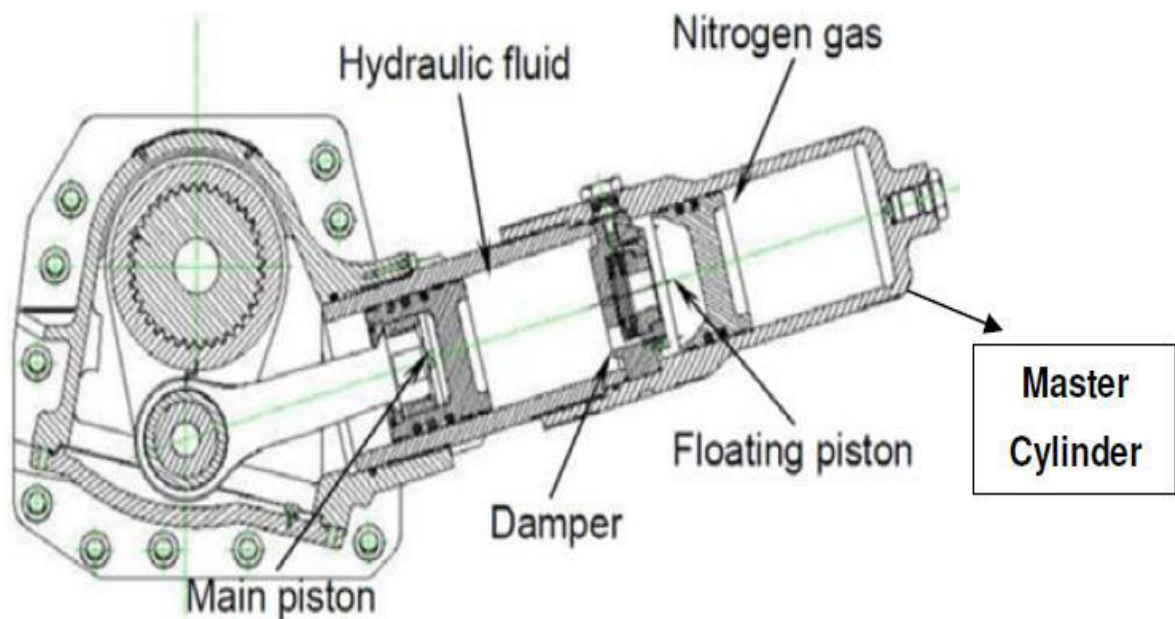


PROOF PRESSURE TEST BENCH

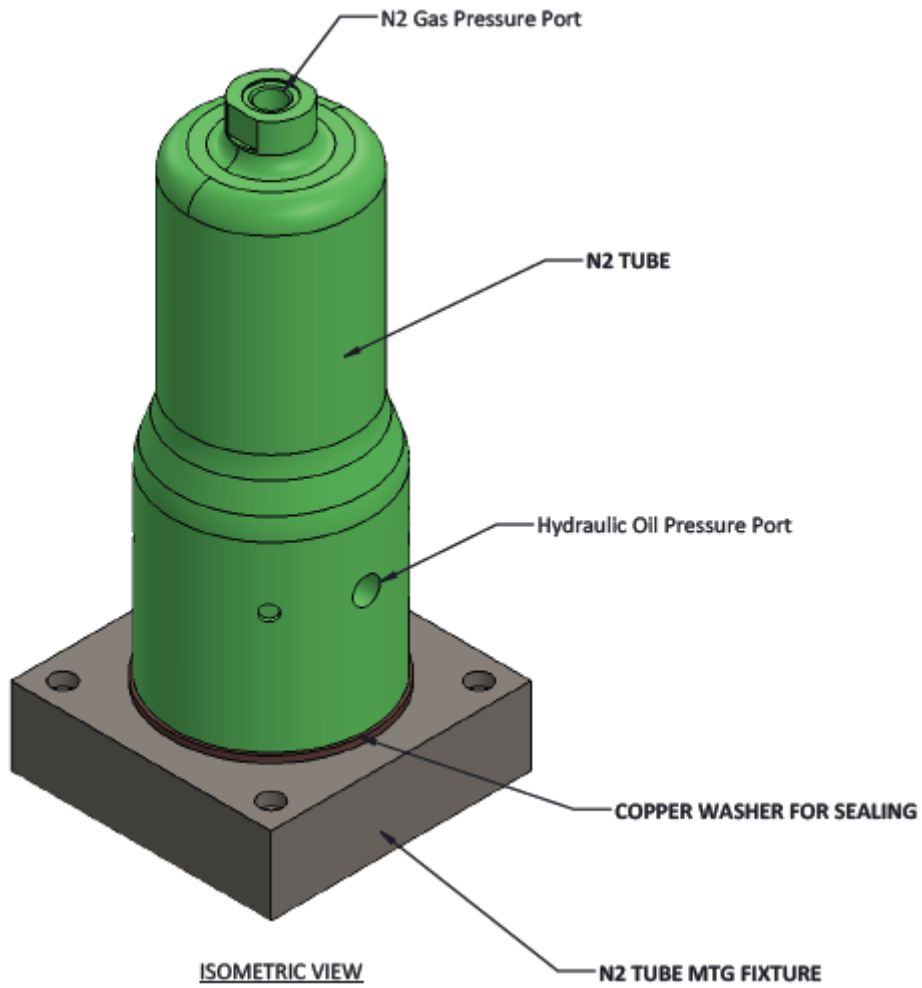




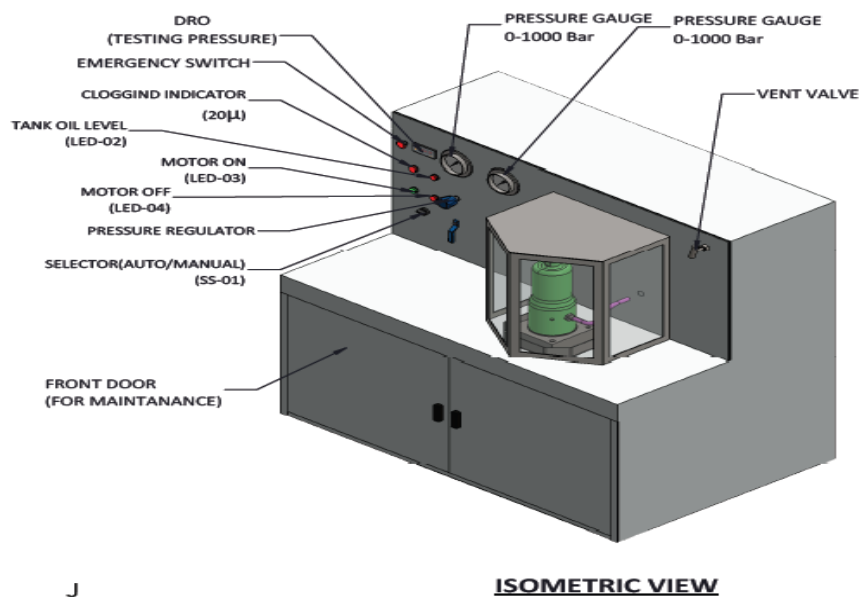
PROOF PRESSURE TEST BENCH

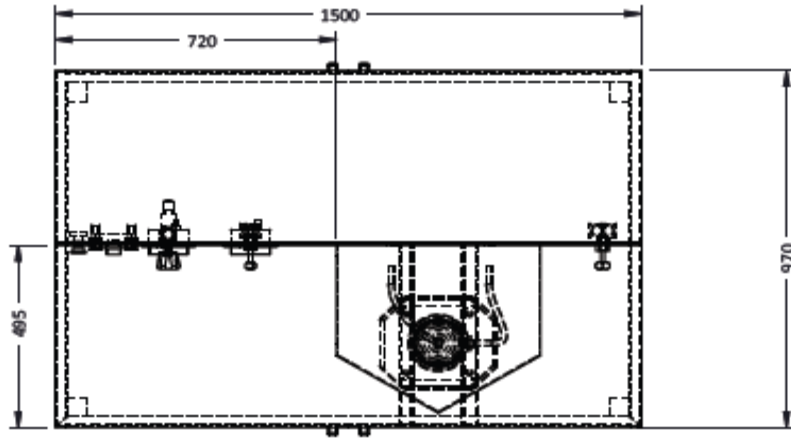
OVERVIEW: The proof pressure test bench is the static condition testing machine. The upper part of the HSU Assembly i.e. N₂ gas chamber is partially filled with oil and partially with N₂ gas. This chamber has to withstand pressure of upto 1000 bar in extreme condition.

To test this condition of the N₂ bottle, proof pressure test bench is used. The test bench gives the 1000 bar pressure in a static condition and check for the problem if any.

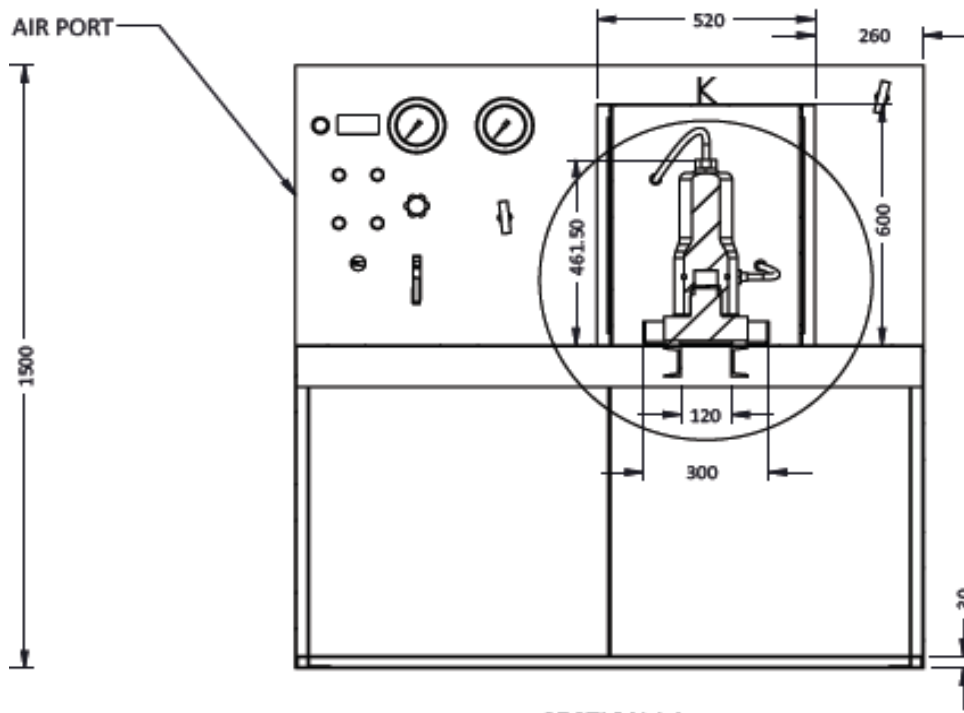


DIAGRAMMATIC REPRESENTATION





TOP VIEW



SECTION J-J

WORKING OF THE PROOF PRESSURE TEST BENCH

Proof pressure test bench have a 100 ltr capacity of SS304 tank inside the panel. Servo 636 oil is used to test the N2 bottle. ABB motor coupled with Rexroth pump is used to generate 6 lpm of flow to fill the bottle with oil. BUTECH needle valve is in circuit for isolation and vent the pressure. N2 bottle is mounted inside the test chamber on the manifold and closed properly to ensure safety. Separate Air line is provided to pressure the vessel with the help of Haskel booster. Test of 1000 bar static pressure is tested and graph to be generated along with report.

Pressure regulator and drive valve of FESTO is provided to regulate and control the air flow in manual condition. During auto testing solenoid valve is provided to control on off condition of air to the booster.

Tank is intact with the temperature gauge, filler breather and filter as accessories .

WORKING INSTRUCTIONS

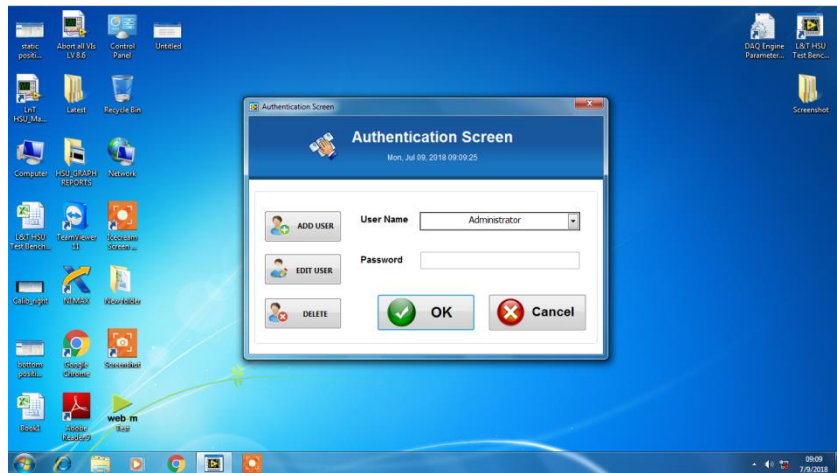
Following steps to follow to ensure perfect and safe testing:

Initial steps (one time installation):

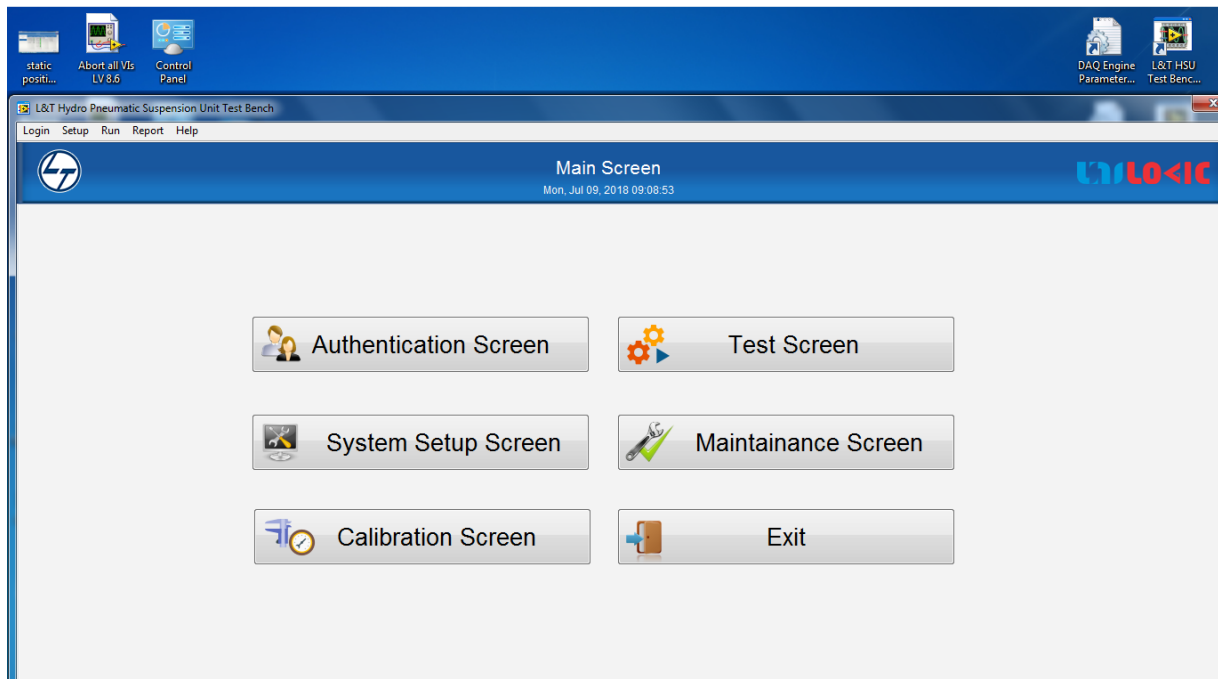
- Open the top of the test chamber and the side door.
- Ensure there is O-ring inside the test bottle.
- Tighten the side adaptor on the bottle with the help of copper ring.
- Take the test bottle carefully to the test chamber and tighten it over the threads on the manifold
- Tighten the top adaptor over the bottle.
- Ensure that airline is connected.
- Open the vent valve and isolation valve

AUTOMATIC PROCEDURE:

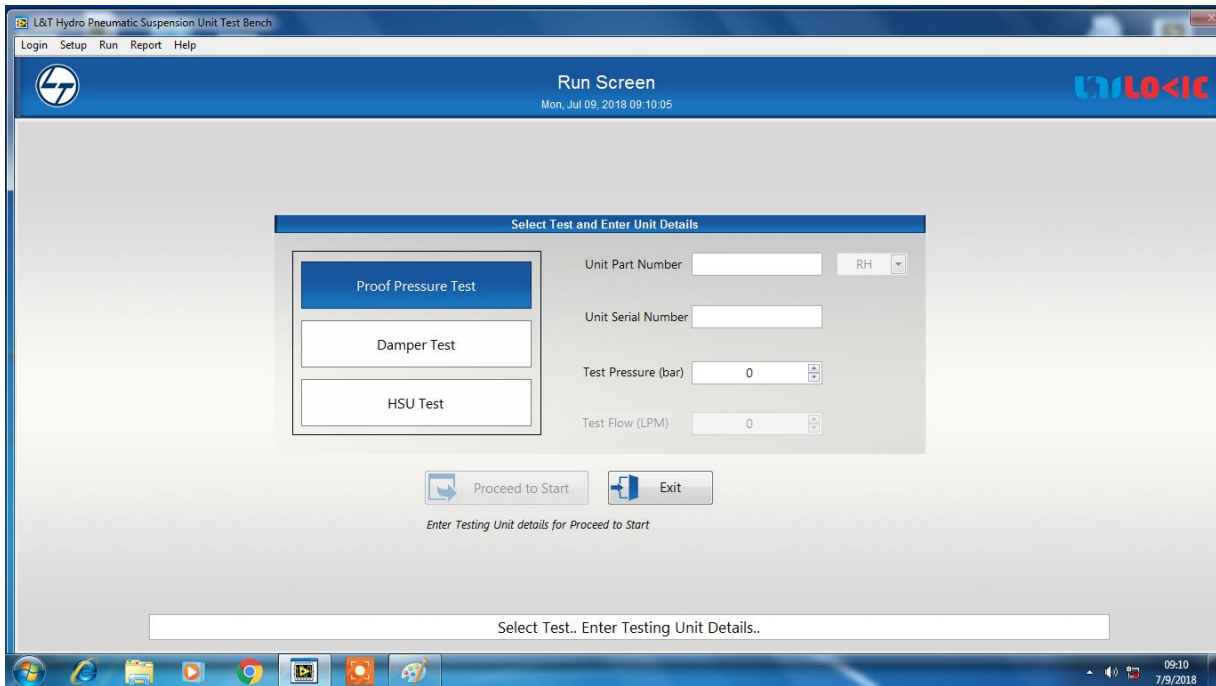
- Switch on the main supply from the VFD panel
- Switch off the emergency stop.
- Switch the knob of LOCAL/DAQ to DAQ.
- Switch on the UPS>industrial computer.
- From the main screen of the computer go to the Lab view interface.



- Put your username and password, Click OK. Below screen will appear.



- Go to TEST SCREEN and choose PROOF PRESSURE TEST.



- Input details like, UNIT PART NO., UNIT MODEL NO. and TEST PRESSURE. Click OK.
- Ensure Vent valve, Isolation Valve and drive valve are Open and tick the box on test screen.
- Set BOTTLE FILLING TIME.
- Start FILLING AND VENTING.
- Ensure Vent valve, Isolation Valve and drive valve are CLOSE and tick the box on test screen.
- Enter TEST DURATION.
- Click on START PRESSURISTION.
DAQ will automatically generate the graph and report.
- SAVE AND EXIT.
- Vent the pressure of bottle by releasing the valve.
- Cut-off the air supply from the ball valve.

To check the report go to the Report icon on the Desktop>STATIC.



Manual procedure:

- After the Initial installation procedure, switch on the motor and wait for the filling of bottle (Approx. 2 min.).
- Close the vent and isolation valve.
- Turn the air supply on from Driver valve.
- Check till the pressure reaches the value of 1000 bar on pressure transmitter.
- Close the driver valve and wait for any changes in the pressure value.
- After testing, open the vent valve to depressurize the unit.
- Take out the test bottle properly without damaging the threads of the manifold.

SAFETY INSTRUCTION

User must ensure the following safety points before operation the test bench:

- 1. Ensure the main ball valve at BOOSTER inlet is always on; otherwise booster will get destroyed if run dry.**
- 2. Pressure regulator setting must not be altered without proper supervision. It should not be more than 5.2 bar in any case.**
- 3. Make sure the bottle is tightened fully as well as the adopters to avoid leakage.**
- 4. Ensure that the safety chamber is properly closed before the start of the test.**
- 5. Ensure the level of oil should be above the desired level. In automatic operation, level switch will shut the system.**
- 6. Make sure vent valve and isolation valve is open during filling.**
- 7. Ensure that after test is completed the vent valve should vent the pressure.**
- 8. Ensure the direction of the motor rotation is according to the sign.**
- 9. As automatic test start, do not come nearby to the test bench.**
- 10. Do not try to increase the desired pressure value.**
- 11. If any short circuit happens, directly cut the main supply to the DAMPER test bench from VFD panel.**
- 12. Ensure proper Earthing to the machine.**

MAINTENANCE & TROUBLESHOOTING

T1. Power pack supply is not ON.

S1: Make sure the main supply to the power pack is ON.
Check for Internal connection in the panel.

T2. Motor is not getting ON from the DAQ panel.

S2: Make sure the Local/DAQ knob is on DAQ only.

T3. Pump is not making pressure.

S3: Make sure pressure regulator is not altered, or set the desire pressure from the regulator.

T4. Analog Input is not coming in the DAQ system.

S4: Make sure the MCB of the DAQ panel is ON.

T5. Flow is not coming in the flowmeter.

S5: Check both the loading valve are engaged.

T6. Filter is chocked(filter clogged light is ON).

S6: Check the Filter Code, And contact Neometrix to arrange for the filter element. (Waring: Do not operate the test bench without checking every filter, or else it will effect the Servo valve performance and might cause permanent damage).

T7. Leakage from fitting and hose connections.

S6: Properly tighten the fitting from where the leakage is there. Check for the hose.