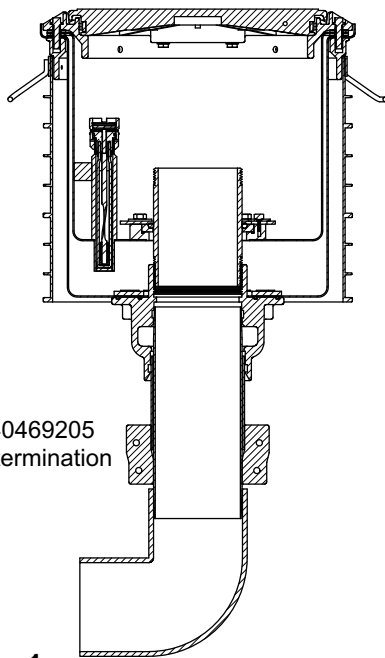


INSTALLATION INSTRUCTIONS

Required Tools :

3/8" wrench (test port plug)
Emco A0081-001
Adapter Wrench
3/8" Socket
9/16" Socket



Ameron p/n 40469205
containment termination
clamshell

Figure 1
Single Wall
Pipe Application

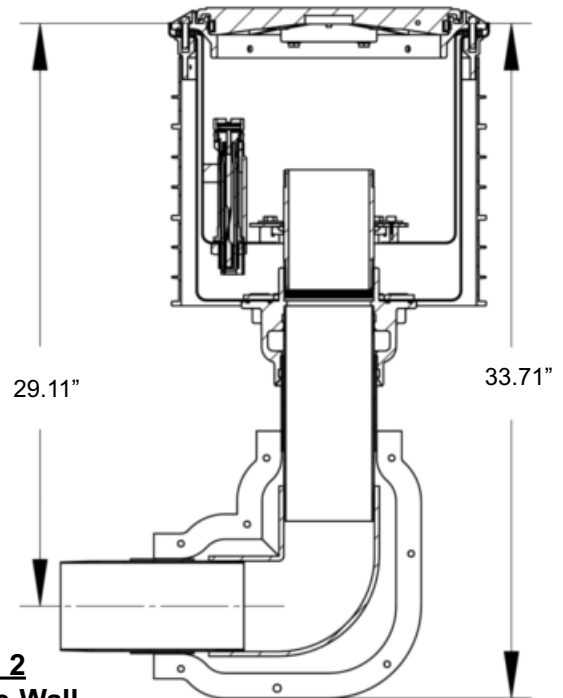


Figure 2
Double Wall
Pipe Application

Step 1 Glue System in Place

1. The A1005-517SF includes the stub-out pipe (4" Dualoy[®] 3000/LCX) and is completely assembled. Follow Dualoy[®] primary and secondary procedures to glue the system in place. If a single wall pipe system is used, terminate the secondary LCX pipe with containment termination clamshell, Ameron p/n 40469205, as shown in Figure 1.

Step 2 Install Adapter

1. Install adapter as per A0030-124S Fill Adapter Instructions.
2. Torque to 60-75 lbs/ft.

Caution: Do not overtighten as this can cause leakage from the adapter gasket.

3. Replace lid on manhole.

Step 3 Integrity Testing Options

- A) Pressure Test
- B) Vacuum Test
- C) Hydrostatic Test
- D) Spill bucket & Interstitial Piping Test

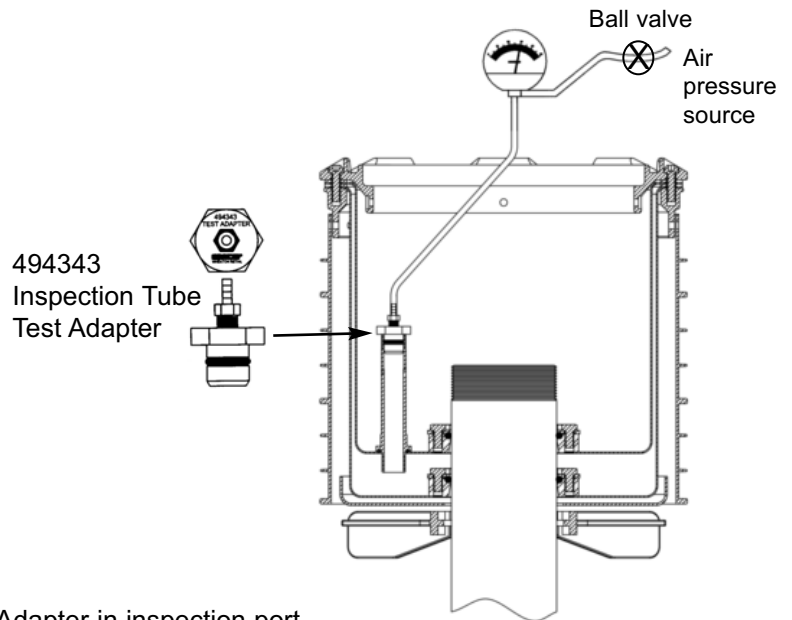
Step 3A Pressure Test

Equipment

Emco 494343 Inspection Tube Test Adapter
(Procured separately from spill containment)
Air pressure gauge, scale 0-10 psi
Air pressure gauge, scale 0-50" water column
Soap & water solution

Procedure

1. Attach Emco Wheaton 494343 Inspection Tube Test Adapter in inspection port.
2. Pressurize the secondary containment interstitial space to 30" WC. Wait 30 seconds for the pressure to stabilize. The pressure supply must then be turned off (using a ball valve) to isolate the pressurized interstitial space. Record the pressure, then wait one minute and record the pressure again. The pressure decay should be less than 4" WC in one minute.
3. If the unit does not pass the pressure decay test, pressurize the interstitial space to 30" WC in order to assist in locating the problem area.
4. Apply soap solution to rim and bolts, around base of gauge tube and flange base. Observe for leakage.
5. If leakage/bubbles appear in any of these areas, check the torque value on bolts and retest. If leaks persist, remove gaskets. Clean, reassemble and retest.



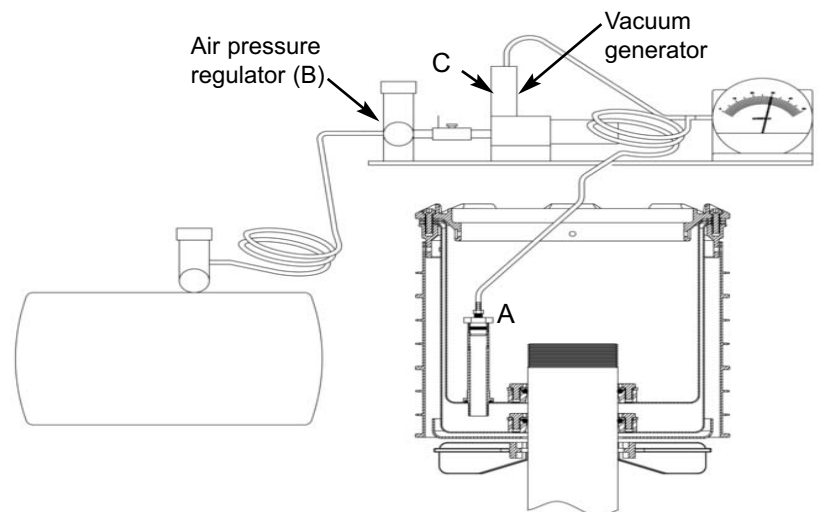
Step 3B Vacuum Test

Equipment

Emco A1004-210TEST Vacuum apparatus w/test adapter 494343 (or supplied by other)
Timer
Air supply

Procedure

1. Remove the gauge from the inspection port and install the test adapter p/n 494343 (A, included with the vacuum apparatus), otherwise purchase separately.
2. Attach air pressure source to air pressure regulator (B) on vacuum apparatus.
3. Slowly apply vacuum of 30" water column (2.2" mercury) to the interstitial space. (On the Emco tester, this is accomplished by moving the toggle switch, C). Wait 30 seconds for the vacuum reading to stabilize, then reapply 30" water column as required.
4. Ensure that the vacuum source is off (C switch on Emco tester to center position), and start timer. Record vacuum after 1 minute.
5. If the vacuum after 1 minute is 26" water column (1.9" mercury) or greater, both the primary and the secondary containment vessels are tight.
6. If test fails, perform Pressure Test (Step 3A) for confirmation.
7. Replace components or repair as necessary.
8. Reinstall gauge.



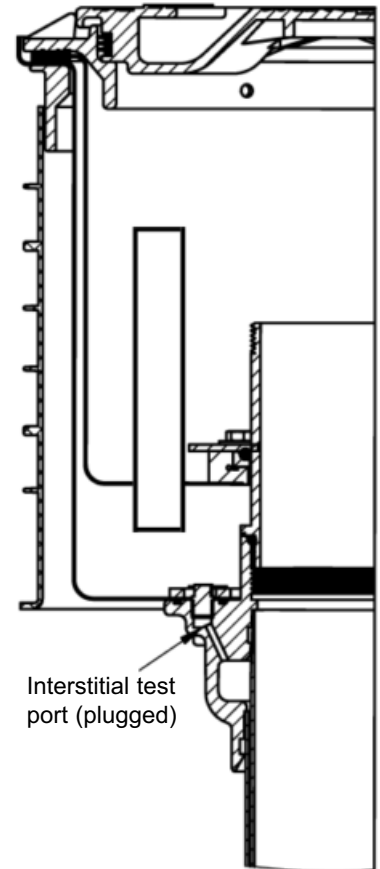
Step 3C Hydrostatic Test

Many local regulators require a hydrostatic test. If required, perform per state or local requirements.

Step 3D Spill bucket & Interstitial Piping Test (Applies to double wall LCX pipe only)

The Emco glass on spill buckets allow testing of the spill bucket interstitial space as well as having a test port to allow testing of the LCX pipe interstitial space. There are 4 possible test scenarios:

1. The spill bucket interstitial is tested by using the monitor tube access located in the primary spill bucket. The easy gage is removed and the Emco A1004-210Test (or equivalent vacuum test setup) is used to apply 30" water column vacuum to the spill bucket interstitial space. (See 3B and diagram above.)
2. The LCX pipe interstitial can be accessed at the tank sump where the test pressure (set by NOV - Ameron) is 10 psi.
3. The LCX pipe interstitial can be accessed at the test port in the secondary bucket. This requires removal of the Emco primary bucket. To access this you must remove the primary rim and the primary bucket by removing the 8 rim bolts, and the 10 flange bolts and 2 flange segments in the bottom of the primary bucket. Remove the primary bucket and the test port located in the bottom of the secondary. Removing the test port plug allows the LCX pipe interstitial to be tested here using the NOV-Ameron recommended 10 psi. The plug must be reinstalled, with pipe dope, after this test is complete and the primary reinstalled. See diagram at right.
4. The combined pipe and spill container interstitial space can be tested by removal of the test plug as noted above, reassembling the primary, then testing the combined space using the 30" water column vacuum as in method 1 above. **Do not use 10 PSI on the spill container interstitial as this will damage the unit.** The test plug must be reinstalled after this test is complete. This entails removing the primary again, installing the plug, and then reinstalling the primary.



Step 4 Backfill and Finish

1. Finish back filling around manhole to depth required for concrete pad.
2. Concrete must completely fill around and under manhole rim to insure proper anchoring. Be sure to allow a 1" crown above grade to manhole rim for water run-off.
3. After concrete has set, remove excess concrete from inside of rim and the runoff channels.
4. Paint lid as required by product color code.

Tank Operator Responsibilities

1. Tank operator must ensure that all Federal, Provincial and local codes are being met during the filling of the tank.
2. All operators must be familiar with proper filling procedures.
3. The operator responsible for transferring product to an above ground storage tank must take all reasonable steps to prevent spillage.
4. The delivery hose from the tank's fill pipe must not be disconnected before the hose has been drained completely.
5. When tank vehicles are being unloaded, the vehicle operators must remain (a) in constant view of the transfer nozzle and fill pipe; and (b) in constant attendance at the discharge control valve.