

**“UNPARALLELED PERFORMANCE AND SAFETY UNDER PRESSURE!”<sup>®</sup>**

ExpanTek<sup>®</sup>

## Model HPS

### Hydraulic Power Supply for Hydro Expansion

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



#### DESCRIPTION

The ExpanTek<sup>®</sup> Model HPS is a high-performance hydraulic power supply used for hydro expansion. The Hydraulic Power Supply when used with ExpanTek<sup>®</sup> tooling allows the operator to hydro expand tubes used in HVAC systems, tubular assemblies, and tube swaging applications. At the core of the hydraulic power supply is an air-driven water pump providing up to 30,000 psi (2,068 bar) of water pressure when driven by 100 psi (7 bar) air.

The HPS System when combined with ExpanTek<sup>®</sup> Tube Expansion Tools can rapidly expand tubing for refrigeration coils, heat exchangers, and tubular assemblies.

#### APPLICATION

The ExpanTek<sup>®</sup> Model HPS and Tooling are suitable for tube expansion 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
- Condenser coils
- Tube bulging

#### Swaging

- Tube-to-header plate
- Ferrule attachment
- Tube-to-baffle plates

#### CONSTRUCTION

|                      |  |
|----------------------|--|
| Frame:               | Aluminum extrusion<br>36 in. x 32 in. x 55 in.<br>(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)<br>depending on air-driven pump           |
| Maximum Flow:     | Up to 12 gpm (45.4 lpm), depending<br>on fill pump and air-driven pump |
| Air Input:        | Requires 95 psi (7 bar) and 18 SCFM for<br>maximum performance         |
| Electrical:       | Tailored to electrical service used                                    |
| Control Options:  | Manual, semi-automated, PLC touch<br>screen                            |

#### OPERATING CONDITIONS

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

**MAXIMUM PRESSURE**  
**30,000 psi**  
**2,068 bar**

ExpanTek®  
**Model HPS**  
Hydraulic Power Supply

## BASIC SYSTEM

- **Air-driven water pump**, reliable with pressure outputs of 10,000, 20,000, or 30,000 psi; (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

- **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**
- **Expansion requirements**

## CUSTOM-DESIGNED OPTIIONS

- **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**



**AIRMO, INC. 9445 Evergreen Blvd. NW, Minneapolis, MN 55433-5840 USA**

**PHONE: 1(763) 786-0000 or 1(800) 394-0016 | FAX: 1(763) 786-4622 | EMAIL: [airmo@airmo.com](mailto:airmo@airmo.com) | WEBSITE: [www.airmo.com](http://www.airmo.com)**