tyco

Flow Control

Rubber Expansion Joints Installation Instructions.

Flexible Piping Systems

Installation Instructions

Before installing the connector be certain that all surfaces are clean and there are no sharp edges of any kind on the steel flanges. No gasket is required. Check pressures to see if control rods are required.

Although the expansion joints will readily adjust themselves to misaligned flanges within the specified amounts of movements, they should not be installed where there is more than 3mm of initial misalignment or lack of parallelism in the expansion joints.

Slide the connector into position and insert all the flange bolts. The rubber face must be centred exactly on the opening. Poor centring can cause rubber pull out. Be sure that the bolts are inserted with the heads facing the rubber and the nuts on the outside so they are on the outside of the mating flange. If it is impossible to insert the bolts in this direction because of interferences you must be absolutely sure that the tightened end of the bolt does not protrude more than 3mm beyond the inside nut. Larger protrusions may result in the bolt cutting into the rubber cover.

After all bolts are inserted make them finger tight and then proceed to adjust them evenly on opposite sides of the flange, as is normal practice in tightening any flange bolts. Tighten the bolts to 80% of the maximum recommended torque for the bolt size being used in the particular flange, until all bolts have the same tightness.

All rubber materials tend to relax over a period of time. It is good practice to check the tightness of the bolts for the 80% torque about two weeks after installation and in extreme cases, particularly when a line is heated up and allowed to cool repeatedly. It is advisable to continue to check bolt tightness on a monthly basis until such time as the last check shows no further tightening is required.

Allowing the bolts to lose tightness may cause leaks and can be a cause of major failure where the rubber flange comes free of the groove on steel flange.

If the connector is to be installed in a system where the operating pressures do not dictate the use of control rods, but the connector is to be pre-extended to allow for growth under pressure, the gap between the piping flanges should be large enough to allow for the growth as indicated on the operating pressure chart.

If the connector is being installed for expansion and compression applications it should be installed at normal length. Check allowable movements against design requirements.

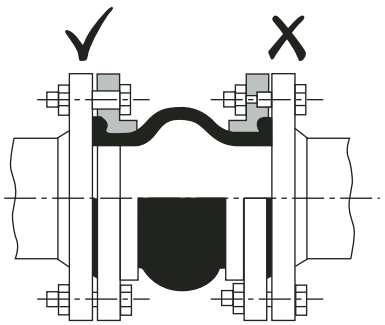
Caution

Do not install any of the products in this leaflet at pressures or temperatures higher than the published ratings.

It is very important that the rubber face of the connector bears against a surface that is no larger in diameter than the O.D. of the mating pipe size. This means that the expansion joint can mate with a standard slip on or weld neck flange, or any flat full faced flange where the I.D. of the flange does not exceed the O.D. of standard pipe of the same size. Extreme caution must be taken so as never to mate the connector with a victaulic type flange, or any check valve or valve where the I.D. of the fitting exceeds the dimensions above. It is also important not to mate the connector with any face that has projections (other than a raised face flange) so a smooth surface is not presented to the rubber.

Check for chemical compatibility with the ordered material.

Do not weld near the expansion joints or weld the steel flanges to the piping after the expansion joints are installed. This will either burn or seriously damage the expansion joints.



Careful Assembly - correct bolt lengths will prolong service life.

FLEXONICS

A.B.N. 83 000 922 690

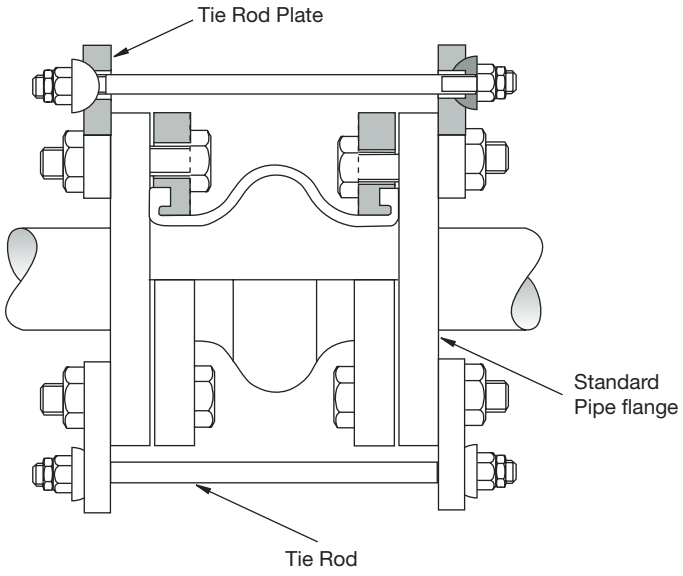
Control Rod/Unit Applications

Control Units are designed to absorb static pressure thrust developed by the expansion joint. When used in this manner, control unit assemblies are an additional safety factor, minimising possible failure of the expansion joint or damage to the equipment.

1. **Anchored Systems:** Control unit assemblies are not required in piping systems that are anchored on both sides of the expansion joint, provided piping movements are within the rated movements as shown in the Data Sheet.

2. **Unanchored Systems:** Control unit assemblies are always recommended in unanchored systems. Additionally, control unit assemblies must be used when the maximum pressure exceeds the limit shown in the table above, or the movement exceeds the rated movement as shown in the Data Sheet.

3. **Spring Mounted Equipment:** Control unit assemblies are always recommended for spring mounted equipment. Control units must be used when the maximum pressure is higher than the ratings shown in the table above, or the movement exceeds the rated movement as shown in the Data Sheet. Additionally, when control units are not used, the expansion joint must be installed “extended” in accordance with TFC-FPS Installation Instructions.



Typical example of a tie rod arrangement.

Note:
Depending upon size/pressure, two or more rods will be required.
Specifications may change without notice.

Control Units/Unanchored

Control Units must be installed when pressures (test, design, surge, operating) exceed rating below:

Size mm	Type FSF MPa	Type FTF MPa
25-100	1.24	0.93
125-250	0.93	0.93
250-350	0.62	0.62
400-600	0.31	0.31

Temperature/Pressure Factors

Pressure Temperature Correction Factor	Max. Working Pressure (X Factor)
50°C	x 1.00
70°C	x 0.75
100°C	x 0.50

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