

Installation Instructions: Bellows Expansion Joints

Because the bellows expansion joint is required to absorb thermal and/or mechanical movements, the bellows element must be constructed of a relatively thin gauge material. This requires special installation precautions.

Piping should be lined up accurately before installing the expansion joint. Angular, lateral, and axial misalignment, and / or torque, will cause shearing stresses. The system must be piped to eliminate misalignment at the expansion joint.

Don't rotate or torque the expansion joint to match bolt holes in the mating flanges. Piping and flanges should be installed straight and true so that the bolts are properly lined up. Flange bolts should not be used to correct system piping alignment problems.

Be sure the face to face opening between the mating pipe flanges is the proper dimension for the expansion joint and that the flange faces are parallel. Tighten up the flange bolts using the criss-cross method.

Don't let the expansion joint support any weight except its own. The system piping must be properly supported and hung. Since the expansion joint is flexible, any extra weight will stress it.

Don't use any cleaning agents which contain chlorides and don't use wire brushes, steel wool or other abrasives to clean the bellows. Never insulate the expansion joint. This can prevent periodic inspection of the joint and also cause stress corrosion of the stainless steel bellows.

If you're doing any welding near or anywhere above the expansion joints, cover the bellows with a chloride free, heat resistant protector to prevent arc strikes, weld spatter, etc. from damaging the stainless steel bellows.

After installation, but before system pressurization, remove all the shipping bars, blocks, spacers, etc. and be sure the proper hangers, guides and anchors are installed and functioning. Don't hydro-test the system at pressures greater than the rated test pressure of the expansion joint or the anchor load design.

Piping systems which contain expansion joints tend to buckle under the compressive forces in the system. The pipeline acts as a column that must be properly guided to prevent buckling. Anchors are also required to isolate each piping segment containing an expansion joint, in order to prevent failures. Important! Be sure to refer to the Anchoring and Guiding Instructions.

Never install an expansion joint where its temperature or pressure ratings could be exceeded. Be sure you know the ratings of the expansion joint and of the piping system. Do not install an expansion joint designed for HVAC systems to carry hazardous, dangerous, or toxic substances.