AIRMO INC.®
PRESSURE TECHNOLOGIES

EXPANTEK®
Tube Expansion Systems and Tooling

"UNPARALLELED PERFORMANCE AND SAFETY UNDER PRESSURE!" ®

ExpanTek®

Model HPS

Hydrostatic Pressure System

- Pressures up to 30,000 psi (2,068 bar)
- Cycle times as fast as 2 seconds
- Tube expansion and hydrostatic pressure testing
- Manual and semi-automated systems
- Manufactured to customer specifications

DESCRIPTION

The ExpanTek® Model HPS Hydrostatic Pressure System is a high-performance source of hydrostatic water pressure for use with tube expansion tooling in HVAC applications, tubular assemblies, and the tube swaging process. At the system's core is an air-driven water pump providing up to 30,000 psi (2,068 bar) of water pressure when driven by only 100 psi (7 bar) air.

The HPS System when combined with ExpanTek® Tube Expansion Tools can rapidly expand tubing for refrigeration coils, heat exchangers, and tubular assemblies. When used with TestMaster® Tools the system provides a safe, efficient means for leak testing of tube and hose assemblies, valves, and air-conditioning coils.

APPLICATION

The ExpanTek® Model HPS Hydrostatic Pressure System and Airmo Tooling are suitable for expansion and testing according to military, nuclear, automotive, and aerospace specifications such as API, ASTM, ASME, ISO, DIN, and BS.

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

Swaging
- Tube-to-header plate

Hydrostatic Testing
- Aerospace hydraulic and pneumatic lines
- Gas cylinders
- Heat exchangers
- Hydraulic components and systems
- Oil and gas piping

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

OPERATING CONDITIONS

Input Fluid:	Water or de-ionized water; 20 psi (1 bar) minimum
Input Air:	Requires 95 psi (7 bar) and 18 SCFM for maximum performance
Electrical:	Tailored to type of electrical service used
Temperature:	32° F to 120° F (0° C to 49° C)

PERFORMANCE INFORMATION

Maximum Water Pressure:	Up to 30,000 psi (2,068 bar) depending on air-driven pump choice.
Maximum Water Flow:	Up to 12 gpm (45.4 lpm), depending on fill pump and air-driven pump choices.
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:

- **Process meter,** provides 6 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-BUILT FEATURES

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

- **Hand-held pendant control** (instead of foot pedal)
- **Isolation valve**
- **Back pressure regulator**
- **Data collection**
- **Multiple pressure outlets**

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