

There are ③ separate systems to the test Panel

- ① 0-100psig, this is fed through the 0-100 psi regulator (RV 127) and has its own manifold with seven auxiliary valves for functions to be explained later.
- ② 0-500psig, the only use is to pressurize the volume chamber and is fed by the 0-500psi regulator (RV 126).
- ③ 0-2000psig, the only use is to pressurize the volume chamber and is fed by the 0-2000 psi regulator (RV 125). The 0-500 and 0-2000 psi systems share the same volume chamber and are separated during tests with two ball valves. If the ball valves are not properly positioned for either 0-500psi or 0-2000 psi, the relieving regulator for the other will start relieving - indicating an improper valve line-up. This should be corrected before proceeding.

Each system has its own vent valve and both valves are in easy reach at the left lower corner of the panel. The chambers and manifold are vented outside and protected from each other by check valves. Each system has its own relief valve. The manual valves all have tags with arrows indicating use positions. Some valve serve dual purposes and are marked with arrows and explanations. Each volume chamber has a vent valve on it, which is used to completely relieve all pressure after venting outside and should be opened prior to removing tested articles. The 0-100 psi system also can be pumped down using the small vacuum pump and is useful when testing absolute and compound gauges - the vacuum gauge is protected by a check valve near the inlet port. Before any test be sure appropriate regulator is backed all the way off.

Use of the 0-100psig system

Vent valve (MV112) - Vents 0-100 psi manifold and auxiliary test system in use.

Manifold Inlet (MV113) - This valve has to be open to pressurize the manifold and any of the other functions - the pressure is controlled with the 0-100 psi regulator (RV127).

0-100 psi Chamber (MV111) - With the Manifold Inlet (MV113) and 0-100psi Chamber valves open, the chamber will be pressurized with the 0-100psi regulator (RV127). The chamber is used for testing Relief and Safety valves, back pressure valves and pressure building valves & has ports on the side & top - it also has a variable bleed valve.

Dead Weight Tester (MV110) - With the Manifold Inlet (MV113) and Dead Weight Tester valves open, tests can be performed

with the dead weight tester. The item to be tested or calibrated would be installed on the dead weight tester, close the inlet valve on the tester. Now RV 127, the 0-100psi regulator, has to be ~~set~~ higher than the range of the instrument to be tested. When the test or calibration is done the pressure in the dead weight tester is vented with the vent valve on the tester - the tester inlet valve should be closed and RV 127 backed off. Now the instrument can be removed. Detailed use of the dead weight tester is covered in the owners manual.

Vacuum Manifold (MV 109) - To pump down the manifold all the other valves should be closed including the manifold inlet so as not to pump against the 0-100 psi regulator. Vacuum then can be used for calibrations using the auxiliary test valve (MV 107) which has 1/4" tygon tubing for connecting to instruments to be checked.

Low Pressure/Auxiliary - Test (MV 107) - Used as above for vacuum testing or with vacuum valued off for pressure testing. It can be used for the Electro-Pneumatic tester (60psi maximum supply) or the low pressure test panel for testing inches water column or mm Hg. ranges. Pressure would initially be supplied with the 0-100 panel regulator. Each of the other testers (low pressure panel or Pneumatic Calibrator) has its own regulator which would then be used during calibrations. Connections for tests are also on the side panel of the Test Panel.

Vacuum Dead Weight Tester - MV 108 - Caution - this valve should always be closed when pressure testing anything. Before opening the valve the Dead Weight Tester valve (MV 110) has to be closed - a reminder tag is mounted at the Vacuum Dead Weight Tester valve. Pressure in the dead weight tester has to be vented prior to opening MV 108. This valve makes calibrating absolute and compound instruments easier because they can be pumped down and then pressurized & calibrated with the dead weight tester.

Note: The only valves that should be open are the ones you are using. The valves are ball valves and are open when horizontal and closed when vertical - arrows on the value tags indicate open position.

~ Use of the 0-500psi System ~

All the valves used with the high pressure systems have red handles - when using the 0-500psi system all four have to be checked. They also have multiple uses and the value tags indicate this. Before starting any test be sure regulator (RV126) is backed all the way off.

MV 106 ↑ 0-2000 PSI Chamber
 ← Regulator Isolation

When using the 0-500psi system this valve, in the horizontal position, isolates the 0-2000 psi regulator (RV125). If left in the vertical position the 0-2000 psi relieving regulator (RV125) will not allow pressure to be built up in the test chamber

MV 105 ← 0-500 PSI Isolation

This valve has to be in the vertical position to use the test chamber.

MV 104 ↑ 0-500 PSI Chamber
 ← Regulator Isolation

This valve has to be in the vertical position to use the test chamber.

MV 103 ↑ 0-500/0-2000 PSI
 VENT

This valve is open in the vertical position - to use the test chamber it would have to be positioned horizontally.

Close the manual vent value on the side of the test chamber (MV115). Pressure in the test chamber will be regulated with the 0-500psi regulator (RV126). The relief value for this system is set at 450 psig.

Use of the 0-2000 PSI System

All the valves used with the high pressure systems have red handles - when using the 0-2000 psi system all four have to be checked. They also have multiple functions and the valve tags indicate this. Before starting be sure regulator RV125 is backed all the way off.

MV104 ↑ 0-500 PSI Chamber
 ← Regulator Isolation

When using the 0-2000 psi system this valve in the horizontal position isolates the 0-500 psi regulator (RV126). If left in the vertical position the 0-500 psi relieving regulator (RV126) will not allow pressure to be built up in the test chamber.

MV105 ← 0-500 PSI Isolation

This valve should be positioned horizontal and is one of two valves to protect the 0-500 psi gauge and regulator.

MV106 ↑ 0-2000 PSI Chamber
 ← Regulator Isolation

This valve should be positioned vertical to use the test chamber.

MV103 ↑ 0-500/0-2000 PSI
 Vent

This valve is open in the vertical position - to use the test chamber it would have to be positioned horizontally

Close the manual vent valve on the side of the test chamber (MV115). Pressure in the test chamber will be regulated with the 0-2000 psi regulator (RV125). The relief valve for this system is set at 1950 psi.