Pressure Leak-Check Test Fixture

Part Number: VST-PLT-100

VST ECS Membrane Unit
Pressure Leak Test Procedure
Pre-Installation ECS Unit Leak Test (Page 1)
After Repair (ONLY) ECS Unit Leak Test (Page 2)

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PRE-INSTALLATION ECS UNIT VAPOR RECOVERY SYSTEM LEAK TEST

PURPOSE

The purpose of the Pre-Installation Leak Test is to insure that all of the tubing fittings and tubes located inside the ECS unit are leak-free prior to installation.

PREPARATION

Follow these steps to prepare the ECS unit for the pre-installation leak test after the ECS unit is delivered to the GDF where it will be installed.

1. Remove the packaging from the skid.
2. Remove the cover from the ECS Unit

FUNCTIONAL TEST PROCEDURES

1. Place 2" NPT plugs in two of the pipe connection openings on the ECS unit. (See Figure 1)
2. Install the Leak Test Fixture (See Figure 2) in the empty 2" pipe connection on the ECS unit.
3. The leak check is conducted with 1.0 to 2.0 PSI nitrogen
   a) Make sure the isolation valve on the Leak Test Fixture is fully closed.
   b) Make sure the Leak Test Fixture pressure regulator is fully closed.
   c) Make sure the nitrogen regulator is set at a maximum of 10 PSI outlet pressure.
4. Slowly open the isolation valve on the test fixture to pressurize the ECS unit at 1.0 to 2.0 PSI compressed nitrogen.

   CAUTION: Pressurizing the ECS unit over a maximum of 5.0 psi may cause damage to the ECS unit o-rings and/or pump seals, which will void all warranties of the ECS unit
5. With the ECS unit pressurized between 1.0 to 2.0 PSI compressed nitrogen, spray a soapy solution on each fitting to check for bubbles:
   a) If bubbles do not appear, the connection is tight.
   b) If bubbles do appear, tighten the leaking fitting 1/8" turn (maximum) and re-check for leaks.
   c) If the fitting cannot be tightened so that the connection is leak free, replace the 45° flare tube assembly that is leaking with a new tube assembly.
6. Continue this process until all the internal tube fittings have been checked and found leak free.
7. Once this test is complete and all the piping fittings are leak free, remove the compressed nitrogen connection to the Leak Test Fixture.
8. Remove the two 2" NPT plugs and the Leak Test Fixture.
9. The ECS Unit is now ready to install.

Figure 1.

ECS Unit Inlets & Outlets

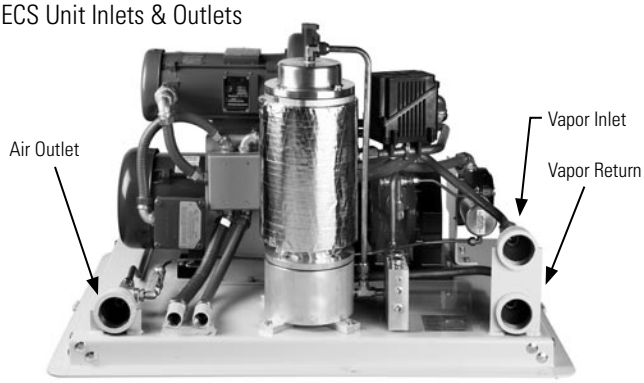
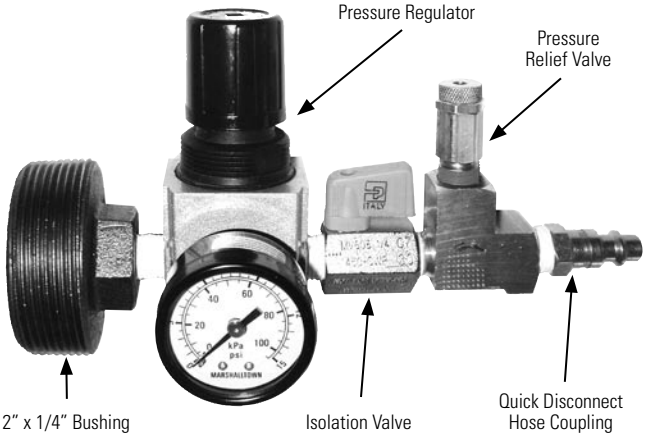


Figure 2.

Leak Check Test Fixture



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AFTER REPAIR (ONLY) ECS UNIT VAPOR RECOVERY SYSTEM LEAK TEST

PURPOSE

The purpose of the After Repair Leak Test is to insure that all of the ECS unit tubing fittings and tubes located inside the ECS unit are leak -free after the tubing has been disrupted for ECS unit repair.

PREPARATION

Follow these steps to prepare the ECS unit for the Leak Test after repairs have been made.

1. Conduct this test with the Veeder-Root TLS-350 in the Manual "OFF" Mode.
2. Turn OFF power to the ECS unit and motors

FUNCTIONAL TEST PROCEDURES

1. Close the three (3) valves at the ECS unit.
2. Remove a 2" plug from one of the pipe tees at the ECS unit. (See Figure 3)
3. Install the Leak Test Fixture (See Figure 4) in the empty 2" pipe tee on the ECS unit.
4. The leak check is conducted with 1.0 to 2.0 PSI nitrogen
   a) Make sure the isolation valve on the Leak Test Fixture is fully closed.
   b) Make sure the Leak Test Fixture pressure regulator is fully closed.
   c) Make sure the nitrogen regulator is set at a maximum of 10 PSI outlet pressure.
5. Slowly open the isolation valve on the test fixture to pressurize the ECS unit at 1.0 to 2.0 PSI compressed nitrogen.

   CAUTION: Pressurizing the ECS unit over a maximum of 5.0 psi may cause damage to the ECS unit o-rings and/or pump seals, which will void all warranties of the ECS unit
6. With the ECS unit pressurized between 1.0 to 2.0 PSI compressed nitrogen, spray a soapy solution on each fitting to check for bubbles:
   a) If bubbles do not appear, the connection is tight.
   b) If bubbles do appear, tighten the leaking fitting 1/8" turn (maximum) and re-check for leaks.
   c) If the fitting cannot be tightened so that the connection is leak free, replace the 45° flare tube assembly that is leaking with a new tube assembly.
7. Continue this process until all the internal tube fittings have been checked and found leak free.
8. Once this test is complete and all the piping fittings are leak free, remove the compressed nitrogen connection to the Leak Test Fixture.
9. Remove the Leak Test Fixture.
10. Re-install the 2" pipe plug.
11. After ALL repairs are complete:
    a) Open the three (3) valves at the ECS unit.
    b) Turn ON the power to the ECS unit and motors.
    c) Return the Veeder-Root TLS-350 to the "AUTOMATIC" Mode.

Figure 3.

ECS Unit Inlets & Outlets

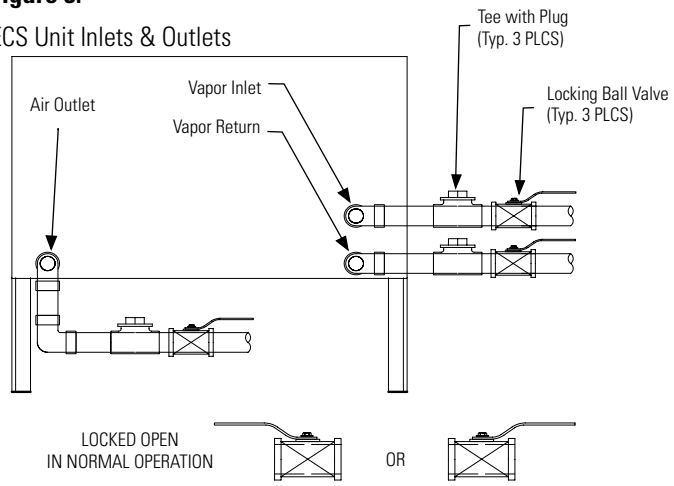

Figure 4.

Leak Check Test Fixture