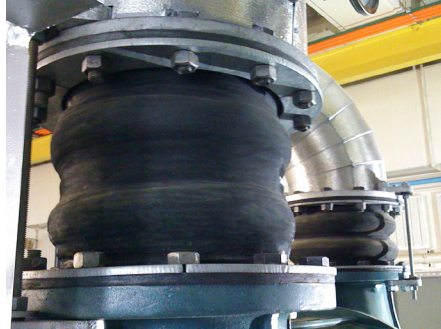


RUBBER EXPANSION JOINTS

Our rubber expansion joints are fabricated of natural or synthetic elastomers and fabrics including Neoprene, EPDM, Butyl and Nitrile. They compensate for system pressure spikes, and they accommodate for axial, angular, and lateral movements. Control rods can be provided to accommodate extreme piping system stress.



ADVANTAGES

- Vibration isolation
- Multiple elastomers available
- Small face-to-face dimensions
- Single or multi sphere configurations
- Reduces pipeline harmonics



APPLICATIONS

- Blowers
- Fracking
- Air Systems
- Cooling Towers
- Sewer Systems
- Vacuum Pumps
- Discharge Lines
- Hydro-Electric Plants
- Refineries/Oil Extraction
- Process Piping Systems
- Power Plant Pump Systems
- Waste Water Treatment Plants
- Supply and Collecting Systems
- Piping Misalignment
- Vibration Compensation
- Expansion/Contraction of Piping



MATERIALS

Materials:

- Neoprene
- EPDM
- Nitrile
- Chlorobutyl
- Viton
- PTFE

Types:

- Molded Type
- Spool Type
- Eccentric
- Concentric
- Single Sphere
- Double Sphere

End Fittings:

- 150# Carbon Steel Flanges Standard
- 300# Carbon Steel Flanges Optional
- 150# Stainless Steel Flanges Optional
- Female Union Standard

**Other elastomers and types are available*

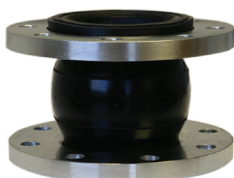
INSTALLATION

See rubber expansion joint installation instructions per FSA on our website or on FSA's website:

- twincityhose.com/references
- <http://www.fluidsealing.com/standards/FSA-PSJ-702-15.pdf>

RUBBER EXPANSION JOINTS

MS1



The MS1 is the most widely used rubber expansion joint and is very reasonably priced. Solid plate flanges on each end are floating.

I.D. up to 24"

Materials

- EPDM
- Nitrile
- Neoprene
- Chlorobutyl

End Fittings

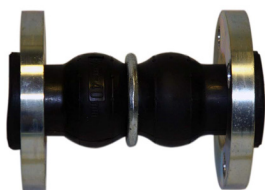
- 150# CS Flange (Standard)
- 150# SS Flange
- 300# CS Flange

MS1-MS2-MSFU DATA

- Max negative pressure 26" HG Vacuum
- For listed movements reference submittals

BODY CONSTRUCTION	TEMPERATURE
NEOPRENE NYLON	up to 230° F
EPDM NYLON	up to 250° F
BUTYL NYLON	up to 250° F
NITRILE NYLON	up to 230° F

MS2



The MS2 allows greater movement than the MS1 and is used in exactly the same way. Solid plate flanges on each end are floating.

I.D. up to 24"

Materials

- Neoprene
- EPDM

End Fittings

- 150# CS Flange (Standard)
- 150# SS Flange
- 300# CS Flange

S1



Spool type expansion joints provide double arch movements, utilizing a single low profile wide arch. The construction combines woven polyester fabric and elastomer reinforced with wire to create a product with superior performance. Flanges are integral with the body and utilize split metal retaining rings.

I.D. up to 64"

Custom Options:

- Filled Arch
- Multi Arch
- Alternative Drilling
- Full Range of Retaining Rings

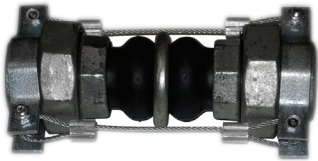
Materials

- EPDM
- Nitrile
- Neoprene
- Chlorobutyl



RUBBER EXPANSION JOINTS

MSFU



The MSFU is used for threaded union connections and has the same characteristics as the MS1 and MS2 but is for smaller I.D.'s of 3/4" up to 2 1/2".

Materials

- EPDM

* All with control cables



MRCE



- Concentric reducing expansion joints connect unequal pipe sizes that share the same center line. Solid plate flanges on each end are floating
- Options for stainless steel 150# or carbon steel 300# flanges are available
- Standard and custom sized I.D. and OAL are available upon request



RUBBER EXPANSION JOINTS

CONTROL RODS

Control rods are designed to limit excessive movement to an expansion joint. When used they are an additional safety factor, minimizing possible failure of the expansion joint or damage to equipment. They must be used in any unanchored system or where pressures exceed stated pressure in chart #1.

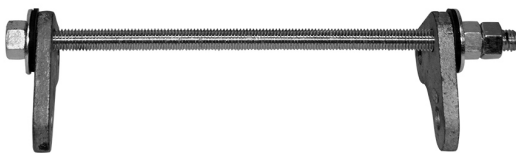
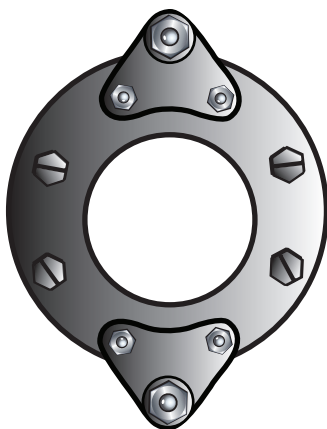
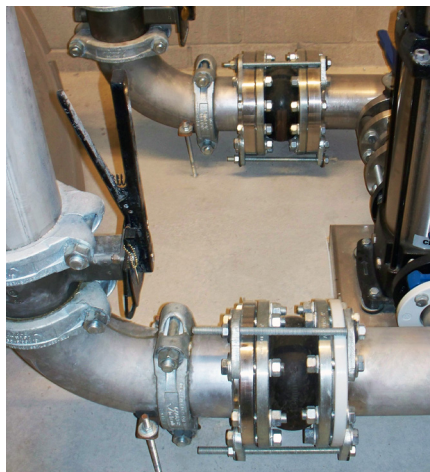


CHART #1

Control Units must be installed when pressure (working, test, surge) exceed rating below:

Pipe Size	MS1 P.S.I.G	MS2 P.S.I.G
1"-4"	180	135
5"-10"	135	135
12"-14"	90	90
16"-24"	45	45



View from the top of flange
with attached control rods

