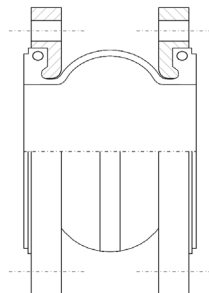
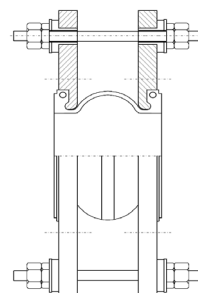


TWIN SPHERE UNIONS



SINGLE SPHERE UNTIED



SINGLE SPHERE TIED

GENERAL

STORAGE

Rubber joints should always be stored in a cool, dry & clean environment away from direct sunlight.

INSPECTION

Rubber joints should be inspected thoroughly prior to installation for any signs of internal or external damage. The sealing face should always be clean and free of any debris.

SELECTION

Always check that the correct selection of rubber joints has been made for the application and service required. Refer to the appropriate *Thermosel* data sheet showing the relevant temperature/pressure correlation chart.

MATING FLANGES

It is essential that the correct mating flanges are used when installing rubber bellows. The recommended flanges are full bore weld neck (see fig. 1) as these require no additional gaskets. If a flange is used having a different sealing face diameter, a gasket must be used to prevent any sharp edges cutting into the rubber face, which could destroy the integrity of the bellows. The gasket must reach the internal bore of the rubber bellows (see fig. 2). Alternatively the gap on a slip on type flange could be filled and ground flush (see fig. 3).

MISALIGNMENT

Rubber bellows should be installed at their neutral length. The gap between the mating flanges should be within +/- 5mm axial or +/- 5mm laterally of the neutral length. Refer to appropriate *Thermosel* data sheet for installation lengths. Any adjustments should be carried out on the pipework prior to installation of the rubber bellows.

INSTALLATION

ALIGNMENT

Take care not to damage the sealing face of the rubber bellows when installing between the gap left in the pipework. Also make sure that the rubber sealing face is correctly seated into the specially machined flanges of the rubber bellows.

BOLTS

The bolts should always be inserted from the bellows side as shown in Figs. 1-3. This will prevent any damage during service. Bolts should never be overtightened due to the rubber sealing face, as this can cause the joints to leak. Tighten opposite bolts to get uniform pressure distribution all round. See Fig. 4 for appropriate torque settings on new rubber bellows.

NOTE - Due to the nature of rubber, the bolts will need retightening 24 hours after installation.

TIE-BARS

If you are using rubber bellows with integral tie-bars, ensure that the nuts are tight & tie-bar lengths are evenly distributed. If it is necessary to remove any tie-bars for ease of installation then always ensure that the rubber top hat washers, steel washers and nuts have been replaced in the correct orientation. Check tie-bars remain tight prior to any pressure test. Do not loosen tie-bars in service as this may cause damage to any associated equipment.

MAINTENANCE

If installed correctly the rubber bellows should give many years of trouble free service. However periodic inspection of the joints for signs of any deterioration, should be included on any maintenance schedule. If hairline cracks become apparent, this is a sign that the joints are nearing the end of their service life and should be replaced at the nearest opportunity.

Do not paint rubber bellows as this may reduce service life.