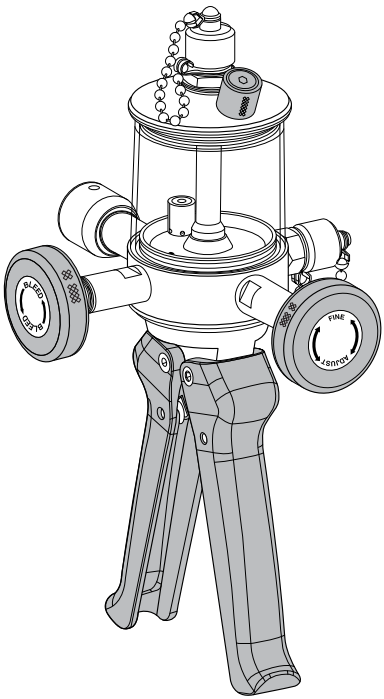
EN

Ralston

Ralston Hydraulic Test Pump (QTHP, XTHP) Operation Manual



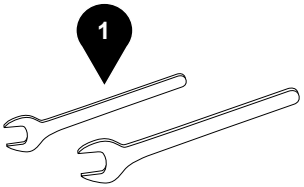
For all models of the Ralston QTHP & XTHP Hydraulic Test Pumps

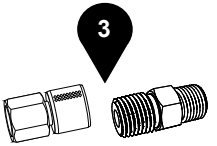
Table of Contents

Specifications

	QTHP	XTHP
Weight	3.25 lbs / 1.47 kg	3.38 lbs / 1.53 kg
Dimensions	H: 10.6 in / 27 cm W: 6 in / 16 cm D: 5.7 in / 15 cm	H: 10.6 in / 27 cm W: 7.5 in / 20 cm D: 5.7 in / 15 cm
Materials	Anodized Aluminum, Brass, Stainless Steel, Polysulfone	Anodized Aluminum, Brass, Stainless Steel, Polysulfone, Delrin
Max Pressure	5,000 PSI / 345 bar / 35 MPa	10,000 PSI / 700 bar / 70 MPa
Media Compatibility	Alcohol, Antifreeze, Ethylene Glycol, Hydraulic Oil, Mineral Oil, Petroleum Based Oil, Windshield Washer Fluid	
Seal Materials	Buna-N, Teflon	Teflon, Viton
Fine Adjustment Resolution	0.1 psi / 0.7 mbar / 70 pa (QTHP and XTHP)	

Requirements





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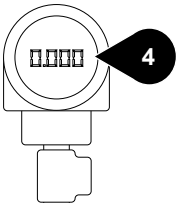
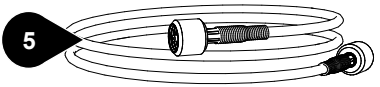
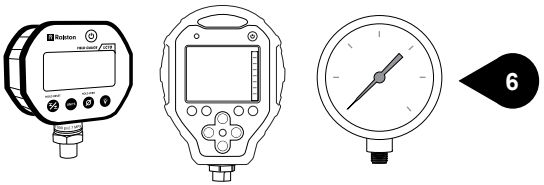
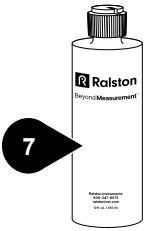






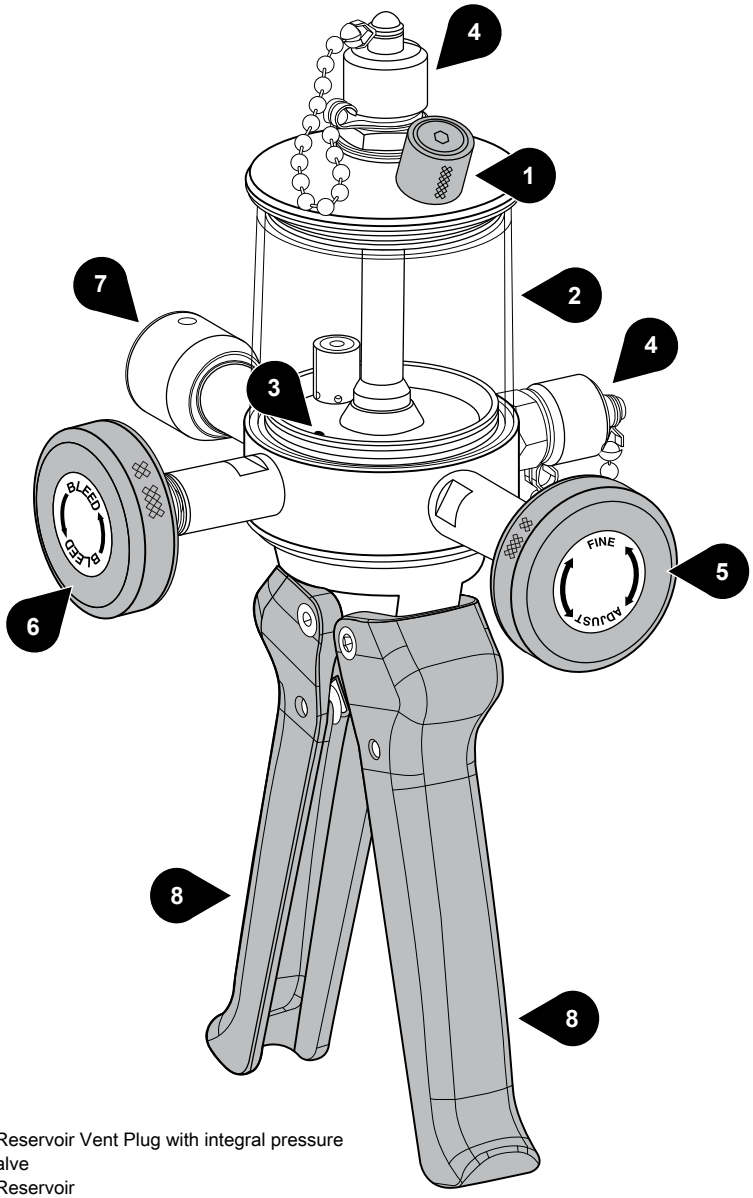


*** ralstoninst.com/adapters**

What you need to use your Hydraulic Test Pump:

1. Wrenches
2. Thread Tape
3. QTHP Pump - Quick-test adapter (included), XTHP Pump - Quick-test XT adapter (included)
4. Device Under Test
5. QTHP Pump - Quick-test hose (included), XTHP Pump - Quick-test XT hose (included)
6. Pressure Reference
7. Bottle Filled with a Recommended Fluid

Hydraulic Test Pump Overview



1. Liquid Reservoir Vent Plug with integral pressure relief valve
2. Liquid Reservoir
3. Fluid Return Hole
4. Outlet port: QTHP pump - Male Quick-test, XTHP pump - Quick-test XT
5. Fine Adjust Piston
6. Bleed Valve
7. Priming Piston (XTHP pump only)
8. Pump Handles

Important Safety Notices

⚠ WARNING: Do not exceed Maximum Working Pressure for this product or damage may result.

⚠ WARNING: Do not open vent valve if there is pressure from the process on the pump or liquid reservoir can shatter or explode.

⚠ WARNING: Device under test should be isolated from the process, vented and vent valve closed prior to use.

⚠ WARNING: Do not attempt to operate this pump until you have read and fully understand the instructions and hazards of the product.

- Any modifications to this product with custom parts can result in hazardous operation of the hand pump.
- Use eye protection while using this product. Leaking fluid, parts or hoses can be ejected at high speed and may cause injury.

Setting Up

Fill included bottle with one of the recommended fluids:

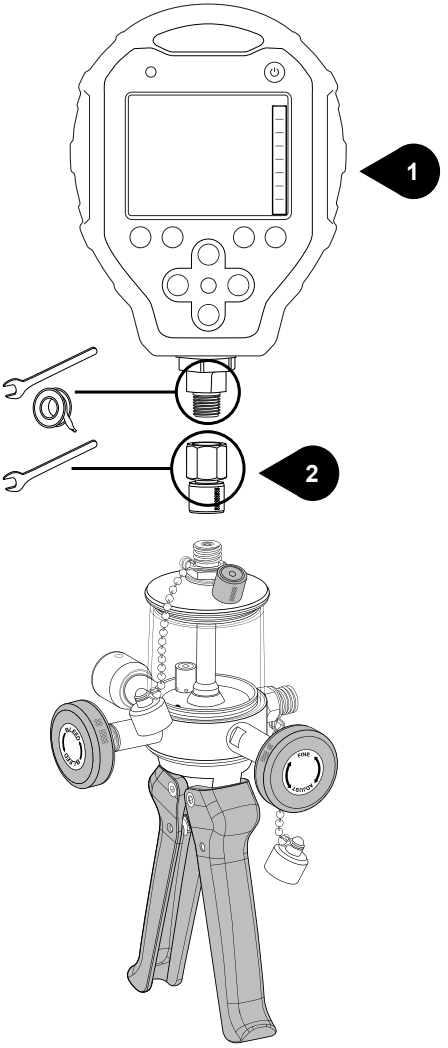
- Ralston Calibration Oil
- Hydraulic Oil
- Light Motor Oil
- Transmission Fluid
- Water

Acceptable Fluids (Drain and flush pump when not in use):

- Antifreeze
- Alcohol

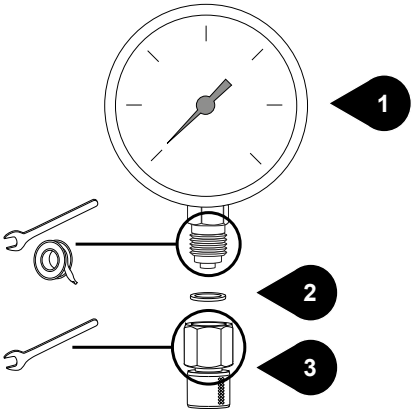
Connecting Reference Gauge

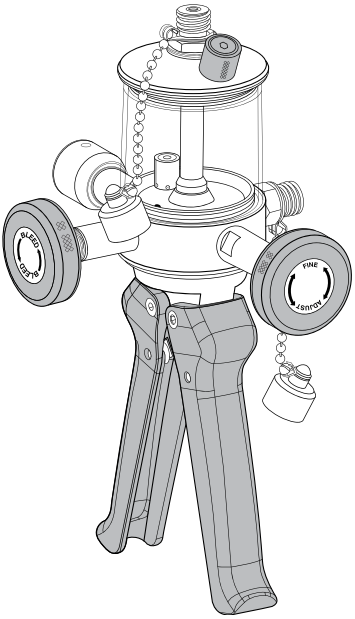
Male NPT Reference Gauge



1. Reference Gauge with NPT male connection
2. QTHP pump - NPT female Quick-test adapter, XTHP pump - NPT female Quick-test XT adapter

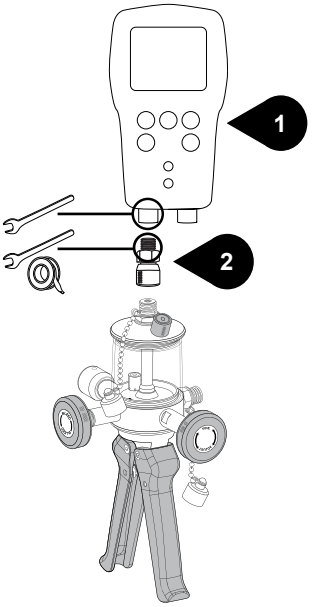
Male BSPP Reference Gauge





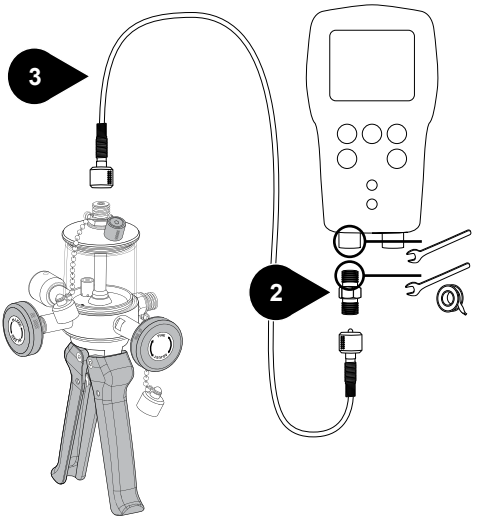
1. Reference Gauge with BSPP male connection
2. BSPP Washer
3. QTHP pump - BSPP female Quick-test adapter,
   XTHP pump - BSPP female Quick-test XT adapter

Female NPT Pressure Reference Gauge



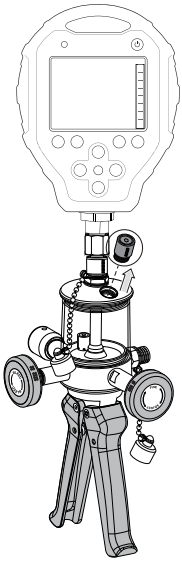
1. Reference Gauge with NPT female port
2. QTHP pump - NPT male Quick-test adapter,
   XTHP pump - NPT male Quick-test XT adapter
3. QTHP Pump - Quick-test hose, XTHP Pump - Quick-test XT hose

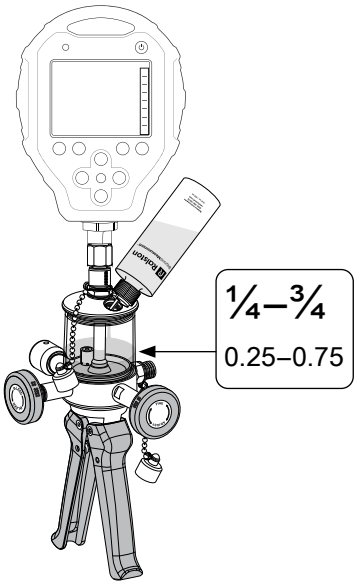
or

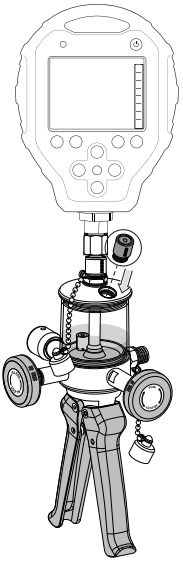


Connecting Device Under Test (DUT)

1







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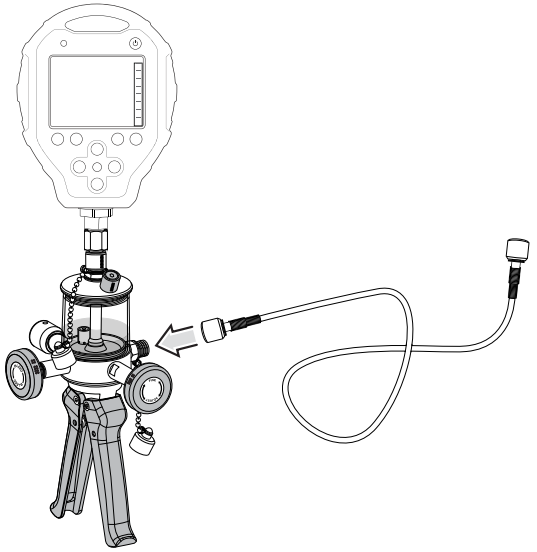
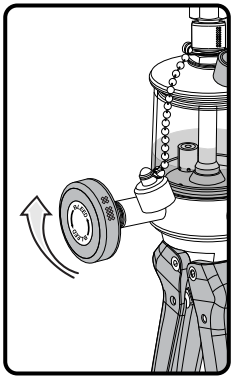
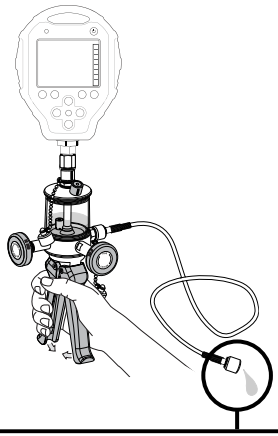


3

QTHP

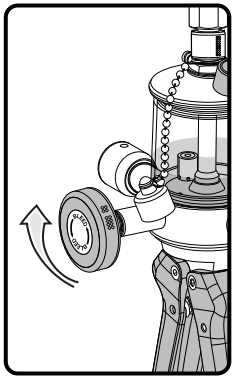


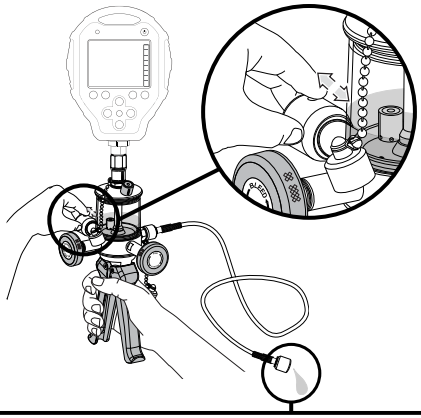


Pump hand pump until fluid comes out of the end of the pressure hose.

or

XTHP

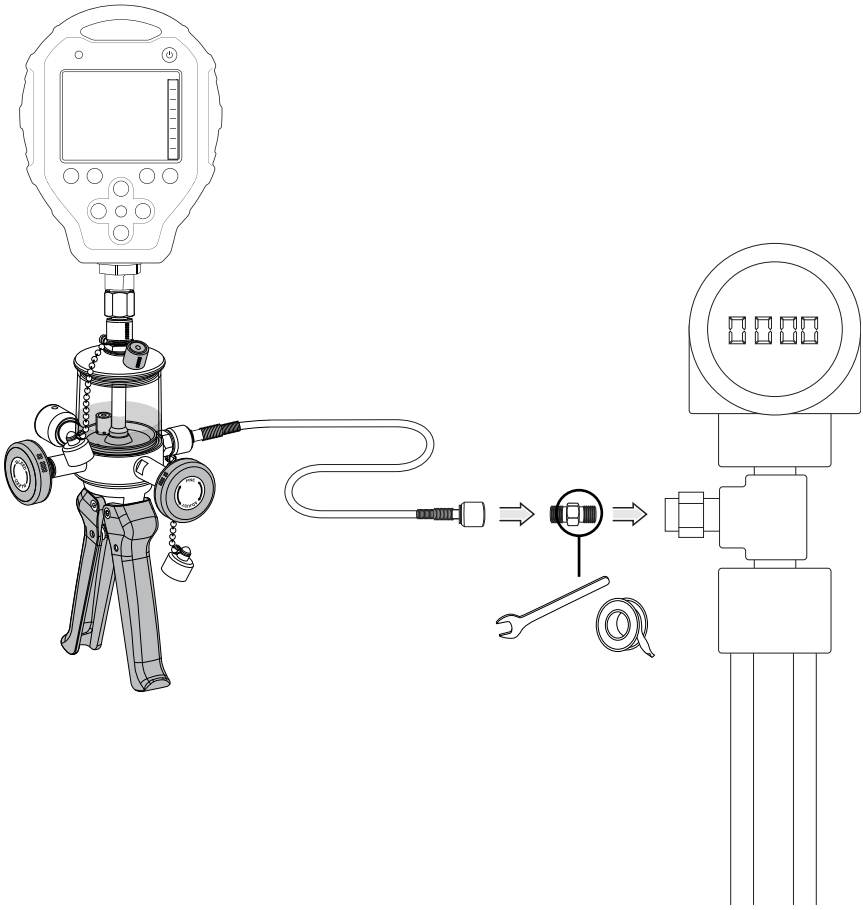




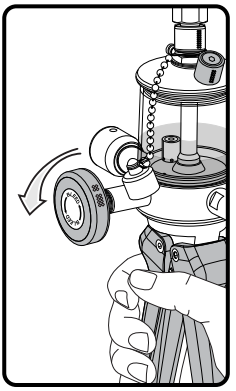
Pump priming piston until fluid comes out of the end of the pressure hose.

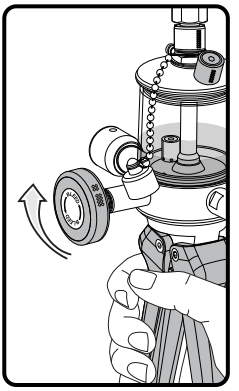
4 Isolate the Device Under Test (DUT) from the process and vent DUT prior to connecting to it.

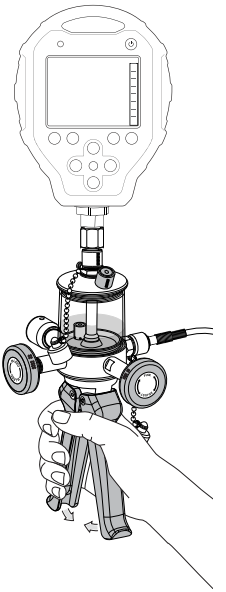
5



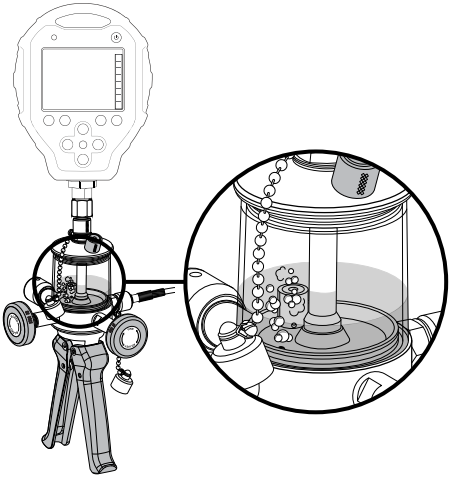
6





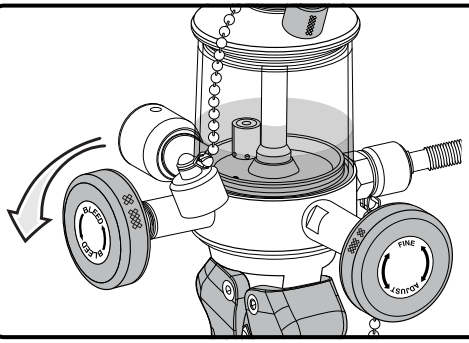


Repeat step 6 while connected to the Device Under Test until no bubbles escape the Fluid Return Hole.



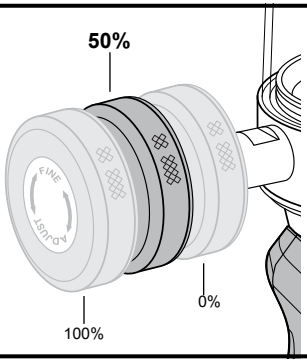
Prepare the Pump for Calibration

1



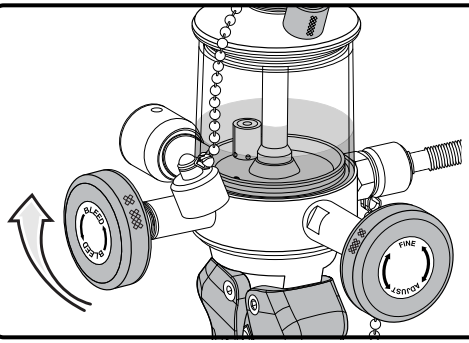
Open Bleed Valve.

2



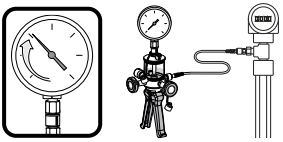
Set Fine Adjust Valve to 50% of travel.

3



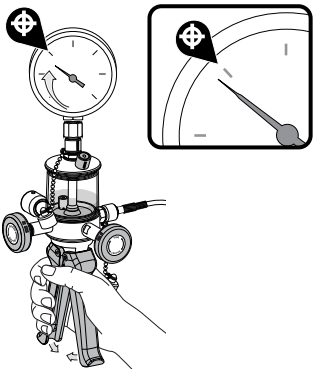
Close Bleed Valve tightly.

Increase Pressure



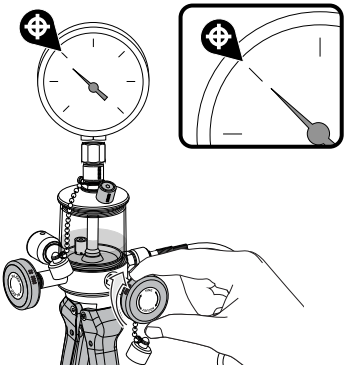
Test point

1



Pump to just below test point.
Let pressure reading stabilize.
This may take several minutes.

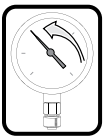
2

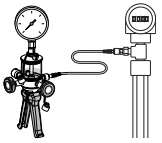


Fine-adjust to exact test point.

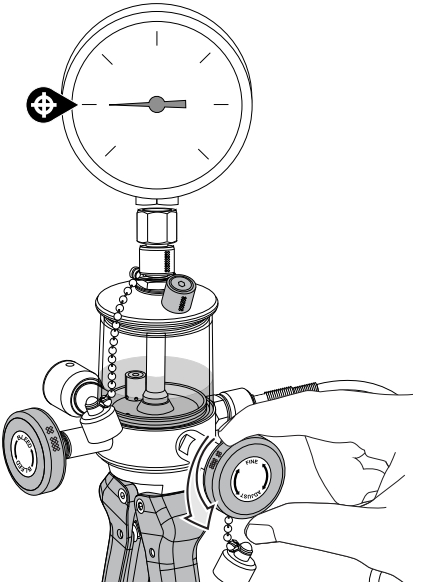
Repeat steps 1 and 2 for each test point up-scale.

Decrease Pressure





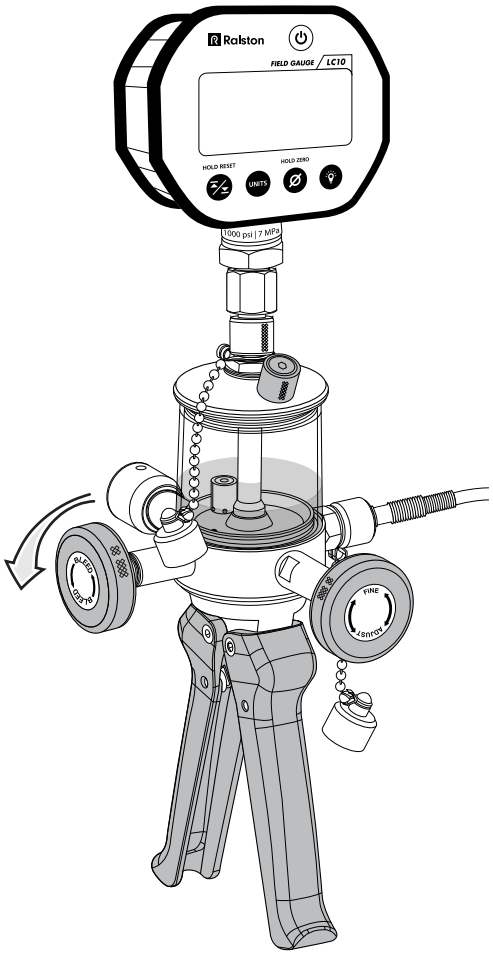
Test point



Fine-adjust to exact test point.

Repeat for each test point down-scale.

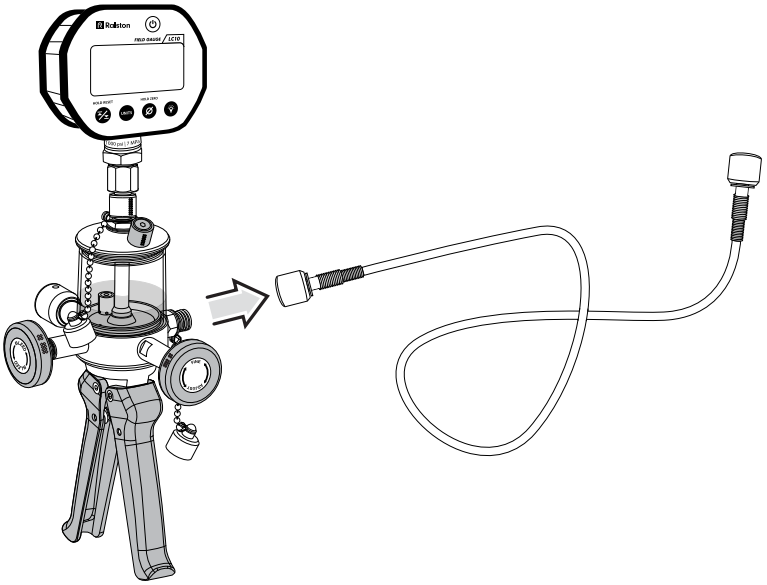
Venting System



When finished testing, open the bleed valve and vent the remaining pressure from the system.

Storage and Transport

1



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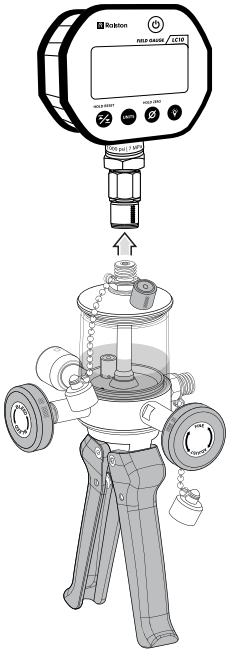

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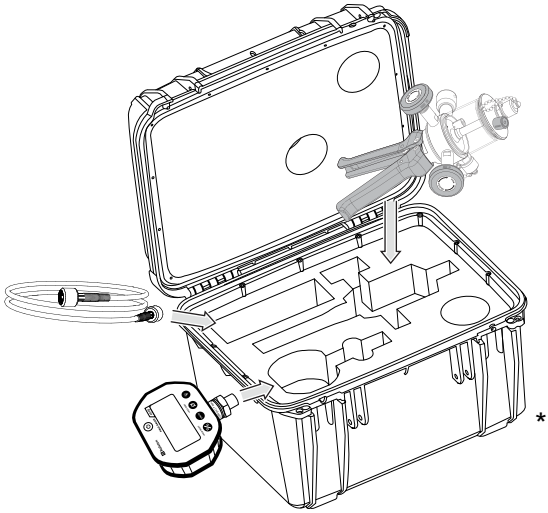

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If using water, alcohol, Ethylene Glycol or other non-lubricating fluid in the pump, then drain that liquid and fill the pump at least up to the check-valves with a light weight oil prior to long-term storage.

* Ralston QTHP or XTHP Test Pump Carrying Case (QTHP-0275). Sold separately.

Maintenance

Maintenance Interval
Every 300 uses or 3 months

Maintenance Procedure
- Clean and lubricate the Inlet and Outlet Check Valves with a light-weight oil.
- Lubricate the Quick-test fittings by squirting 2 ml of oil inside the connection.
- Lubricate the threads on the fine adjust piston with a graphite-based grease, such as Dow Corning® G-n Metal Assembly Paste (or equivalent).

Troubleshooting

The pump will not build pressure.

If the pump will not build pressure, then prime the pump. Follow the instructions on page 11.

The pump will not prime.

If the pump will not prime, then follow the instructions below:

1. Remove the inlet check valve plug (QTHP) or the primer assembly (XTHP).
2. Inspect the inlet check valve O-ring for debris or damage. Clean/replace/ lubricate as needed.
3. Pour some fluid in the inlet port from which the plug or primer was removed.
4. Reassemble.

The pressure drops off up to 10% after it is pumped up.

If the pressure drops off up to 10% after it is pumped up, then follow the instructions below:

1. Wait 3–5 minutes for the pressure to stabilize. The liquid heats as it is compressed and cools slowly. As the liquid cools the pressure drops until the liquid reaches room temperature.
2. Take your pressure reading.
3. If waiting for the pressure to stabilize does not solve the problem, then close the Bleed Valve tighter.
4. If it still leaks, then check the fine adjust piston, outlet hose adapter, the outlet check valve plug or the bleed-off valve for signs of leakage.
   a. Remove the leaking part.
   b. Clean, lubricate and replace the leaking O-ring.
   c. Reassemble.

The pressure goes up when the handle is squeezed, and the pressure drops when the handle is released.

If the pressure goes up when the handle is squeezed, and the pressure drops when the handle is released, then follow the instructions below:

1. Close the bleed valve tighter.
2. If tightening the bleed valve does not solve the problem, then remove the reservoir.
3. Remove the gauge port and outlet check valve.
4. Clean, lubricate and replace the O-rings.
5. Reassemble.

The process connection leaks.

If the process connection leaks, then you may have used too much thread tape.

1. Disconnect from the device under test.
2. Remove the thread tape.
3. Use only 2–3 turns of thread tape.
4. Reconnect to the device under test.

If the issue was not resolved by these troubleshooting instructions, then please contact support listed on page 23.

Support

Hours: **8:30 am – 5:00 pm EST**
Phone: **1 440-564-1430** • Toll Free: **1 800-347-6575 (US and Canada)**
Web: **ralstoninst.com/support**
Email: **support@ralstoninst.com**
Parts and Service: **ralstoninst.com/QXHP**

Notes

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