The HTC-X121W series is the result of over 30 years experience in tube hone design and manufacturing, combined with inputs from our customers around the globe. The systems are custom-built and are the solution for an economical production for high precision small and long bores from diameter 4 mm up to 30 mm.

The system comes in two versions for bore length up to 945 mm or 1'945 mm. Whichever system you choose, they are working at their top performance and will meet everyone's production demands.

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

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

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**KEY FACTS**

- **Perfection for small and long bores**
  - Diameter range of 4 - 30 mm
  - Stroke length up to 1'950 mm
  - Stock removal rate up to 150 cm$^3$/h

**PRECISION PERFORMANCE**

- **Reliable accuracy and consistency**
  - Repeatable full and short stroke within 0.1 mm
  - Automatic bore geometry correction
  - Sizelock 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

**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.

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**The pneumatic three-jaw chuck** simplifies part changes and saves valuable time. A manual three-jaw chuck is also available for less productive applications.

**The in-process plug gauge** is reliable and independent of stone wear in holding tightest tolerances. The long-life carbide probe controls on reverse stroke with an accuracy of up to 0.002 mm.

**Easy to maintain**

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### Technical specifications

#### CAPACITY
- **Stock removal power**: up to 150 cm³/h
- **Inside diameter**: 4 - 30 mm
- **Outside diameter**: up to 400 mm

#### DIMENSIONS
- **Stroke length**: 
  - **HTC-1121W**: 945 mm
  - **HTC-2121W**: 1'945 mm
- **Length**: 
  - **HTC-1121W**: 4'200 mm
  - **HTC-2121W**: 6'200 mm
- **Width**: 
  - **HTC-1121W**: 1'200 mm
  - **HTC-2121W**: 1'200 mm
- **Weight**: 
  - **HTC-1121W**: 2'100 kg
  - **HTC-2121W**: 2'600 kg

#### SPINDLE DRIVE SYSTEM
- **Motor (AC)**: 1.5 kW
- **Speed range (Infinitely variable)**: 100 - 2'100 RPM

#### STROKE SYSTEM
- **Motor (Servo)**: 3.2 kW
- **Speed range (Infinitely variable)**: 0.1 - 40 m/min

#### TOOL FEED SYSTEM
- **Motor (Servo)**: 0.7 kW
- **Motion**: Linear tool feed system

#### COMPUTER CONTROL
- **IPC, Windows® EMBEDDED control system, screen size 15”**

#### WORK HOLDING FIXTURE
- **Universal V-type chain fixture (30 - 400 mm)**

#### SUPPLY REQUIREMENTS
- **Electrical system**: 400 - 460 VAC, 50/60 Hz
- **Pneumatics**: 6 bar

#### COOLANT SYSTEM
- **Capacity**: 300 l, 38 l/min
- **Magnetic separator**: 70% cleaning rate

#### SAFETY FEATURES
- **CE / Front: Light curtain, Back/Sides: Fence with door (optional)**

#### PAINT
- **Grey RAL 9002 / Black RAL 9005**

#### OPTIONAL FEATURES
- 3-jaw manual or pneumatic chuck fixture (5 - 100 mm)
- Semi- or fully automatic modes with 3-jaw pneumatic chuck fixture
- Part rotation device (10 - 300 mm)
- Coolant pressure and park bush system
- In-process gaging system for inside diameter 4 - 30 mm
- Filter unit for non ferrous application or very fine surface finish requirements
- Coolant oil chiller unit
- Air-condition for electrical enclosure
- Double stage tool option (roughing / finishing)
- Taper bore option