EVR Products A DEVJO COMPANY

# FLEXIBLE
# CONNECTORS GUIDE

EXPANSION JOINTS AND FLEXIBLE CONNECTORS

Piping arrangements of all types, whether utility or process systems, are subject to vibration from equipment and stress created by thermal expansion or contraction. The resilience of elastomeric connectors can provide for controlled movement, while at the same time reducing noise and vibration. EVR engineered flexible connectors install easily in a variety of piping systems, protecting them from damage due to vibration and movement.

Available in an array of materials and configurations, EVR engineered flexible connectors are suited to almost any piping system and are available in two styles, expansion joints and pump connectors.

Expansion joints are used primarily to allow for movement, but are effective to varying degrees at reducing vibration.

Although pump connectors will not accommodate excessive piping movement, they provide excellent vibration damping and isolation.

**Materials of Construction**
EVR's Engineered Flexible Connectors are designed and manufactured to meet the demanding environments of today's industry.

**Tube**
The construction of a Flexible Connector begins with a leak-proof inner sleeve. This continuous sleeve extends from flange to flange and can be supplied in a wide range of materials. All the materials used in the lining offer varying degrees of chemical and abrasion resistance.

**Carcass Reinforcement**
To reinforce the connector, high strength, bias-synthetic cords and high tensile steel wire are used. Synthetic cords offer greater strength and do not rot or mildew like conventional fabrics. Steel reinforcing wire is treated chemically and embedded within the carcass of the flexible connector. These reinforcements maximize the strength of the connector in situations of extreme pressure or vacuum.

**Cover**
Synthetic or natural rubbers provide protection to the exterior surface of the Flexible Connectors. Depending on the actual service conditions, special paints can be applied that further resist acid corrosion and ultraviolet exposure. Each high quality Flexible Connector features a hand wrapped finish. EVR's quality assurance program guarantees that every joint will perform to the customer's expectations.

**Neoprene (CR)**
Generally resistant to oil and grease, moderate chemicals, fats, many hydrocarbons and ozone. Resistant to barnacle growth.

**Buna N (NBR)**
Resistant to kerosene, moderate chemicals, fats, oils, grease and many hydrocarbons.

**Natural Rubber (NR)**
Good abrasion resistance, tensile strength and resiliency. Also suitable when dealing with organic acids, alcohols, ketones and most moderate chemicals.

**Butyl (CIIR)**
Good resistance to animal and vegetable fats, strong and oxidizing chemicals, oils, heat and greases.

**Hypalon™ (CSM)**
Resists strong acids and bases, ozone, weathering, heat and oxidizing chemicals.

**Ethylene Propylene Rubber (EPDM)**
Most effective for applications involving water, steam or diluted acids.

**Viton™ (FKM)**
Resists solvents, halogenated hydrocarbons, oxygen, weather, ozone, oils and chemicals.

**Teflon™ (AFMU)**
TFE sheet or Teflon™ coated fibreglass used as a vapour barrier where condensation of corrosive gases may occur.

**Silicone**
A high quality elastomer, recommended for all environments except those with sulphur gas ($SO_2$ or $SO_3$). Usable in -70 to 500°F applications.

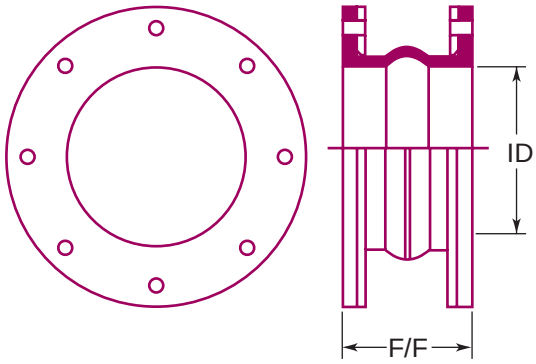
# SJ-205

## EXPANSION JOINT

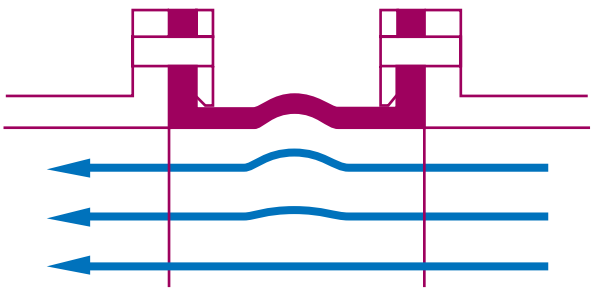
Virtually all pulsating equipment, such as pumps and compressors, generate vibrations in both the flow and system piping. Vibration can increase loads on equipment, reduce efficiency, and increase maintenance costs. Continuous vibration leads to settling in the system which causes misalignment. Noise from vibration can also make the work environment intolerable.

Manufactured with a streamlined, self-cleaning arch, EVR's SJ-205 is designed to absorb vibration and eliminate buildup of suspended materials in the system flow. The SJ-205 expansion joint achieves considerable flexibility - rivalling standard multi-arch designs - with a single arch. The result is a light-weight joint with a very short face-to-face dimension.

The construction of the SJ-205 begins with a leak-proof inner sleeve, reinforced with multiple plies of polyester cord. The full faced rubber flange eliminates the need for gaskets, allowing for a fast, simple and completely leakproof installation. Available in three different pressure ratings, EVR's SJ-205 expansion joint can be fabricated from Neoprene, Nitrile, Hypalon, Viton or other suitable elastomers, allowing it to adapt easily to the requirements of any application.




| ID | 2 | 2-1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28-40 | 42-48 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F/F | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 8 | 8 | 8 | 8 | 8 | 8 | 10 | 10 | 10 | 10 | 12 |
| **Pressure Rating** | | | | | | | | | | | | | | | | | | |
| LP | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| SR | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 55 | 55 |
| HP | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 125 | 125 | 125 | 125 | 125 | 125 | 90 | 90 | 80 |
| **Axial** | | | | | | | | | | | | | | | | | | |
| Comp. | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 3/4 | 3/4 | 1 | 1 | 1 | 1-1/4 | 1-1/4 | 1-1/4 | 1-1/4 | 1-1/4 | 1-1/2 |
| Ext. | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 3/8 | 3/8 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 |
| **Lateral** | | | | | | | | | | | | | | | | | | |
| Offset | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 |



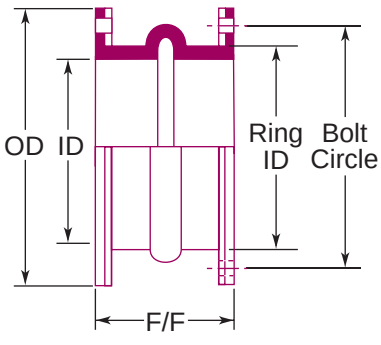
Smooth flow of materials

With standard arches, buildup of suspended solids can lead to increased fatigue of the expansion joint and premature failure. Filling the arches can alleviate the problem but reduces flexibility by 50%. In situations requiring extreme flexibility but without the space for multiple arch expansion joints, EVR's SJ-205 is the only solution.

# SJ-21

## EXPANSION JOINT

The SJ-21 is the industry standard spool-type expansion joint. The SJ-21 is available in configurations from zero to four arches - depending on movement requirements - and 3 standard pressure ratings in a variety of elastomers. This hand-built expansion joint can be adapted to the most unusual or difficult applications. Available options include filled arches to eliminate settling of solids in the arch, Teflon liners for severe chemical service, soft cuff ends for slip-on installation, and concentric or eccentric tapered ends for connecting different pipe sizes.




**SR** = Standard Pressure(psi) **LP** = Low Pressure(psi) **HP** = High Pressure(psi) **AM**[2] = Allowable Movement(in.) **TF**[3] = Total Force(lbs.)

| | Size ID | Flange OD[4] | Bolt Circle | Holes No. | Holes Dia. | Ring ID | F/F (per Arch) [1] 1 | 2 | 3 | 4 | Work Pressure SR | LP | HP | Axial Comp. AM | TF | Axial Ext. AM | TF | Traverse Def. AM | TF | Est. Weight Joint | Rings |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | 1 | 4-1/4 | 3-1/8 | 4 | 5/8 | 2-3/8 | 6 | 10 | 12 | 14 | 165 | 15 | 200 | 1/2 | 103 | 1/4 | 76 | 1/2 | 175 | 2 | 2.25 |
| * | 1-1/4 | 4-5/8 | 3-1/2 | 4 | 5/8 | 2-5/8 | 6 | 10 | 12 | 14 | 165 | 15 | 200 | 1/2 | 129 | 1/4 | 96 | 1/2 | 219 | 2.5 | 2.25 |
| * | 1-1/2 | 5 | 3-7/8 | 4 | 5/8 | 2-7/8 | 6 | 10 | 12 | 14 | 165 | 15 | 200 | 1/2 | 154 | 1/4 | 115 | 1/2 | 262 | 3 | 3 |
| | 2 | 6 | 4-3/4 | 4 | 3/4 | 3-5/8 | 6 | 10 | 12 | 14 | 165 | 15 | 200 | 1/2 | 185 | 1/4 | 138 | 1/2 | 350 | 4 | 4 |
| | 2-1/2 | 7 | 5-1/2 | 4 | 3/4 | 4-1/8 | 6 | 10 | 12 | 14 | 165 | 15 | 200 | 1/2 | 232 | 1/4 | 172 | 1/2 | 381 | 4.5 | 4.5 |
| | 3 | 7-1/2 | 6 | 4 | 3/4 | 4-5/8 | 6 | 10 | 12 | 14 | 165 | 15 | 200 | 1/2 | 278 | 1/4 | 207 | 1/2 | 412 | 5.5 | 6 |
| | 4 | 9 | 7-1/2 | 8 | 3/4 | 5-7/8 | 6 | 10 | 12 | 14 | 165 | 15 | 200 | 1/2 | 371 | 1/4 | 276 | 1/2 | 476 | 8 | 7.5 |
| | 5 | 10 | 8-1/2 | 8 | 7/8 | 6-7/8 | 6 | 10 | 12 | 14 | 165 | 15 | 200 | 1/2 | 463 | 1/4 | 344 | 1/2 | 546 | 9 | 8 |
| | 6 | 11 | 9-1/2 | 8 | 7/8 | 7-7/8 | 6 | 10 | 12 | 16 | 165 | 15 | 200 | 1/2 | 556 | 1/4 | 413 | 1/2 | 617 | 11 | 9 |
| | 8 | 13-1/2 | 11-3/4 | 8 | 7/8 | 9-7/8 | 6 | 10 | 14 | 16 | 140 | 15 | 190 | 3/4 | 971 | 3/8 | 689 | 1/2 | 753 | 15 | 12 |
| | 10 | 16 | 14-1/4 | 12 | 1 | 12-1/8 | 8 | 12 | 14 | 16 | 140 | 15 | 190 | 3/4 | 1214 | 3/8 | 861 | 1/2 | 809 | 23 | 16 |
| | 12 | 19 | 17 | 12 | 1 | 14-1/2 | 8 | 12 | 14 | 16 | 140 | 15 | 190 | 3/4 | 1456 | 3/8 | 1033 | 1/2 | 948 | 34 | 22 |
| | 14 | 21 | 18-3/4 | 12 | 1-1/8 | 16-1/2 | 8 | 12 | 16 | 20 | 85 | 15 | 130 | 3/4 | 1274 | 3/8 | 904 | 1/2 | 1117 | 40 | 25 |
| | 16 | 23-1/2 | 21-1/4 | 16 | 1-1/8 | 18-1/2 | 8 | 12 | 16 | 20 | 65 | 15 | 110 | 3/4 | 1456 | 3/8 | 1033 | 1/2 | 1286 | 47 | 27 |
| | 18 | 25 | 22-3/4 | 16 | 1-1/4 | 20-1/2 | 8 | 12 | 16 | 20 | 65 | 15 | 110 | 3/4 | 1638 | 3/8 | 1163 | 1/2 | 1420 | 56 | 29 |
| | 20 | 27-1/2 | 25 | 20 | 1-1/4 | 22-5/8 | 8 | 12 | 16 | 20 | 65 | 15 | 110 | 7/8 | 2152 | 3/8 | 1505 | 1/2 | 1588 | 67 | 35 |
| | 22 | 29-1/2 | 27-1/4 | 20 | 1-3/8 | 24-5/8 | 10 | 14 | 18 | 22 | 65 | 15 | 110 | 7/8 | 2367 | 7/16 | 1656 | 1/2 | 1648 | 70 | 44 |
| | 24 | 32 | 29-1/2 | 20 | 1-3/8 | 26-5/8 | 10 | 14 | 18 | 22 | 65 | 15 | 110 | 7/8 | 2582 | 7/16 | 1807 | 1/2 | 1706 | 79 | 46 |
| | 26 | 34-1/4 | 31-3/4 | 24 | 1-3/8 | 28-7/8 | 10 | 14 | 18 | 22 | 55 | 15 | 90 | 1 | 2869 | 1/2 | 1990 | 1/2 | 1829 | 100 | 50 |
| | 28 | 36-1/2 | 34 | 28 | 1-3/8 | 30-7/8 | 10 | 14 | 18 | 22 | 55 | 15 | 90 | 1 | 3090 | 1/2 | 2143 | 1/2 | 1952 | 102 | 58 |
| | 30 | 38-3/4 | 36 | 28 | 1-3/8 | 32-7/8 | 10 | 14 | 18 | 22 | 55 | 15 | 90 | 1 | 3311 | 1/2 | 2297 | 1/2 | 2075 | 117 | 55 |
| | 34 | 43-3/4 | 40-1/2 | 32 | 1-5/8 | 37 | 10 | 14 | 18 | 22 | 55 | 15 | 90 | 1 | 3752 | 1/2 | 2603 | 1/2 | 2801 | 112 | 91 |
| | 36 | 46 | 42-3/4 | 32 | 1-5/8 | 39 | 10 | 14 | 18 | 22 | 55 | 15 | 90 | 1 | 3973 | 1/2 | 2756 | 1/2 | 3164 | 143 | 99 |
| | 40 | 50-3/4 | 47-1/4 | 36 | 1-5/8 | 43 | 10 | 14 | 18 | 22 | 55 | 15 | 90 | 1 | 4414 | 1/2 | 3062 | 1/2 | 3338 | 173 | 108 |
| | 42 | 53 | 49-1/2 | 36 | 1-5/8 | 45-1/4 | 12 | 14 | 18 | 24 | 55 | 15 | 80 | 1-1/8 | 4732 | 1/2 | 3253 | 1/2 | 3423 | 193 | 110 |
| | 44 | 55-1/4 | 51-3/4 | 40 | 1-3/4 | 47-1/4 | 12 | 14 | 18 | 24 | 55 | 15 | 80 | 1-1/8 | 4958 | 1/2 | 3407 | 1/2 | 3571 | 198 | 136 |
| | 48 | 59-1/2 | 56 | 44 | 1-5/8 | 51-1/4 | 12 | 14 | 18 | 24 | 55 | 15 | 80 | 1-1/8 | 5408 | 1/2 | 3717 | 1/2 | 3866 | 211 | 154 |
| | 50 | 61-3/4 | 58-1/4 | 44 | 1-7/8 | 53-1/4 | 12 | 14 | 18 | 24 | 55 | 15 | 80 | 1-1/8 | 5634 | 1/2 | 3872 | 1/2 | 4012 | 240 | 163 |
| | 54 | 66-1/4 | 62-3/4 | 44 | 2 | 57-1/4 | 12 | 14 | 18 | 24 | 55 | 15 | 80 | 1-1/8 | 6085 | 1/2 | 4182 | 1/2 | 4303 | 265 | 185 |
| | 56 | 68-3/4 | 65 | 48 | 2 | 59-1/4 | 12 | 14 | 18 | 24 | 55 | 15 | 80 | 1-1/8 | 6310 | 1/2 | 4341 | 1/2 | 4448 | 288 | 203 |
| | 60 | 73 | 69-1/4 | 52 | 2 | 63-1/4 | 12 | 14 | 18 | 24 | 55 | 15 | 80 | 1-1/8 | 6761 | 1/2 | 4651 | 1/2 | 4736 | 309 | 215 |
| | 62 | 75-3/4 | 71-3/4 | 52 | 2 | 65-1/4 | 12 | 14 | 18 | 24 | 55 | 15 | 80 | 1-1/8 | 7150 | 1/2 | 4860 | 1/2 | 4820 | 325 | 230 |
| | 66 | 80 | 76 | 52 | 2 | 69-1/4 | 12 | 14 | 18 | 24 | 55 | 15 | 80 | 1-1/8 | 7437 | 1/2 | 5116 | 1/2 | 5108 | 350 | 255 |
| | 72 | 86-1/2 | 82-1/2 | 60 | 2 | 75-1/4 | 12 | 14 | 18 | 24 | 45 | 15 | 70 | 1-1/8 | 8113 | 1/2 | 5581 | 1/2 | 5477 | 385 | 300 |
| | 78 | 93 | 88-3/4 | 60 | 2-1/8 | 81-1/4 | 12 | 14 | 18 | 24 | 45 | 15 | 70 | 1-1/8 | 8789 | 1/2 | 6046 | 1/2 | 5951 | 410 | 325 |
| | 84 | 99-3/4 | 95-1/2 | 64 | 2-1/4 | 87-1/2 | 12 | 14 | 18 | 24 | 45 | 15 | 70 | 1-1/8 | 9465 | 9/16 | 6511 | 1/2 | 6425 | 435 | 350 |
| | 96 | 113-1/4 | 108-1/2 | 68 | 2-1/2 | 99-3/8 | 12 | 16 | 18 | 24 | 45 | 15 | 70 | 1-1/8 | 10817 | 9/16 | 7441 | 1/2 | 7375 | 485 | 400 |
| | 102 | 120 | 114-1/2 | 72 | 2-5/8 | -- | 12 | 16 | 20 | 24 | 45 | 15 | 70 | 2 | 19850 | 1 | 12890 | 1/2 | 8331 | 535 | 450 |
| | 108 | 126-3/4 | 120-3/4 | 72 | 2-5/8 | -- | 12 | 16 | 20 | 24 | 45 | 15 | 70 | 2 | 21915 | 1 | 14506 | 1/2 | 9785 | 585 | 500 |

**(1)** - Lengths shown are for new design. Replacement parts should be ordered to the exact F/F dimension. *Items are not normally supplied in multiple "open" arches, as squirm can occur. Minimum length of "face to face" can be reduced by eliminating the arch. Number of arches required depends upon anticipated total movement of the expansion joint.

**2** - Multiple arch movement = single arch movement x number of arches. "Filled Arch" construction reduces movement by 50%. *Items are normally furnished with filled arches and movement shown should be reduced accordingly.

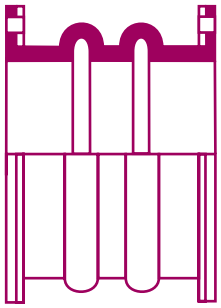
**3** - Forces are based on one single open arch at zero pressure conditions, and should therefore be considered only as approximate. Contact EVR for forces of multiple and filled arch products. Angular force is expressed in "foot pounds". For spring rates, contact EVR.

**4** - Flange dimensions shown are in accordance with 125/150 pound standards of ANSI B16.1, B16.5, AWWA C-207 Table 3 Class E; AWWA C-207 Table 1 and 2 Class D. Retaining ring width is 3/8" in all sizes. Flange thickness is EVR standard.

**5** - Flange drilling is also available in all international standards or custom applications. For more information, contact EVR.

**Notes:** Control unit assemblies are recommended for all applications. To ensure correct length, customer should provide width of mating flange or flange specification.

*Items are normally furnished with filled arches and movement shown should be reduced accordingly.



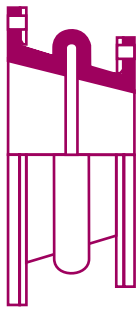
**SJ-22** Spool Type (2 Arch)

With the same features as the SJ-21 style of expansion joint, the SJ-22 (2 arch), SJ-23 (3 arch) and SJ-24 (4 arch) styles offer greater movement absorption through their multiple arch design.

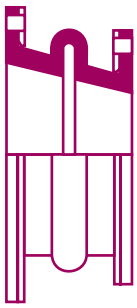
For situations where piping diameters of different sizes must be connected, EVR's CJ-31 and EJ-41 tapered connectors are the answer. Manufactured to the stringent standards of EVR's product lines, these units can be engineered for specific material situations and offer all of the advantages of EVR's other expansion joints.

In systems with load stresses, settling and equipment wear, misalignment frequently results. Both the EJ-41 and CJ-31 provide superb insulation from the vibrations of equipment, thus reducing the surrounding noise levels and protecting adjacent equipment from unnecessary wear and tear.

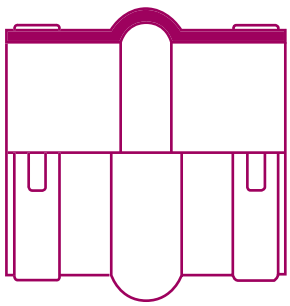
With full face flanges, the Series CJ and EJ's retaining rings transmit the force from the torqued flange bolts to the mating flange, thus providing a perfect seal.



**CJ-31** Concentric



**EJ-41** Eccentric



**OJ Series** Slip-On

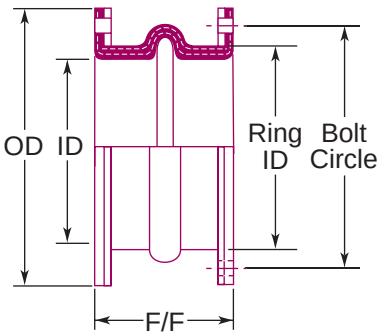
EVR's OJ Series Slip-On expansion joint offers the perfect solution for new and existing installations. Its high degree of flexibility insulates and protects equipment from the damages of vibration and can easily accommodate normal misalignments.

The OJ Series slip-on installation alleviates the need for, and cost of, pipe flanges by simply using pipe clamps to secure the joint to existing system pipes. EVR does not recommend use of the OJ Series in applications where pressure is greater than 50 psi.

# SJ-221

## EXPANSION JOINT

The SJ-221 expansion joint features a unique arch design which provides greater movement capabilities without increasing face-to-face requirements. The single arch SJ-221 provides the same movement capabilities as a traditional double arch design, while the double arch SJ-222 is equivalent to a quadruple arch product. This design also increases the flexibility of the joint, resulting in lower spring rates. This means less stress on adjacent piping system components.




**SR** = Standard Pressure(psi) **LP** = Low Pressure(psi) **HP** = High Pressure(psi) **AM**[2] = Allowable Movement(in.) **TF**[3] = Total Force(lbs.)

| Size ID | Flange OD[4] | Bolt Circle | Holes No. | Holes Dia. | Ring ID | F/F [1] 1 | F/F [1] 2 | Work Pressure SR | Work Pressure LP | Work Pressure HP | Axial Comp. AM | Axial Comp. TF | Axial Ext. AM | Axial Ext. TF | Traverse Def. AM | Traverse Def. TF | Est. Weight Joint | Est. Weight Rings |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2** | 6 | 4-3/4 | 4 | 3/4 | 3-5/8 | 6 | 10 | 225 | 25 | 250 | 1-1/2 | 80 | .90 | 80 | 3/4 | 175 | 3 | 5 |
| **2-1/2** | 7 | 5-1/2 | 4 | 3/4 | 4-1/8 | 6 | 10 | 225 | 25 | 250 | 1-1/2 | 130 | .90 | 130 | 3/4 | 219 | 3.8 | 6 |
| **3** | 7-1/2 | 6 | 4 | 3/4 | 4-5/8 | 6 | 10 | 225 | 25 | 250 | 1-1/2 | 180 | .90 | 180 | 3/4 | 262 | 4 | 7 |
| **4** | 9 | 7-1/2 | 8 | 3/4 | 5-7/8 | 6 | 10 | 225 | 25 | 250 | 1-1/2 | 230 | .90 | 230 | 3/4 | 350 | 5.5 | 8 |
| **5** | 10 | 8-1/2 | 8 | 7/8 | 6-7/8 | 6 | 10 | 225 | 25 | 250 | 1-1/2 | 240 | .90 | 240 | 3/4 | 381 | 5.8 | 9 |
| **6** | 11 | 9-1/2 | 8 | 7/8 | 7-7/8 | 6 | 10 | 225 | 25 | 250 | 1-1/2 | 270 | .90 | 270 | 3/4 | 412 | 9 | 10 |
| **8** | 13-1/2 | 11-3/4 | 8 | 7/8 | 9-7/8 | 6 | 10 | 225 | 25 | 250 | 1-1/2 | 330 | .90 | 330 | 3/4 | 476 | 18 | 15 |
| **10** | 16 | 14-1/4 | 12 | 1 | 12-1/8 | 8 | 16 | 225 | 25 | 250 | 1-3/4 | 750 | 1 | 750 | 1 | 1334 | 27 | 18 |
| **12** | 19 | 17 | 12 | 1 | 14-1/2 | 8 | 16 | 200 | 25 | 250 | 1-3/4 | 800 | 1 | 800 | 1 | 1541 | 31 | 25 |
| **14** | 21 | 18-3/4 | 12 | 1-1/8 | 16-1/2 | 8 | 16 | 185 | 25 | 250 | 1-3/4 | 865 | 1 | 865 | 1 | 1748 | 38 | 27 |
| **16** | 23-1/2 | 21-1/4 | 16 | 1-1/8 | 18-1/2 | 8 | 16 | 160 | 25 | 200 | 1-3/4 | 933 | 1 | 933 | 1 | 1943 | 44 | 33 |
| **18** | 25 | 22-3/4 | 16 | 1-1/4 | 20-1/2 | 8 | 16 | 135 | 25 | 200 | 1-3/4 | 1000 | 1 | 1000 | 1 | 2150 | 49 | 33 |
| **20** | 27-1/2 | 25 | 20 | 1-1/4 | 22-5/8 | 8 | 16 | 130 | 25 | 200 | 1-3/4 | 1065 | 1 | 1065 | 1 | 2358 | 53 | 38 |
| **22** | 29-1/2 | 27-1/4 | 20 | 1-3/8 | 24-5/8 | 10 | 16 | 120 | 25 | 150 | 1-3/4 | 1135 | 1 | 1135 | 1 | 2553 | 54 | 44 |
| **24** | 32 | 29-1/2 | 20 | 1-3/8 | 26-5/8 | 10 | 16 | 110 | 25 | 150 | 1-3/4 | 1200 | 1 | 1200 | 1 | 2760 | 64 | 48 |
| **26** | 34-1/4 | 31-3/4 | 24 | 1-3/8 | 28-7/8 | 10 | 16 | 110 | 25 | 150 | 1-3/4 | 1265 | 1 | 1265 | 1 | 2990 | 73 | 57 |
| **28** | 36-1/2 | 34 | 28 | 1-3/8 | 30-7/8 | 10 | 16 | 100 | 25 | 125 | 1-3/4 | 1335 | 1 | 1335 | 1 | 3174 | 81 | 62 |
| **30** | 38-3/4 | 36 | 28 | 1-3/8 | 32-7/8 | 10 | 16 | 95 | 25 | 125 | 1-3/4 | 1400 | 1 | 1400 | 1 | 3381 | 84 | 66 |
| **32** | 41-3/4 | 38-1/2 | 28 | 1-5/8 | 35 | 10 | 16 | 90 | 25 | 125 | 1-3/4 | 1465 | 1 | 1465 | 1 | 3600 | 95 | 75 |
| **34** | 43-3/4 | 40-1/2 | 32 | 1-5/8 | 37 | 10 | 16 | 80 | 25 | 125 | 1-3/4 | 1535 | 1 | 1535 | 1 | 3795 | 103 | 78 |
| **36** | 46 | 42-3/4 | 32 | 1-5/8 | 39 | 10 | 18 | 90 | 25 | 115 | 2-1/4 | 1771 | 1-1/4 | 1771 | 1 | 4455 | 110 | 81 |
| **38** | 48-3/4 | 45-1/4 | 32 | 1-5/8 | 41 | 10 | 18 | 87 | 25 | 115 | 2-1/4 | 1843 | 1-1/4 | 1843 | 1 | 5097 | 119 | 95 |
| **40** | 50-3/4 | 47-1/4 | 36 | 1-5/8 | 43 | 10 | 18 | 87 | 25 | 115 | 2-1/4 | 1921 | 1-1/4 | 1921 | 1 | 5375 | 125 | 106 |
| **42** | 53 | 49-1/2 | 36 | 1-5/8 | 45-1/4 | 12 | 18 | 83 | 25 | 115 | 2-1/4 | 1992 | 1-1/4 | 1992 | 1 | 5625 | 155 | 116 |
| **44** | 55-1/4 | 51-3/4 | 40 | 1-5/8 | 47-1/4 | 12 | 18 | 83 | 25 | 115 | 2-1/4 | 2065 | 1-1/4 | 2065 | 1 | 5863 | 165 | 127 |
| **46** | 57-1/4 | 53-3/4 | 40 | 1-5/8 | 49-1/4 | 12 | 18 | 78 | 25 | 115 | 2-1/4 | 2142 | 1-1/4 | 2142 | 1 | 6116 | 178 | 132 |
| **48** | 59-1/2 | 56 | 44 | 1-5/8 | 51-1/4 | 12 | 18 | 78 | 25 | 115 | 2-1/4 | 2214 | 1-1/4 | 2214 | 1 | 6366 | 187 | 138 |
| **50** | 61-3/4 | 58-1/4 | 44 | 1-7/8 | 53-1/4 | 12 | 18 | 85 | 25 | 105 | 2-1/4 | 2286 | 1-1/4 | 2286 | 1 | 6603 | 200 | 154 |
| **52** | 64 | 60-1/2 | 44 | 1-7/8 | 55-1/4 | 12 | 18 | 85 | 25 | 105 | 2-1/4 | 2365 | 1-1/4 | 2365 | 1 | 6868 | 213 | 157 |
| **54** | 66-1/4 | 62-3/4 | 44 | 1-7/8 | 57-1/4 | 12 | 18 | 85 | 25 | 105 | 2-1/4 | 2435 | 1-1/4 | 2435 | 1 | 7121 | 224 | 160 |
| **56** | 68-3/4 | 65 | 48 | 1-7/8 | 59-1/4 | 12 | 18 | 85 | 25 | 105 | 2-1/4 | 2507 | 1-1/4 | 2507 | 1 | 7344 | 237 | 174 |
| **58** | 71 | 67-1/4 | 48 | 1-7/8 | 61-1/4 | 12 | 18 | 85 | 25 | 105 | 2-1/4 | 2585 | 1-1/4 | 2585 | 1 | 7622 | 250 | 182 |
| **60** | 73 | 69-1/4 | 52 | 1-7/8 | 63-1/4 | 12 | 18 | 80 | 25 | 105 | 2-1/4 | 2657 | 1-1/4 | 2657 | 1 | 7875 | 262 | 190 |
| **62** | 75-3/4 | 71-3/4 | 52 | 1-7/8 | 65-1/4 | 12 | 18 | 80 | 25 | 105 | 2-1/4 | 2834 | 1-1/4 | 2834 | 1 | 8377 | 275 | 212 |
| **66** | 80 | 76 | 52 | 1-7/8 | 69-1/4 | 12 | 18 | 80 | 25 | 105 | 2-1/4 | 2988 | 1-1/4 | 2988 | 1 | 8878 | 305 | 236 |
| **72** | 86-1/2 | 82-1/2 | 60 | 1-7/8 | 75-1/4 | 12 | 18 | 80 | 25 | 95 | 2-1/4 | 3210 | 1-1/4 | 3210 | 1 | 9632 | 350 | 278 |
| **78** | 93 | 89 | 64 | 2-1/8 | 81-1/4 | 12 | 18 | 80 | 25 | 95 | 2-1/4 | 3432 | 1-1/4 | 3432 | 1 | 10387 | 394 | 296 |
| **84** | 99-3/4 | 95-1/2 | 64 | 2-1/8 | 87-1/2 | 12 | 18 | 80 | 25 | 95 | 2-1/4 | 3653 | 1-1/4 | 3653 | 1 | 11086 | 438 | 336 |
| **90** | 106-1/2 | 102 | 68 | 2-3/8 | 99-3/8 | 12 | 18 | 75 | 25 | 95 | 2-1/4 | 3875 | 1-1/4 | 3875 | 1 | 11838 | 481 | 400 |
| **96** | 113-1/4 | 108-1/2 | 68 | 2-3/8 | -- | 12 | 18 | 75 | 25 | 95 | 2-1/4 | 4096 | 1-1/4 | 4096 | 1 | 12620 | 526 | 480 |

*Sizes under 2" please contact factory.

**(1)** - Lengths shown are for new design. Replacement parts should be ordered to the exact F/F dimension. *Items are not normally supplied in multiple open arches, as squirm can occur. Minimum length of "face to face" can be reduced by eliminating the arch. Number of arches required depends upon anticipated total movement of the expansion joint.

**2** - Multiple arch movement = single arch movement x number of arches. Filled arch construction reduces movement by 50%.

**3** - Forces are based on one single open arch at zero pressure conditions, and should only be considered as approximate. Contact EVR for forces of multiple and filled arch products. Angular force is expressed in "foot pounds". For spring rates, contact EVR.

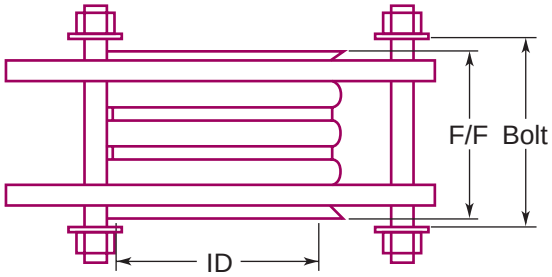
**4** - Flange dimensions shown are in accordance with 125/150 pound standards of ANSI B16.1, B16.5, AWWA C-207 Table 3 Class E; AWWA C-207 Table 1 and 2 Class D. Retaining ring width is 3/8" in all sizes. Flange thickness is EVR standard.

**5** - Flange drilling is also available in all international standards or custom applications. For more information, contact EVR.

**Notes:** Control unit assemblies are recommended for all applications. To ensure correct length, customer should provide width of mating flange or flange specification.

# TJ-95

## TEFLON EXPANSION JOINT




Offering an incredible degree of flexibility, EVR's TJ-95 expansion joint is ideal for ultra-pure environments or systems with glass or Teflon-lined piping.

Fabricated almost entirely from reinforced Teflon, the TJ-95 is non-conductive and well suited for low pressure, low temperature and corrosive chemical processes. The short face-to-face of the TJ-95 makes it suitable for even the most confining installations. Despite its light weight, it offers superb vibration and noise isolation for systems of all types.

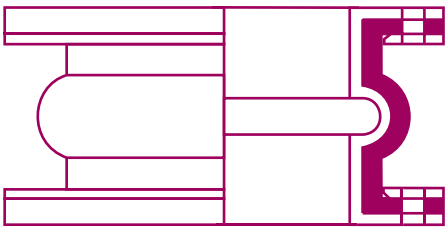
Available in two, three and five convolution designs for varying degrees of pipe movement.

| ID | 1 | 1-1/2 | 2 | 2-1/2 | 3 | 4 | 5 | 6 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| F/F | 1-3/4 | 2 | 2-3/4 | 3-3/16 | 3-5/8 | 3-5/8 | 4 | 4 | 6 |
| Bolt | 1-7/8 | 2-5/32 | 3-5/32 | 3-9/16 | 4-1/4 | 4-1/4 | 4-9/16 | 4-5/8 | 6-5/8 |
| Axial | 1/2 | 1/2 | 3/4 | 3/4 | 1 | 1 | 1 | 1-1/8 | 1-1/8 |
| Angular | 14° | 14° | 14° | 14° | 14° | 14° | 14° | 14° | 14° |
| | | | | Elongation | | | | | |
| Movement | 1/2 | 1/2 | 3/4 | 3/4 | 1 | 1 | 1 | 1-1/8 | 1-1/8 |
| Force | 120 | 130 | 135 | 145 | 170 | 225 | 290 | 435 | 600 |
| | | | | Compression | | | | | |
| Movement | 1/2 | 1/2 | 3/4 | 3/4 | 1 | 1 | 1 | 1-1/8 | 1-1/8 |
| Force | 150 | 220 | 400 | 570 | 720 | 860 | 990 | 1100 | 1290 |
| | | | | Transverse | | | | | |
| Movement | 1/2 | 1/2 | 3/4 | 3/4 | 1 | 1 | 1 | 1-1/8 | 1-1/8 |
| Force | 150 | 155 | 170 | 200 | 240 | 300 | 395 | 560 | 750 |

**Data shown is for 3 arch style. Contact EVR for data on other styles.**

# TE-51

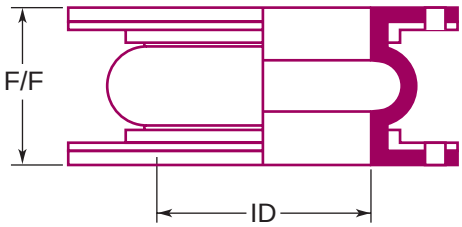
## TEFLON-LINED EXPANSION JOINT



Flow process machinery can generate considerable vibration that equates to excessive stress loads on adjacent equipment. In process systems with corrosive or caustic materials, conventional expansion joints materials may not be suitable. In a situation such as this EVR's Teflon-lined expansion joints, which are available with multiple arches for higher movement capabilities, is the answer.

The TE-51 joint enjoys all of the benefits and advantages of the EVR Series SJ-21 expansion joint. The carcass of the TE-51 joint can be fabricated from any of the materials in EVR's comprehensive inventory to suit the requirements of the process system. The TE-51 can be engineered and manufactured to withstand extreme temperature ranges, and can function under high pressures or strong vacuums.

The quality construction of the TE-51's leakproof Teflon sleeve, is banded to multiple layers of high strength bias-ply polyester cord, providing superior pressure ratings not available with conventional molded Teflon expansion joints.




# MJ-60

## EXPANSION JOINT

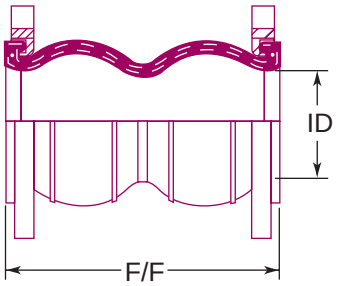
A low cost, double-width arch, externally reinforced, moulded butyl expansion joint with twice the movement capability of standard expansion joints.

This expansion joint is commonly used in pulp and paper applications, as well as water and waste treatment. Special, hand-made versions of this joint are available in different elastomers and multiple arch types for other applications.

| ID | 1 | 1-1/2 | 2 | 2-1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 30 | 36 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F/F | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 8 | 8 | 8 | 8 | 8 | 8 | 10 | 10 | 10 |
| Pressure | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 130 | 110 | 110 | 110 | 100 | 100 | 90 |
| Vacuum | 26 | 26 | 20 | 20 | 20 | 15 | 15 | 15 | 15 | 15 | 10 | 10 | 10 | 10 | 10 | 10 | 26 | 26 |
| | | | | | | | | | **Axial** | | | | | | | | | |
| Comp | 5/8 | 5/8 | 1-3/4 | 1-3/4 | 1-3/4 | 1-3/4 | 1-3/4 | 1-3/4 | 1-3/4 | 1-3/4 | 1-3/4 | 2 | 2 | 2 | 2 | 2-1/4 | 2-1/4 | 2-1/4 |
| Force | 220 | 230 | 220 | 280 | 330 | 450 | 550 | 670 | 740 | 930 | 970 | 1190 | 1270 | 1430 | 1590 | 2140 | 2700 | 3300 |
| Elong. | 1/4 | 1/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 7/8 | 7/8 | 7/8 | 7/8 | 1 | 1 | 1 |
| Force | 120 | 130 | 120 | 150 | 180 | 250 | 310 | 370 | 410 | 520 | 550 | 670 | 720 | 810 | 900 | 1240 | 1565 | 1912 |
| | | | | | | | | | **Deflection** | | | | | | | | | |
| Lateral | 1/4 | 1/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 1 | 1 | 1 | 1 | 1-1/8 | 1-1/8 | 1-1/8 | 1-1/8 | 1-1/8 | 1-1/8 | 1-1/8 |
| Force | 160 | 170 | 160 | 170 | 190 | 210 | 250 | 370 | 450 | 480 | 570 | 750 | 870 | 960 | 1070 | 1150 | 1451 | 1773 |
| Angular | 25 | 25 | 35 | 30 | 30 | 25 | 25 | 20 | 20 | 15 | 15 | 12 | 12 | 9 | 9 | 9 | 6 | 5 |
| Weight | 4.0 | 5.0 | 8.0 | 9.0 | 10 | 14 | 17 | 19 | 25 | 34 | 52 | 60 | 69 | 78 | 93 | 113 | -- | -- |

# MJ-70

## EXPANSION JOINT




| ID | 2 | 2-1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 |
|---|---|---|---|---|---|---|---|---|---|
| F/F | 7 | 7 | 7 | 9 | 9 | 9 | 13 | 13 | 13 |
| Compres. | 1 | 1 | 1 | 1-1/4 | 1-1/4 | 1-1/4 | 1-1/2 | 1-1/2 | 1-1/2 |
| Extens. | 3/4 | 3/4 | 3/4 | 1 | 1 | 1 | 1 | 1 | 1 |
| Lateral | 1 | 1 | 1 | 1-1/4 | 1-1/4 | 1-1/4 | 1-3/8 | 1-3/8 | 1-3/8 |
| Angular | 30˚ | 30˚ | 30˚ | 30˚ | 30˚ | 30˚ | 30˚ | 30˚ | 30˚ |
| Pressure | 214 | 214 | 214 | 214 | 214 | 214 | 214 | 214 | 214 |
| Weight | 10 | 13 | 15 | 20 | 26 | 30 | 46 | 63 | 115 |

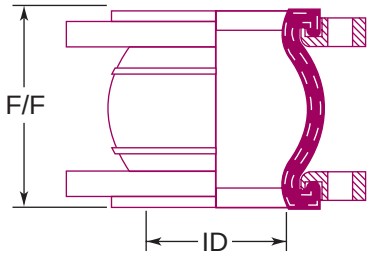
The MJ-70 double-arch expansion joint features a precision moulded elastomer compound reinforced with multiple plies of nylon. The shape of the arches provide a smooth, low turbulence flow which will handle process fluids with suspended solids.

Installation is easy due to the threaded Vanstone style rings, making them easy to align. Control units are also available.

# MJ-80
## EXPANSION JOINT

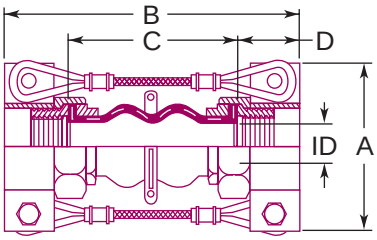
The MJ-80 single-arch expansion joint features a precision molded elastomer compound reinforced with multiple plies of nylon. The spherical shape of the arch provides a smooth, low turbulence flow which will handle process fluids with suspended solids.

Installation is easy due to the threaded Vanstone-style rings, making them easy to align. Control units are also available.




| ID | 2 | 2-1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F/F | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 8 | 8 | 8 | 8 | 8 |
| Compres. | 15/16 | 1/2 | 1/2 | 11/16 | 11/16 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Extens. | 3/16 | 1/4 | 1/4 | 3/8 | 3/8 | 9/16 | 9/16 | 9/16 | 9/16 | 5/8 | 5/8 | 5/8 |
| Lateral | 5/16 | 3/8 | 1/2 | 1/2 | 1/2 | 7/8 | 7/8 | 7/8 | 7/8 | 7/8 | 7/8 | 7/8 |
| Angular | 15˚ | 15˚ | 15˚ | 15˚ | 15˚ | 15˚ | 15˚ | 15˚ | 15˚ | 15˚ | 15˚ | 15˚ |
| Pressure | 214 | 214 | 214 | 214 | 214 | 214 | 214 | 214 | 214 | 114 | 114 | 114 |
| Weight | 9 | 13 | 14 | 18 | 21 | 27 | 37 | 55 | 83 | 100 | 115 | 122 |

# MJ-90
## EXPANSION JOINT

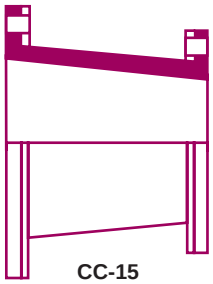



| ID | 3/4 | 1 | 1-1/4 | 1-1/2 | 2 | 2-1/2 |
|---|---|---|---|---|---|---|
| A | 1-1/2 | 2 | 2-1/4 | 3 | 3-3/4 | 4-1/2 |
| B | 6-1/2 | 6-3/4 | 6-7/8 | 7-1/4 | 8-1/4 | 8-3/4 |
| C | 4-3/4 | 4-3/4 | 4-3/4 | 4-3/4 | 5-3/4 | 5-1/2 |
| D | 3/4 | 1 | 1-1/4 | 1-1/4 | 1-1/2 | 1-5/8 |
| Weight | 2 | 3 | 3 | 4 | 6 | 9 |
| Elongat. | 13/16 | 13/16 | 13/16 | 13/16 | 13/16 | 13/16 |
| Compres. | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 |
| Trans. | 13/16 | 13/16 | 13/16 | 13/16 | 13/16 | 13/16 |
| Angular | 45˚ | 45˚ | 45˚ | 45˚ | 45˚ | 45˚ |

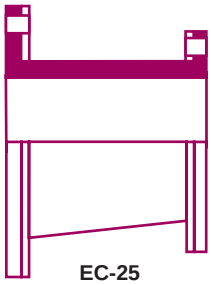
MJ-90 molded elastomer expansion joints are designed to handle vibration, misalignment and movement in smaller diameter piping systems. The union ends provide a simple means of disconnecting the piping to service equipment such as pumps. The maximum angular movement of this joint is 45˚.

| Size | Operating Temps for MJ-70/80/90 Series Joints | | | | | | Max Vacuum* |
|---|---|---|---|---|---|---|---|
| | 170˚F 76˚C | 180˚F 83˚C | 190˚F 90˚C | 200˚F 95˚C | 212˚F 100˚C | 225˚F 110˚C | |
| 2" to 12" 100mm to 300mm | 214 psi 1475 KPi | 210 1447 | 195 1344 | 180 1240 | 165 1137 | 150 1034 | 16 in. HG 406mm HG |
| 14" to 20" 350mm to 500mm | 180 psi 1240 KPa | 165 1137 | 150 1034 | 135 930 | 120 827 | 105 723 | |

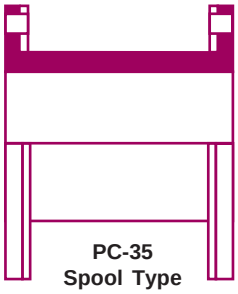
*Vacuum rating based on neutral installed length without external load.



**CC-15**
**Concentric Reducer**



**EC-25**
**Eccentric Reducer**



**PC-35**
**Spool Type**
**Connector**

# PC-35

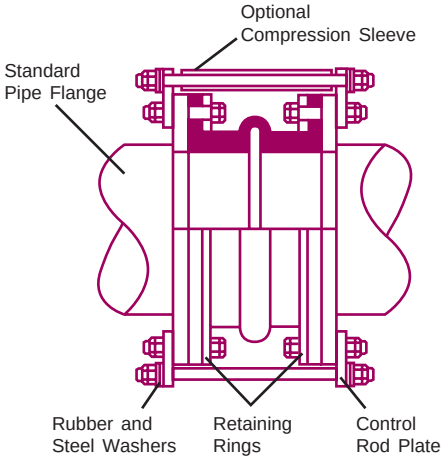
## PUMP CONNECTOR

The PC-35 Pump Connectors are designed specifically to reduce and isolate noise and vibration from pumps and other operating equipment. Available with working pressures up to 300 psi, and all types of elastomers including Teflon lining, these connectors are widely used in various industries from mining to food processing. PC-35 style Pump Connectors also come in eccentric and concentric taper types. Contact EVR for information on the many size variations available. Pump Connectors must be protected from axial piping movement by using pipe anchors or control units as required.

## CONTROL UNITS

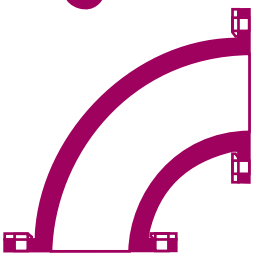
Expansion joints and pump connectors are not designed to support weight or limit pipe movement. Excess movement may be the result of abnormal temperature fluctuations, pressure surges, or insufficient anchoring or guiding of the piping. Where these situations occur, control units must be used to limit the amount and direction of movement to within the design limits of the flexible connection. Control units consist of adaptor plates which are bolted to the back of the mating pipe flanges. These plates are connected by a tie rod which limits the axial extension. In cases where excess compression is anticipated, an optional sleeve is fitted over the tie rod to limit movement in both directions. The minimum number of control rods needed in a control unit is two; however depending on size or pressure, more may be required. The chart below can be used to determine the requirements for your application.

| Nominal Pipe Size Exp. J.T. (Inches) | Maximum Surge or Test Pressure of the System (PSIG.) | | | | | Nominal Pipe Size Exp. J.T. (Inches) | Maximum Surge or Test Pressure of the System (PSIG.) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number of Control Rods Recommended | | | | | | Number of Control Rods Recommended | | | | |
| **ID** | **2** | **3** | **4** | **6** | **8** | **ID** | **2** | **3** | **4** | **6** | **8** |
| **1/2** | 1328 | -- | -- | -- | -- | **30** | 70 | 105 | 141 | 211 | 281 |
| **3/4** | 1106 | -- | -- | -- | -- | **32** | 63 | 94 | 125 | 188 | 251 |
| **1** | 949 | -- | -- | -- | -- | **34** | 72 | 107 | 143 | 215 | 286 |
| **1-1/4** | 830 | -- | -- | -- | -- | **36** | 69 | 103 | 138 | 207 | 276 |
| **1-1/2** | 510 | -- | -- | -- | -- | **38** | 63 | 94 | 125 | 188 | 251 |
| **2** | 661 | -- | -- | -- | -- | **40** | 42 | 63 | 85 | 127 | 169 |
| **2-1/2** | 529 | -- | -- | -- | -- | **42** | 48 | 72 | 96 | 144 | 192 |
| **3** | 441 | -- | -- | -- | -- | **44** | 44 | 66 | 88 | 133 | 177 |
| **3-1/2** | 365 | 574 | 729 | -- | -- | **46** | 41 | 61 | 82 | 122 | 163 |
| **4** | 311 | 467 | 622 | -- | -- | **48** | 40 | 60 | 81 | 121 | 161 |
| **5** | 135 | 353 | 470 | -- | -- | **50** | 37 | 56 | 75 | 112 | 150 |
| **6** | 186 | 278 | 371 | -- | -- | **52** | 35 | 53 | 70 | 105 | 140 |
| **8** | 163 | 244 | 326 | -- | -- | **54** | 43 | 64 | 86 | 128 | 171 |
| **10** | 163 | 244 | 325 | 488 | -- | **56** | 40 | 60 | 80 | 120 | 160 |
| **12** | 160 | 240 | 320 | 481 | -- | **58** | 37 | 56 | 75 | 113 | 150 |
| **14** | 112 | 167 | 223 | 335 | -- | **60** | 35 | 53 | 71 | 106 | 141 |
| **16** | 113 | 170 | 227 | 340 | 435 | **62** | 33 | 50 | 66 | 100 | 133 |
| **18** | 94 | 141 | 187 | 281 | 375 | **66** | 30 | 44 | 59 | 89 | 119 |
| **20** | 79 | 118 | 158 | 236 | 315 | **72** | 25 | 38 | 50 | 75 | 101 |
| **22** | 85 | 128 | 171 | 256 | 342 | **78** | 28 | 42 | 56 | 84 | 112 |
| **24** | 74 | 110 | 147 | 221 | 294 | **84** | 24 | 37 | 49 | 73 | 98 |
| **26** | 62 | 93 | 124 | 186 | 248 | **90** | 26 | 40 | 53 | 79 | 106 |
| **28** | 65 | 98 | 130 | 195 | 261 | **96** | 29 | 43 | 58 | 86 | 115 |

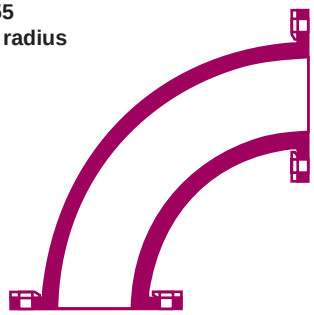


# RE Series

## SLURRY FITTINGS



**RE-55**
**90˚ - std. radius**



**RE-65**
**90˚ - long radius**

**RE-75**
**45˚ - std. radius**

Piping systems often fail to align properly with equipment and can change piping geometry. EVR's flexible slurry fittings provide a practical and economical solution to these problems while reducing vibration and noise and providing improved wear resistance.

The Series RE-65 features a long radius elbow that significantly reduces turbulence in system flow. The rigid design of the carcass ensures that the RE-65 mates perfectly with companion flanges and eliminates the need for flange gaskets. Available in diameters ranging from 1-1/2 to 14 inches, there is an RE fitting for virtually every application.

The RE-55 and RE-75 have the same benefits as the RE-65 but with different specifications. The RE-55 is a 90˚ elbow with a standard radius, ideal for installations with limited space. The Series RE-75 features a standard radius and 45˚ elbow for angled applications.

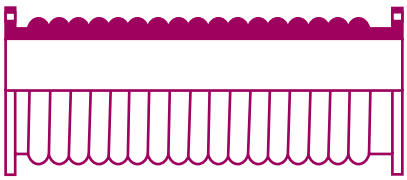
All Series RE fittings can be fabricated from a multitude of materials to suit any commercial or industrial operation. They also perform excellently in both pressure and vacuum processes. EVR can engineer and manufacture the RE Series Slurry Fitting to adapt to any application required.

# MHH Series

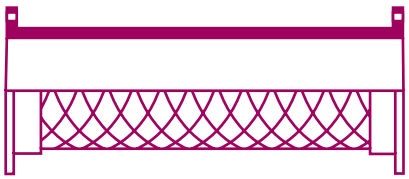
## MATERIAL HANDLING HOSE

The MHH Series are similar to EVR's series of pump connectors in that engineering and materials can be matched to any situation. Available in diameters ranging from 1 to 24 inches and in lengths up to 50 feet. The MMH Series are available with full face flanges and backing rings, built-in steel nipples or a beaded-end design which provides a rotating floating metallic flange that gives perfect bolt alignment to both new and old installations, without torsion.

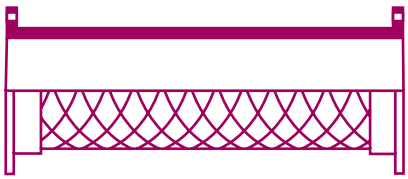
The MMH Series provides piping flexibility and vibration absorption and permits movements within the system. They can also withstand operations of high pressure or vacuum as well as extremes of temperature. The smooth inner sleeve is resistant to abrasive materials and can be fabricated to handle process flow of even the most caustic or acidic systems.



**MHH-1000**
**Material Handling Hose**
**(vacuum pressure)**



**TTH-2000**
**Teflon-lined**
**Transfer Hose**



**RPH-3000**
**Teflon-lined**
**Pump Hose**

# Elasto Valve's Product Range Includes...

## Pinch Valves

## Pressure Sensors

## Rubber Check Valves

## Expansion Joints

## As Well As...

- Flue Duct Expansion Joints
- Metal Expansion Joints
- Expansion Loops & Metal Hose
- Replacement Sleeves
- Teflon Expansion Joints
- Knife Gate Valves

**WARRANTY**
All EVR products are guaranteed for one full year against defects resulting from faulty workmanship or materials. If any such product is found to be defective by reason of faulty workmanship or materials, upon written notice and return of the product, the defective product will be replaced by us free of charge, including the shipping charges for the replacement product. Claims for labour costs and other expenses required to replace such defective product, or to repair damage resulting from the use thereof will not be allowed by us. Our liability is limited to the price paid for the defective product. EVR Products shall not be bound by any warranty other than the above set forth unless such warranty shall be in writing. This literature is published in good faith and is believed to be reliable, however, EVR Products does not represent and/or warrant in any manner the above information and suggestions contained in this brochure. Data presented is the result of laboratory tests and field experience.

Distributed by:

**ELASTO VALVE RUBBER PRODUCTS INC.**
1691 Pioneer Road, Sudbury,
Ontario Canada P3G 1B2
Tel. (705)523-2026 - Fax. (705)523-2033
Toll Free 1-800-461-6331 (N.A.)
Website: www.evrproducts.com
E-mail: sales@evrproducts.com