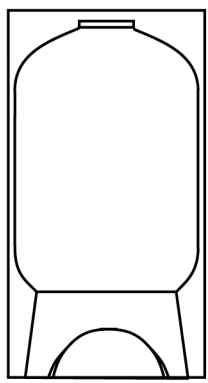
PRESSURE VESSEL LIFTING, HANDLING & INSTALLATION INSTRUCTIONS

Contents Page

RATING

Pressure Rating (Max Operating Pressure) : 10.5 Bar
Temperature Range: 1～49℃
Application Medium: Water

RECEIVING



Pressure vessels are protected by
custom-size cartons. All pressure vessels are placed vertically in the carton.

Remove pressure vessel by cutting the straps and removing the cardboard. To remove the cardboard, remove top lid (after cutting the packaging straps) and lift the center body wall section of the box over the top of the tank. The bottom section can be cut away from the tank.

BASIC HANDLING RULES

This guide is designed to help install pressure vessels properly. Improper handling or installation can result in damage or pressure vessel failure.

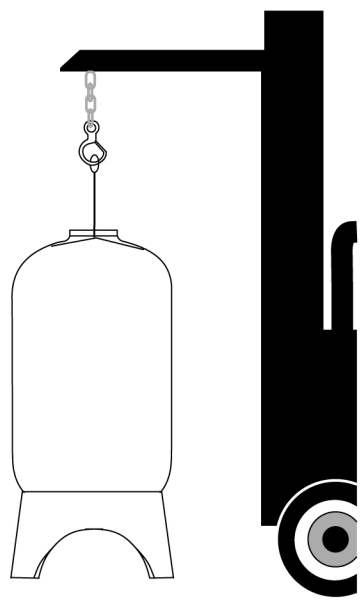
1. If pressure vessels are being stored prior to installation, leave them in their **protective carton** until ready to install.

2. **Never roll or slide** a pressure vessel on its side.

3. **Never drop** a pressure vessel or allow **hard impact or abrasion** of the pressure vessel from contact with walls, partitions, tools, or equipment.

4. Lift the pressure vessel using a crane or forklift.

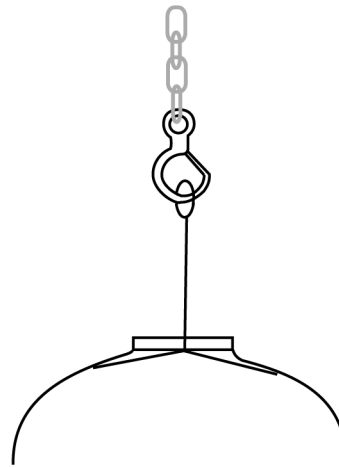
   Caution: Use only the approved sling rig methods; do not place chain or cable around pressure vessel. Be sure forklift is designed to handle the pressurevessel's weight at the height the pressure vessel is to be lifted above the floor.



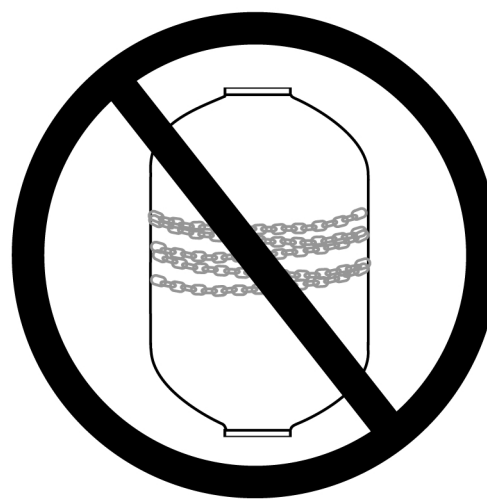
BASIC HANDLING RULES
continued

5. Operators of hoist equipment must follow **proper rigging** procedures.

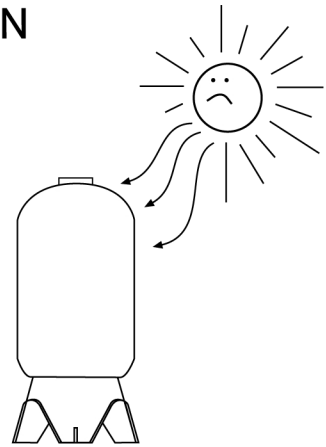
6. Set rigging to lift from the inside.
Caution: inside bar must be smooth to avoid damaging inside of tank.



7. **Never** fasten **cables or chains** around pressure vessel.



UV PROTECTION



Painting a Composite Pressure Vessel for UV protection

1. Wash the pressure vessel with detergent and water, using a scrub brush. Use the brush actively over the pressure vessel surface to remove oil and grime.

2. Rinse the pressure vessel several times with water to remove soap residue and let dry.

3. Using a clean rag wetted with acetone, rinse the pressure vessel thoroughly with the acetone. Make sure that the rag does not become grimy, and use as much acetone as is practical to perform a wet rinse over the pressure vessel surface. NOTE: Acetone is extremely flammable. Should not be inhaled. Requires use of gloves.

4. Spray paint or paint with a roller or brush.

5. A 100% interior/exterior acrylic latex enamel is preferred. The paint has a good adhesion and will not chalk. This is a one-step paint with water clean-up. The 100% acrylic latex enamel can be purchased at a paint store.

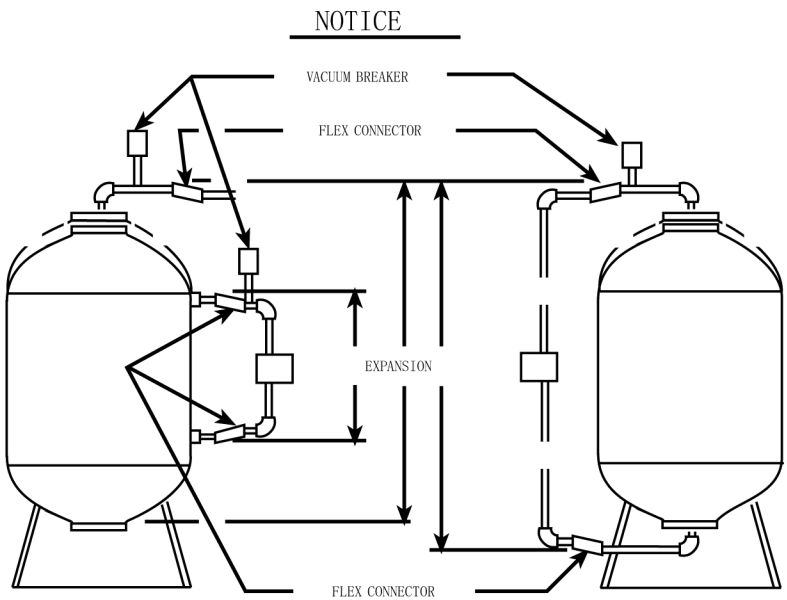
6. Coat the UV areas first, such as the top of the pressure vessel and the side, where sun rays directly hit the pressure vessel.

7. A light-colored, pigmented paint is preferred. Whit paint is best.

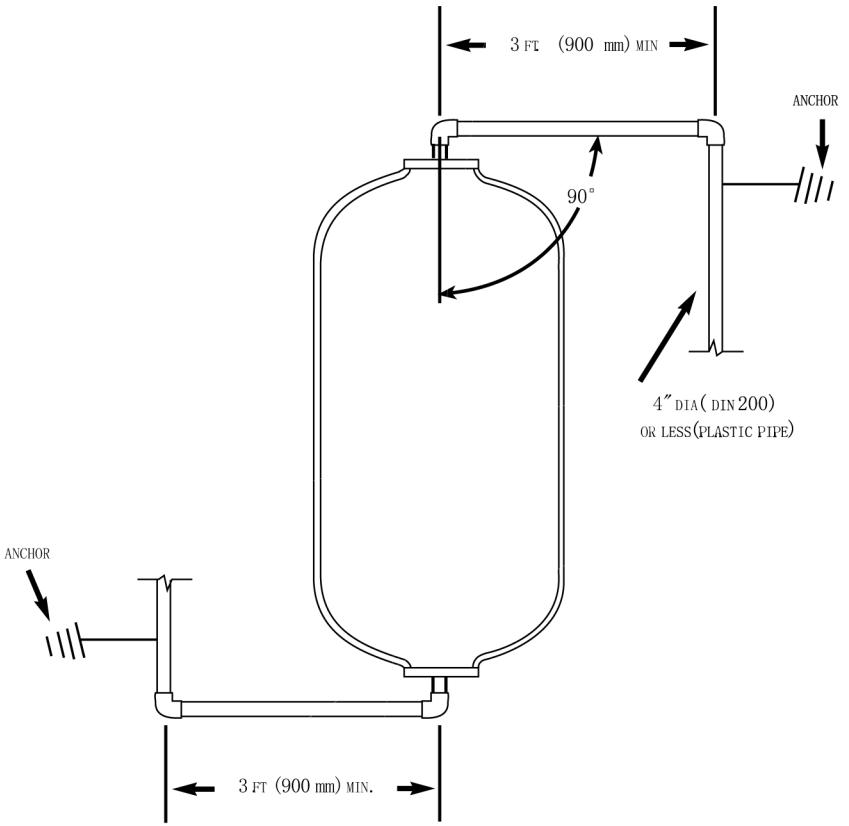
VACUUM PROTECTION FLEX CONNECTORS

The pressure vessel is rated for an internal negative pressure of 5″ Hg (17 Pa) vacuum below atmospheric. If negative pressure could ever exceed 5″ Hg (17 Pa), an adequate vacuum breaker must be installed between the pressure vessel inlet and any valves, as shown here.

System connections to the pressure vessel must accommodate vertical expansion between side, top, and bottom openings. Either flexibility in piping, as shown on pages 10, or flex connectors as shown here, are recommended.



FLEXIBILITY IN PIPING



An effective alternative to flex connectors uses the inherent flexibility of right angle system design. By calculating the amount of cantilever overhang needed to absorb the torsional effect created by the pressure vessels vertical movement, it is possible to build the needed flexibility right into the piping system. This can be done with both top/bottom and side flow piping setups.

FLEXIBILITY IN PIPING
(continued)

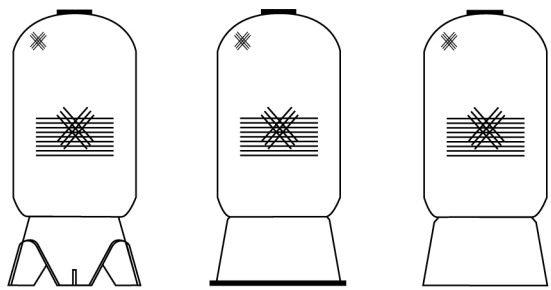
The figure shown on the previous page is the acceptable minimum for the pressure vessel at its rated pressure of 150 psig. When using the pressure vessel at a lower pressure, the minimum pipe run length can be reduced, using this formula:

a. Multiply pressure vessel pressure is psi * 36
b. Divide above by 150
c. Result is minimum span of horizontal piping in inches

For example, if the pressure vessel pressure is 120 psi:
a. 120 * 36 = 4,320
b. 4,320 divided by 150 = 28.8
c. Minimum span of horizontal piping is 29 inches

VERTICAL BASE REMOVAL AND REPLACEMENT

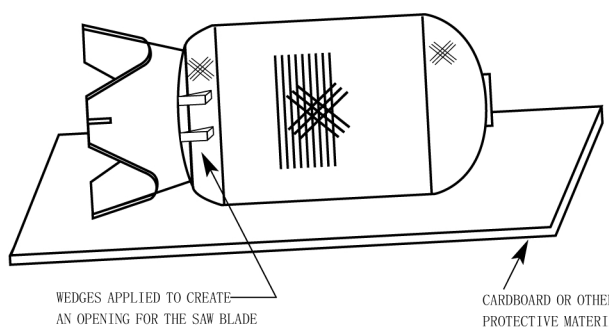
FOR:



TRIPOD SHORT SKIRT FRP SKIRT

REMOVAL

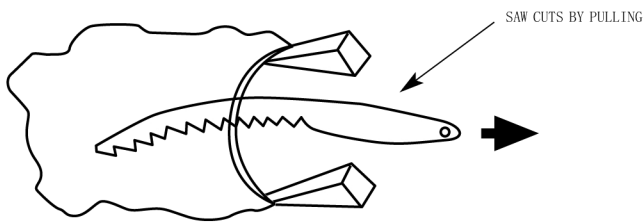
To remove the original base, the pressure vessel must be empty and in the horizontal position. The pressure vessel must be lying on a protective material, such as cardboard, to protect it.



NOTE: SAFETY GLASSES AND GLOVES MUST BE WORN FOR YOUR SAFETY

VERTICAL BASE REMOVAL AND REPLACEMENT (continued)

1. Drive a wooden wedge between the pressure vessel and the base with the rubber hammer to create an opening to insert the saw blade. If necessary, use the second wooden wedge to make an opening for the saw blade. Have the saw blade teeth toward your hand so that you cut the adhesive with a pulling motion rather than a pushing motion. **Use extreme caution** to avoid injury when performing this step.



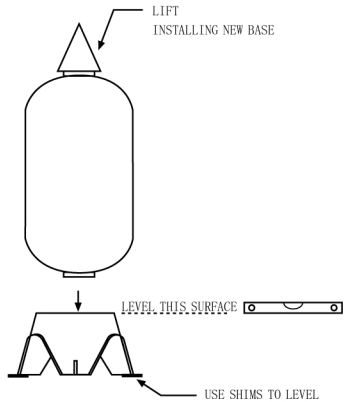
NOTE: Use extreme caution to avoid damaging fibers. If fibers are damaged, pressure vessel must not be used.

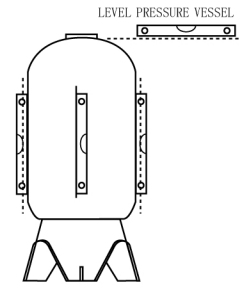
2. As the adhesive is being cut, the wedges must be moved (around the outer diameter of the base) to maintain a gap between the pressure vessel and the base to allow the saw blade to cut the adhesive without getting bound up.

3. After the base is removed, the heavy excess adhesive on the pressure vessel must be removed. Be careful. Do not change exterior surface of the pressure vessel. It is not necessary to remove all of the old adhesive, but just the heavy excess to allow room for the fresh adhesive. Take your time, the base was installed for the life of the pressure vessel, so it may take a great deal of effort and patience to remove the old base without damaging the pressure vessel.

INSTALL THE NEW BASE

1. You must first level the base on a concrete floor. The wooden wedges may need to be used under one or two of the tripod legs to get the base level if the floor is not level.





2. The tank should be placed on the ground or a solid steel structure, not placed on "C" channel or plastics sheets that do not distribute the load properly.

3. The adhesive is applied to the base (with a caulking gun) in a pattern that duplicates the area covered on the old vase. The tip of the adhesive tube must be cut to apply the adhesive in a 1/4 diameter mininum.

4. The pressure vessel must be lifted vertically (see drawings on lifting options) and set down onto the base.

5. Level the pressure vessel by using a level on at least 4 points around the outer diameter of the pressure vessel.

6. Once you are satisfied that the pressure vessel is level, the pressure vessel must be allowed to set (undisturbed) for at least 24 hours.

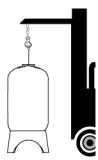
7. Install the pressure vessel.

8. That the material used to make the bases is made from fiberglass composites where the strength can be effected by UV light and the bases should avoid direct strong sunlight.

BASIC HANDLING RULES

Never roll or slide a pressure vessel on its side.

Never drop a pressure vessel or allow hard impact or abrasion of the pressure vessel from contact with walls, partitions, tools, or equipment.



Hoist operators must follow **proper rigging** procedures.

Never fasten cables or chains around pressure vessel.