

PRESYS®

PRESYS

**Portable
Duplex Pump**
Model **BY-8111-80**

Operating Instructions

PORTABLE DUPLEX PUMP - BY- 8111- 80

CONTENTS:

BY-100/8111-80(1) 3' Hose, (1) Outlet fitting for the device under test (QTHA-2MB0), (1) 1/4" Female adapter (if DPPV-2FBA), (1) 1/8" Male NPT gauge adapter (if DPPV-1MBA)

CALIBRATION SETUP

1. Connect one end of the hose to the outlet port QTFT-3SB0. Connect the 1/4" Male adapter (QTHA-2MB0) to the other end of the hose. No Teflon tape or wrench is required.
2. Connect the QTHA-2MB0 connection to the device being tested using Teflon tape or pipe sealant on pipe threads
3. Attach the gauge connection (QTHA-2FBA or QTHA-1MBA) to the outlet port QTHA-3SB0. There are two outlet connections so it is not necessary to use a tee between the pressure pump, the calibrator and the device under test.
4. Turn the fine adjustment vernier (DPPV-0010) until it is approximately in the middle of the piston (the knob should be about 1" from the brass end cap.)
5. Close the bleed-off valve (DPPV-0020) by turning it clockwise until it is snug. Do not over-tighten.

OPERATION OF DPPV PUMP

Pressure Mode: Turn the pressure/vacuum selector knob to "Pressure" until it stops. Pressurize the system by pumping the pumping piston (DPPV-0015) until the desired pressure is reached. Use the fine adjustment vernier (DPPV-0010) to reach the exact pressure. Allow the system to come to equilibrium before taking pressure measurement. Vent the system by turning the bleed-off valve (DPPV-0020) counter-clockwise.

Vacuum Mode: Turn the pressure/vacuum selector knob (DPPV-0025) to "Vacuum" until it stops. Evacuate the system by pumping the pumping piston (DPPV-0015) until the desired vacuum is reached. Use the fine adjustment vernier (DPPV-0010) to reach the exact vacuum. Allow the system to come to equilibrium before taking vacuum measurements. Vent the system by turning the bleed-off valve (DPPV-0020) counter-clockwise.

MAINTENANCE

Every six (6) months remove the pumping piston (DPPV-0015) and vernier piston (DPPV-0010). Lubricate piston O-rings and piston cylinder with graphite paste or lightweight lubricant. While the pumping piston is removed, lubricate the check valves with two (2) drops of oil on each check valve. Replace the pistons and resume operation.

TROUBLESHOOTING

Problem: Pump does not build pressure or vacuum.

Solution: One of the check valves is leaking. Remove the pumping piston (DPPV-0015). Remove each check valve and clean both the O-ring and the O-ring seat. Only remove one

check valve at a time and note the orientation of the check valve and spring. Inspect for any foreign material. Remove any debris and reassemble the check valve. Repeat for the other check valve and reassemble the pump.

Problem: Pump is still leaking.

Solution: Remove the Allen set screw in the pressure / vacuum selector knob (DPPV-0025) and remove the knob. Unthread the nut holding the spool valve on the opposite side of the pump from the knob. Remove the spool valve and clean the O-rings. Inspect for wear and if so replace the O-rings. Re-assemble the pump in the reverse order. Do not tighten the Allen screw so much that the pressure / vacuum selector knob cannot turn.

Problem: Pump does not bleed to zero.

Solution: Bleed-off valve is plugged with oil or lubricant. Unscrew the bleed-off valve all the way counter-clockwise. Remove the valve from the pump. Blow out any debris with compressed air in the seat area and in the bleed hole in the side of the valve body. Reseat the valve in the pump. Do not over-tighten.

To locate specific leaks do the following:

Pressurize or evacuate the pump and submerge it in water with a closed system and a gauge or calibrator attached (but keep gauge or calibrator dry).

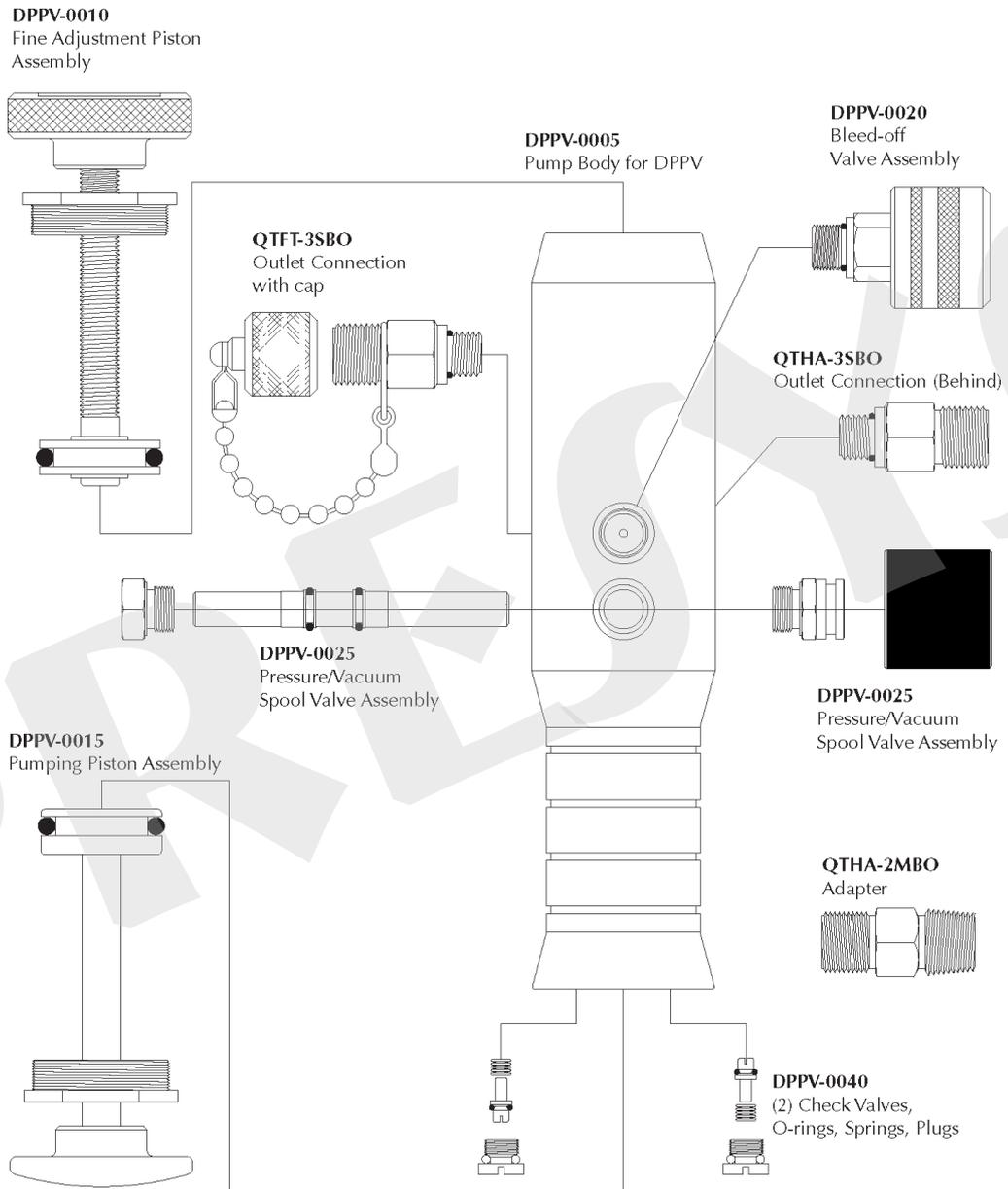
Pressure Mode: Watch for bubbles. Isolate the leaking area where bubbles occur. Remove the part and clean, lubricate and replace in the pump.

Vacuum Mode: Watch for the gauge or calibrator to STOP losing vacuum while the pump is submerged in water. Isolate the leaking area by slowly submerging the pump until the leaking stops. The part closest to the surface is the leaking part. Remove the part and clean, lubricate and replace in the pump.

REPLACEMENT PARTS

QTHA-2FBA	Hose nut to gauge adapter, 1/4" Female NPT, Brass
QTHA-1MBA	Hose nut to gauge adapter, 1/8" Male NPT, brass
QTHA-2MBA	Hose nut to gauge adapter, 1/4" Male NPT, brass
QTHA-HOS3'	3'Outlet hose with Ralston Quick-Test™ hose ends
DPPV-CASE	Carrying case-holds one DPPV Pump with two gauges
DPPV-REPK	Spare parts kit for pneumatic DPPV Pumps

PORTABLE DUPLEX PUMP - BY - 8111-80



ACCESSORY FOR PORTABLE DUPLEX PUMP BY - 8111-80

IMPURITIES SEPARATOR



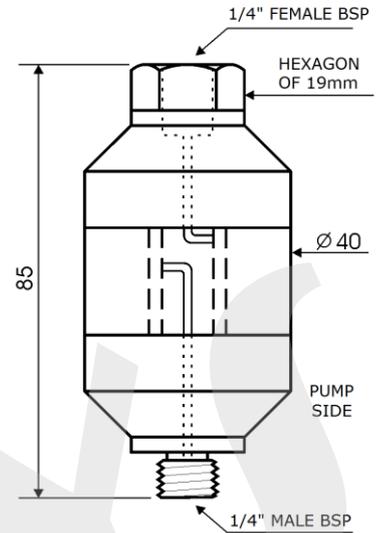
ALWAYS USE IN THE VERTICAL POSITION TO PREVENT FLUID FLOWS INSIDE THE PNEUMATIC PUMP.

The BY-100/SI is a impurity separator that has been developed to protect pneumatic pumps from impurities contained in manometers, pressure transmitters and other gauges which, when calibrated, give off waste that damages pneumatic pumps.

When using the BY-100/SI observe the display to prevent any liquid from overflowing and flowing into the pneumatic pump.

If you need to clean, use two 19 mm wrenches to loosen the flanges, clean and reassemble..

Maximum working pressure 500 psi (35 bar).



CAUTION TO TIGHTEN FLANGES, NEVER USE EXCESSIVE FORCE.



OBSERVE THE RESIDUES TO BE COMPATIBLE WITH THE IMPURITY SEPARATOR COMPONENTS (STAINLESS STEEL, POLYCARBONATE AND BUNA N).

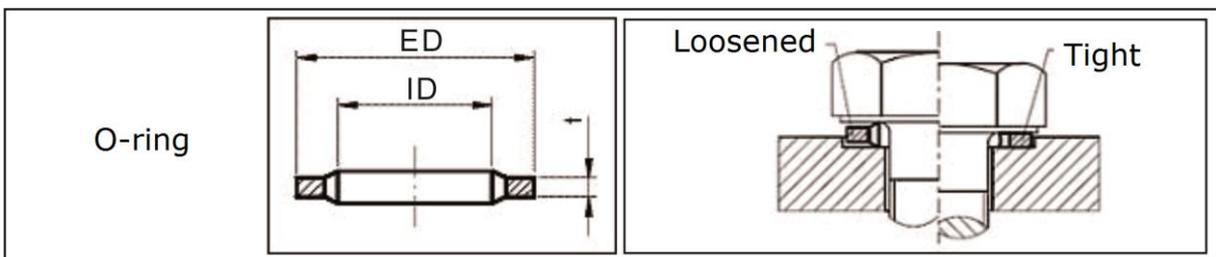
NEVER CLEAN THE DISPLAY WITH SOLVENTS, PETROLEUM DERIVATIVES OR OTHERS; USE WATER AND DETERGENT TO CLEAN.



USE ONLY THE SEALANT O-RINGS FOR BSP THREAD. NEVER USE SEALANT PASTE OR TAPE (TEFLON).

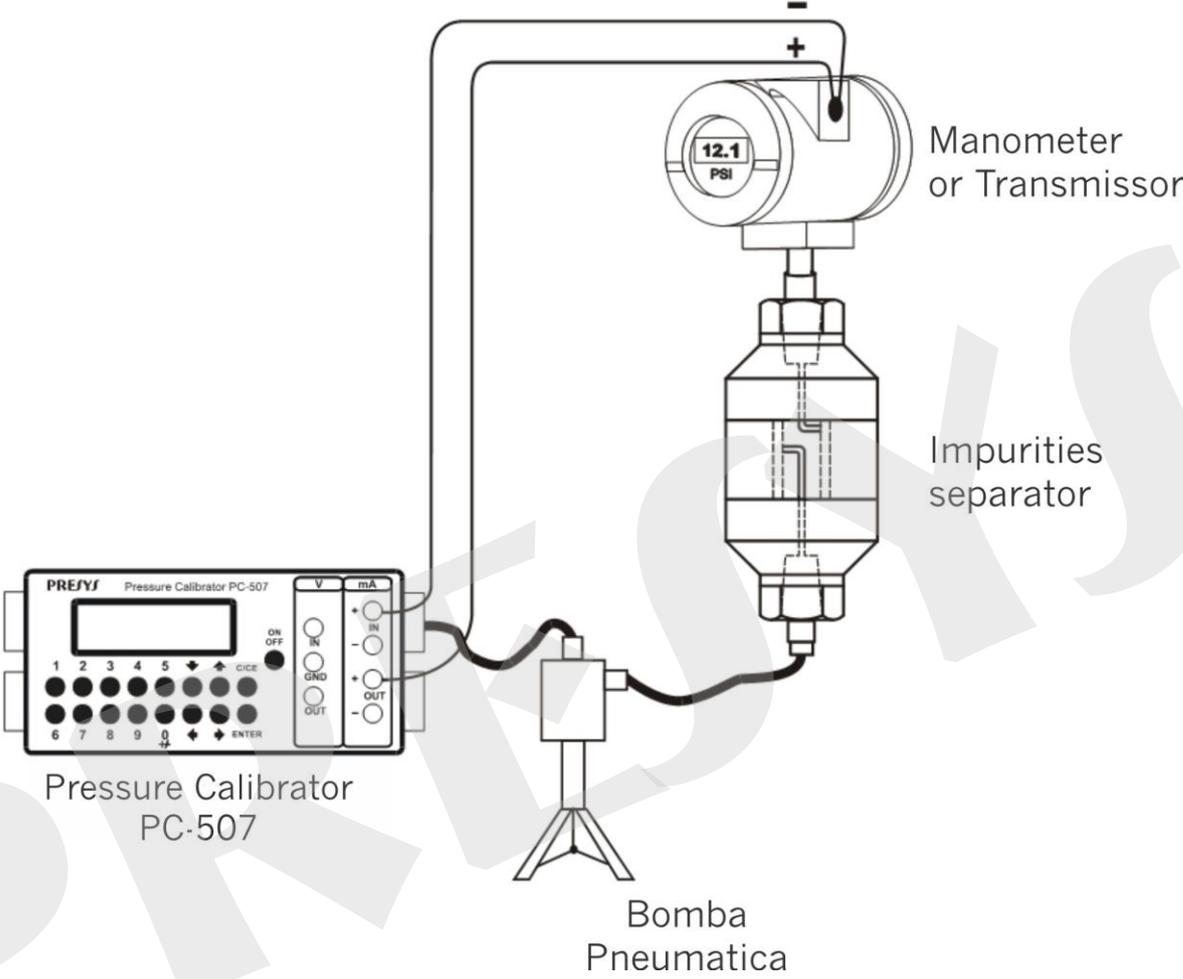


ALWAYS USE IN VERTICAL POSITION.



Sealant for BSP thread

ACCESSORY FOR PORTABLE DUPLEX PUMP BY - 8111-80

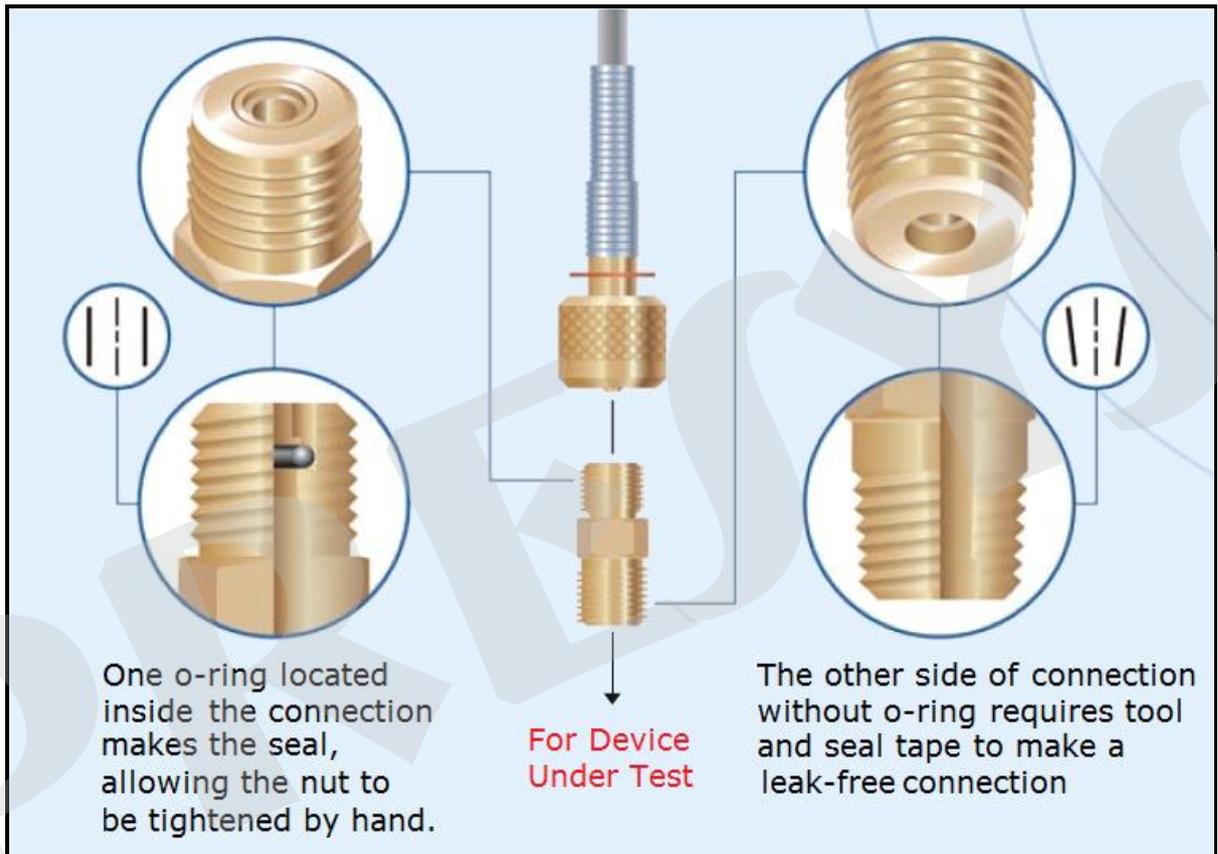


Pump with impurity separator

ACCESSORY FOR PORTABLE DUPLEX PUMP BY - 8111 - 500

HOSES AND FAST CONNECTORS

The **PRESYS** Fast Connectors save time and they eliminate leaks.



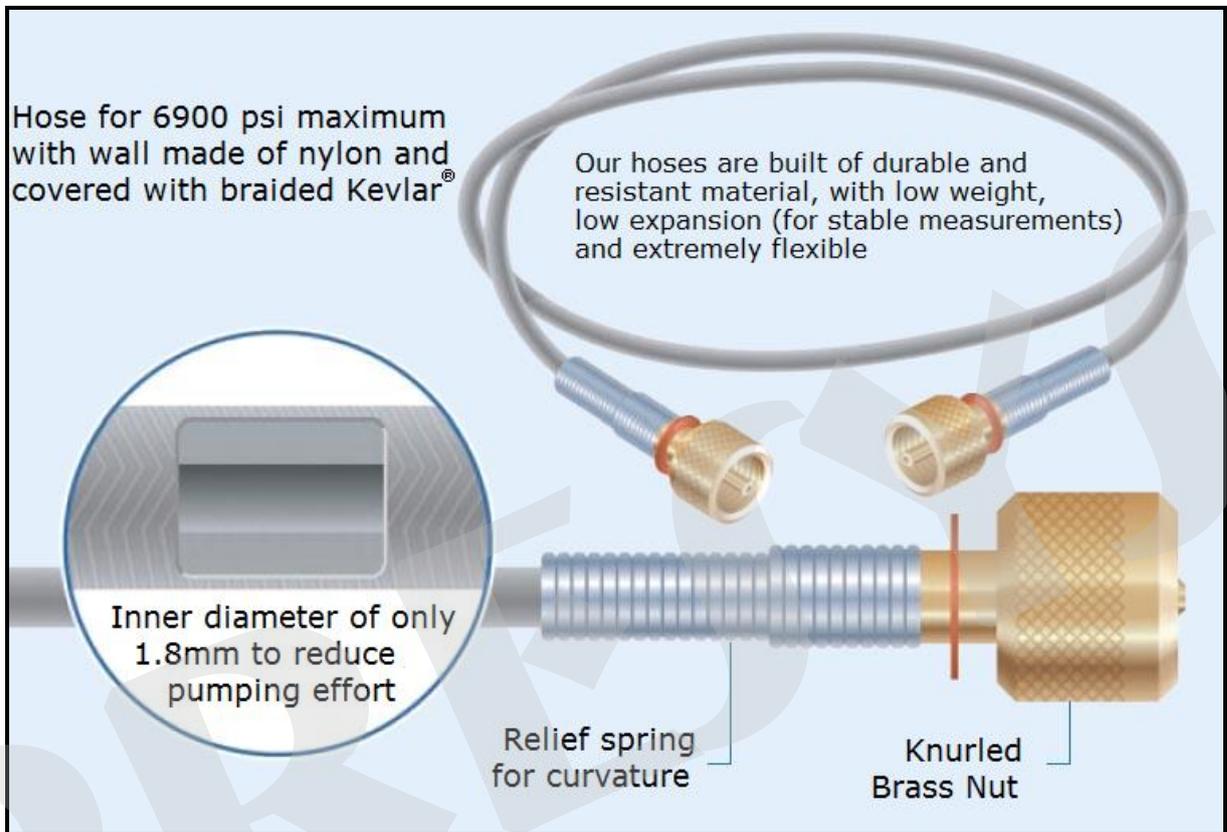
The side of parallel thread is not NPT.



The side of NPT thread is conical.

Adapters for High Pressure Hoses

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High Pressure Hose



**Fast Connector for NPT thread,
to eliminate Seal tape and
excessive tighten**

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