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ABOVE AND BEYOND HONING



## Production Tube Hone **HTH-S Series**

design: vegraphics.ch

X-SAG-HTH-E-D

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# Built for highest production flexibility



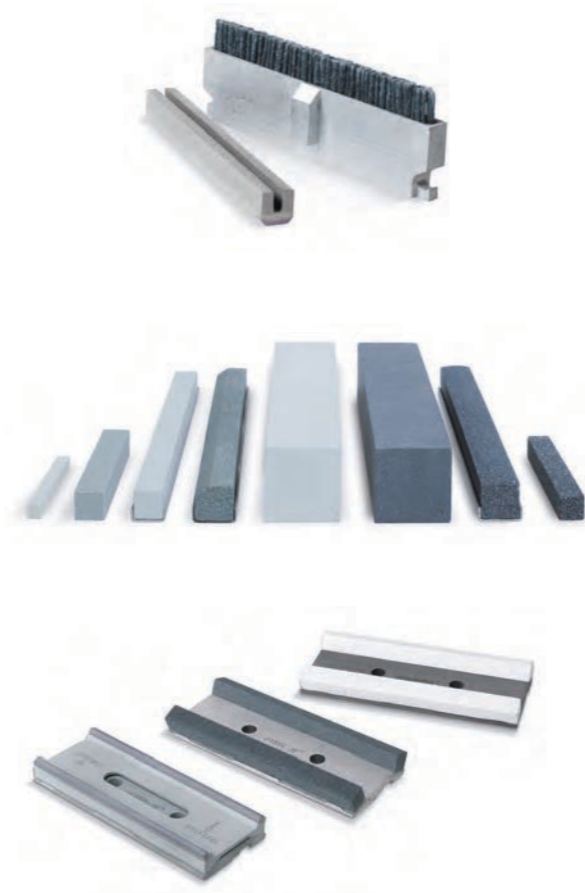
## The Sunnen HTH-Series

The HTH-S Series has now more power and an easy set-up control with wide 10.4" colour touch screen panel. With the 6 kW spindle drive system and the 4-step gearbox the HTH-S ensures maximum power in the whole diameter range (up to 800 cm<sup>3</sup>/h). In addition the system works with a belt driven tool drive which guarantees smooth working conditions and shock protection for the gear box. It is the first system of its kind which offers high flexibility on a production level. Together with the Sunnen tools, abrasives and coolant oils all the HTH-S systems are working at their top performance and will meet customized 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 800 cm<sup>3</sup>/h
- 100% process control with tool overload protection
- Repeat position of stroke within 0.1 mm during operation, independent of different stroke speeds
- Stroke speed variable (stroke rate adjustable in 1 m/min increments through operator interface adjustable during cycle)
- Dwell and oscillation feature
- Spark out function
- All axes are electrical driven (efficiency up to 90%)
- Storage facility for over 100 programmed set-ups
- Spindle jog, short stroke
- Digital stroke position indicator
- Digital stroke speed indicator
- Digital spindle RPM readout

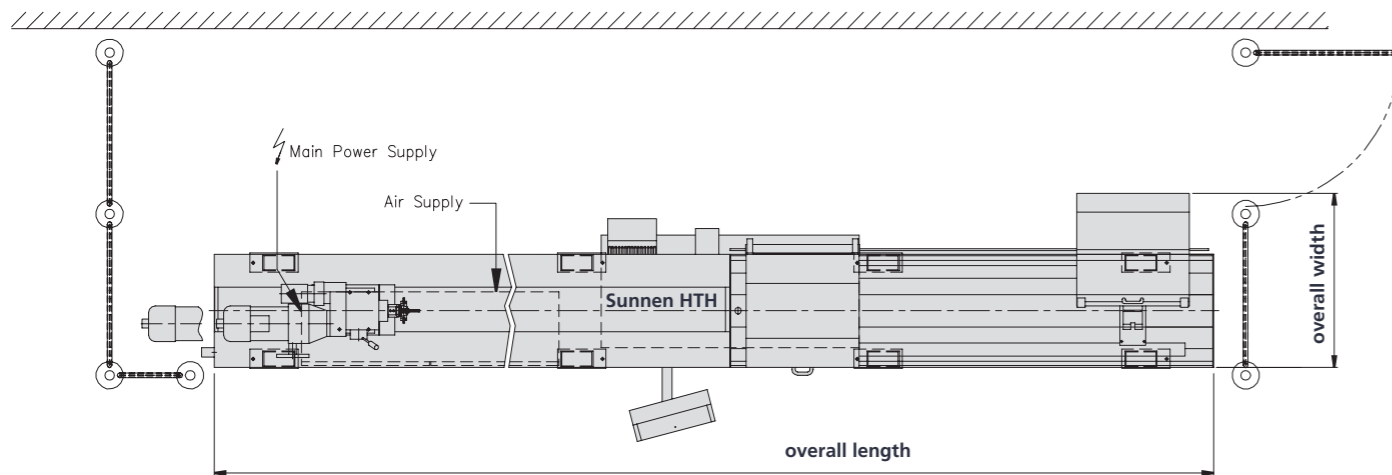


HTH-S Series	Variation of HTH-6000S to HTH-10000S	
<b>Capacity</b> <ul style="list-style-type: none"> <li>• Stock Removal Power</li> <li>• I.D. Capacity</li> <li>• O.D. Capacity Standard</li> <li>• O.D. Capacity Optional</li> <li>• O.D. Capacity Special</li> </ul>	up to 800 cm <sup>3</sup> / h (49 in <sup>3</sup> /h) 25 - 600 mm (1 - 23.6 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>• AC-Spindle Motor</li> <li>• Spindle Speed range</li> </ul>	6.0 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 Motor</li> <li>• Feed System</li> </ul>	0.6 kW Rotary tool feed system by DC motor and overlap gear	
<b>Computer Control</b> <ul style="list-style-type: none"> <li>• PLC Control (SIEMENS S7-300 with standard Profi Bus) Screen size 5.7"</li> <li>• Languages E/D</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 HTH-2000S to HTH-4000S) 38 l/min (50 l/min optional for HTH-2000S to HTH-4000S) 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> <li>• Optional</li> </ul>	1 Light Curtain on front of spindle table 1 Light Curtain on backside of spindle table	
<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 HTH-2000S to HTH-4000S (Stroke length minus 500 mm)</li> <li>• Alternative machine colors</li> <li>• Special applications can be addressed as required</li> </ul>		Standard



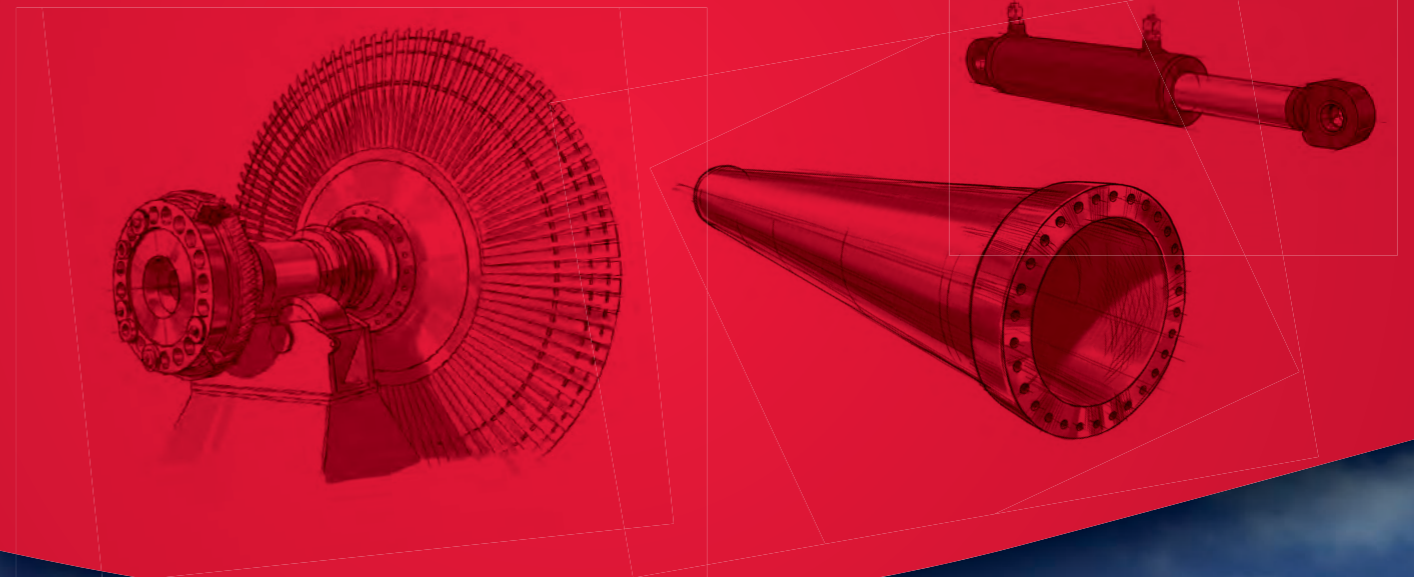
# Technical Specifications

HTH-S Series Specifications	HTH-2000S	HTH-3000S	HTH-4000S	HTH-6000S	HTH-8000S	HTH-10000S
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
<b>Overall Length</b>	<b>6'200 mm</b>	<b>8'200 mm</b>	<b>10'200 mm</b>	<b>14'700 mm</b>	<b>18'700 mm</b>	<b>23'200 mm</b>
<b>Overall Width</b>	<b>1'200 mm</b>	<b>1'200 mm</b>	<b>1'200 mm</b>	<b>1'500 mm</b>	<b>1'500 mm</b>	<b>1'500 mm</b>
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



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

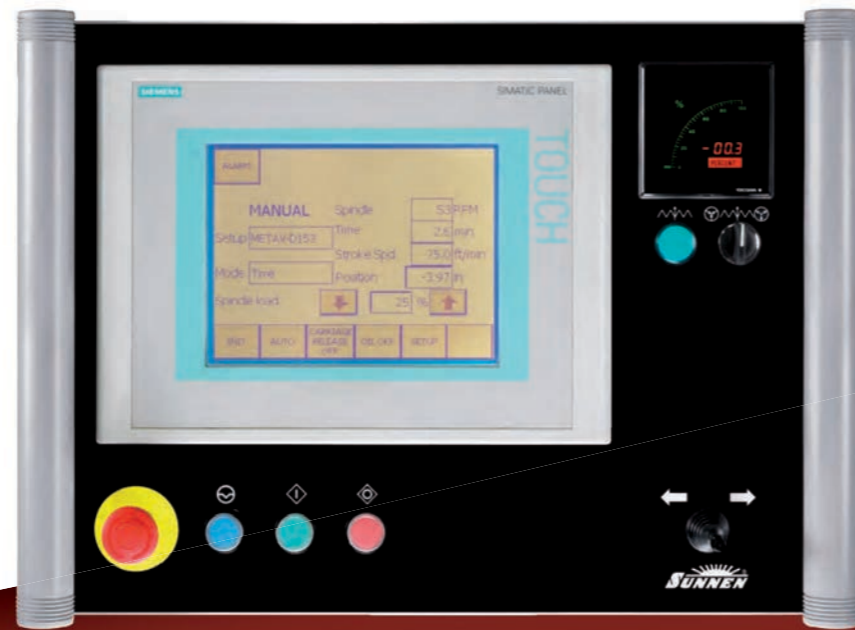


Hydraulic Industry





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



# The **smart touch screen control**

of Sunnen guarantees fastest change-over time.

**The completely new developed control** of the HTH-S system ensures fastest change-over time from one set-up to another. Via the wide colour touch screen every set-up can be made step-by-step while all relevant tool and production parameters are propped automatically.

The HTH-S system offers high flexibility on a high production level with a stock removal rate of 800 cm<sup>3</sup>/h and more.

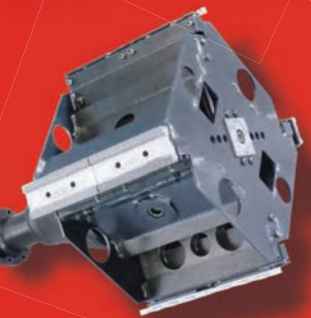
In addition the HTH-S system features the new state-of-the-art bore geometry correction program indicating high and low spots in the bore and correcting the geometry without the intervention of the operator.



**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



**The flexible fixture system**  
 Standard or with optional part rotary device, the HTH-S can be equipped according to tube shapes and customer needs



**The versatile HTH-S system**  
 For every application material, the HTH-S system is the ideal system and fits in all production industries.