



TWIN CITY HOSE INC.

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Rubber Expansion Joints



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Rubber Expansion Joints

Rubber expansion joints by Twin City Hose are fabricated of natural or synthetic elastomers and fabrics, metal reinforcement can be provided to accommodate extreme piping system stress.

Functions

- Vibration isolation protecting equipment and piping system
- Reduces harmonics/sound transmitted down the pipeline by the pump or other equipment
- Compensate for misalignment as system and equipment move out of alignment due to operation and installation
- Accommodates directional movement such as axial, angular, lateral and torsional

These functions prevent equipment damage and undue downtime of plant operations.

Advantages

- Cost effective compared to metal expansion joints
- Small face to face dimension, standard 6" OAL
- Smaller OAL makes the rubber expansion joint economically superior to expansion loops or bends
- Resistant to abrasion and external damages, rubber is more forgiving than metal
- Longer cycle life, vibration and harmonics is not a concern
- Lightweight requiring in most cases no special equipment or handling for installation
- Low movement force with almost unlimited flexing and recovery from imposed movements



Selection

- TCH offers optional 150# stainless steel or 300# carbon steel flanges
- TCH stocks single and double sphere, female union and eccentric rubber expansion joints in EPDM and Neoprene
- Other styles and materials are available

Installation

ALIGNMENT:

Pipe misalignment should be no more than 1/8" in any direction.

ANCHORING:

Expansion joints should be located as close as possible to anchor points. If an anchoring system is not used, it is recommended that control rods be installed on the expansion joint to prevent excessive movements from occurring due to pressure thrust of the line.

MATING FLANGES:

Make sure mating flanges are clean and are FLAT FACED TYPE.

Never install expansion joints next to wafer type check or butterfly valves. Serious damage to the rubber flange bead can result due to lack of flange mating surface and/or bolt connection.

See Rubber Expansion Joint Install instructions @ MrFlex.com for additional information.

MS1

The TCH MS1 is the most widely applied rubber EJ and is very reasonable priced. Solid plate flanges on each end are floating, options for stainless steel 150# or carbon steel 300# flanges are available. Neoprene and EPDM EJ's are in stock.



MODEL NUMBER	NOMINAL SIZE	FACE TO FACE	LATERAL DEFLECT	AXIAL EXT.	AXIAL COMP.	ANG.	WRK. PRESS
MS1-1-1/2	1-1/2"	6"	(+/- 1/2")	3/8"	1/2"	27	225
MS1-2	2"	6"	(+/- 1/2")	3/8"	1/2"	20	225
MS1-2-1/2	2-1/2"	6"	(+/- 1/2")	3/8"	1/2"	17	225
MS1-3	3"	6"	(+/- 1/2")	3/8"	1/2"	14	225
MS1-4	4"	6"	(+/- 1/2")	1/2"	3/4"	14	225
MS1-5	5"	6"	(+/- 1/2")	1/2"	3/4"	11	225
MS1-6	6"	6"	(+/- 1/2")	1/2"	3/4"	9	225
MS1-8	8"	6"	(+/- 1/2")	1/2"	3/4"	7	225
MS1-10	10"	8"	(+/- 3/4")	3/4"	1"	7	225
MS1-12	12"	8"	(+/- 3/4")	3/4"	1"	6	225
MS1-14	14"	8"	(+/- 3/4")	3/4"	1"	5	150
MS1-16	16"	8"	(+/- 3/4")	3/4"	1"	4	125
MS1-18	18"	8"	(+/- 3/4")	3/4"	1"	4	125
MS1-20	20"	8"	(+/- 3/4")	3/4"	1"	3	125
MS1-24	24"	10"	(+/- 3/4")	3/4"	1"	3	110

MS2

The TCH MS2 allows greater movement than the MS1 and is used in exactly the same way. Solid plate flanges on each end are floating, options for stainless steel 150# or carbon steel 300# flanges are available. Neoprene and EPDM EJ's are in stock.



MODEL NUMBER	NOMINAL SIZE	FACE TO FACE	LATERAL DEFLECT	AXIAL EXT.	AXIAL COMP.	ANG.	WRK. PRESS
MS2-1-1/2	1-1/2"	7"	(+/- 1-3/4")	1-1/8"	2"	45	225
MS2-2	2"	7"	(+/- 1-3/4")	1-1/8"	2"	45	225
MS2-2-1/2	2-1/2"	7"	(+/- 1-3/4")	1-1/8"	2"	43	225
MS2-3	3"	7"	(+/- 1-3/4")	1-1/8"	2"	38	225
MS2-4	4"	9"	(+/- 1-1/2")	1-3/8"	2"	34	225
MS2-5	5"	9"	(+/- 1-1/2")	1-3/8"	2"	29	225
MS2-6	6"	9"	(+/- 1-1/2")	1-3/8"	2"	25	225
MS2-8	8"	13"	(+/- 1-3/8")	1-3/8"	2-3/8"	19	225
MS2-10	10"	13"	(+/- 1-3/8")	1-3/8"	2-3/8"	15	225
MS2-12	12"	13"	(+/- 1-3/8")	1-3/8"	2-3/8"	13	225
MS2-14	14"	13-3/4"	(+/- 1-1/8")	1-1/8"	1-3/4"	9	150
MS2-16	16"	13-3/4"	(+/- 1-1/8")	1-1/8"	1-3/4"	8	125

MSFU

The TCH MSFU is used for threaded union connections, and has the same characteristics as the MS1 and MS2.



MODEL NUMBER	NOMINAL SIZE	FACE TO FACE	LATERAL DEFLECT	AXIAL EXT.	AXIAL COMP.	ANG.	WRK. PRESS
MSFU-2-3/4	3/4"	8"	7/8"	1/4"	7/8"	32	225
MSFU-2-1	1"	8"	7/8"	1/4"	7/8"	25	225
MSFU-2-1-1/4	1-1/4"	8"	7/8"	1/4"	7/8"	21	225
MSFU-2-1-1/2	1-1/2"	8"	7/8"	1/4"	7/8"	17	225
MSFU-2-2	2"	8"	7/8"	1/4"	7/8"	13	225
MSFU-2-2-1/2	2-1/2"	8"	7/8"	1/4"	7/8"	11	225
MSFU-2-3	3"	8"	7/8"	1/4"	7/8"	9	225

DESIGN DATA: MS1 - MS2 - MSFU

- 1) MAX NEGATIVE PRESSURE. 26" HG VACUUM
- 2) TEMPERATURE RANGE: 20F-300F
- 3) LISTED MOVEMENTS CANNOT OCCUR SIMULTANEOUSLY

BODY CONSTRUCTION:		MAXIMUM TEMPERATURE
NEOPRENE NYLON		230 DEGREES F.
EPDM NYLON		250 DEGREES F.
BUTYL NYLON		250 DEGREES F.
NITRILE NYLON		230 DEGREES F.

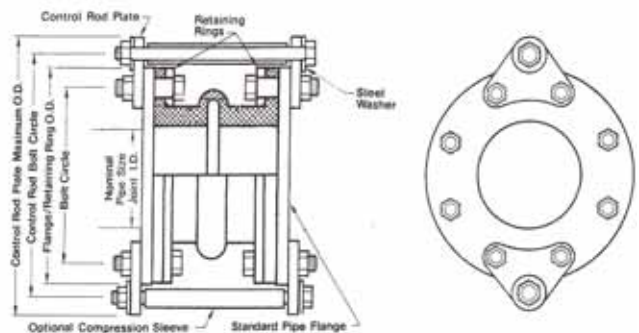
CHART #1

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

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.





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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 ID and OAL are available.

S1

OPTIONS:

- Filled Arch
- Multi-Arch
- Offset
- Special Ends
- Alternative Drilling
- Full Range of Elastomers



Spool Type EJ's 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.

Standard and custom sized ID and OAL are available

RP1



Rubber Pipe is designed to absorb vibration and sound. They are furnished with molded rubber flanged ends with split ring metal flanges and come with or without helical wire reinforcement. Standard and custom sized ID and OAL are available Working PSI at 150 or 250 @ 180 or 250 Fernihiet.

Rubber Pipe is not designed to accommodate axial movement.

PTFE EJ

Constructed of molded PTFE, these joints provide exceptional corrosion resistance and accommodate movement within the system.



2 Convolutions
Available 1" - 12"
Movement 1/4"- 1/2"



3 Convolutions
Available 1" - 8"
Movement 1/2"- 1-1/8"



5 Convolutions
Available 1" - 6"
Movement 1/2"- 1-1/4"

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