

All Stainless Steel Mechanism Carbon Steel Non-Electric Pump

Series PMPLS PRESSURE MOTIVE PUMP

PRESSURE
MOTIVE PUMPS

Applications

The Pressure Motive Pump (PMPLS) is recommended when liquids must be moved to a higher elevation, higher pressure, or great distances. The model PMPLS has a lower profile with reduced capacities. Typical applications are:

- Condensate from Vacuum or Low Pressure Systems
- Condensate Systems with High Back Pressure
- Any Steam Condensing Equipment (*i.e.*, Heat Exchangers, Condensers, Turbines)
- Remote Installation (*i.e.*, Tank Farms)
- Where Electricity is Prohibited (*i.e.*, some underground steam distribution systems, tank farms, etc.)
- Submersible, Hard-To-Get-At Areas

Features

- Compression Spring design for longer life
- Vent Valve & Gas Supply Valve & Seat are Hardened Stainless Steel
- Energy - Saving - up to 25% over conventional pumps
- Handles flashing condensate with out cavitation problems or the need for cooling water
- Low Profile, Small & compact
- All Stainless Steel Internals for better corrosion resistance

How It Works

The Series PMPLS uses a spring-loaded mechanism inside a pump body to control liquid removal. When the pump is starting to fill through the inlet check valve the float is in the low level position which opens the vent valve at the top and closes the motive gas (steam or air) supply valve.

When the spring-loaded mechanism reaches the trip point and snaps over the center, the vent valve closes and the gas supply valve opens simultaneously. As the liquid in the body is pumped out through the outlet check valve, the float starts to drop. When the float reaches the switch point, the mechanism snaps over the center, the gas supply valve closes, and the vent valve opens, allowing the filling process to repeat.



Watson McDaniel reserves the right to change the designs and/or materials of its products without notice



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Manufacturers of:

**PRESSURE & TEMPERATURE REGULATORS - RELIEF VALVES - STEAM TRAPS - CLEAN STEAM PRODUCTS
LIQUID DRAINERS - PRESSURE PUMPS - EJECTORS - SPECIALTY PRODUCTS**



PP-120

(1/01)

Series PMPLS Pressure Motive Pump Specifications

Design Pressure/Temperature Ratings:

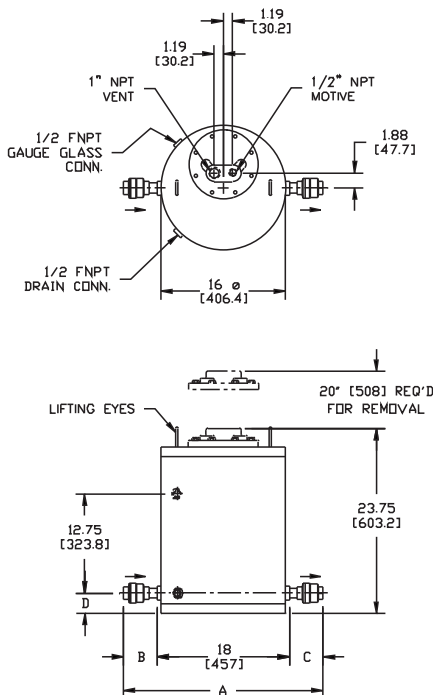
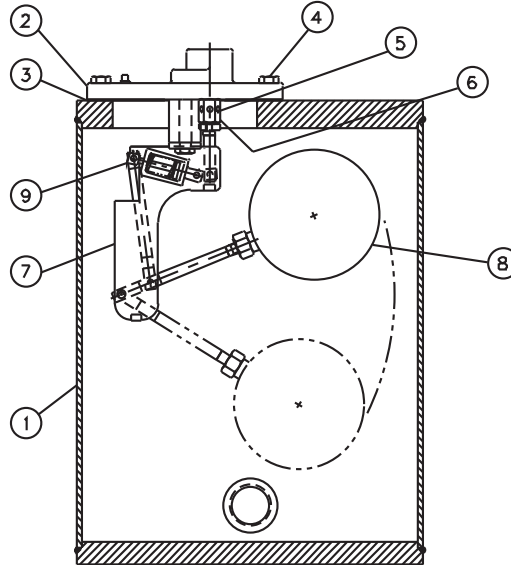
PMPLS - Bronze Checks...125 psig (PMA) @ 400° F (TMA)
 PMPLS - S.S. Checks.....150 psig (PMA) @ 470° F (TMA)

Max. Operating Conditions:

PMPLS - Bronze Checks..125 psig (PMO) @ 352° F (TMO)
 PMPLS - S.S. Checks.....150 psig (PMO) @ 366° F (TMO)

Sample Specifications:

The non-electric pressure powered pump shall be Watson McDaniel low profile PMPLS carbon steel unit. The pump shall be intrinsically safe and capable of operating with a maximum motive pressure of 150 psig provided by steam, air or other gas supply without use of external seals or packing. The pump body shall be fabricated carbon steel with a 1/8" corrosion allowance and receive the ASME "UM" Stamp with a design pressure and temperature rating of 150 psig (PMA) at 470F (TMA) when equipped with threaded stainless steel check valves. The pump mechanism shall be float operated with the patent pending "snap assure" action feature constructed of stainless steel materials with all load bearing wear points hardened for extended service life. The mechanism shall feature two Inconel springs in a compression application with a lifetime warranty along with a hardened motive supply valve and seat to a Rockwell nominal value of 40C. Check valves can be supplied in a stainless steel wafer and threaded style or threaded bronze.



Materials

- 1) Body Carbon Steel
- 2) Cover.....Carbon Steel
- 3) Cover Gasket.....Graphite
- 4) Cover Bolts.....Steel
- 5) Inlet Valve.....17-4 PH S.S.
- 6) Vent Valve.....17-4 PH S.S.
- 7) Mechanism Yoke..... 304 S.S.
- 8) Ball Float 304 S.S.
- 9) Other Internal Comp. Inconel
- 10) Check Valves.S.S. or Bronze

Dimensions & Weights

PMPLS	A	B	C	Weight
1" x 1"	29.3 (744)	5.62 (143)	5.62 (143)	220 (99.8)
1½" x 1"	30.7 (780)	7.1 (180)	5.62 (143)	225 (143)