730LTP600k

Low Pressure Pneumatic Test Pump

Instructions

Introduction

The 730LTP600k Low Pressure Pneumatic Test Pump (the Product) is used to check pressure measurement devices against master reference gauges. The Product supplies the same pressure to both a reference gauge and a device under test (DUT) to test the accuracy of the DUT.

Contact Fluke Corporation

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Safety Information

A **Warning** identifies conditions and actions that pose hazards to the user; a **Caution** identifies conditions and actions that may damage the Product or the equiptment under test.

⚠ Warning

To prevent possible electrical shock, fire, or personal injury and safe operation and maintenance of the Product:

- **Read all safety information before you use the Product.**
- **Only assemble and operate high-pressure systems if you know the correct safety procedures. High-pressure liquids and gases are hazardous and the energy from them can be released without warning.**
- **Do not alter the Product and use only as specified, or the protection supplied by the Product can be compromised.**
- **Use only specified replacement parts.**
- **Have an approved technician repair the Product.**
- **Do not use the Product if it is altered or damaged.**
- **Do not use the Product with flammable, explosive, or poisonous gasses.**
- **Do not use the Product above its rated pressure.**
- **Depressurize the system before removing any hoses, tubing, devices under test, or accessories from the Product.**
- **Use filters if impurities from source fluids are likely to contaminate the Product.**
- **Clean the Product with mild soap and water if contaminated. Dry parts and apply manufacturer-specified lubricants, seals, and gaskets during reassembly.**

Table 1 lists the symbols used on the Product or in this document.

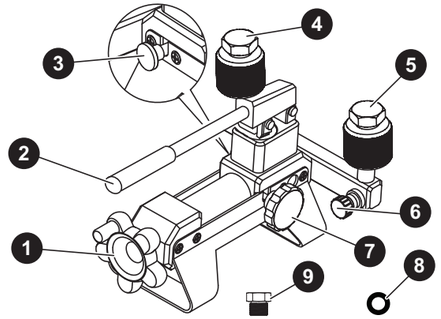
Table 1. Symbols

Symbol	Description
	Consult user documentation.
	WARNING. RISK OF DANGER.

Product Features

Table 2 shows the features of the Product.

Table 2. Product Features



Item	Description	Function
❶	Fine adjustment wheel	Increases and decreases pressure in small increments
❷	Pressure handle	Increases and decreases pressure in large increments
❸	Pressure selection switch	Sets positive/negative pressure
❹	Output port 1	Connection port for the reference gauge or the DUT
❺	Output port 2	Connection port for the reference gauge or the DUT
❻	Pressure release valve	Releases pressure
❼	Pressure maintaining valve	Maintains pressure
❽	O rings (x 20) (7.8 mm x 3.1 mm)	Improves the seal between the reference gauge/DUT and the pump
❾	Bulkhead plugs (x 2) (M20 x 1.5)	Seals pressure in output ports

Operation

Zero the Product before you do a pressure test.

Zero the Product

To zero the Product:

1. Turn ❻, pressure release valve, counterclockwise until the valve is fully open.
2. Turn ❼, pressure maintaining valve, counterclockwise until the valve is fully open.
3. Select a pressure method to test:

   Positive pressure:

   - Fully turn ❶, fine adjustment wheel, counterclockwise.
   - Pull ❸, pressure selection switch, to extend it away from the Product body.

   Vacuum pressure:

   - Fully turn ❶, fine adjustment wheel, clockwise.
   - Push ❸, pressure selection switch, into the Product body.
4. Put one O ring in each of the output ports.
5. Connect the reference gauge to ❹, output port 1 or ❺, output port 2.
6. Connect the DUT to the open output port.
7. Read the zero pressure from the reference gauge.
8. Turn ❻, pressure release valve, clockwise until the valve is fully closed.

Ascending Pressure

To check ascending pressure:

1. Zero the Product.
2. Turn ❼, pressure maintaining valve, counterclockwise halfway.
3. To generate pressure, lift ❷, pressure handle, up and down until the pressure gets close to the target pressure.
4. Turn ❼, pressure maintaining valve, clockwise until the valve is almost closed.
5. To get to the target pressure, turn ❶, fine adjustment wheel, to increase or decrease pressure as needed.
6. Turn ❼, pressure maintaining valve, clockwise until the valve is fully closed
7. Record the pressure from the DUT.
8. Repeat steps 2 through 7 for each target pressure point up to the full scale.
9. Check the descending pressure if needed.

Descending Pressure

To check descending pressure:

1. Turn ❼, pressure maintaining valve, counterclockwise halfway.
2. Generate ascending pressure greater than the target pressure or up to the full scale.
3. Turn ❼, pressure maintaining valve, clockwise until the valve is fully closed.
4. Slowly turn ❻, pressure release valve, counterclockwise until the pressure gets close to the target pressure, then immediately turn ❻ clockwise until the valve is fully closed.
5. To get to the target pressure, turn ❶, fine adjustment wheel, to increase or decrease pressure as needed.
6. Record the pressure from the DUT.
7. Repeat steps 4 through 6 for each target pressure point down to zero.

Troubleshoot the Product

If the Product does not function as expected, try the steps in Table 3.

Table 3. Troubleshoot the Product

Problem	Cause	Solution
Difficult to maintain pressure (leakage)	The pressure release valve is open.	Close the pressure release valve.
	The reference gauge is loose.	Tighten the reference gauge.
	The DUT is loose.	Tighten the DUT.
	An O ring is worn.	Replace the O ring.
	The threads on the Product, the reference gauge, or the DUT are not smooth.	Apply thread seal tape to the threads of the reference gauge and the threads of the DUT.
	An impurity blocks the circulation of air.	Repeatedly apply pressure and suddenly release the pressure until the impurity comes out.
	The DUT connector is too small for the output port on the Product.	Use an adaptor to connect the DUT to the Product.
Difficult to generate pressure	The pressure maintaining valve is closed.	Open the pressure mantaining valve.
	The pressure release valve is open.	Close the pressure release valve.
	The reference gauge is loose.	Tighten the reference gauge.
	The DUT is loose.	Tighten the DUT.
	An O ring is worn.	Replace the O ring.
	The pressure selection switch is set for the wrong pressure test. For example, the pressure selection switch is set to positive pressure when a vacuum pressure test is performed.	Set the pressure selection for the proper pressure test.
	There is a leak in the DUT.	Test another DUT.
Valves or wheels do not turn freely	The valve or the wheel is turned too tightly.	Firmly grasp the valve or wheel and turn it gently.
	The threads of the Product are dry.	Apply grease to the threads of the Product.

Specifications

Operating	
Altitude	≤3000 m
Temperature	-10 °C to 40 °C
Pressure	
Media	Air
Positive Range	0 kPa to 600 kPa, 0 psi to 87 psi
Vacuum Range	-95 kPa to 0 kPa, -13.7 psi to 0 psi
Size (H x W x L)	298 mm x 173 mm x 150 mm
Weight	2.9 kg
Safety	IEC 61010-1: Pollution Degree 2

Note

The vacuum pressure can reach up to 95 % of the local atmospheric pressure.

LIMITED WARRANTY AND LIMITATION OF LIABILITY

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