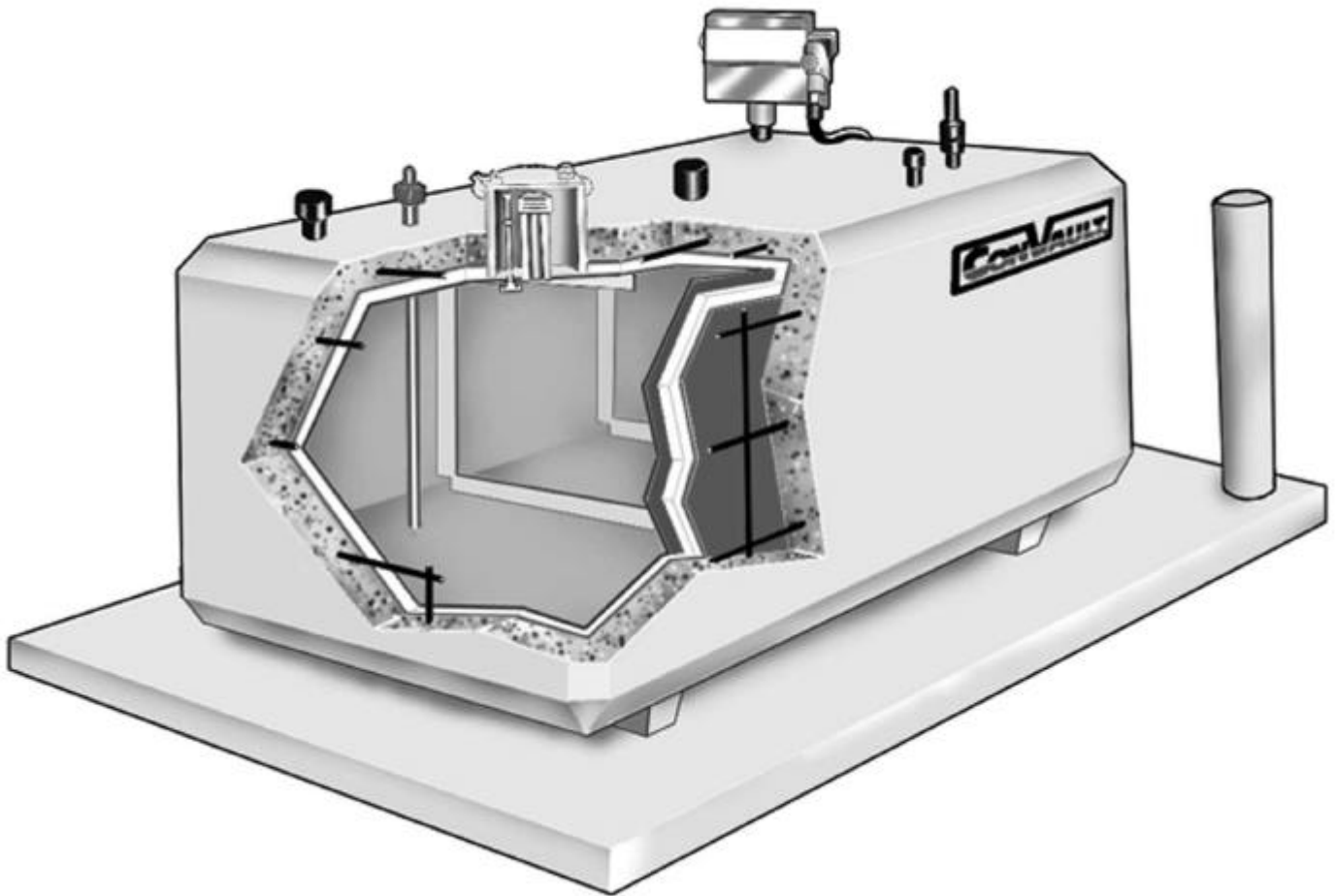


# *TESTING MANUAL*





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## **A. GENERAL**

Convault® tanks are shipped pre-assembled and shop-tested. Generally, this eliminates the need for site testing of the tanks. However, some fire and local authorities may require the tanks to be pressure tested on site. It may be required to test the primary steel tank or both the primary steel tank and the secondary containment. If such tests are required on site, proceed with the following instructions. Make sure every step of the test procedure is carried out according to the instructions and pay careful attention to the **Cautions** and **Warnings** in the procedure.

**⚠ WARNING** Using air, never pressure test a tank that contains flammable and combustible material. If the tank contains flammable or combustible material, it should be tested using inert gases such as Carbon Dioxide or Nitrogen. Improperly testing a tank containing flammable and combustible materials may cause an explosion in the tank resulting in death or serious injury.

**⚠ CAUTION** The secondary containment should not be tested unless the test is coordinated with and supervised by Convault® or its authorized representative. Inexperienced testing personnel can cause severe structural damage to an otherwise functional AST. Several methods are available to conduct the test of annular space. The tests should always be performed under the direct supervision of a Convault® representative. Failure to observe this measure could void the warranty.

## **B. AIR PRESSURE TEST PROCEDURE FOR PRIMARY STEEL TANK**

Install test piping as shown in **Figure No. 16, page 61** and proceed as follows:

1. Temporarily plug, cap, or seal off remaining primary tank openings to hold the pressure.
2. If tank is equipped with a long-bolt manway for emergency venting, replace manway long-bolts with short-bolts and tighten them securely.
3. If the tank is equipped with standard emergency vent, remove the emergency vent and cap the opening to hold pressure as required.
4. If the tank is equipped with 1-inch communication nipple, remove the cap from the communication nipple for the secondary containment.
5. If the tank is not equipped with a communication nipple, remove or open the cap on the leak detector tube.
6. If leak detector tube is equipped with mechanical or electronic level detection equipment, remove the equipment to allow the air to freely escape from the annular space.

**CAUTION** The test air supply should not be more than 3 psig. Use only calibrated diaphragm type air pressure gauges with a zero to 10-psig dial span. Set pressure relief valve in test air supply line at 3 psig. Over pressurization of a tank may burst the tank and cause injury.

7. Close valve A.
8. Connect regulated test air supply line to test piping as shown in **Figure No. 16** for single compartment tank. If the tank contains more than one primary compartment tank, use the same piping arrangement for each compartment and pressure test them all. The vault may contain up to 4 primary tank compartments.

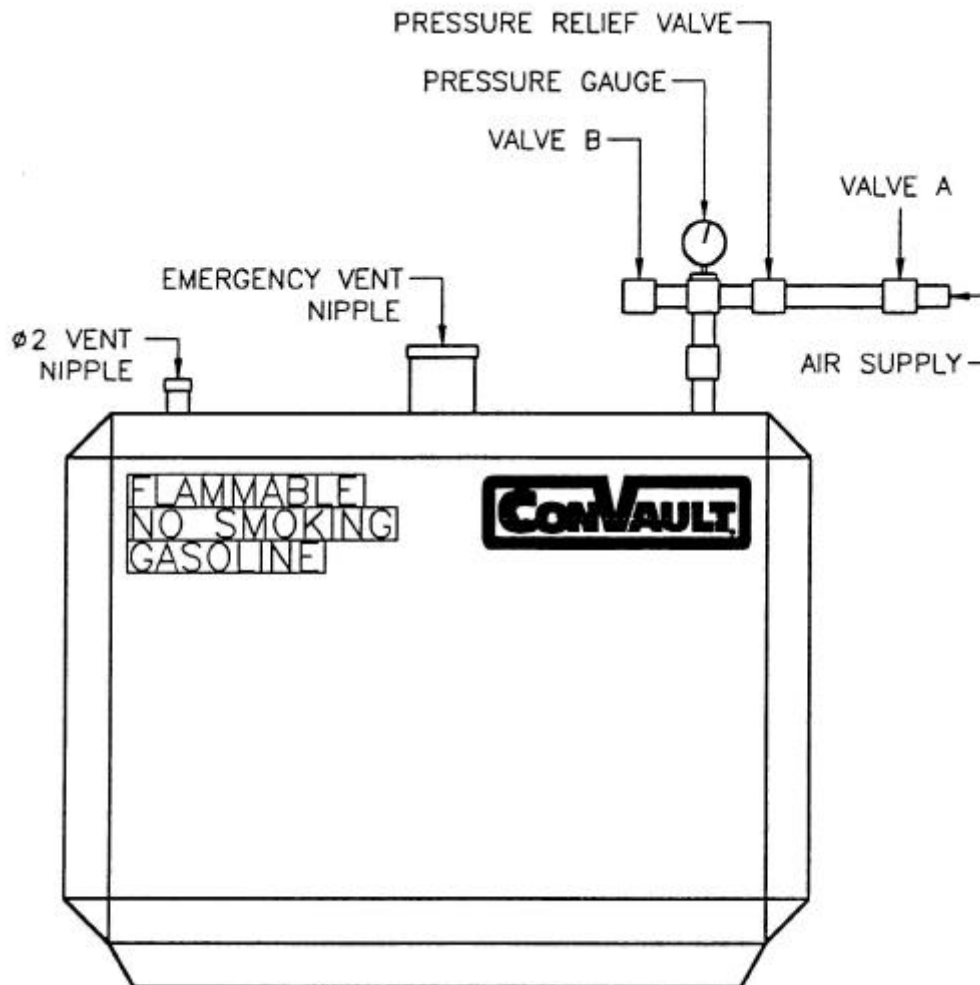
**CAUTION** Verify that the test air supply line pressure regulator is properly set at 3 psig before proceeding.

9. Slowly open valve A to pressurize the primary tank. Close valve B. Pressure gauge should indicate a pressure of 3 psig.

**CAUTION** Never leave a pressurized tank unattended. The air inside the tank may heat up and gently cause the pressure inside the tank to rise above 3-psig maximum pressure. If pressure in the tank rises, the pressure should be reduced to 3 psig by opening the valve B. Failure to constantly monitor the tank internal pressure may damage the tank.

10. Close valve A. Disconnect test air supply line from test piping.
11. Hold test pressure in primary tank for 1-hour minimum. A steady drop in pressure gauge reading indicates that there may be a leak in the plumbing or in the primary tank. Make sure that plumbing is airtight.
12. If no leaks are found and the tank passes the test, then open valve A and B and let the air out of the primary tank.
13. With tank de-pressurized, remove test piping, temporary plugs, caps and seals. Reinstall the cap on the communication nipple or the level indication equipment on the leak detector tube. Reinstall emergency relief vents. If tank is equipped with an emergency vent long-bolt manway, reassemble manway cover with bolts supplied by tank manufacturer.

**⚠ WARNING** Reassemble manway cover with proper size and type of long-bolt, with a minimum unthreaded length of 2 inches, so that when cover is fully raised, there is a 1-1/2 inch minimum space between manway cover and frame. Failure to properly assemble cover of a long-bolt manway used for emergency venting may make vent inoperable causing bodily injury or damage to the tank.

**C. Test Piping Diagram****Figure No. 16****NOTE:**

PLUG, CAP OR SEAL OFF ALL PRIMARY TANK OPENINGS.