

Sunnen Worldwide

Sunnen Products Company

St. Louis – USA
World Headquarters
7910 Manchester Ave.
US - St. Louis, MO 63143
Phone +1 314 781 21 00
Fax +1 314 781 06 92
sunnen@sunnen.com
www.sunnen.com

Sunnen AG

Ennetaach – Switzerland
European Technology Center
Fabrikstrasse 1
CH - 8586 Ennetaach - Erlen
Phone +41 71 649 33 33
Fax +41 71 649 33 34
sales@sunnen.ch
www.sunnen.ch

Sunnen Italia S.r.l.

Arese – Italy
Via Guglielmo Marconi 24/B
IT - 20020 Arese (MI)
Phone +39 02 383417 1
Fax +39 02 383417 50
sunnen@sunnenitalia.com
www.sunnenitalia.com

Sunnen Products Ltd.

Hempstead Herts – UK
No. 1 Centro, Maxted Road
Hemel Hempstead
GB - Herts HP2 7EF
Phone +44 1442 393939
Fax +44 1442 391212
hemel@sunnen.co.uk
www.sunnen.co.uk

Sunnen SAS

Saclay – France
Domaine Technologique
de Saclay
Bâtiment Apollo, 4,
rue René Razel
FR - 91892 Saclay
Phone +33 1 69 30 0000
Fax +33 1 69 30 1111
info@sunnen.fr
www.sunnen.fr

Sunnen Benelux BVBA

Kontich – Belgium
Singel 6/C - bus2
BE - 2550 Kontich
Phone +32 3 880 28 00
Fax +32 3 844 39 01
info@sunnen.be
www.sunnen.be

Sunnen Polska Sp. z o.o.

Warszawa – Poland
ul. Odrowaza 13
PL - 03-310 Warszawa
Phone +48 22 814 34 29
Fax +48 22 814 34 28
sunnen@sunnen.pl
www.sunnen.pl

Sunnen RUS LLC

Moscow - Russia
1-nd Karacharovskaya, 17
RU - 109202 Moskov
Phone +7 495 258 43 43
Fax +7 495 258 91 75
sunnen@sunnen-russia.ru
www.sunnen.ru

Sunnen s.r.o.

Strakonice – Czech Republic
Nabrezi Otavy 73
CZ - 38601 Strakonice
Phone +420 383 376 317
Fax: +420 383 376 316
sunnen@sunnen.cz
www.sunnen.cz

Shanghai Sunnen

Mechanical Co. Ltd.
Shanghai – China
889 Kang Qiao East Road, Pudong
CN - Shanghai 201319, P.R. China
Phone +86 21 58133990
Fax +86 21 58132299
sales@sunnensh.com
www.sunnensh.com



ABOVE AND BEYOND HONING



Production Tube Hone **HTH-S Series**

design: vegraphics.ch

X-SAG-HTH-E-D

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.



Built for *highest* production *flexibility*

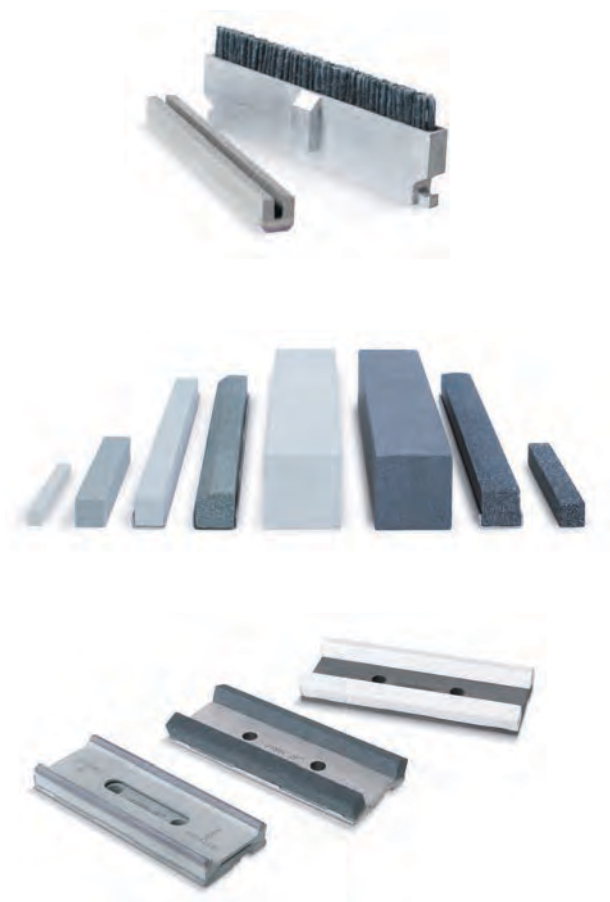
The Sunnen HTH-Series

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 cm³/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

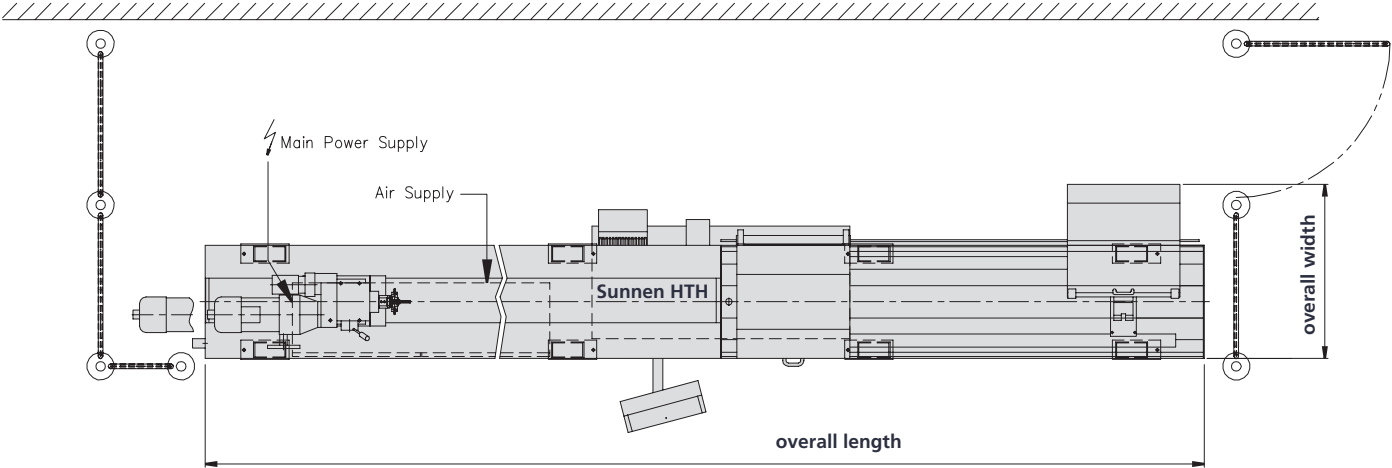
- **Large diameter range with stock removal rate of 800 cm³/h**
- **100% process control with tool overload protection**
- Repeat position of stroke within 0.1 mm during operation, independent off different stroke speeds
- Stroke speed variable (stroke rate adjustable in 1 m/min increments through operator 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
Capacity <ul style="list-style-type: none">• Stock Removal Power• I.D. Capacity• O.D. Capacity Standard• O.D. Capacity Optional• O.D. Capacity Special	up to 800 cm ³ / h (49 in ³ /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)	
Spindle Drive System <ul style="list-style-type: none">• AC-Spindle Motor• Spindle Speed range	6.0 kW 15 to 450 RPM	
Stroke System <ul style="list-style-type: none">• Stroke Servo Motor• Stroking Speeds	4.2 kW 0.1 - 40 m/min	
Tool Feed System <ul style="list-style-type: none">• Feed Motor• Feed System	0.6 kW Rotary tool feed system by DC motor and overlap gear	
Computer Control <ul style="list-style-type: none">• PLC Control (SIEMENS S7-300 with standard Profi Bus) Screen size 5.7"• Languages E/D		
Work Holding Fixture <ul style="list-style-type: none">• 2 Standard• Optional HT-350• Optional special work base	Universal V-Type chain fixture (30 – 400 mm) Universal V-Type chain fixture (350 – 600 mm) Universal scissor fixture (70 – 1000 mm)	
Supply Requirements <ul style="list-style-type: none">• Electrical system• Compressed air	400 - 460 Volt; 50/60 Hz; 3-phase 30 liter per minute at 6 bar	
Lubrication System <ul style="list-style-type: none">• Way Bearings• Spindle Bearings• Gear Reducers	Live time lubrication Oil Bath Oil Bath	
Coolant System <ul style="list-style-type: none">• Tank• Supply Pump• Magnetic Separator• Filter System Optional	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
Safety Features CE Version: <ul style="list-style-type: none">• Standard• Optional	1 Light Curtain on front of spindle table 1 Light Curtain on backside of spindle table	
Paint <ul style="list-style-type: none">• Grey RAL 9002/RAL 7043		
Optional Features <ul style="list-style-type: none">• PF-401 Filter unit with paper cartridge filter elements for non ferrous application or very fine surface finish requirements• IPG-50 In process gaging system for I.D. 25 - 230 mm• Chiller unit• Steady Rest for HTH-2000S to HTH-4000S (Stroke length minus 500 mm)• Alternative machine colors• Special applications can be addressed as required		Standard

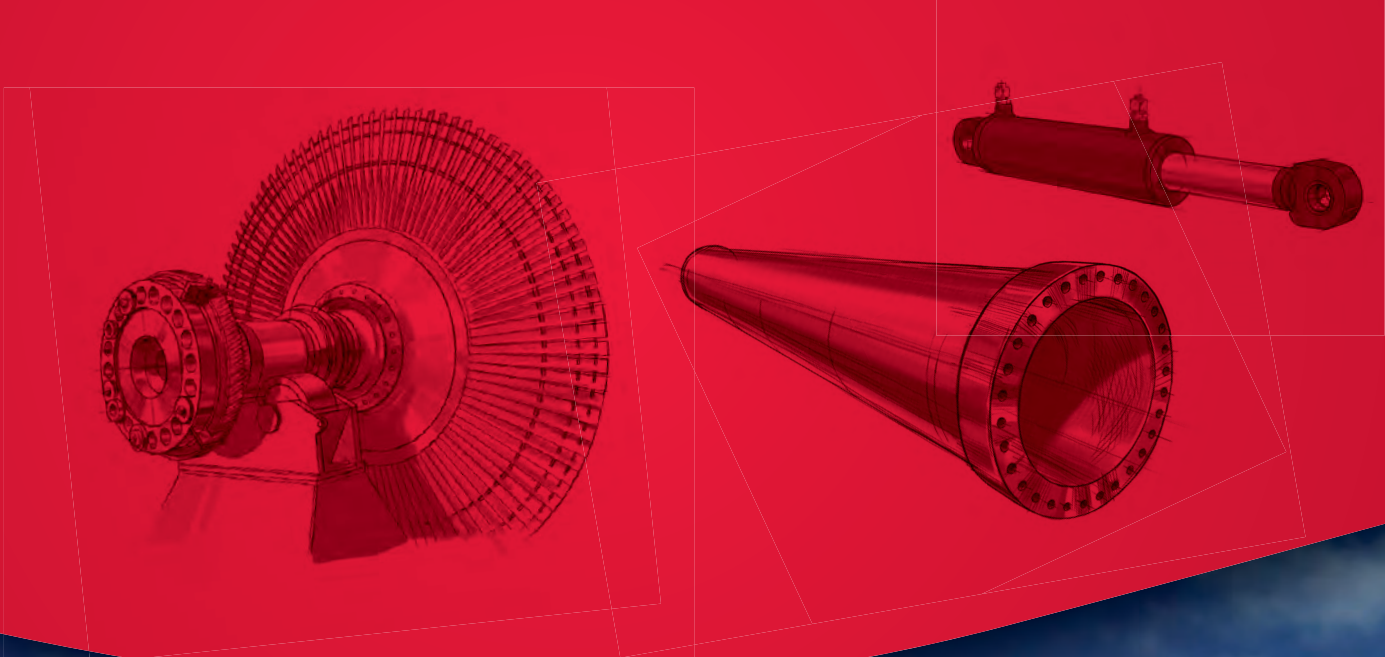
Technical Specifications

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
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



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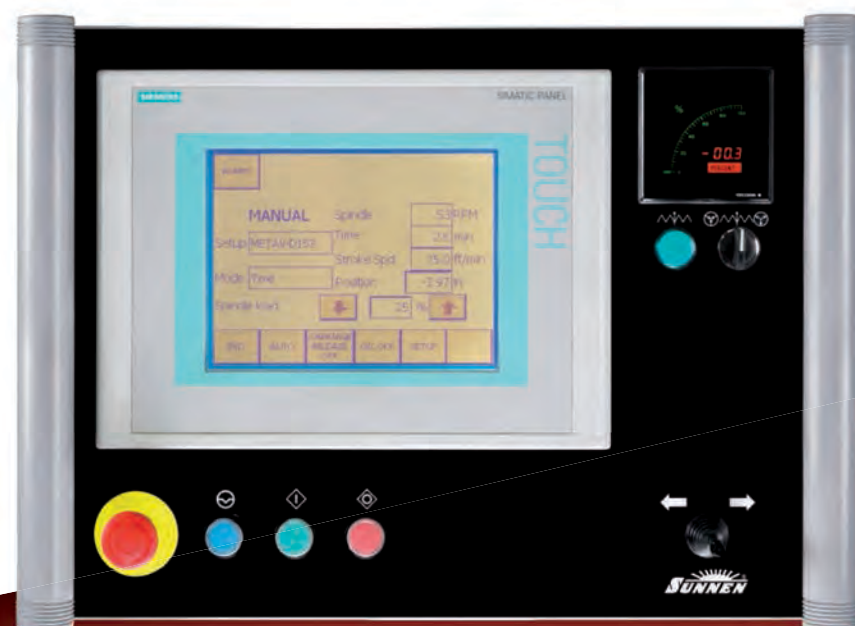
Main Focus: *Cylinder Liners, Hydraulic Cylinders, Extrusion Cylinders, Aircraft Components, Compressor Components*



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.

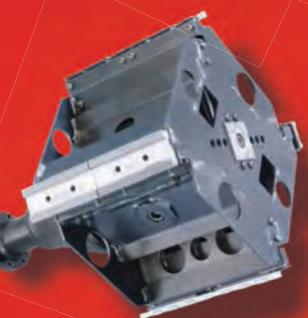
The completely new developed control of the HTH-S system ensures fastest change-over time from one set-up to another. Via the wide colour touch screen every set-up can be made step-by-step while all relevant tool and production parameters are proposed automatically.



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 cm³/h



The HTH-S system offers high flexibility on a high production level with a stock removal rate of 800 cm³/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.



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.