

# 730PTP10M

## High Pressure Pneumatic Test Pump

### Instructions

#### Introduction

The 730PTP10M High 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

Fluke Corporation operates worldwide. For local contact information, go to our website: [www.fluke.com](http://www.fluke.com).

To register your product, view, print, or download the latest manual or manual supplement, go to our website.

Fluke Corporation  
P.O. Box 9090  
Everett, WA 98206-9090  
U.S.A.

Fluke Europe B.V.  
P.O. Box 1186  
5602 BD Eindhoven  
The Netherlands

+1-425-446-5500

[fluke-info@fluke.com](mailto:fluke-info@fluke.com)

#### 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 equipment 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                                                       |
|------|-------------------------------------|----------------------------------------------------------------|
| 1    | Pressure maintaining valve          | Maintains pressure                                             |
| 2    | Pressure handle                     | Increases and decreases pressure in large increments           |
| 3    | Pressure release valve              | Releases pressure                                              |
| 4    | Output port 1                       | Connection port for the reference gauge or the DUT             |
| 5    | Output port 2                       | Connection port for the reference gauge or the DUT             |
| 6    | Pressure selection switch           | Sets positive/negative pressure                                |
| 7    | Fine adjustment wheel               | Increases and decreases pressure in small increments           |
| 8    | O rings (x 20)<br>(7.8 mm x 3.1 mm) | Improves the seal between the reference gauge/DUT and the pump |
| 9    | Bulkhead plugs (x 2)<br>(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 3, pressure release valve, counterclockwise until the valve is fully open.
2. Turn 1, pressure maintaining valve, counterclockwise until the valve is fully open.
3. Select a pressure method to test:
  - **Positive pressure:**
    - o Fully turn 7, fine adjustment wheel, counterclockwise.
    - o Pull 6, pressure selection switch, to extend it away from the body of the Product.
  - **Vacuum pressure:**
    - o Fully turn 7, fine adjustment wheel, clockwise.
    - o Push 6, pressure selection switch, into the body of the Product.
4. Put one O ring in each of the output ports.
5. Connect the reference gauge to 4, output port 1 or 5, output port 2.
6. Connect the DUT to the open output port.
7. Read the zero pressure from the reference gauge.
8. Turn 3, pressure release valve, clockwise until the valve is fully closed.

#### Ascending Pressure

To check ascending pressure:

1. Zero the Product.
2. Turn 1, pressure maintaining valve, counterclockwise halfway.
3. To generate pressure, lift 2, pressure handle, up and down until the pressure gets close to the target pressure.
4. Turn 1, pressure maintaining valve, clockwise until the valve is almost closed.
5. To get to the target pressure, turn 7, fine adjustment wheel, to increase or decrease pressure as needed.
6. Turn 1, 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 1, pressure maintaining valve, counterclockwise halfway.
2. Generate ascending pressure greater than the target pressure or up to the full scale.
3. Turn 1, pressure maintaining valve, clockwise until the valve is fully closed.
4. Slowly turn 3, pressure release valve, counterclockwise until the pressure gets close to the target pressure, then immediately turn 3 clockwise until the valve is fully closed.
5. To get to the target pressure, turn 7, 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 wheel is turned too tightly.                                                                                                                                          | Firmly grasp the valve or the 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 MPa to 10 MPa, 0 psi to 1451 psi  
Vacuum Range..... -0.095 MPa to 0 MPa, -13.8 psi to 0 psi  
Size (H x W x L)..... 360 mm x 250 mm x 145 mm  
Weight..... 5.5 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

This Fluke product will be free from defects in material and workmanship for two years 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.

THIS WARRANTY IS YOUR ONLY REMEDY. NO OTHER WARRANTIES, SUCH AS FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSED OR IMPLIED. FLUKE IS NOT LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, ARISING FROM ANY CAUSE OR THEORY. Since some states or countries do not allow the exclusion or limitation of an implied warranty or of incidental or consequential damages, this limitation of liability may not apply to you.