FLUKE®

700PMP

Precision Pressure Pump

Instruction Sheet

Introduction

The Fluke 700PMP is a tube type, cylindrical shaped hand pump with a "T" handle at the compressor end and a round knob at the volume adjust end. The overall length is between 11.5" (full extension) and 8.5" (fully collapsed). The pump incorporates a needle valve for venting and a volume adjust vernier for precision adjustment of pressure.

Pressure connections are made through one 1/8" NPT internally threaded fitting. The pump is small in size, lightweight and ruggedly constructed to withstand typical field use.

Operating Instructions

Producing Pressure

1. Connect the pump's port to the instrument to be calibrated or checked. Use small-diameter tubing as short in length as possible (this will maximize the pressure adjustment range).
2. Set the FINE ADJUST knob to the full counterclockwise position.
3. Turn the bleed valve knob fully counterclockwise to relieve all system pressure and zero any measuring devices.
4. Turn the bleed valve knob fully clockwise to close.
5. Repeatedly move the "T" handle in and out to generate the desired pressure.
6. Use the FINE ADJUST knob to bring up the pressure to the precise level.
7. Use the BLEED VALVE to lower the pressure from the pressure generated. Opening the BLEED VALVE 1/4 turn will lower the pressure very gradually. Opening it 1/2 turn will release the pressure faster and opening it 3/4 turn will quickly and safely release all the pressure in the system.

⚠ Warning

It is imperative that all system pressure is relieved prior to making any connections or disconnections. Failure to relieve system pressure could result in serious personal injury or equipment damage. Even nominal pressure values can generate extreme force if fitting or tubing failure occurs due to improper installation or usage. Since the pump is capable of generating pressures exceeding 100 psig/70 bar, it is important that all pressure connections and test procedures be done by qualified service personnel, according to standard engineering practices, to prevent possible personal injury or equipment damage.

Connections

To install a pressure fitting in the pump:

1. Turn the BLEED VALVE counterclockwise to bleed any pressure.
2. Use a 5/8" open-end wrench on the input port to prevent it from rotating while tightening the supply fitting with a 5/8" open-end wrench.

Leak Prevention and Detection

In order to obtain maximum pressure indication stability, leaks must be avoided. It is strongly recommended that either Teflon® tape or commercial pipe sealant is used at all tapered fittings and connections. If Teflon® tape is used, care must be taken that the proper amount is applied. Excessive tape may fray and cause plugging of relief valves orifices, nozzles, etc. Overuse of pipe sealant may cause similar problems.

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External equipment should also be checked carefully for leaks. Process connections, flange bolts, and vents must be tightly closed. Defective gaskets, leaking valves, and damaged diaphragms are all potential sources of leaks.

For detection of very small system leaks, the traditional soap bubble method may not be sufficient. Halogen leak detection devices may be required with using highly sensitive pressure calibration equipment.

Temperature Considerations

Since the pressure change of a contained volume of gas is directly proportional to absolute temperature, temperature control is critical when using the pump with any high-resolution measuring device. Tubing should be kept away from heat sources (i.e., lamps, operating electronic equipment, excessive hand contact, etc.) as well as from heat-dissipating structures (i.e., open windows, air conditioning vents, etc.) to minimize temperature variations that might induce errors, Air is compressed by the pump. This compression causes some heating of the air as it is forced into the system. Consequently, a noticeable decrease in pressure - caused by the cooling of the newly compressed air - may occur immediately after cessation of pumping.

Specifications

Pressure range: 145 psig/10 bar

Pressure connections: Single 1/8" NPT female fitting

Size:

Body diameter: 1.5" (3.8 cm)

Length: 8.5" (21.6 cm) collapsed

11.5" (29.2 cm) extended

Weight: 0.5 lbs. (0.68 kg)

Construction materials:

Body and piston: Acetal

O-Rings: Buna N

Other wetted parts: Brass or nickel-plated brass

LIMITED WARRANTY AND LIMITATION OF LIABILITY

This Fluke product will be free from defects in material and workmanship for one year from the date of purchase. This warranty does not cover fuses, disposable batteries, or damage from accident, neglect, misuse, alteration, contamination, or abnormal conditions of operation or handling. Resellers are not authorized to extend any other warranty on Fluke's behalf. To obtain service during the warranty period, contact your nearest Fluke authorized service center to obtain return authorization information, then send the product to that Service Center with a description of the problem.

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