

# Installation Instructions for Flexmaster Expansion Joints

**1. Service Conditions:**

- 1.1. The expansion joints are intended for use in low pressure (< 20 PSIG) piping applications or for use as the inlet of a flooded suction feed connection. The maximum use temperature of the expansion joints is 130°F for HDLPE materials and 140°F for XLPE materials.
- 1.2. The application must be properly defined for the expansion joint. Application design movement must not exceed the design movement of the expansion joint. Please refer to the chart attached for design movement capabilities and spring rates. Also refer to the piping examples for proper installation examples. If the application exceeds the design capabilities of the expansion joint, please contact the manufacturer.

**2. Alignment:**

- 2.1. Expansion joints are not designed to make up for piping misalignment error. Pipe misalignment should be no more than ¼" in any direction.

**3. Pipe Support:**

- 3.1. Piping must be supported in all directions so expansion joints to not carry any piping weight.

**4. Installation:**

- 4.1. Unbolt and remove split flanges from the faces of the expansion joint. Check to make sure the flange faces are clean and free of foreign materials. Flange faces should be free of any scratches or nicks. If scratches or nicks occur, sand the surface smooth with 220 grit sand paper using a random orbital sander.
- 4.2. Locate the expansion joint between two 150# flanges spaced for the prescribed neutral length + ½" (the thickness of two full face 150# flange gaskets). Install bolts as shown in the drawing below. To obtain proper gasket compression, tighten all the fitting nuts hand tight using an opposing bolt tightening sequence until the gaskets engage the flanges and the lock washers are compressed. Tighten each nut an additional 5/8 turn – 1-3/8 turns using the same sequence (do not tighten more than 1/2 turn at a time). A light application of lubricating oil is necessary to prevent thread seizing on S.S. bolts. Gasket compression should be between 25 - 50%. Tighten bolts to achieve gasket compression. Recheck fitting tightness periodically.

Flexmaster Expansion Joints										
Nominal size I.D.	Neutral Length (in.)	± Axial Movement	± Lateral Movement	Angular Deflection	Axial Spring Rate lbs./in.	Lateral Spring Rate lbs./in.	# Holes	Bolt Pattern	Bolt Size	Weight (lbs.)
2	20.71	4	2	5	N/A	N/A	4	150#	5/8"	8.44
3	31.5	4	2	5	27.3	6.6	4	150#	5/8"	13.86

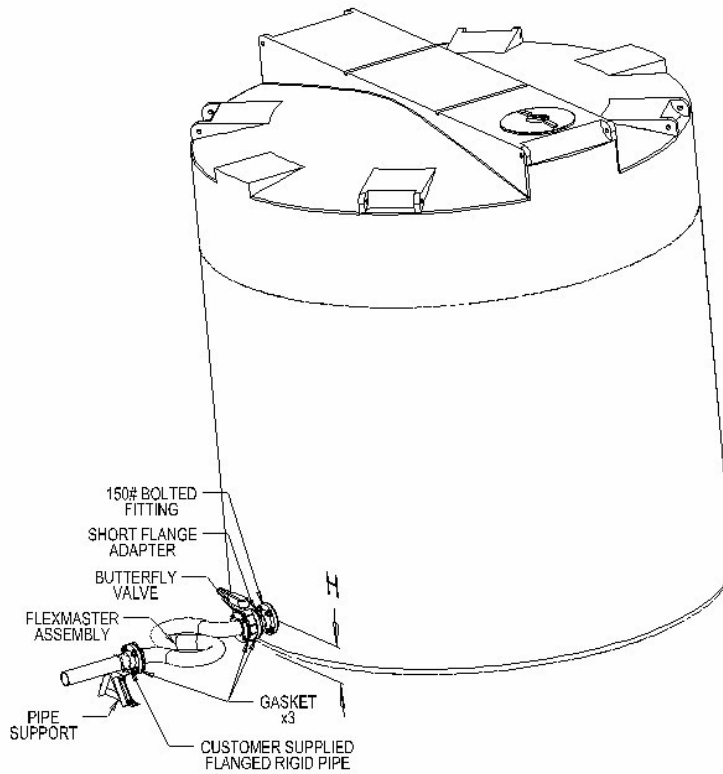


Figure 1

With the Flexmaster expansion joint installed horizontally as shown in the example above, dimension "H" can be up to 50" maximum and still meet the SII recommendation of 4% dimensional movement design. If the height of the fitting is above 50", install the Flexmaster in a vertical configuration as shown in Figure 3.

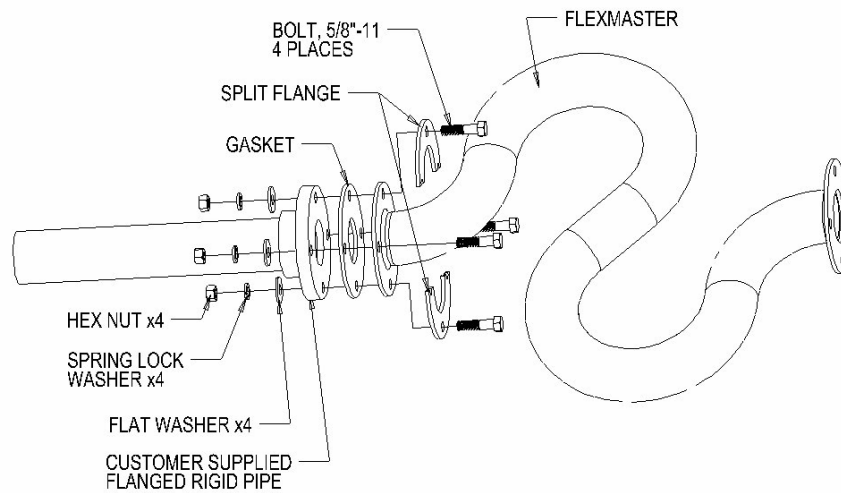


Figure 2 – Exploded Assembly

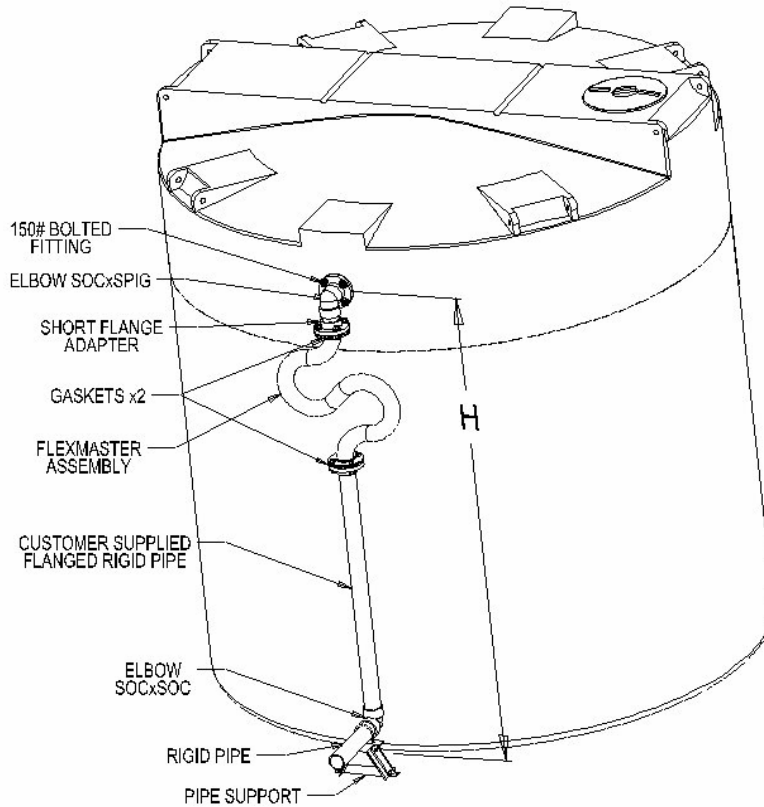


Figure 3

With the Flexmaster expansion joint installed vertically as shown in the example above, dimension "H" can be up to 100" maximum and still meet the SII recommendation of 4% dimensional movement design. If the height of the fitting is above 100", an additional Flexmaster can be installed in the vertical configuration to provide additional movement capability.