

"UNPARALLELED PERFORMANCE AND SAFETY UNDER PRESSURE!" [®]



TestMaster[®]

Model HPS

Hydrostatic Pressure System

- Pressures up to 30,000 psi (2,068 bar)
- Hydrostatic testing, tube expansion, and swaging
- Manual, semi-automated, PLC touch screen
- Cycle times as fast as 2 seconds
- Manufactured to customer specifications

DESCRIPTION

The TestMaster[®] Model HPS Hydrostatic Pressure System is a high-performance source of hydrostatic water pressure, used for leak tests, tube expansion, and other purposes. At its core is an air-driven water pump, providing up to 30,000 psi (2,068 bar) water pressure when driven by only 100 psi (7 bar) air.

The HPS System, when combined with TestMaster[®] Tools, provides a safe, efficient means of leak testing for tube and hose assemblies, valves, and air-conditioning coils. When combined with ExpanTek[®] Tools, it can perform tube expansion for heat exchangers or tube-to-tube sheet swaging.

APPLICATION

The TestMaster[®] Model HPS Hydrostatic Pressure System, when used with Airmo tooling, is suitable for testing according to military, nuclear, automotive, and aerospace specifications such as API, ASTM, ASME, ISO, DIN, and BS.

Hydrostatic Testing

- Aerospace hydraulic and pneumatic lines
- Gas cylinders
- Heat exchangers
- Hydraulic components and systems
- Oil and gas piping
- Tube and pipe mills

Tube Expansion

- Plate/Fin air-cooled heat exchangers
- Boiler tube re-sleeving

Swaging

- Tube-to-header plate

CONSTRUCTION

Frame:	Aluminum extrusion 36 in. x 32 in. x 55 in. (914 mm x 813 mm x 1,397 mm)
Air-Driven Pump:	Corrosion-resistant materials
Valves and Fittings:	Stainless steel or brass
Water Piping:	Heavy wall stainless steel tubing
Gauges/Transducers:	Stainless steel construction

SYSTEM CONFIGURATION

Maximum Pressure:	Up to 30,000 psi (2,068 bar) depending on air-driven pump
Maximum Flow:	Up to 12 gpm (45.4 lpm), depending on fill pump and air-driven pump
Air Input:	Requires 95 psi (7 bar) and 18 SCFM for maximum performance
Electrical:	Tailored to electrical service used
Control Options:	Manual, semi-automated, PLC touch screen

OPERATING CONDITIONS

Temperature:	32° F to 120° F (0° C to 49° C)
Services:	Water or de-ionized water, 20 psi (1 bar) minimum
Cycle Time:	2 seconds for small volume tubes
Noise Level:	Pumps run quietly, and silent when dwelling at pressure.

MAXIMUM PRESSURE
30,000 psi
2,068 bar

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BASIC SYSTEM

The HPS Hydrostatic Pressure System basic system is configured as follows:

- **Air-driven water pump**, reliable with pressure outputs of 6,000, 10,000, 20,000, or 30,000 psi; (414, 689, 1,379, 2,068 bar).
- **Precision air regulator**, supplies water pump, giving operator greater control of pressure.
- **Analog gauges**, high accuracy and durable for incoming and regulated air pressure, and output water pressure.
- **Water and air filters**, reduce contaminants for better system protection.
- **Air-operated control and relief valves**, corrosion resistant and durable.
- **Rugged aluminum framework**, with protective mesh panels, and casters for easy portability.
- **Foot pedal**, controls pressure cycle.

POPULAR OPTIONS

Popular options available for the HPS Hydrostatic Pressure System include:

- **Digital display**, shows system pressure in real time, records and displays peak pressure.
- **Process meter**, provides six-digit pressure display and recall of maximum pressure achieved.
- **Electric fill pump**, two sizes available with PLC control. These pumps, in conjunction with an air-driven pump provide shorter cycle times by filling tubes quicker.
- **Adjustable dwell timer**, holds pressure at predetermined level for up to 10 minutes.
- **Air purge**, quickly evacuates water from tubing after pressurization; includes second foot pedal.
- **Job chest enclosure**, capability to ship compact system to job sites without additional packing; secure unit with locks. Electric options not available with this enclosure option.

CUSTOMIZED SYSTEMS

Airmo can engineer and build systems to customer specifications based on:

- **Exterior dimensions**
- **Pressure capabilities**
- **Test and expansion requirements**

CUSTOM-DESIGNED OPTIONS

The HPS Hydrostatic Pressure System has been custom-built with features such as:

- **PLC touch screen**, provides a visual display for accurate, repeatable performance with no pressure loss.
- **Hand-held push button pendant**, replaces standard foot pedal for controlling machine functions.
- **Optical touch switch**, uses LED indicators to sense finger placement to activate system pressure cycle.
- **Isolation valve**
- **Back pressure regulator**
- **Data collection**
- **Multiple pressure outlets**



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