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Installation Instructions for Aboveground Kleerwater Oil Water Separators

Notice:

- Kleerwater™ aboveground oil water separators shall be installed by personnel who have the proper knowledge and experience in the proper and safe way to install these systems.
- These instructions are a supplement to the installation instructions for aboveground tank technologies, such as PEI/RP 200.
- The Kleerwater separator should be installed within one year of delivery.

1.0 General

1.1 When the separator is shipped with a vacuum from the manufacturer, read the vacuum gauge. If the reading is below 5.3" of Hg, contact the manufacturer for further instructions.

1.2 Inspect the separator when it arrives for general appearance and verify that all of the components are present. If the tank is damaged or there are components missing, contact the manufacturer immediately for further instructions.

1.3 If the separator is required to be air pressure tested for leaks prior to installation: .

1.3.1 The temporary plastic plugs and thread protectors shall be removed and properly discarded. Apply compatible, non-hardening pipe sealant to the internal threads. Permanent metal plugs shall be installed in any unused openings.

1.3.2 **Single Wall Tanks:** Pressurize the tank to a maximum of 5 psig. While holding pressure, apply leak detection solution, such as soap solution, to all weld seams and fittings and inspect for leaks. If no leaks are detected, release the pressure and continue to install the tank. If leaks are found, they must be investigated, resolved, and the tank retested prior to continuing. Never vacuum test a single wall tank.

1.3.4 **Dual Wall Tanks:** Pressurize the inner tank to not exceed 5 psig. Seal the inner tank and disconnect air supply. Monitor the air pressure in the tank for a period of a minimum of one hour. If the pressure remains stable, pressurize the interstice with the air from the inner tank. Use a separate pressure gauge to monitor the pressure in the interstice. While holding pressure, apply leak detection solution, such as soap solution, to all weld seams and fittings of the exterior tank and inspect for leaks. If no leaks are detected, release the pressure off the interstitial space first, then release the pressure off the inner tank.

2.0 Preparation

2.1 Kleerwater Aboveground oil water separators are designed for stationary use only. Foundations should evenly support the tank to prevent movement or uneven settling that could impose unacceptable stress on the tank.

2.2 Foundations, support and anchorage shall be in accordance with PEI/RP 200, latest edition.

3.0 Setting the Separator

3.1 Equipment to lift the separator shall be of adequate size to lift and lower the separator into place without dragging the separator.

3.2 Cables or chains of adequate strength shall be attached to only to the lifting lugs. These cables or chains shall be of the proper length such that the included angle formed by the cables or chains is less than 45°. A spreader bar should be used if necessary. Chains, cables or slings shall not be used around the separator shell.

The separator shall be placed level and plumb for proper operation.

4.0 Anchoring

4.1 High water tables or partially flooded excavation sites exert significant buoyant forces on separator tanks. Buoyant forces are partially resisted by the weight of the separator tank and contents (separators are designed to be operated essentially full of water). Additional buoyant restraint when required may be obtained by using properly designed holddown straps where saddles are shipped loose. Saddles should be anchored to the pad or piers with anchor bolts of adequate size to prevent flotation.

4.2 If saddles are welded to separator, they should be anchored to the pad or piers with anchor bolts of adequate size to prevent flotation.

5.0 Piping and Attachments

5.1 The inlet piping leading to the separator shall be sloped a maximum 1/8" per foot of piping towards the separator to maintain gravity flow. The inlet piping should be installed straight and true with as few elbows as possible. Turns and drops create turbulence which minimizes the effectiveness of the separator. If elbows are required, try to maintain at least 20 pipe diameters of straight pipe away from the separator.

5.2 It is recommended that an isolation valve be installed on the inlet piping prior to the separator for future maintenance, safety, and emergency situations. If this valve is installed, it must be easily accessible by the owner or designated maintenance personnel.

5.3 The outlet piping leading away from the separator shall be sloped a maximum 1/8" per foot of piping to maintain gravity flow.

5.4 It is recommended that an isolation valve be installed on the outlet piping after to the separator for future maintenance, safety, and emergency situations. If this valve is installed, it must be easily accessible by the owner or designated maintenance personnel.

5.5 Attach separator tank manway extensions, if furnished, taking care not to damage the manway gaskets.

5.6 Install vent lines on the inlet and outlet pipes and manways. These vents shall be piped independently from one another and vented directly to atmosphere. Only manway vents may be manifolded together as one common vent.

5.7 For separator tanks with gravity oil skimmers, install oil skimmers and piping. Piping between the separator tank and the waste oil tank must be sloped a maximum 1/8" per foot towards the waste oil tank to maintain gravity flow.

5.8 For tanks with oil level sensors and pump out pipes, install riser pipes using compatible non-hardening sealant, taking care not to cross thread or damage the non-metallic bushings, if applicable. Ensure the pipes are fully inserted.

5.9 Refer to enclosed manufacturers sensor and control panel wiring diagrams and installation instructions for the control system into the separator. If there are any questions or problems understanding the control system installation instructions or wiring diagrams, give the tank manufacturer a call for further clarification and instructions.

5.10 The thread protectors on all unused openings shall be removed. Permanent metallic plugs shall be properly installed with non-hardening sealant.

5.11 At this point, all piping should be installed and all flanged connections should be completely tightened.

6.0 Final Air Pressure Test

6.1 If an air or hydrostatic test is required after installation, the pressure shall not exceed 5 psig and measured at the top of the separator tank.

7.0 Final System Adjustments

7.1 Finish filling the separator tank with clean water until water is discharged from the outlet piping. The tank must be completely full of water to operate properly.

7.2 If inlet and outlet isolation valves are installed open the valves to the required amount so that the influent flow rate will not exceed the unit's maximum rated flow capacity.

7.3 For separator tanks with gravity oil skimmers, adjust the skimmer while the water is flowing through the separator tank. Adjust the skimmer so the openings are not submerged and the weir on the skimmer is set properly at the water crest.