC-W System**

For every application material, the HTC-W system is the ideal system and fits in all production industries.



**Multi-Stone GHSS Tool**  
ø 37 - 141 mm  
6 - 8 abrasive stones in use



**Four-Stone MPS Tool**  
ø 50 - 177 mm  
Easy handling



**Four-Stone HB Tool**  
ø 76 - 1 200 mm  
Large diameter range



**Four-Stone HB-SL Tool**  
ø 97 - 670 mm  
up to 500 cm<sup>3</sup>/h

