

OneSump

OneSump Installation Overview

1. Examine the orientation of the OneSump for the site specific installation. Verify the manway bungs are orientated to the tank per the drawing.
2. Establish the height (or elevation) of the FL-100 access cover. The cover is typically installed 1" to 1½" higher than the surrounding tank slab to facilitate drainage (Figure 1). The reference dimension used for all the riser calculations **is the distance between the top of the cover and the top of then tank manway.**

Note: If the alignment allows, install the Tank Level Monitor on the center line bung on the opposite side of the turbine pump(s).

4. Use the installation tool to install the OneSump adaptors. Install with Gasoila SoftSet.

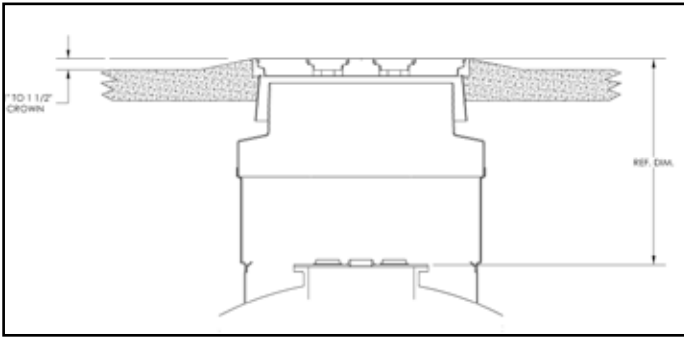


Figure 1:

3. Install the 4" bung adaptors and plugs in the tank manway - there are 3 different OneSump manway adaptors (Figure 2).

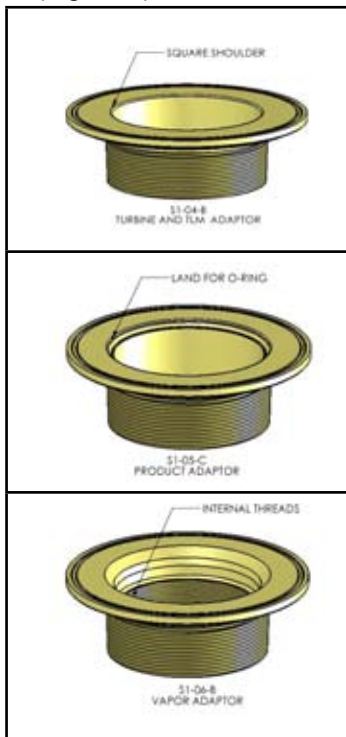


Figure 2: Manway Adaptors

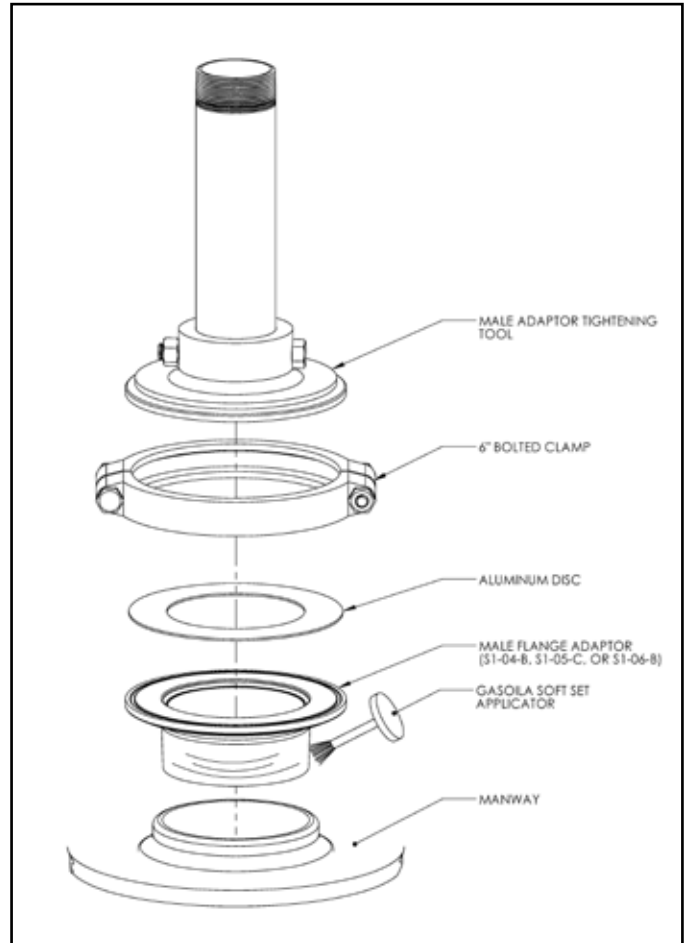


Figure 3: Install Manway Adapter

5. Verify the alignment of the tank top sump to the risers.
 - a. Install the OneSump vapor tee fittings, female adaptors and the product female adaptor per the site drawings.
 - b. Thread a length of 4" pipe into the female fittings (do not tighten – just hand tight is OK).
 - c. Set the sump base onto the tank collar.

- d. Check the spacing of the riser piping, either 16" (406.4mm) or 21.65" (550mm) on center.

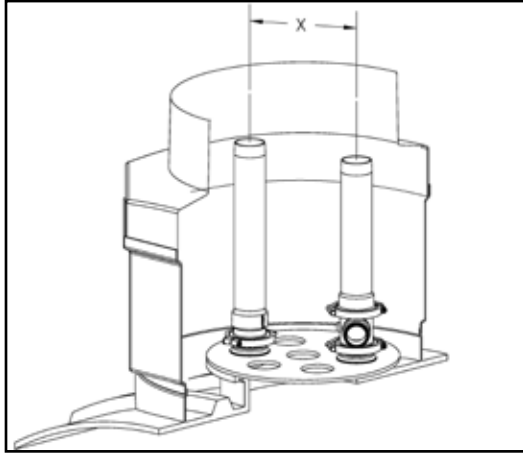


Figure 4: Riser Spacing Dimension

- e. Check the spacing of the riser piping to the edges of the sump base (should be equal distant within 1/2")
- f. Set the sump top hat on the sump.
- g. Drop the OneSump containment bowl in the top hat. The riser piping should clear the two openings in the containment bowl.

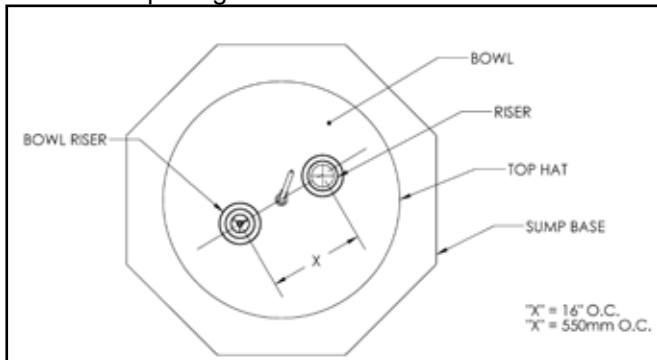


Figure 5: Containment Bowl Alignment

6. If the riser piping and the tank collar are all aligned correctly, skip to step 8.

If not, one or more of the following situations may exist:

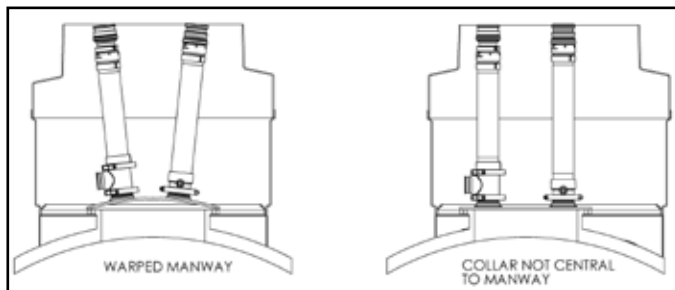


Figure 6: Manway Problem Situations

- a. The steel manway is warped
- b. The bungs are not welded 16"/550mm on centers and 60 degrees apart
- c. The tank collar is not concentric to the manway
- d. The tank collar is not square to the manway

Note: The tank manufacture specification is to have the manway risers true and square to the tank collar.

7. The alignment problems are addressed as follows:

- a. An offset flange kit is available. This will allow a several degree angle offset in the riser piping.

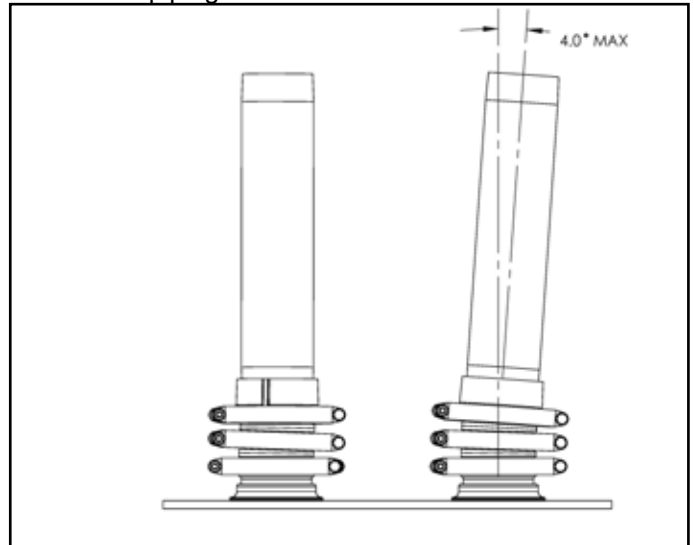


Figure 7: Riser Angular Adjustment

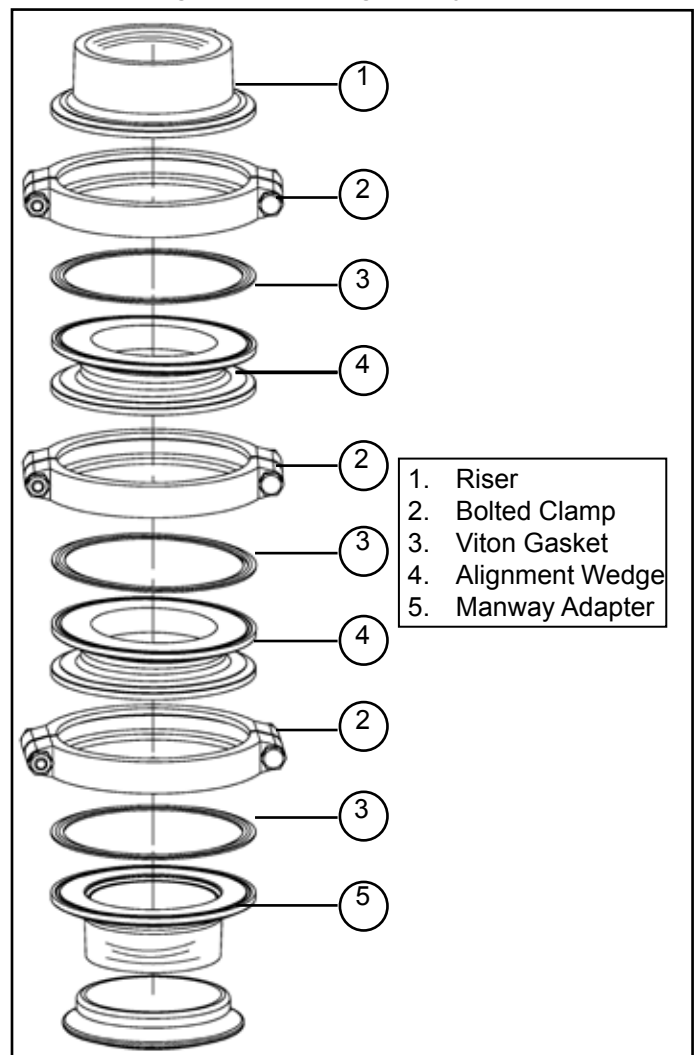


Figure 8: Alignment Kit on Riser

- b. If the offset flange kit does not offer enough correction, replace the manway.

- c. The sump base can be shimmed slightly to correct for some minor offset or the offset flange kit can be used to adjust the angle the riser. The only way excess offset can be corrected is by translating the sump base or top hat so the risers align to the top hat opening (this process involves cutting, pasting and fiberglass work).
- 8. Based on the measurement from step 2, the top of the top hat must be 5½” below the top of the cover. Trim the bottom of the top hat so that when the sump is installed on the collar, the top of the top hat meets this dimension.

Do not install sump base yet.

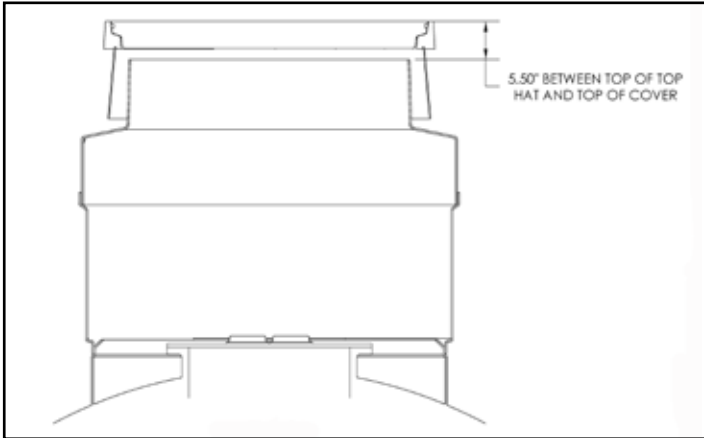


Figure 9: Top Hat Installation

- 9. Cut and thread the product and vapor riser per the reference sketch.

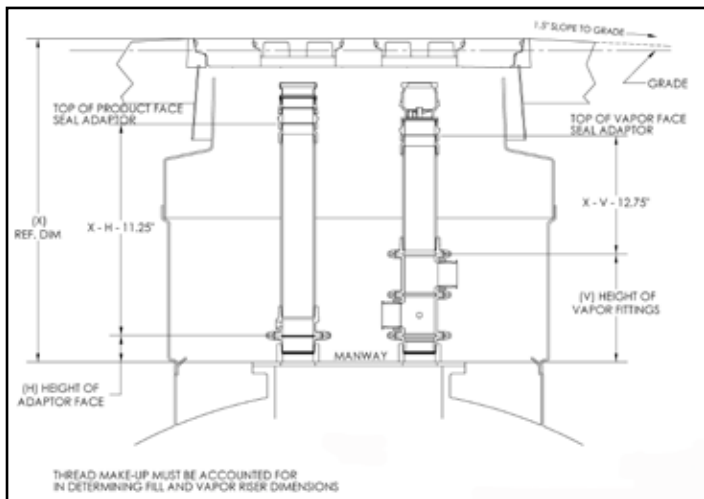


Figure 10: Riser Installation

- 10. Install the turbine pump risers and turbine pump head. Leave the base clamp loose

- 11. Use a 2” nipple to set the height of the turbine clamp flange fitting relative to the top of the manway per the reference sketch.

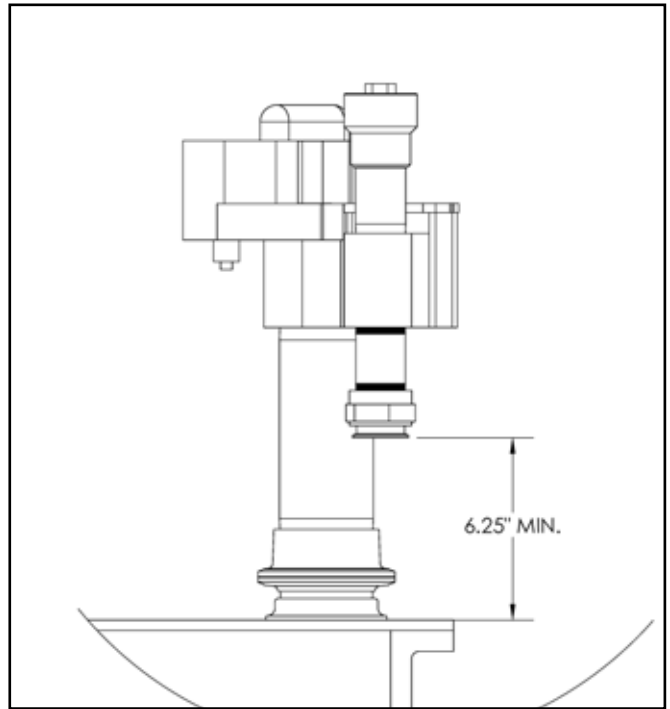


Figure 11: Set Turbine Height

- 12. Install the flange fittings, valve(s) and flex line(s) per the drawing all the way up to the entry fitting adaptors. Rotate the turbine so the manifold fits.

Tighten the turbine riser clamp and the 2” piping manifold clamps.

Torque Specifications:

Swivel Adaptor	50 Foot-Pounds
Vapor Adaptor	50 Foot-Pounds
Product Adaptor	50 Foot-Pounds
2” Single Pin Clamp	1/2 Turn Past Finger Tight (~25 Inch-Pounds)
6” Single Pin Clamp	1/2 Turn Past Finger Tight (~25 Inch-Pounds)
6” Two-Bolt Clamp	25 Foot-Pounds

A metal-based anti-seize lubricant should be used on the threads of the 6” clamp blots.

- 13. Install the vapor tees and associated fittings up to the piping adaptors.
- 14. Set the sump base on the tank collar. Make sure the sump is rotated in the correct angular position.

15. Mark the position of the entry fittings. Refer to the entry elevation sketch.

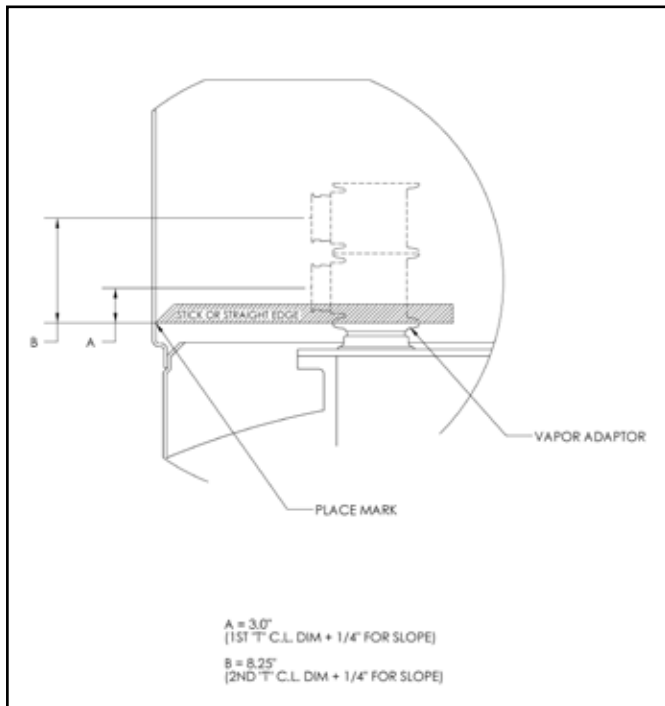


Figure 12: Mark Position of Fittings

16. Use a carbide tip or abrasive type hole saw to drill 2" and 3" entry fittings.
17. Bond the fittings to the sump per the Mfg. instructions – this can be done with the sump on or off the tank.
18. After the entry fittings have been bonded and cured, position the sump on the tank. Clamp the flex lines from the vapor tees and product piping to the entry fittings to fix the location of the sump.
19. At this point, the tank top sump can be bonded or fiberglassed to the tank collar.
20. Install the piping. Test plugs are available to seal off the vapor tee fittings for pipe testing.
21. Install the electrical entry fittings and conduit.

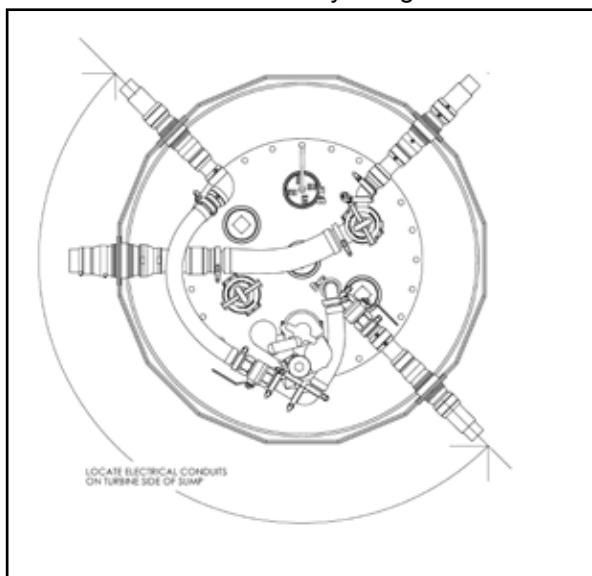


Figure 13: Electrical Conduit Location

Note: To maintain as much access to the OneSump as possible, make the electrical conduit entry fittings on the turbine side keeping the area where the Tank Level Monitor and vapor and product risers open.

22. Install the product and vapor risers including the product and vapor swivels and adaptors. Thread on the drain flex connection to the product female adaptor fitting per the drawing.
23. Dry fit the sump top hat on to the sump base.
24. Drop on the containment sump bowl on to the top hat. Verify that the risers fit through the sump bowl without interference.
25. The top of the vapor and product adaptors should be 0.5 inches below the top of the top hat or containment sump bowl.

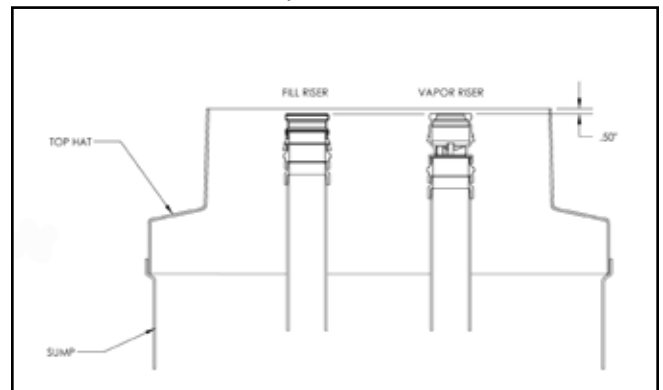


Figure 14: Adapter Clearance

26. Bond on and fiberglass top hat on to the sump base.
27. Backfill
28. When placing the FL-100 cover over the sump, maintain a 1½" distance between the bottom of the cover frame and the top of the sump by using several 2 x 4's to support the frame assembly.

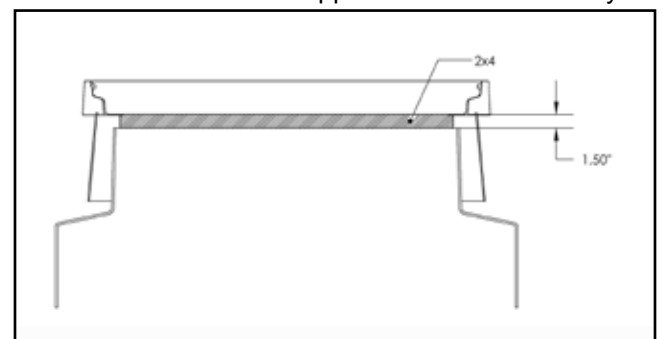


Figure 15: Cover Spacing

29. Place shims between the cover skirt and the top hat to keep the frame concentric to the sump and risers.

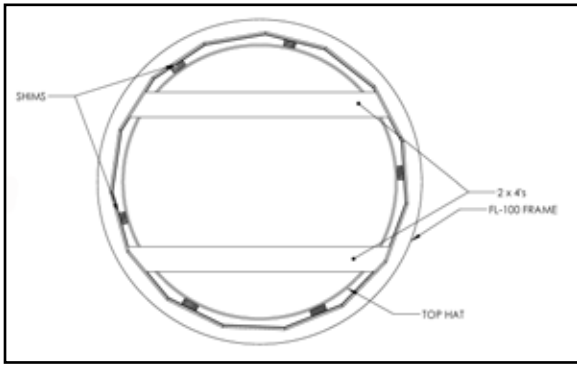


Figure 16: Centering the frame

30. Place the FL-100 cover on the frame and rotate until the two openings are directly centered over the risers. In the case of the Diesel sump, just the product riser.

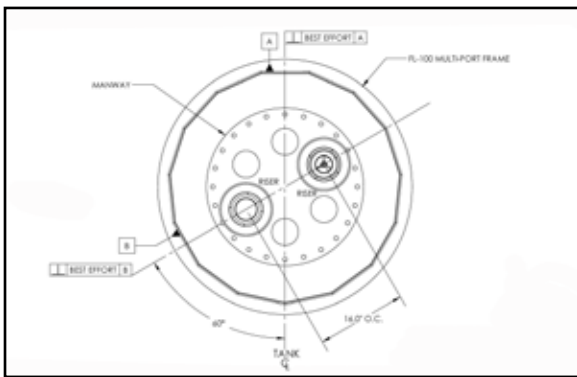


Figure 17: Align Cover with Risers

Note: Repeat steps 28 through 30 until the cover is central over the risers and firmly shimmed into place. If the cover moves during the concrete work, the delivery nozzles will not fit and the cover will need to be saw-cut out and reinstalled.

31. Leave the FL-100 cover on and cover with plastic during the tank slab concrete work.
32. After the concrete has cured, place 1" of dry sand in the annulus space between the cover frame and the top hat per the drawing. Mix up a 1½ gallon kit of PTi polysulfide paste and pour into the annulus of the sump. Two 1 ½ gallon kits are needed to do three sumps.

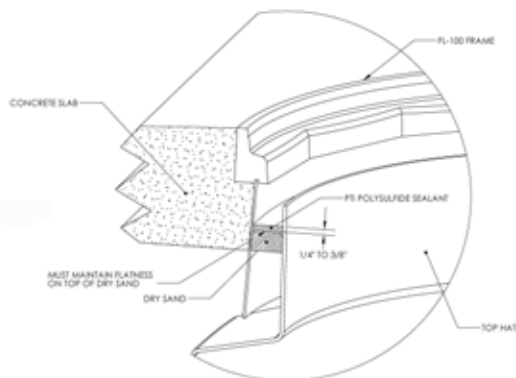


Figure 18: Sand and PTi Sealant Installation

33. Install the drop tube per the reference drawings (this step can be done any time before the product riser is attached).

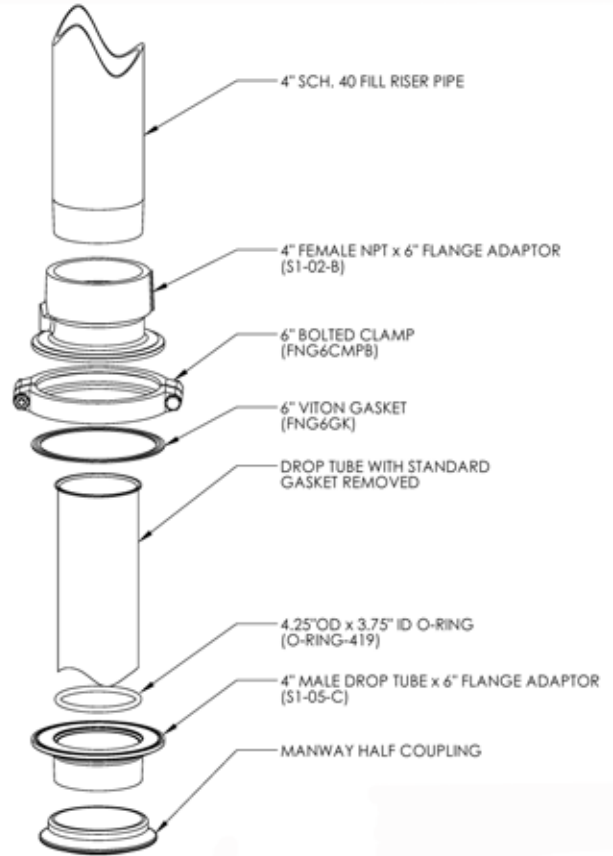


Figure 19: Drop Tube Installed with O-Ring Below Fill Riser Pipe

Note: Make sure the angled cut of the drop tube is installed away from the TLM.

34. Install the ball float into the threaded vapor fitting adaptor.
35. Clean and lubricate the drip cap o-ring seals.
36. Assemble the OneSump spill containment bowl drain assembly.
37. Make sure all the threaded riser adaptor components are torqued down properly.

Customer Service Contact Information:

Franklin Fueling Systems Customer Service and Technical Support: 1-800-225-9787

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