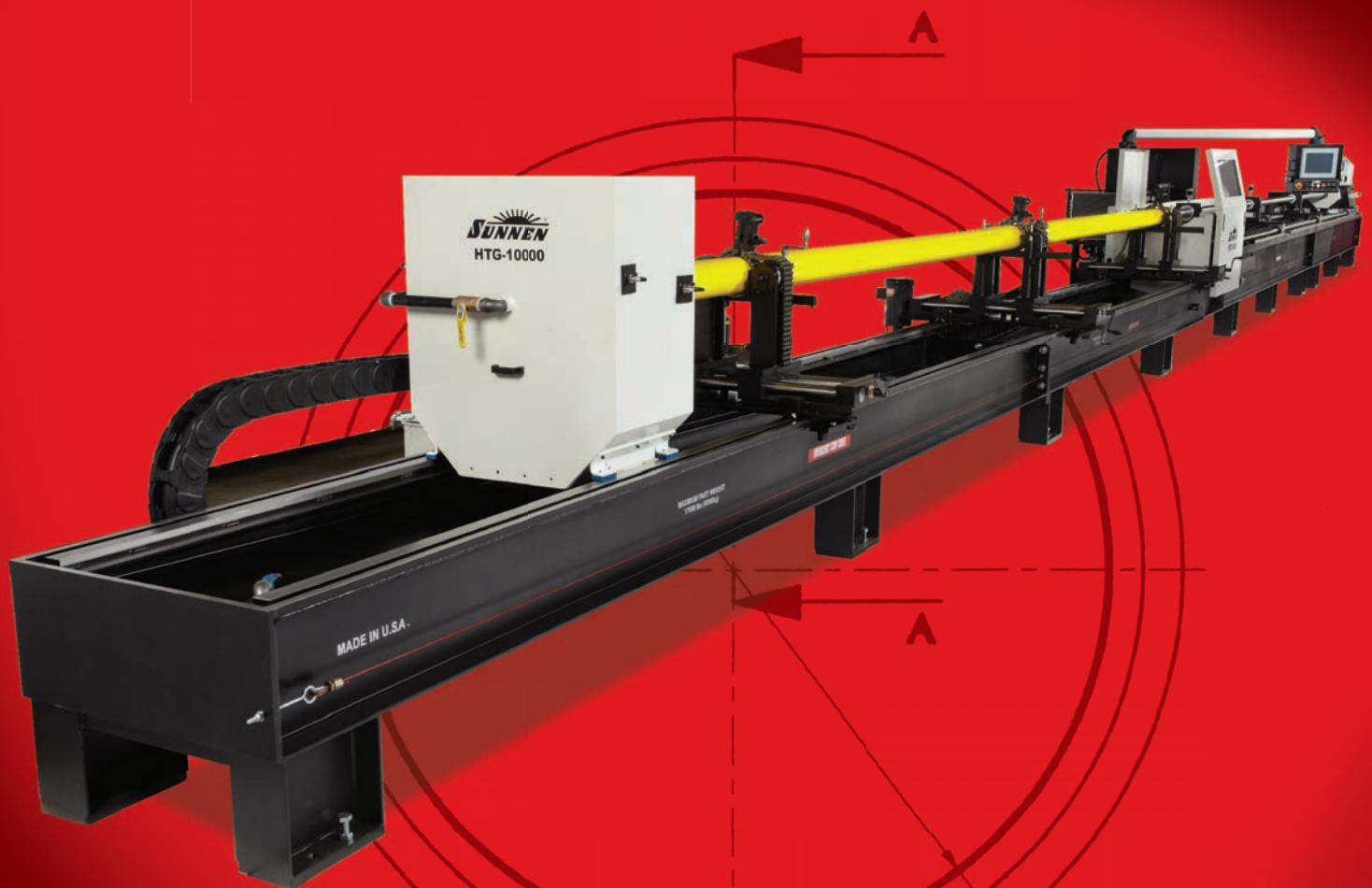




ABOVE AND BEYOND **HONING**

HTG SERIES

HEAVY DUTY HORIZONTAL TUBE HONING SYSTEM



$\varnothing 137.185 \pm 0.025$

	0.18	A-B
	0.025	LG H
	0.013/20°	LG H

SUNNEN'S NEW HTG TUBE HONE . . . MORE SPEED, MO



For decades, Sunnen's GH-210 has been the industry standard for high precision honing of all types of down-hole oil field instruments and tubes. Sunnen once again leads the way with the new HTG Series tube honing system. Developed with customer input and designed to be easy to use, the HTG series systems have all the reliability of the GH-210 but are faster, more precise and are even more powerful.

The standard HTG-10000 can easily handle part lengths up to 30 feet (9.14 m) and weights up to 17,600 lbs. (8000 kg). It has an ID range of 2 to 24 inches (50.8 to 609.6 mm), double that of previous generation machines.

Hydraulic power is delivered where needed -- up to 40 Hp to the spindle -- for maximum efficiency thanks to a new state-of-the-art proportional load control system.



SUNNEN[®]

RE POWER, MORE PRECISION AND MORE PROFIT



The HTG Series tube hone is ideal for applications such as:

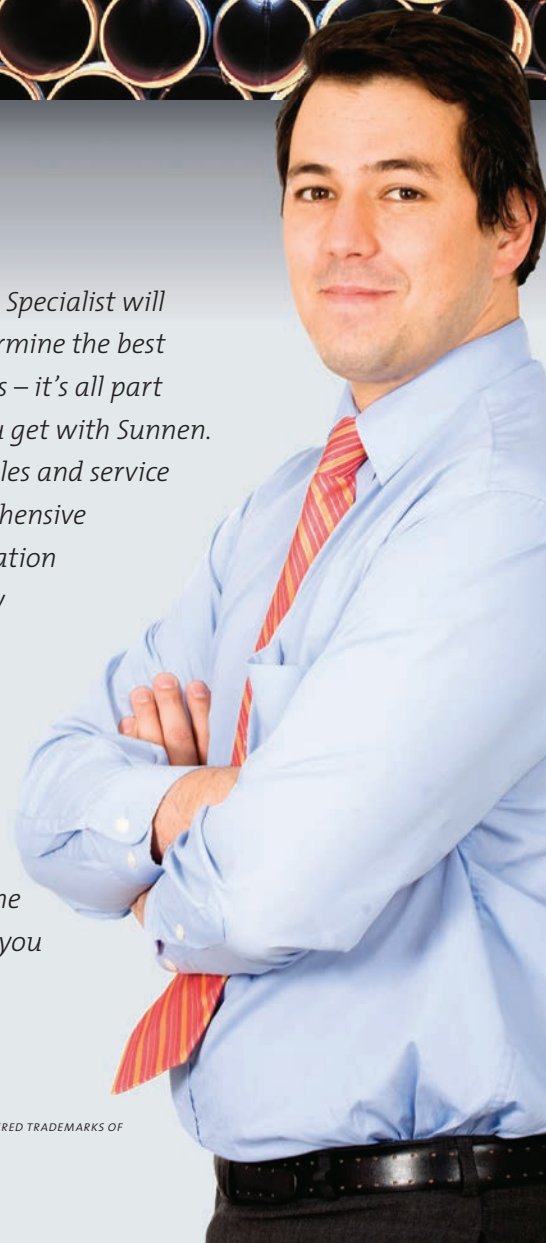
- pump motors and hangers
- large hydraulic cylinders
- extrusion cylinders
- barrel pumps
- mud pump liners
- any heavy duty application that calls for deep, round, straight, sized and finished holes with precise tolerances

Made in the U.S.A., the HTG is available in six standard model sizes based on stroke length. Standard lengths are 4-meter (13.12 ft.), 6-meter (19.7 ft), 8-meter (26.5 ft), 10-meter (32.8 ft), 12-meter (39.4 ft) and 13.75-meter (45.1 ft). Customs length and base designs are also available.

The Sunnen HTG tube hone, with GH tooling and abrasives, is the solution for the heavy-duty yet precise demands of the oil industry ... and any industry that requires precise honing of long parts.

Your Sunnen Technical Specialist will work with you to determine the best solution for your needs – it's all part of the added value you get with Sunnen. Plus, our worldwide sales and service team provides comprehensive support for the installation and operation of every system we make.

Whatever your need, we have the expertise and product range to create the right solution for you and the dedication to support you for the long run.



SUNNEN AND THE SUNNEN LOGO ARE REGISTERED TRADEMARKS OF SUNNEN PRODUCTS COMPANY



TECHNOLOGICALLY ADVANCED FEATURES GIVE THE HTG HONING SYSTEM GREAT RELIABILITY AND FLEXIBILITY

THE NEW PRECISION HYDRAULIC FEED SYSTEM combines the brute force of hydraulics with the finesse of a technically advanced control which includes servo position, electronic pressure and closed loop feedback. The standard feed system control.

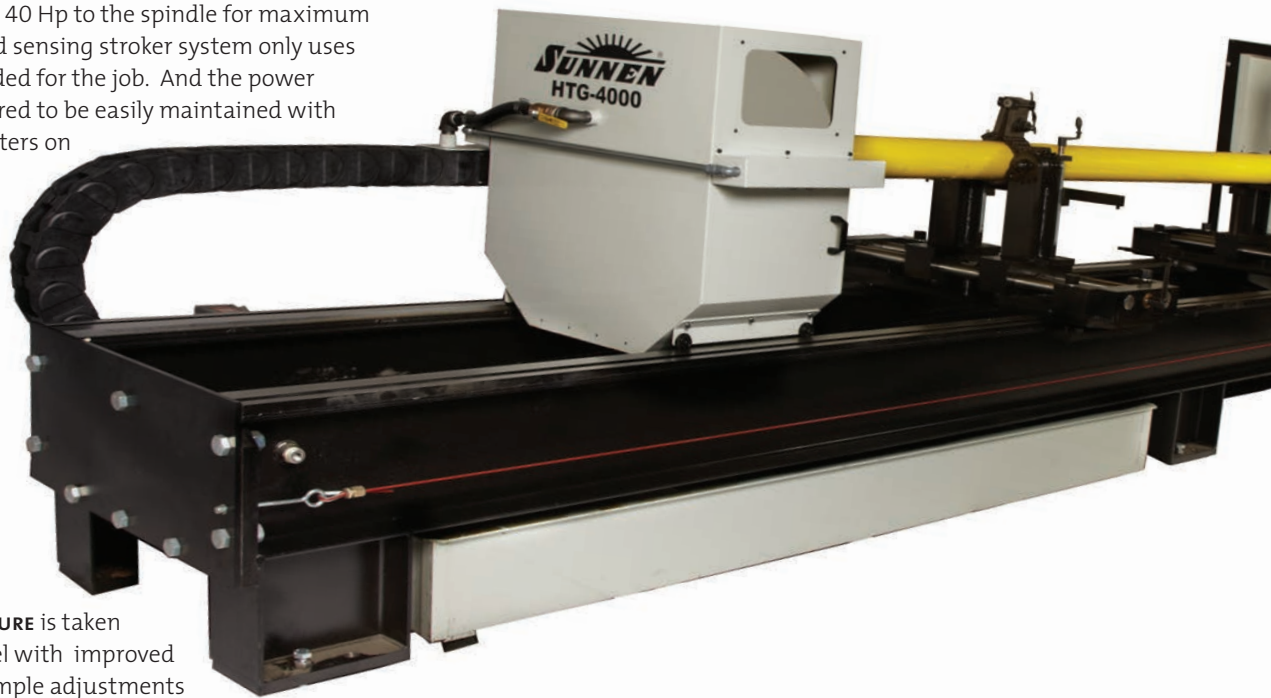
THE HYDRAULIC POWER UNIT AND THE ELECTRICAL ENCLOSURES are designed for maximum efficiency and are combined to save floor space. All hydraulics are state-of-the-art Parker® components. Hydraulic power is delivered where needed ... up to 40 Hp to the spindle for maximum efficiency. Load sensing stroker system only uses the power needed for the job. And the power unit is engineered to be easily maintained with cleanable air filters on the heat exchanger, tank level gage, easy access tank cleanouts, low level shutoff and lockable valves -- all standard and designed for long life..

THE STANDARD CHAIN VISE FIXTURE is taken to the next level with improved ergonomics, simple adjustments and easy movement on the machine rails during setups. Two fixtures included on standard machine.

STATE-OF-THE-ART SAFETY FEATURES INCLUDE user-friendly combination light curtain/fencing, parts present sensors and easy-to-use sliding doors. Part Presence sensor in rear guard detects if part comes loose and stops the machine.

INTUITIVE SIEMENS® PLC CONTROL SYSTEM controls all machine functions from an advanced color touch screen. The new control system was designed to be easy. Advanced software maximizes efficiency via intuitive touch screen programming.

NEW ERGONOMIC OPERATOR STATION is mounted on swing arm and swivels for ease of setup and operation.



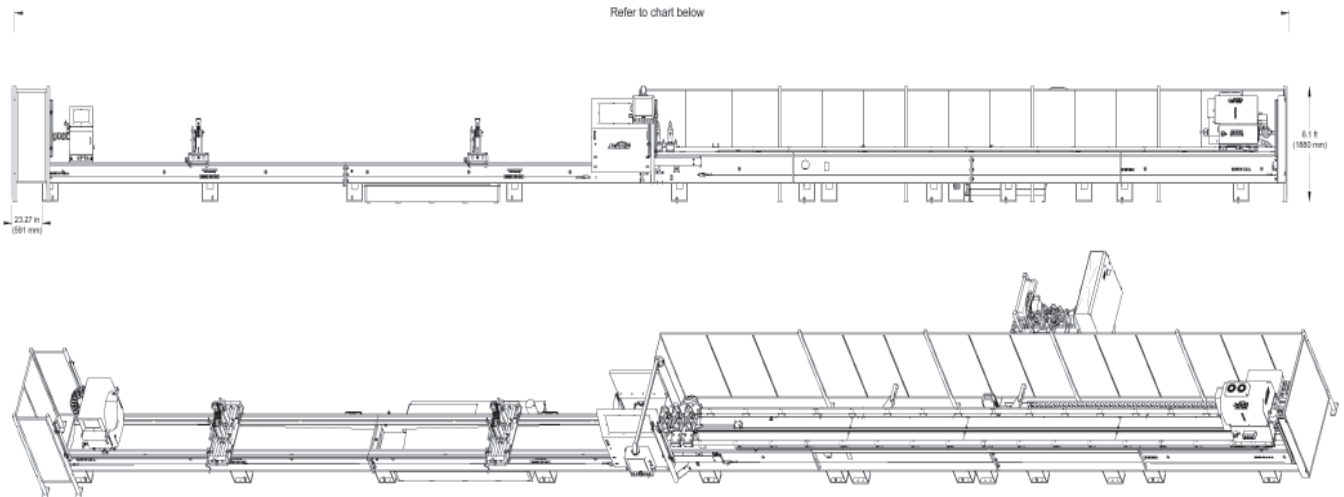
NEW WELDED I BEAM. HEAVY-DUTY BASE easily handles up to 13,200 lbs. (6000 kg) on the 4 and 6 meter models and 17,600 lbs. (8000 kg) on the 8, 10, 12 and 14 meter models. The base is easy to maintain and keep clean.

HEAVY-DUTY 3 IN. (76.2 MM) WAY BARS - are damage tolerant and easy to repair in the field, saving time and money.

HYDRAULIC TOOL LIFT FOR HEAVY HONES is standard on all HTG models.

HTG FLOOR PLAN LAYOUT AND DIMENSIONS

This versatile system is available in six standard models, refer to chart for machine length dimensions.



HTG FLOOR LAYOUT



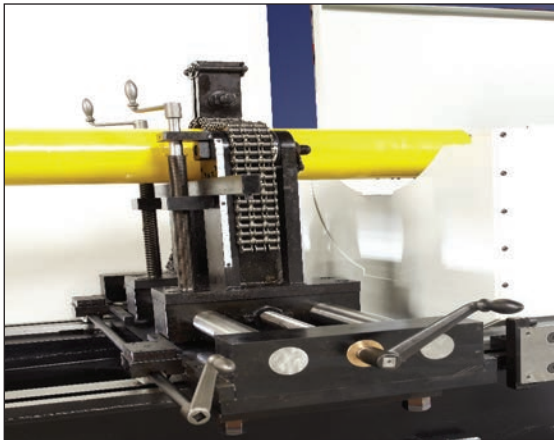
Model	Length	Stroke Length	Driveshaft Traveling Supports Standard*	Maximum Part Length using 8" long tool*
HTG-4000	13.1 m (43.0 ft)	4 m (13.1 ft)	0	3.87 m (12.7 ft)
HTG-6000	17.1 m (56.ft)	6 m (19.7 ft)	1	5.87 m (19.3 ft)
HTG-8000	21.1 m (69.3 ft)	8 m (26.25 ft)	1	7.87 m (25.8 ft)
HTG-10000	25.2 m (82.5 ft)	10 m (32.8 ft)	2	9.87 m (32.4 ft)
HTG-12000	29.8 m (97.8 ft)	12 m (39.4 ft)	2	11.87 m (38.9 ft)
HTG-14000	33.8 m (110.9 ft)	13.75 m (45.1ft)	3	13.6 m (44.7 ft)

**Optional driveshaft traveling support may be added depending on application. Stroke length of machine is reduced by 244 mm (9.6 in.) when a third support is added.*

THE HTG IN ACTION



An innovative second station for spindle control ensures one operator can easily do the job of changing driveshafts and setting up the machine.



New fixturing has been developed that reduces set-up time and is easy to move on rails. No air is required.

A new large 12 in. (305 mm) easy-to-use Siemens® PLC touch-screen controls all the machine functions such as zero shutoff, feed pressure control and cross hatch angle calculator. A joy stick allows the operator to move the honing tool over the entire stroke length. And the control is mounted on an easy-to-adjust arm for maximum flexibility.



The interlocked rear splash guard incorporates parts present sensors as well as moveable nozzle to deliver honing oil/coolant where needed.

SPECIFICATIONS:

SPINDLE SPEED:

0 - 300 RPM

MAXIMUM SPINDLE POWER:

40 Hp (29.83 kW)

MAXIMUM STROKER POWER:

18 Hp (13.42 kW)

STROKE SPEED RANGE:

0 - 100 ft/min (0 - 30.5 m/min)

I.D. RANGE:

2 - 24 inches (50.8 - 609.6 mm)

O.D. RANGE:

26 inches standard (660.4 mm)
up to 48 inches optional (1219.2 mm)

MAXIMUM STOCK REMOVAL RATE:

200+in³/hr (3300+ cm³/hour)
conventional abrasives in steel
Dependent on application

MAXIMUM PART WEIGHT:

4, 6 meter models: 13,200 lbs (6000 kg)
8, 10, 12, 14 meter models: 17,600 lbs (8000 kg)

APPROXIMATE MACHINE WEIGHT:*

HTG-4000: 7938 kg (17,500 lbs)
HTG-6000: 9435 kg (20,800 lbs)
HTG-8000: 10,886 kg (24,000 lbs)
HTG-10000: 12,066 kg (26,600 lbs)
HTG-12000: 13,698 kg (30,200 lbs)
HTG-14000: 15,286 kg (33,700 lbs)

ELECTRICAL SYSTEM:

400 VAC 50 Hz, 3-Phase (85 A)
460 VAC, 60 Hz, 3-Phase (70 A)

ORDERING INFORMATION:

The HTG is available in six standard configurations:

HTG-4000: 4-meter (13.12 ft) stroke length
HTG-6000: 6-meter (19.7 ft) stroke length
HTG-8000: 8-meter (26.5 ft) stroke length
HTG-1000: 10-meter (32.8 ft) stroke length
HTG-12000: 12-meter (39.4 ft) stroke length
HTG-14000: 13.75-meter (24.1 ft) stroke length

**Does not include coolant system*

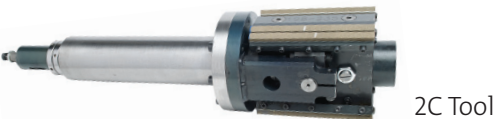
TOOLING

The HTG models are compatible with Sunnen's heavy-duty GH and new 2C tooling. Sunnen's GH and 2C tooling will allow the operator to effectively hone using either conventional abrasives or superabrasives for even greater accuracy and stock removal rates.

BORE DIAMETER RANGE:

GH TOOLING: 1.25 - 24 inches (31,8 - 609,6 mm)

2C TOOLING: 7.8 - 31.9 inches (198 - 810 mm)



2C Tool



Heavy-duty GH Tooling

SUNNEN-MADE ABRASIVES

From aluminum oxide to silicon carbide to diamond and CBN, Sunnen manufactures the industry's largest variety of mounted or un-mounted stick abrasives, bond types, grain sizes and stone configurations.

Before any stone is shipped, it is graded and qualified, maintaining the most exacting quality control standards in the industry to assure you of the most precise and consistent honing performance available.



SUNNEN PREMIUM HONING OILS & COOLANTS

Sunnen's premium honing oils and coolants provide extreme lubricity for higher honing pressure and harder abrasives, delivering faster, lower cost-per-part and ultimately more profitable cutting rates.

OPTIONAL EQUIPMENT:

- Additional work holding configurations
- Transformer configurations to accommodate voltage combinations beyond 400 VAC 50 Hz / 460 VAC 60 Hz
- Automation
- Coolant Systems: Settlement tank/magnetic separator/Paperbed/Magnetic separator over paper/Chiller - all 200 gallon (757 L)
- Short Stroke Kit
- Part Rotation
- Additional fixture for heavy parts
- Additional traveling driveshaft supports (reduces effective stroke length)





A LEGACY OF EXCELLENCE SINCE 1924.

WORLDWIDE

Our global manufacturing, sales, and service network allows us to deliver quality Sunnen solutions worldwide. And our network of more than 50 authorized Sunnen international distributors is second to none.

Sunnen's state-of-the-art Advanced Technology Centers – located in the US, Switzerland, and China – allow our technical experts to develop innovative solutions to customer application challenges. The Centers also provide answers for customer questions and training for Sunnen representatives around the globe.

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