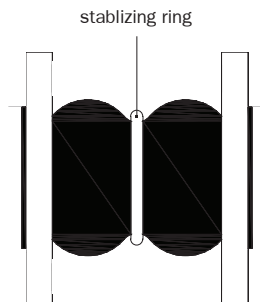
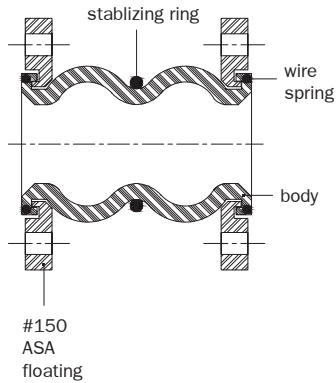


## INSTRUCTIONS



1. Make sure that the expansion joint temperature, pressure, vacuum, movements and elastomer type matches the system requirements. Vacuum rating is based on neutral installed length without external load. Contact Vibro-Acoustics if the system requirements exceed those of the expansion joint selected.
2. These connectors should not be used for accommodating misalignment errors. Make sure that the pipe misalignment is no more than 1/8" in any direction.
3. Make sure that the system is properly anchored as close to the expansion joint as possible. If there is no anchoring system, it is recommended that control rods be installed on the expansion joint to prevent excessive movements due to pressure thrust.
4. Expansion joints should not bear any dead load.
5. Line up the mating flanges and install bolts so that the bolt head is against the expansion joint flange.
6. The spherical rubber flexible connector must be compressed 1/8" to 3/16" during installation in order to obtain a correctly installed face-to-face dimension.
7. Make sure mating flanges are clean and are the flat faced type. When attaching beaded end flange expansion joints to raised face flanges, ring gaskets are required to prevent metal flange faces from cutting the rubber bead during installation.
8. Never install expansion joints next to wafer type check valves or butterfly valves. Serious damage to the rubber flange bead can result due to the lack of flange mating surface and or bolt connection.
9. Tighten bolts in stages by alternating around the flange. Use the recommended torque values to achieve a good seal. Never tighten an expansion joint to the point that there is metal to metal contact between the expansion joint flange and the mating flange. See table for bolt torque data.

Nominal Pipe Size	Bolt Torque				
	Step 1	Reset	Step 2	Reset	Step 3
in	ft · lbs	Minutes	ft · lbs	Minutes	ft · lbs
1	18	30	30	60	45 - 60
1 1/4	18	30	30	60	45 - 60
1 1/2	18	30	30	60	45 - 60
2	18	30	30	60	45 - 60
2 1/2	18	30	35	60	50 - 60
3	25	30	45	60	60 - 75
3 1/2	25	30	45	60	60 - 75
4	25	30	45	60	60 - 75
5	25	30	45	60	60 - 75
6	30	30	50	60	60 - 75
8	30	30	50	60	60 - 75
10	30	30	50	60	75 - 85
12	30	30	50	60	75 - 85
14	30	30	60	60	75 - 85
16	30	30	60	60	75 - 85
18	30	30	60	60	90 - 95
20	30	30	65	60	95 - 185
24	30	30	65	60	95 - 185
30	30	30	65	60	95 - 220

Note: Over-torquing bolts can cause deformation of the rubber expansion joint flanges, thus resulting in premature failure.

10. Check the tightness of the retaining rings two or three weeks after installation and re-tighten as necessary after routine inspections. Rubber expansion joints should not be installed in areas where inspection is impossible.