

## To perform the test:

- STEP 1** The pressure gauge should be mounted in the same orientation (vertical or horizontal) as in the process.
- STEP 2** The reference pressure gauge (2700G) should be mounted vertically.
- STEP 3** For hydraulic comparators prime the fluid with the priming pump, to remove any bubbles.
- STEP 4** Measurement points should be distributed uniformly over the calibration range. Conveniently source pressure with a manual pump up to 300 psi, after that use an external pressure supply.
- STEP 5** For gas comparators use the fine needle valve or fine adjustment screw press to precisely meter the pressure.
- STEP 6** With hydraulic models use the screw press to source and fine adjust the pressure.
- STEP 7** The source pressure can be adjusted until the device under test is reading a nominal pressure or until the reference gauge reads the nominal pressure.

### Additional resources

For more in depth information about this application check out these videos and application notes from Fluke.



Check out the 700G videos.



700G Data Sheet.  
Interpreting Specifications for Process Calibrators,  
Application Note

## TECH TIPS



- The key to a good experience in using a hand pump, either pneumatic or hydraulic, is to test and debug your test setup in the shop before going to the field. Minimizing the number of pressure connections minimizes the probability for leaks. Mount the test gauge carefully to the test pump in the shop.
- Be sure to consider the hoses that connect from the hand pump to the device to be tested. There are a variety of specialty “no tools required” connectors to connect to the test hose to make this easy. If these connectors are not available be sure to have a variety of adapters, wrenches and PTFE sealing tape to be able to connect from the test hose to the input port of the device for testing. If using “push fit” hoses it is likely they will eventually leak. Each time – a push fit hose is connected, it leaves a mark on the test hose and eventually does not seal well. To eliminate the leak cut off the affected portion of the test hose so there is a clean surface to connect to. This process will need to be repeated with use.
- When attempting to get maximum pressure out of a pneumatic pump, adjust the fine adjust vernier all the way to down to the stop so turning the vernier increases the pressure. When approaching the target pressure use the vernier to increase to your target pressure.
- When using hydraulic hand pumps remember the thermodynamic effect. Once any fluid is compressed, the temperature increases and the fluid expands. This becomes obvious when pumping to a target pressure with a hydraulic pump. Once the target pressure is met the fluid has expanded. As the fluid cools and contracts the pressure quickly bleeds down until it reaches temperature equilibrium, this can take 5 minutes or more. Once the temperature stops changing, dial the desired pressure back in with the vernier adjuster.