Features and Benefits:

**ABSORBS ALL DIRECTIONAL MOVEMENT**
General Rubber’s Maxi-Joint® wide arch expansion joints provide superior movement capability in axial compression, axial extension, and lateral deflection, as well as in the angular and torsional direction. This performance cannot be obtained with metallic joints, grooved couplings, or large pipe loops. The low stiffness and deflection forces make designing with General Rubber expansion joints a breeze.

**REDUCES NOISE AND VIBRATION**
General Rubber’s expansion joints and flexible connectors effectively dampen and insulate against the transmission of noise and vibration generated by mechanical equipment. This is particularly important in HVAC applications where the disturbing frequency of pipe and fluid-conducting noise can resonate and amplify throughout the building. Metallic joints and grooved couplings do little to reduce noise and vibration.

**HIGH RESISTANCE TO SHOCK**
The highly compliant and resilient characteristics of General Rubber expansion joints make them ideally suited for earthquake and bomb blast isolation, as well as pressure-surge and water hammer dampening.

**RELIEVES PIPE AND ANCHOR STRESS**
Thermal movements along with other external forces and displacements, including ground settlement can quickly exceed allowable pipe and anchor stresses. General Rubber expansion joints absorb these stresses and replace them with their own low stiffness (spring rate).

**COMPENSATES FOR MISALIGNMENT**
It is common in both new construction and replacement applications to encounter pipe misalignment. Minor misalignment can be taken up with standard General Rubber expansion joints, and custom units can be quickly fabricated with large permanent offsets.

**PROVIDES ACCESS TO PIPING AND EQUIPMENT**
Access to piping and equipment can be easily achieved by treating the expansion joint as a removable spool piece. If a self retracting design is needed, General Rubber’s Style 1101DJ dismantling joint can be utilized.

**COST-EFFECTIVE SOLUTION**
An optimal design does not necessarily mean higher pressure or temperature ratings, because these features typically increase the product’s stiffness and cost. With a proven track record that dates back to 1950, General Rubber has the experience and is confident that we can develop an optimal and cost effective solution to meet your requirements. Our abrasion and corrosion-resistant materials can be superior to even the most exotic metals. Our large inventories and modern U.S. ISO 9001 certified manufacturing facility also mean quick deliveries, as well as top quality products and services.
Materials of Construction:

**EPDM**—Outstanding water, vapor, and weather resistance. Good resistance to heat, ozone, alkalies, sunlight, and oxygenated solvents. Ideal for outdoor service. Do not use with petroleum oil service. Good general purpose elastomer with an effective operating range from -30°F to 350°F.

**NEOPRENE**—Resists alkalies, inorganic acids, and salt solutions. Flame-retardant, as well as abrasion and weather resistant. Good resistance to animal and vegetable oils; moderate resistance to petroleum oils. Effective operating range from -20°F to 225°F.

**CHLOROBUTYL**—Lowest permeability, very good resistance to water, heat, fats, ozone, alkalies, sunlight, abrasion, and oxygenated solvents. Effective operating range from -30°F to 300°F with brief allowable excursions to 350°F.

**HYPALON®**—Offers superior weather resistance, flame retardant, good abrasion resistance, and excellent resistance to acids, alkalies, and oxidation. Effective operating range from -10°F to 250°F.

**BUNA-N (NITRILE)**—Good resistance to mineral and vegetable oils, greases, hydrocarbon solvents, dilute acids, and alkalies. Effective operating range from -10°F to 210°F.

**HNBR (HYDROGENATED NITRILE)**—Has a wide service temperature range from -40°F to 302°F and resistance to fluids of various chemical compositions, as well as excellent resistance to alkaline and aggressive fluids. HNBR also has improved wear and abrasion resistance and improved ozone resistance of up to 5 times that of standard NBR/Buna-N. It uniquely bridges the gap in oil applications where the temperature was too high for NBR/Buna-N and otherwise forced the use of the much more expensive FKM compound.

**PURE GUM RUBBER**—Excellent resilience and rebound elasticity with high tensile strength. Excellent resistance to tear and abrasion. Effective operating range from -40°F to 180°F.

**PTFE FLUOROPLASTIC**—Superior chemical resistance, completely inert to nearly all industrial chemicals and solvents. Effective operating range from -60°F to 450°F. Teflon® is used when indicated or specified. FDA Food-Grade Service: Several white and black elastomers meet FDA requirements and can be used in direct contact with food, beverage, and pharmaceutical products.

**VITON®**—Excellent resistance to aggressive chemicals, solvents, and halogenated hydrocarbons. Viton® TBR-S provides excellent resistance to steam, aqueous acids, amines and concentrated caustics/bases/alkalies. Viton® ETP-S offers the most universal chemical resistance and has excellent flexibility at low temperatures. Effective operating range from -10°F to 400°F.

**REINFORCEMENTS**—Polyester, Nylon, Kevlar®, fiberglass, and steel. Temperature rating is dependent on both elastomer and reinforcements.
Notes:

1.) All parts listed are designed for 30” Hg (full vacuum) and have a maximum test at 26” Hg due to facility altitude and equipment limitations.

2.) Maximum operating temperature of 250ºF for EPDM, Butyl, Hypalon®, and Viton®; 225ºF for Neoprene; 210ºF for Nitrile; 180ºF for Pure Gum Rubber; 300ºF for EPDM and Butyl in air service at 25 PSI maximum; higher pressure and temperature ratings available.

3.) All sizes can be supplied with a filled arch reducing their movements by 50% and increasing the spring rates fourfold.

4.) For full product specifications and installation instructions, see SPEC 1015-1, SPEC 1015T-1 and ININ 1015-1, ININ 1015T-1. Gross weights include retaining rings.

5.) WARNING: Control units (sold separately) must be used when piping is not properly anchored. Number of rods are dependent upon maximum field test pressures. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.

6.) Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 144” I.D.

7.) Retaining rings are typically “L” shaped for sizes 1” through 16”, and can be flat depending on internal reinforcements and for sizes 18” and larger. Standard 125/150 lb. drilling includes, 1”-34” with ANSI B16.1 Class 125 lb./B16.5 Class 150 lb., 30”-60” with ANSI B16.1 Class 125 lb./ ANSI B16.47 series A, Class 150 lb., 72”-108” with ANSI B16.1 Class 125 lb./ AWWA C207 Class B.
Teflon® Lined Molded Wide Arch Expansion Joint

**Style1015T**

**Features:**
- Superior chemical resistance even at higher temperatures and pressures
- Wide flowing arch design
- Exceptional all directional movement
- Integral flanged design, no gaskets required
- Liner made of 100% virgin DuPont Teflon®
- Ideal for food, pharmaceutical, chemical and ultra pure water applications
- Multiple arches available

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**Notes:**
- See Note 5

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**Teflon® Lined, Expansion Joint**

- Hot Dipped Galvanized Retaining Rings
- Multiple Layers of Tire Cord Reinforcement

**Features:**
- Superior chemical resistance even at higher temperatures and pressures
- Wide flowing arch design
- Exceptional all directional movement
- Integral flanged design, no gaskets required
- Liner made of 100% virgin DuPont Teflon®
- Ideal for food, pharmaceutical, chemical and ultra pure water applications
- Multiple arches available

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**General Rubber Corporation**

Web: www.general-rubber.com
Fax: 201-935-1915
sales@general-rubber.com

Toll Free: 800-233-6294
Web: www.general-rubber.com
Style 101

Features:

- Versatile hand-built construction. Made in the U.S.A.
- Standard or custom face to face dimensions
- Wide flowing arch design
- Exceptional all directional movement capability
- Virtually eliminates sediment buildup
- Higher pressure rating than conventional expansion joints
- Excellent chemical and abrasion resistance
- Full vacuum rating (30" Hg) in all sizes
- 250°F continuous service standard, 400°F available
- Filled arch design available
- Hot dip galvanized retaining rings standard
- Absorbs noise, vibration and shock
- Compensates for minor misalignment and offset
- Low stiffness and deflection forces
- Integrally flanged design, no gaskets required
- Simple to install and high strength
- Provides easy access to piping and equipment
- Other standard drilling available, including ASA 300, DIN, PN, JIS, API, and Navy
- Wide variety of tube and cover elastomers available, including Pure Gum Rubber, EPDM, Neoprene, Butyl, Nitrile, Hypalon®, Viton®, Teflon®, Food Grade, and more
- Versatile hand-built construction. Made in the U.S.A.
- Standard or custom face to face dimensions
- Wide flowing arch design
- Exceptional all directional movement capability
- Virtually eliminates sediment buildup
- Higher pressure rating than conventional expansion joints
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- Other standard drilling available, including ASA 300, DIN, PN, JIS, API, and Navy
- Wide variety of tube and cover elastomers available, including Pure Gum Rubber, EPDM, Neoprene, Butyl, Nitrile, Hypalon®, Viton®, Teflon®, Food Grade, and more

Notes:

1.) All parts listed are designed for 30" Hg (full vacuum) and have a maximum test at 26" Hg due to facility altitude and equipment limitations.
2.) Maximum operating temperature of 350 deg F for EPDM, Butyl, Hypalon, and Viton; 225 deg F for Neoprene; 210 deg F for Nitrile; 150 deg F for Pure Gum Rubber; 300 deg F for EPDM and Butyl in air service at 25 PSI maximum; higher pressure and temperature ratings available.
3.) All sizes can be supplied with a filled arch reducing their movements by 50% and increasing the spring rates fourfold.
4.) For full product specifications and installation instructions, see SPEC 1101-1 and ININ 1101-1. Gross weights include retaining rings.
5.) WARNING: Control units (sold separately) must be used when piping is not properly anchored. Number of rods are dependent upon maximum field test pressures. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.
6.) Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 144" I.D.
7.) Series 1100 and 1200 replace styles 1025, 1050 and 1075.
8.) Standard 125/150 lb. drilling includes 1"-24" with ANSI B16.1 Class 125 lb./B16.5 Class 150 lb., 30"-60" with ANSI B16.1 Class 125 lb./B16.47 series A, Class 150 lb., 72"-108" with ANSI B16.1 Class 125 lb./AWWA C207 Class B.
9.) IMPORTANT: Control units (sold separately) must be used when piping is not properly anchored. Number of rods are dependent upon maximum field test pressures. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.
10.) Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 144" I.D.
11.) Series 1100 and 1200 replace styles 1025, 1050 and 1075.
12.) Standard 125/150 lb. drilling includes 1"-24" with ANSI B16.1 Class 125 lb./B16.5 Class 150 lb., 30"-60" with ANSI B16.1 Class 125 lb./B16.47 series A, Class 150 lb., 72"-108" with ANSI B16.1 Class 125 lb./AWWA C207 Class B.
Maxi-Joint®
Double (2) Wide Arch Expansion Joints

Style 1102, 1202
Features:

• Double the movement with 1/2 the spring rate
• Versatile hand-built construction. Made in the U.S.A
• Standard or custom face to face dimensions
• Wide flowing arch design
• Exceptional all directional movement capability
• Virtually eliminates sediment buildup
• Higher pressure rating than conventional expansion joints
• Excellent chemical and abrasion resistance
• Full vacuum rating (30" Hg) for style 1202
• 250°F continuous service standard, 400°F available
• Filled arch design available
• Hot dip galvanized retaining rings standard
• Optional filled arch construction also typical for other styles

Wide variety of tube and cover elastomers available,
• Provides easy access to piping and equipment
• Simple to install and high strength
• Integrally flanged design, no gaskets required
• Low stiffness and deflection forces
• Compensates for minor misalignment and offset
• Absorbs noise, vibration and shock
• Hot dip galvanized retaining rings standard
• Filled arch design available
• 250°F continuous service standard, 400°F available
• Full vacuum rating (30" Hg) for style 1202
• Excellent chemical and abrasion resistance
• Higher pressure rating than conventional expansion joints
• Virtually eliminates sediment buildup
• Wide flowing arch design
• Standard or custom face to face dimensions
• Versatile hand-built construction. Made in the U.S.A
• Double the movement with 1/2 the spring rate

Notes:
1.) Series 1200 are designed for 30" Hg (full vacuum) and have a maximum test at 26" Hg due to facility altitude and equipment
2.) Maximum operating temperature of 250 deg F for EPDM, Butyl, Hypalon, and Viton; 225 deg F for Neoprene; 210 deg F for Nitrile;
3.) All sizes can be supplied with a filled arch reducing their movements by 50% and increasing the spring rates fourfold.
4.) For full product specifications and installation instructions, see SPEC 1102-1 and ININ 1102-1. Gross weights include retaining rings.
5.) For full product specifications and installation instructions, see SPEC 1102-1 and ININ 1102-1. Gross weights include retaining rings.
6.) Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 144" I.D.
7.) Series 1100 and 1200 replace styles 1025, 1050 and 1075.
8.) Standard 125/150 lb. drilling includes, 1"-24" with ANSI B16.1 Class 125 lb./B16.5 Class 150 lb., 30”-60” with ANSI B16.1 Class 125 lb./B16.47 series A, Class 150 lb., 72”-108” with ANSI B16.1 Class 125 lb./AWWA C207 Class B.

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Notes:
1.) Series 1200 are designed for 30°F (full vacuum) and have a maximum test at 26°F due to facility altitude and equipment limitations.
2.) Maximum operating temperature of 250°F for EPDM, Butyl, Hypalon, and Viton; 225°F for Neoprene; 210°F for Nitrile; 160°F for Perlon Rubber; 300°F for EPDM and Butyl in air service at 25 psi maximum, higher pressure and temperature ratings available.
3.) All sizes can be supplied with 6" flanged reducing their movements by 50% and increasing the spring rates fourfold.
4.) For full product specifications and installation instructions, see SPEC 1102-1 and ININ 1102-1. Gross weights include retaining rings.
5.) WARNING: Control units (sold separately) must be used when piping is not properly anchored. Number of rods are dependent upon maximum field test pressures. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.
6.) Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 144" I.D.
7.) Series 1100 and 1200 replace styles 1025, 1050 and 1075.
8.) Standard 125/150 lb. drilling includes, 1”-24” with ANSI B16.1 Class 125 lb./B16.5 Class 150 lb., 30”-60” with ANSI B16.1 Class 125 lb./B16.47 series A, Class 150 lb., 72”-108” with ANSI B16.1 Class 125 lb./AWWA C207 Class B.
Maxi-Joint®
Triple (3) Wide Arch Expansion Joint

Style 1103, 1203

Features:

- Triple the movement with 1/3 the spring rate
- Versatile hand-built construction. Made in the U.S.A.
- Standard or custom face to face dimensions
- Wide flowing arch design
- Exceptional all directional movement capability
- Virtually eliminates sediment buildup
- Higher pressure rating than conventional expansion joints
- Excellent chemical and abrasion resistance
- Full vacuum rating (30" Hg) for style 1203
- 250°F continuous service standard, 400°F available
- Filled arch design available
- Hot dip galvanized retaining rings standard
- Multiple layers of tire cord reinforcement
- Control unit (see note 5)
- Optional filled arch construction. Also typical for other styles
- Wide variety of tube and cover elastomers available, including Pure Gum Rubber, EPDM, Neoprene, Butyl, Nitrile, Hypalon®, Viton®, Teffon®, Food Grade, and more

Notes:

1.) Series 1200 are designed for 30" Hg (full vacuum) and have a maximum test at 26" Hg due to facility altitude and equipment limitations.
2.) Maximum operating temperature of 250 deg F for EPDM, Butyl, Hypalon, and Viton; 225 deg F for Neoprene; 210 deg F for Nitrile.
3.) All sizes can be supplied with a filled arch reducing their movements by 50% and increasing the spring rates fourfold.
4.) For full product specifications and installation instructions, see SPEC 1103-1 and ININ 1103-1. Gross weights include retaining rings.
5.) WARNING: Control units (sold separately) must be used when piping is not properly anchored. Number of rods are dependent upon maximum field test pressures. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.
6.) Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 144" I.D.
7.) Series 1100 and 1200 replace styles 1025, 1050 and 1075.
8.) Standard 125/150 lb. drilling includes 1”-24” with ANSI B16.1 Class 125 lb./B16.5 Class 150 lb., 30”-60” with ANSI B16.1 Class 125 lb./B16.47 series A, Class 150 lb., 72”-108” with ANSI B16.1 Class 125 lb./AWWA C207 Class B.

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Notes:

1.) Series 1200 are designed for 30° Hg (full vacuum) and have a maximum test at 26° Hg due to facility altitude and equipment limitations.
2.) Maximum operating temperature of 250°F for EPDM, Butyl, Hypalon, and Viton; 225°F for Neoprene; 210°F for Nitrile.
3.) Standard 125/150 lb. drilling includes 1”-24” with ANSI B16.1 Class 125 lb./B16.5 Class 150 lb., 30”-60” with ANSI B16.1 Class 125 lb./B16.47 series A, Class 150 lb., 72”-108” with ANSI B16.1 Class 125 lb./AWWA C207 Class B.
Maxi-Joint
Quadruple (4) Wide Arch Expansion Joints

Style1104, 1204
Features:
- Quadruple the movement with 1/4 the spring rate
- Versatile hand-built construction. Made in the U.S.A.
- Standard or custom face to face dimensions
- Wide flowing arch design
- Exceptional all directional movement capability
- Virtually eliminates sediment buildup
- Higher pressure rating than conventional expansion joint
- Excellent chemical and abrasion resistance
- Full vacuum rating (30” Hg) for style1204
- 250°F continuous service standard, 400°F available
- Filled arch design available
- Hot dip galvanized retaining rings standard
- Optional filled arch construction.
- Also typical for other styles.

- Wide variety of tube and cover elastomers available,
- Other standard drilling available, including ASA 300,
- Provides easy access to piping and equipment
- Simple to install and high strength
- Integrally flanged design, no gaskets required
- Low stiffness and deflection forces

- Hot dip galvanized retaining rings standard
- Filled arch design available
- 250ºF continuous service standard, 400ºF available
- Full vacuum rating (30” Hg) for style 1104
- Excellent chemical and abrasion resistance
- Virtually eliminates sediment buildup
- Standard or custom face to face dimensions
- Versatile hand-built construction. Made in the U.S.A.
- Quadruple the movement with 1/4 the spring rate

- Wide variety of tube and cover elastomers available,
- Other standard drilling available, including ASA 300,
- Provides easy access to piping and equipment
- Simple to install and high strength
- Integrally flanged design, no gaskets required
- Low stiffness and deflection forces

- Hot dip galvanized retaining rings standard
- Filled arch design available
- 250ºF continuous service standard, 400ºF available
- Full vacuum rating (30” Hg) for style 1104
- Excellent chemical and abrasion resistance
- Virtually eliminates sediment buildup
- Standard or custom face to face dimensions
- Versatile hand-built construction. Made in the U.S.A.
- Quadruple the movement with 1/4 the spring rate

Notes:
1.) Series 1200 are designed for 30” Hg (full vacuum) and have a maximum test at 26” Hg due to facility altitude and equipment
2.) Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 144” I.D.
3.) Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 144” I.D.
4.) All sizes can be supplied with a filled arch reducing their movements by 50% and increasing the spring rates fourfold.
5.) For full product specifications and installation instructions, see SPEC 1104-1 and ININ 1104-1. Gross weights include retaining rings.
6.) Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 144” I.D.
7.) Series 1100 and 1200 replace styles 1025, 1050 and 1075.
8.) Standard 125/150 lb. drilling includes, 1”-24” with ANSI B16.1 Class 125 lb./B16.5 Class 150 lb., 30”-60” with ANSI B16.1 Class 125 lb./B16.47 series A, Class 150 lb., 72”-108” with ANSI B16.1 Class 125 lb./AWWA C207 Class B.

Toll Free: 800-233-6294
Web: www.general-rubber.com
Fax: 201-935-1915
sales@general-rubber.com
Maxi-Joint
Concentric Reducing Expansion Joints

**Style 1101CR**

**Features:**
- An economic and space saving way to combine a reducing pipe fitting with an expansion joint
- Available in custom offset arrangements and sizes not shown
- Versatile hand-built construction. Made in the U.S.A.
- Standard or custom face to face dimensions
- Excellent all directional movement capability
- Absorbs noise, vibration and shock
- 250°F continuous service standard, 400°F available
- Integral flange design, no gaskets required
- ANSI 150 lb. drilling standard, other standard drilling available, including ASA 300 lb., DIN, PN, JIS, API, and Navy
- Filled arch design available
- Available in high pressure (HP) and high temperature (HT) designs
- Multiple plies of tire cord reinforcement and a wide variety of tube and cover elastomers available

### Notes:
1.) All Series 1200 parts listed are designed for 30" Hg (full vacuum) and have a maximum test at 26" Hg due to facility altitude and equipment limitations.

2.) Maximum operating temperature of 250 deg F for EPDM, Butyl, Hypalon, and Viton; 225 deg F for Neoprene; 210 deg F for Nitrile; 180 deg F for Pure Gum Rubber; 300 deg F for EPDM and Butyl in air service at 25 PSI maximum; higher pressure and temperature ratings available.

3.) All sizes can be supplied with a filled arch reducing their movements by 50% and increasing the spring rates fourfold.

4.) For full product specifications and installation instructions, see SPEC 1101CR-1 and ININ 1101CR-1. Gross weights include retaining rings.

5.) **WARNING:** Control units (sold separately) must be used when piping is not properly anchored. Number of rods are dependent upon maximum field test pressures. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.

6.) Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 144" I.D.

7.) Standard 125/150 lb. drilling includes, 1"-24" with ANSI B16.1 Class 125 lb/b16.5 Class 150 lb, 30'-40' with ANSI B16.1 Class 125 lb/b16.47 series A, Class 150 lb., 72'-108" with ANSI B16.1 Class 125 lb./ AMWA C207 Class B.

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**Concentric Reducing Expansion Joints**

**Features:**
- An economic and space saving way to combine a reducing pipe fitting with an expansion joint
- Available in custom offset arrangements and sizes not shown
- Versatile hand-built construction. Made in the U.S.A.
- Standard or custom face to face dimensions
- Excellent all directional movement capability
- Absorbs noise, vibration and shock
- 250°F continuous service standard, 400°F available
- Integral flange design, no gaskets required
- ANSI 150 lb. drilling standard, other standard drilling available, including ASA 300 lb., DIN, PN, JIS, API, and Navy
- Filled arch design available
- Available in high pressure (HP) and high temperature (HT) designs
- Multiple plies of tire cord reinforcement and a wide variety of tube and cover elastomers available

### Specifications Table:

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<th>LARGE END</th>
<th>SMALL END</th>
<th>CONCENTRIC Shortest Length</th>
<th>LARGE END FLANGE</th>
<th>MAX Pressure (PSI)</th>
<th>VACUUM Rating (inch Hg)</th>
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**Notes:**

1.) All Series 1200 parts listed are designed for 30" Hg (full vacuum) and have a maximum test at 26" Hg due to facility altitude and equipment limitations.

2.) Maximum operating temperature of 250 deg F for EPDM, Butyl, Hypalon, and Viton; 225 deg F for Neoprene; 210 deg F for Nitrile; 180 deg F for Pure Gum Rubber; 300 deg F for EPDM and Butyl in air service at 25 PSI maximum; higher pressure and temperature ratings available.

3.) All sizes can be supplied with a filled arch reducing their movements by 50% and increasing the spring rates fourfold.

4.) For full product specifications and installation instructions, see SPEC 1101CR-1 and ININ 1101CR-1. Gross weights include retaining rings.

5.) **WARNING:** Control units (sold separately) must be used when piping is not properly anchored. Number of rods are dependent upon maximum field test pressures. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.

6.) Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 144" I.D.

7.) Standard 125/150 lb. drilling includes, 1"-24" with ANSI B16.1 Class 125 lb/b16.5 Class 150 lb, 30'-40' with ANSI B16.1 Class 125 lb/b16.47 series A, Class 150 lb., 72'-108" with ANSI B16.1 Class 125 lb./ AMWA C207 Class B.
**Maxi-Joint**  
Eccentric Reducing Expansion Joints

**Style 1101ER Features:**
- An economic and space saving way to combine a reducing pipe fitting with an expansion joint
- Available in custom offset arrangements and sizes not shown
- Versatile hand-built construction. Made in the U.S.A.
- Standard or custom face to face dimensions
- Excellent all directional movement capability
- Absorbs noise, vibration and shock
- 250°F continuous service standard, 400°F available
- Integral flange design, no gaskets required
- ANSI 150 lb. drilling standard, other standard drilling available, including ASA 300 lb., DIN, PN, JIS, API, and Navy
- Filled arch design available
- Available in high pressure (HP) and high temperature (HT) designs
- Multiple plies of tire cord reinforcement and a wide variety of tube and cover elastomers available

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**ECCENTRIC LARGE END**

- **LARGE END LENGTH (inch)**
- **TH (inch)**
- **MAX PRESSURE (PSIG)**
- **VACUUM RATING (inch Hg)**

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**MOVEMENTS**

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**GROSS WEIGHT (lbs)**

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<th>MAX PRESSURE (PSIG)</th>
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**Notes:**
1.) All Series 1200 parts listed are designed for 30" Hg (full vacuum) and have a maximum test at 26" Hg due to facility altitude and equipment limitations.
2.) Maximum operating temperature of 250 deg F for EPDM Butyl, Hypalon, and Viton; 225 deg F for Neoprene; 210 deg F for Nitrile; 180 deg F for Pure Gum Rubber; 300 deg F for EPDM and Butyl in air service at 25 PSI maximum; higher pressure and temperature ratings available.
3.) All sizes can be supplied with a filled arch reducing their movements by 50% and increasing the spring rates fourfold.
4.) For full product specifications and installation instructions, see SPEC 1101CR-1 and ININ 1101CR-1. Gross weights include retaining rings.
5.) **WARNING:** Control units (sold separately) must be used when piping is not properly anchored. Number of rods are dependent upon maximum field test pressures. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures. Specifications should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.
6.) Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 144" I.D.
7.) Standard 125/150 lb. drilling includes, 1"-24" with ANSI B16.1 Class 150 lb.; Class 150 lb., 30"-60" with ANSI B16.1 Class 150 lb./B16.47 series A; Class 150 lb., 72"-108" with ANSI B16.1 Class 150 lb./AWWA C207 Class B.
Maxi-Joint®
Lightweight Expansion Joints

Style 1101LW

Features:
- Extremely flexible design with minimum stiffness and deflection forces
- 250°F with 25 PSIG and 10" Hg service standard
- Versatile hand-built construction allows General Rubber to work with the system requirements to develop an optimal and cost-effective solution, including non-standard face to face dimensions, no arch, single or multiple arch designs in straight or reducing arrangements
- Integral ANSI 150 lb. flange design, no gaskets required
- Other standard drilling available, including DIN, PN, JIS, API, and Navy
- Ideal flexible connector for fans, blowers and other industrial OEM Equipment
- Absorbs system noise, vibration and shock
- Compensates for minor misalignment and offset while providing easy access to piping and equipment
- Wide variety of tube and cover elastomers available, including Pure Gum Rubber, EPDM, Neoprene, Butyl, Nitrile, Hypalon®, Viton®, Teflon®, Food Grade, and more

Size | Length | Flange | Style 1101LW Movements | Style 1101LW Spring Rate | Gross Weight
---|---|---|---|---|---
2  | 6  | 5/8 | Comp 1  Ext 1  Lateral 1  Angular 43  Torsional 5 | Comp 8  Ext 10  Lateral 12 | 8
2-1/2  | 6  | 5/8 | Comp 2  Ext 1  Lateral 1  Angular 36  Torsional 4 | Comp 10  Ext 15  Lateral 17 | 10
3  | 6  | 5/8 | Comp 2  Ext 1  Lateral 1  Angular 31  Torsional 4 | Comp 12  Ext 15  Lateral 17 | 12
4  | 6  | 5/8 | Comp 2  Ext 1  Lateral 1  Angular 24  Torsional 4 | Comp 15  Ext 20  Lateral 20 | 15
5  | 6  | 5/8 | Comp 2  Ext 1  Lateral 1  Angular 20  Torsional 4 | Comp 17  Ext 20  Lateral 20 | 17
6  | 6  | 5/8 | Comp 2  Ext 1  Lateral 1  Angular 17  Torsional 4 | Comp 20  Ext 20  Lateral 20 | 20
8  | 6 or 8  | 5/8 | Comp 2  Ext 1  Lateral 1  Angular 13  Torsional 3 | Comp 20  Ext 20  Lateral 20 | 20
10  | 6 or 8  | 5/8 | Comp 2  Ext 1  Lateral 1  Angular 13  Torsional 3 | Comp 39  Ext 20  Lateral 20 | 39
12  | 6 or 8  | 5/8 | Comp 2  Ext 1  Lateral 1  Angular 15  Torsional 3 | Comp 51  Ext 47  Lateral 30 | 51
14  | 6 or 8  | 5/8 | Comp 2  Ext 1  Lateral 1  Angular 13  Torsional 3 | Comp 47  Ext 30  Lateral 30 | 47
16  | 6 or 8  | 5/8 | Comp 2  Ext 1  Lateral 1  Angular 12  Torsional 3 | Comp 30  Ext 30  Lateral 30 | 30
18  | 6 or 8  | 5/8 | Comp 2  Ext 1  Lateral 1  Angular 11  Torsional 3 | Comp 67  Ext 67  Lateral 67 | 67
20  | 6 or 8  | 5/8 | Comp 2  Ext 1  Lateral 1  Angular 10  Torsional 3 | Comp 103  Ext 103  Lateral 103 | 103
24  | 8 or 10  | 5/8 | Comp 2  Ext 1  Lateral 1  Angular 9  Torsional 3 | Comp 129  Ext 129  Lateral 129 | 129
30  | 8 or 10  | 5/8 | Comp 2  Ext 1  Lateral 1 Angular 8  Torsional 3 | Comp 175  Ext 175  Lateral 175 | 175
36  | 8 or 10  | 5/8 | Comp 2  Ext 1  Lateral 1  Angular 7  Torsional 2 | Comp 235  Ext 235  Lateral 235 | 235

Notes:
1. For full product specifications and installation instructions, see SPEC 1101LW-1 and SWN 1101LW-1. Gross weights include shipping cages.
2. Technical data shown above reflect the single arch design, additional arches typically increase movements and decrease spring rates proportionally. Contact the factory for full details including availability of larger sizes, higher pressures and temperature ratings.

contact General Rubber
### Maxi-Joint®
High Pressure Expansion Joints

#### Style 1101HP

**Features:**
- Versatile hand-built construction allows General Rubber to design to higher working programs with greater safety factors. Made in the U.S.A.
- Standard or custom face to face dimensions
- Wide flowing arch design
- Exceptional all directional movement capability
- Virtually eliminates sediment buildup
- Excellent chemical and abrasion resistance
- Full vacuum rating (30" Hg) in all style 1101 HP sizes
- 250°F continuous service standard, 400°F available
- Filled arch design available
- Hot dip galvanized retaining rings standard
- Absorbs noise, vibration and shock
- Compares for minor misalignment and offset
- Integral flange design, no gaskets required
- Simple to install and high strength
- Provides easy access to piping and equipment
- Other standard drilling available, including ASA 300, DIN, PN, JIS, API, and Navy
- Wide variety of tube and cover elastomeres available, including Pure Gum Rubber, EPDM, Neoprene, Butyl, Nitrile, Hypalon®, Viton®, Teflon®, Food Grade, and more

![Diagram of Style 1101HP](image)

---

#### Size 1101HP Movements

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<th>VACUUM Rating (inch Hg)</th>
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**Notes:**
1. All parts listed are designed for 30" Hg (full vacuum) and have a minimum test of 20" Hg due to factory disfigure and equipment installations.
2. Minimum operating temperature of 120 deg F for EPDM, Butyl, Hypalon, and Viton; 250 deg F for Neoprene, 300 deg F for Nitrile; 150 deg F for Pure Gum Rubber; 200 deg F for EPDM and Butyl in air service at 25 PSIG maximum; higher pressures and temperatures ratings available.
3. All sizes can be supplied with a filled arch reducing their movements by 50% and increasing the spring rates linearly.
4. For full product specifications and installation instructions, see SPEC 1101HP-1 and NRP 1101HP-1; these marks indicate retaining rings.
5. WARNING: Do not exceed the maximum recommended pressure. Expansion joints may operate at higher pressures when considered with the pressure and temperature ratings of the piping system.
6. Movements are non-cumulative. Contact General Rubber for clearance between movements and sizes not shown up to 1¼" I.D.
7. All sizes can be supplied with a filled arch reducing their movements by 50% and increasing the spring rates linearly.
8. Standard 1/2/150 lb. shipping includes, 1 1/34" with ANSI B16.1 Class 150 Bfl D.1 Class 150 Bf.1 Class 150 J.7" -100° with ANSI B16.1 Class 150 Bfl.1 Class 125 Bf.1 Class 125 D.1 Class 125 J.7" -100° with ANSI B16.1 Class 150 Bfl D.1 Class 150 Bf.1 Class 150 J.7" -100° with ANSI B16.1 Class 150 Bfl D.1 Class 150 Bf.1 Class 150 J.7" -100° with ANSI B16.1 Class 150 Bfl D.1 Class 150 Bf.1 Class 150 J.7" -100°}

**Contact General Rubber**
for your design conditions and we will provide a detailed drawing with our proposal.

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**Toll Free:** 800-233-6294
**Web:** www.general-rubber.com

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**Fax:** 201-935-1915
**sales@general-rubber.com**
Maxi-Joint
High Temperature Expansion Joints

**Style 1101HT**

**Features:**
- Versatile hand-built construction allows General Rubber to design higher working temperatures. Made in the U.S.A.
- 350°F continuous service with EPDM / Kevlar®
- 400°F continuous service with Viton® / Kevlar®
- Standard or custom face to face dimensions
- Wide flowing arch design
- Exceptional all directional movement capability
- Virtually eliminates sediment buildup
- Higher pressure rating than conventional expansion joints
- Excellent chemical and abrasion resistance
- Full vacuum rating (30" Hg) in all style 1101HT sizes
- Filled arch design available
- Hot dip galvanized retaining rings standard
- Absorbs noise, vibration and shock
- Compensates for minor misalignment and offset
- Low stiffness and deflection forces
- Integritily flanged design, no gaskets required
- Simple to install and high strength
- Provides easy access to piping and equipment
- Other standard drilling available, including ASA 300, DIN, PN, JIS, API, and Navy

**Notes:**
1. All parts listed are designed for 30" Hg (full vacuum) and have a maximum test at 26" Hg due to facility altitude and equipment limitations.
3. All sizes can be supplied with a filled arch reducing their movements by 50% and increasing the spring rates fourfold.
4. For full product specifications and installation instructions, see SPEC 1101HT-1 and ININ 1101HT-1. Gross weights include retaining rings.
5. WARNING: Control units (sold separately) must be used when piping is not properly anchored. Number of rods are dependent upon maximum field test pressures. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.
6. Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 144" I.D.
7. All sizes can be supplied with multiple arches for increased movements and decreased spring rates.
8. Standard 125/150 lb. drilling includes 1"-24" with ANSI B16.1 Class 125 lb./B16.5 Class 150 lb., 30"-60" with ANSI B16.1 Class 125 lb./B16.47 series A, Class 150 lb., 72"-108" with ANSI B16.1 Class 125 lb./AWWA C207 Class B.
9. Contact General Rubber with your design conditions and we will provide a detailed drawing with our proposal.
Notes:

1.) All parts listed are designed for 30” Hg (full vacuum) and have a maximum test at 26” Hg due to facility altitude and equipment limitations.
2.) Maximum operating temperature of 350 deg F for EPDM/Kevlar and 400 deg F for Viton/Kevlar.
3.) All sizes can be supplied with a filled arch reducing their movements by 50% and increasing the spring rates fourfold.
4.) For full product specifications and installation instructions, see SPEC 1101HT-1 and ININ 1101HT-1. Gross weights include retaining rings.
5.) WARNING: Control units (sold separately) must be used when piping is not properly anchored. Number of rods are dependent upon maximum field test pressures. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures; as precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.
6.) Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 144” I.D.
7.) All sizes can be supplied with multiple arches for increased movements and decreased spring rates.
8.) Standard 125/150 lb. drilling includes, 1”-24” with ANSI B16.1 Class 125 lb./B16.5 Class 150 lb., 30”-60” with ANSI B16.1 Class 125 lb./ B16.47 series A, Class 150 lb., 72”-108” with ANSI B16.1 Class 125 lb./ AWWA C207 Class B.
9.) Contact General Rubber with your design conditions and we will provide a detailed drawing with our proposal.
Notes:
1.) All Series 1200 parts listed are designed for 30” Hg (full vacuum) and have a maximum test at 26” Hg due to facility altitude and equipment limitations.
2.) Maximum operating temperature of 250 deg F for EPDM, Butyl, Hypalon, and Viton; 225 deg F for Neoprene; 210 deg F for Nitrile; 180 deg F for Pure Gum Rubber; 300 deg F for EPDM and Butyl in air service at 25 PSI maximum; higher pressure and temperature ratings available.
3.) For full product specifications and installation instructions, see SPEC 1100-1 and ININ 1100-1. Gross weights include retaining rings.
4.) **WARNING:** Control units (sold separately) must be used when piping is not properly anchored. Number of rods are dependent upon maximum field test pressures. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, as precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.
5.) Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 144” I.D.
6.) Standard 125/150 lb. drilling includes 1”-34” with ANSI B16.1 Class 150 lb./B16.5 Class 150 lb.; 30”-60” with ANSI B16.1 Class 125 lb./B16.47 series A, Class 150 lb., 72”-108” with ANSI B16.1 Class 125 lb./B16.47 Class B, AWWA C207 Class B.

Maxi-Joint®
No Arch Rubber Flanged Pipe

**Style 1100**

**Features:**
- The capacity of a flexible connector to absorb noise and vibration is directly proportional to its flexible length; this original design pre-dates the spherical connector and is still preferred by many design engineers and is considered the ultimate in noise and vibration control.
- 250°F continuous service standard, 400°F available
- Versatile hand-built construction, available as reducers both concentric and eccentric, as well as elbows and tees; elbows in long or short radius to ANSI dimensions. Made in the U.S.A.
- Excellent chemical and abrasion resistance
- Integrally flanged design, no gaskets required
- Other standard drilling available, including ASA 300, DIN, PN, JIS, API, and Navy

**Maxi-Joint® No Arch Rubber Flanged Connectors**

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<td>24</td>
<td>100</td>
</tr>
</tbody>
</table>

**Notes:**
1.) All Series 1200 parts listed are designed for 30” Hg (full vacuum) and have a maximum test at 26” Hg due to facility altitude and equipment limitations.
2.) Maximum operating temperature of 250 deg F for EPDM, Butyl, Hypalon, and Viton; 225 deg F for Neoprene; 210 deg F for Nitrile; 180 deg F for Pure Gum Rubber; 300 deg F for EPDM and Butyl in air service at 25 PSI maximum; higher pressure and temperature ratings available.
3.) For full product specifications and installation instructions, see SPEC 1100-1 and ININ 1100-1. Gross weights include retaining rings.
4.) **WARNING:** Control units (sold separately) must be used when piping is not properly anchored. Number of rods are dependent upon maximum field test pressures. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, as precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.
5.) Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 144” I.D.
6.) Standard 125/150 lb. drilling includes 1”-34” with ANSI B16.1 Class 150 lb./B16.5 Class 150 lb.; 30”-60” with ANSI B16.1 Class 125 lb./B16.47 series A, Class 150 lb., 72”-108” with ANSI B16.1 Class 125 lb./B16.47 Class B, AWWA C207 Class B.
Maxi-Joint®
No Arch Rubber Flanged Fittings

Style 1100-45, 1100-90, 1100-TF

Features:
- The capacity of a flexible connector to absorb noise and vibration is directly proportional to its flexible length; this original design pre-dates the spherical connector and is still preferred by many design engineers and is considered the ultimate in noise and vibration control.
- 250°F continuous service standard, 400°F available
- Versatile hand-built construction, available as reducers both concentric and eccentric, as well as elbows and tees; elbows in long or short radius to ANSI dimensions. Made in the U.S.A.
- Excellent chemical and abrasion resistance
- Integrally flanged design, no gaskets required
- Other standard drilling available, including ASA 300, DIN, PN, JIS, API, and Navy
- Wide variety of tube and cover elastomers available

Notes:
1.) Contact General Rubber with your design conditions and we will provide a detailed drawing with our proposal.
Pressures are not normally as high as our straight Style 1100.
### Style 1010

**Features:**
- Superior noise and vibration control
- Most economical flexible connector
- Precision molded spherical flowing arch design
- Solid galvanized steel floating flanges avoids the problematic hooked or interlocking split flange design
- High tensile aircraft cable is embedded in the raised face rubber ends to prevent pull out and avoids the sharp cutting edge of solid steel rings
- Safe industry standard proven design utilizing the same beaded cable technology established in the tire industry
- No gaskets required; ANSI 150 lb. drilling standard, other flange drilling available, including ANSI 300 lb., DIN, PN, JIS and API
- Compensates for minor misalignment and offset while providing easy access to piping and equipment
- Large inventory means quick shipments
- Multiple plies of tire cord reinforcement and a wide variety of tube and cover elastomers

---

### Notes:
1. Maximum operating temperature of 250ºF for EPDM, Butyl, Hypalon®, and Viton®; 225ºF for Neoprene; 210ºF for Nitrile; 180ºF for Pure Gum Rubber; 300ºF for EPDM and Butyl in air service at 25 PSI maximum; higher pressure and temperature ratings available. For full product specifications and installation instructions, see SPEC 1010-1, and ININ 1010-1. Gross weights include flanges.
2. For drilling information see 125/150 lb.
3. **WARNING:** Control units (sold separately) must be used when piping is not properly anchored. Number of rods are dependent upon maximum field test pressures. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.
4. Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 24" I.D.

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### Style 1010 Single Sphere Connector with Floating Flanges

<table>
<thead>
<tr>
<th>SIZE (inch)</th>
<th>LENGTH (inch)</th>
<th>FLANGE TH (inch)</th>
<th>MOVEMENTS</th>
<th>MAX Pressure (PSI)</th>
<th>VACUUM Rating (inch Hg)</th>
<th>GROSS Weight (lbs)</th>
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<td>6</td>
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<td>1/2</td>
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<td>14</td>
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**Notes:**
1. Maximum operating temperature of 250ºF for EPDM, Butyl, Hypalon®, and Viton®; 225ºF for Neoprene; 210ºF for Nitrile; 180ºF for Pure Gum Rubber; 300ºF for EPDM and Butyl in air service at 25 PSI maximum; higher pressure and temperature ratings available. For full product specifications and installation instructions, see SPEC 1010-1, and ININ 1010-1. Gross weights include flanges.
2. For drilling information see 125/150 lb.
3. **WARNING:** Control units (sold separately) must be used when piping is not properly anchored. Number of rods are dependent upon maximum field test pressures. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.
4. Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 24" I.D.
Maxi-Joint®
Double Sphere Connector

Style 1020

Features:
- Superior noise and vibration control
- Most economical flexible connector
- Precision molded spherical flowing arch design
- Solid galvanized steel floating flanges avoids the problematic hooked or interlocking split flange design
- High tensile aircraft cable is embedded in the raised face rubber ends to prevent pull out and avoids the sharp cutting edge of solid steel rings
- Safe industry standard proven design utilizing the same beaded cable technology established in the tire industry
- No gaskets required; ANSI 150 lb. drilling standard, other flange drilling available, including ANSI 300 lb., DIN, PN, JIS and API
- Compensates for minor misalignment and offset while providing easy access to piping and equipment
- Large inventory means quick shipments
- Multiple plies of tire cord reinforcement and a wide variety of tube and cover elastomers

Notes:
1.) Maximum operating temperature of 250ºF for EPDM, Butyl, Hypalon®, and Viton®; 225ºF for Neoprene; 210ºF for Nitrile; 180ºF for Pure Gum Rubber; 300ºF for EPDM and Butyl in air service at 25 PSI maximum; higher pressure and temperature ratings available. For full product specifications and installation instructions, see SPEC 1020-1, and ININ 1020-1. Gross weights include flanges.
2.) For drilling information see 125/150 lb.
3.) WARNING: Control units (sold separately) must be used when piping is not properly anchored. Number of rods are dependent upon maximum field test pressures. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.
4.) Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 24" I.D.

Maxi-Joint
Double Sphere Connector with Floating Flanges

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<tr>
<th>SIZE (I.D.)</th>
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<tr>
<td>2</td>
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<tr>
<td>2-1/2</td>
<td>2 1-1/8 1-1/4 53 7.5 225 30 13.5</td>
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<tr>
<td>3</td>
<td>2 1-1/8 1-1/4 44 6.2 225 30 14.5</td>
</tr>
<tr>
<td>4</td>
<td>2 1-1/8 1-1/4 40 5.6 225 30 20.5</td>
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<tr>
<td>5</td>
<td>2 1-1/8 1-1/4 32 4.5 225 30 25</td>
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<td>6</td>
<td>2 1-1/8 1-1/4 26 3.6 225 30 30</td>
</tr>
<tr>
<td>8</td>
<td>2 1-1/8 1-1/4 20 2.8 225 30 44</td>
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<tr>
<td>10</td>
<td>2 1-1/8 1-1/4 16 2.2 225 15 66</td>
</tr>
<tr>
<td>12</td>
<td>2 1-1/8 1-1/4 13 1.6 225 15 95.5</td>
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<tr>
<td>14</td>
<td>2 1-1/8 1-1/4 12 1.7 150 15 113</td>
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</tbody>
</table>

Notes:
1.) Maximum operating temperature of 250ºF for EPDM, Butyl, Hypalon®, and Viton®; 225ºF for Neoprene; 210ºF for Nitrile; 180ºF for Pure Gum Rubber; 300ºF for EPDM and Butyl in air service at 25 PSI maximum; higher pressure and temperature ratings available. For full product specifications and installation instructions, see SPEC 1020-1, and ININ 1020-1. Gross weights include flanges.
2.) For drilling information see 125/150 lb.
3.) WARNING: Control units (sold separately) must be used when piping is not properly anchored. Number of rods are dependent upon maximum field test pressures. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.
4.) Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 24" I.D.
Maxi-Joint®
Double Union Sphere Connector

Style 1030
Features:
- Superior noise and vibration control
- Most economical flexible connector
- Precision molded spherical flowing arch design
- Solid galvanized steel union ends with NPT female threads
- High tensile aircraft cable is embedded in the raised face rubber ends to prevent pull out and avoids the sharp cutting edge of solid steel rings
- Safe industry standard proven design utilizing the same beaded cable technology established in the tire industry
- Compensates for minor misalignment and offset while providing easy access to piping and equipment
- Large inventory means quick shipments
- Multiple plies of tire cord reinforcement and a wide variety of tube and cover elastomers

Notes:
1.) Maximum operating temperature of 250ºF for EPDM, Butyl, Hypalon®, and Viton®; 225ºF for Neoprene; 210ºF for Nitrile; 180ºF for Pure Gum Rubber; 300ºF for EPDM and Butyl in air service at 25 PSI maximum; higher pressure and temperature ratings available. For full product specifications and installation instructions, see SPEC 1010-1, and ININ 1010-1. Gross weights include flanges.
2.) For drilling information see 125/150 lb.
3.) WARNING: Control units (sold separately) must be used when piping is not properly anchored. Number of rods are dependent upon maximum field test pressures. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.
4.) Movements are non-concurrent. Contact General Rubber for concurrent movements, and for sizes not shown up to 24” I.D.

<table>
<thead>
<tr>
<th>SIZE (inch)</th>
<th>LENGTH (inch)</th>
<th>FLANGE TH. (inch)</th>
<th>MOVEMENTS</th>
<th>MAX Pressure (PSIG)</th>
<th>VACUUM Rating (inch Hg)</th>
<th>GROSS Weight (lbs)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>F/F</td>
<td></td>
<td>Comp. (inch)</td>
<td>Ext. (inch)</td>
<td>Lateral (inch)</td>
<td>Angular (degree)</td>
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<td>7/8</td>
<td>1/4</td>
<td>7/8</td>
<td>13</td>
</tr>
</tbody>
</table>
# Maxi-Joint®
Molded Teflon® Expansion Joints

**Style 3302**

**Features:**
- Superior chemical resistance, utilizing 100% virgin Dupont Teflon®
- Low stiffness and deflection forces
- 400°F continuous service standard
- Full vacuum rating (30" Hg) in all sizes offered
- Standard face to face dimensions with threaded ANSI 125/150 lb. drilling
- Large inventory means quick shipments
- Absorbs all directional movement
- Carbon steel or stainless steel flanges
- Reduces system noise, vibration and shock
- Compensates for minor misalignment and offset
- Simple to install, lightweight and high strength
- Integral control units standard
- Provides easy access to piping and equipment
- Ideal for food, pharmaceutical, chemical and ultra pure water applications

**Notes:**
1. Movements are non-concurrent. Contact General Rubber for concurrent movement, and for sizes not shown up to 24" I.D.
2. For full product specifications and installation instructions, see SPEC 3302-1 and ININ 3302-1.
3. **WARNING:** Control units (integral limit bolts) must be used when piping is not properly anchored. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.

## Style 3302 Two Convolution Molded Teflon® Coupling

<table>
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<tr>
<th>SIZE</th>
<th>LENGTH</th>
<th>MAX PRESSURE (PSI)</th>
<th>MAX TEMP (°F)</th>
<th>MAX FLANGE</th>
<th>B.C.</th>
<th>HOLES</th>
<th>Thread &amp; Dia.</th>
<th>TH.</th>
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<tbody>
<tr>
<td>I.D. (inch)</td>
<td>F/F (inch)</td>
<td>@ 70°F</td>
<td>@ 200°F</td>
<td>@ 400°F</td>
<td>O.D. (inch)</td>
<td>(inch)</td>
<td>(no.)</td>
<td>(inch)</td>
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<td>190</td>
<td>125</td>
<td>70</td>
<td>300</td>
<td>5-7/8</td>
<td>4 1/4</td>
<td>3-1/8</td>
</tr>
<tr>
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<td>3-7/8</td>
</tr>
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**Notes:**
1. Movements are non-concurrent. Contact General Rubber for concurrent movement, and for sizes not shown up to 24" I.D.
2. For full product specifications and installation instructions, see SPEC 3302-1 and ININ 3302-1.
3. **WARNING:** Control units (integral limit bolts) must be used when piping is not properly anchored. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.
Maxi-Joint®
Molded Teflon® Expansion Joints

Style 3303
Features:
- Superior chemical resistance, utilizing 100% virgin Dupont Teflon®
- Low stiffness and deflection forces
- 400°F continuous service standard
- Full vacuum rating (30" Hg) in all sizes offered
- Standard face to face dimensions with threaded ANSI 125/150 lb. drilling
- Large inventory means quick shipments
- Absorbs all directional movement
- Carbon steel or stainless steel flanges
- Reduces system noise, vibration and shock
- Compensates for minor misalignment and offset
- Simple to install, lightweight and high strength
- Integral control units standard
- Provides easy access to piping and equipment
- Ideal for food, pharmaceutical, chemical and ultra pure water applications

Teflon® Grommet
Integral Limit Bolt
Stainless Steel Reinforcing Ring
Molded Teflon® (PTFE) Bellows

Toll Free: 800-233-6294
Web: www.general-rubber.com
sales@general-rubber.com

<table>
<thead>
<tr>
<th>SIZE (inch)</th>
<th>LENGTH F/F (inch)</th>
<th>MAX PRESSURE (PSI)</th>
<th>MAX TEMP (°F)</th>
<th>MAX O.D. (inch)</th>
<th>FLANGE O.D. (inch)</th>
<th>B.C. (inch)</th>
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<tr>
<td>10</td>
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<td>150</td>
<td>16-3/4</td>
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<td>14-1/4</td>
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<td>7-8-9</td>
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<td>7-7/8</td>
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<td>22-3/4</td>
<td>19</td>
<td>17</td>
<td>12</td>
<td>7-8-9</td>
</tr>
</tbody>
</table>

Note:
1.) Movements are non-concurrent. Contact General Rubber for concurrent movement, and for sizes not shown up to 24" I.D.
2.) For full product specifications and installation instructions, see SPEC 3303-1 and ININ 3303-1.
3.) WARNING: Control units (integral limit bolts) must be used when piping is not properly anchored. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.
Maxi-Joint®
Molded Teflon® Expansion Joints

Style 3305
Features:
- Superior chemical resistance, utilizing 100% virgin Dupont Teflon®
- Low stiffness and deflection forces
- 400°F continuous service standard
- Full vacuum rating (30” Hg) in all sizes offered
- Standard face to face dimensions with threaded ANSI 125/150 lb. drilling
- Large inventory means quick shipments
- Absorbs all directional movement
- Carbon steel or stainless steel flanges
- Reduces system noise, vibration and shock
- Compensates for minor misalignment and offset
- Simple to install, lightweight and high strength
- Integral control units standard
- Provides easy access to piping and equipment
- Ideal for food, pharmaceutical, chemical and ultra pure water applications

Maxi-Joint® Molded Teflon® Expansion Joints

**Style 3305**
Five Convolution Molded Teflon® Bellows

- **Notes:**
  1. Movements are non-concurrent. Contact General Rubber for concurrent movement, and for sizes not shown up to 24” I.D.
  2. For full product specifications and installation instructions, see SPEC 3305-1 and ININ 3305-1.

**WARNING:** Control units (integral limit bolts) must be used when piping is not properly anchored. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.

---

**SIZE** | **LENGTH** | **MAX PRESSURE (PSI)** | **MAX TEMP (°F)** | **MAX O.D. (inch)** | **FLANGE O.D. (inch)** | **Holes (no.)** | **TH. (inch)** | **GROSS WEIGHT (lbs)**
--- | --- | --- | --- | --- | --- | --- | --- | ---
1 | 3 | 100 | 65 | 30 | 120 | 5-7/8 | 4-1/4 | 3-1/8 | 4 | 1/2-13 | 1/2 | 1 | 3/4 | 3/8 | 65 | 4
2 | 4 | 100 | 65 | 30 | 120 | 7-7/8 | 6 | 4-3/4 | 4 | 5/8-13 | 1/2 | 1-1/4 | 1 | 1/2 | 31 | 9
2-1/2 | 4 | 100 | 65 | 30 | 120 | 9-1/8 | 7 | 5-1/2 | 4 | 5/8-11 | 3/4 | 1-1/4 | 1 | 1/2 | 31 | 12
3 | 5 | 100 | 65 | 30 | 95 | 9-3/4 | 7-1/2 | 6 | 4 | 5/8-11 | 3/4 | 1-1/2 | 1-1/4 | 5/8 | 38 | 13
4 | 5-1/4 | 100 | 65 | 30 | 95 | 10-7/8 | 9 | 7-1/2 | 6 | 5/8-11 | 3/4 | 1-1/2 | 1-1/4 | 5/8 | 32 | 20
5 | 6 | 100 | 65 | 30 | 95 | 12-3/4 | 10 | 8-1/2 | 6 | 3/4-10 | 1 | 1-3/4 | 1-1/2 | 3/4 | 31 | 30
6 | 6 | 100 | 65 | 30 | 95 | 13-3/4 | 11 | 9-1/2 | 6 | 3/4-10 | 1 | 1-3/4 | 1-1/2 | 3/4 | 26 | 33
8 | 8 | 85 | 50 | 25 | 80 | 16 | 13-1/2 | 11-3/4 | 8 | 3/4-10 | 1-1/8 | 2 | 1-3/4 | 7/8 | 23 | 52
10 | 8 | 75 | 40 | 20 | 80 | 18-3/4 | 16 | 14-1/4 | 12 | 7/8-9 | 1-1/8 | 2 | 1-3/4 | 7/8 | 19 | 70
12 | 9 | 75 | 40 | 20 | 80 | 22-3/4 | 19 | 17 | 12 | 7/8-9 | 1-1/8 | 2-1/2 | 2 | 1 | 18 | 105

Notes:
1. Movements are non-concurrent. Contact General Rubber for concurrent movement, and for sizes not shown up to 24” I.D.
2. For full product specifications and installation instructions, see SPEC 3305-1 and ININ 3305-1.

---

Toll Free: 800-233-6294
Web: www.general-rubber.com
Fax: 201-935-1915
sales@general-rubber.com
Maxi-Joint®
Slip-on, Sleeve Type, Expansion Joints

**Style 1081, 1082, 1083**

**Features:**
- Economical slip-on design eliminates the need for mating flanges and hardware
- Extremely lightweight and flexible
- Large all directional movement capability with low stiffness and deflection forces
- 250°F continuous service standard, 400°F available
- More than (3) arches as well as reducers and offset styles available
- No gaskets required
- EPDM and multiple plies of tire cord reinforcements standard, with a wide variety of other tube and cover elastomers available

---

**Style 1082**
Double (2) Arch, Sleeve Type, Expansion Joints

**Style 1083**
Triple (3) Arch, Sleeve Type, Expansion Joints

---

<table>
<thead>
<tr>
<th>Pipe SIZE (inch)</th>
<th>ACTUAL I.D. (inch)</th>
<th>MAX PRESSURE (PSIG)</th>
<th>VACUUM (inch Hg)</th>
<th>MAX TEMP (ºF)</th>
<th>OVER-ALL LENGTH</th>
<th>COMP. (inch)</th>
<th>LATERAL (inch)</th>
<th>O.A.L. (inch)</th>
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<td>5-9/16</td>
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</table>

**Notes:**
1) Expansion joints are sized to slip over schedule 40 pipe. Other I.D. dimensions are available.
2) Movements are non-concurrent movements. Contact General Rubber for concurrent movements, and for sizes not shown up to 96” I.D.
3) For full product specifications and installation instructions, see SPEC 1081-1, 1082-1 & 1083-1 and RW 1081-1, 1082-1 & 1083-1.

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**Optional Split Wrap Design**
Also Typical for Other Styles

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**General Rubber Corporation**

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Web: www.general-rubber.com

Fax: 201-935-1915
sales@general-rubber.com
Maxi-Joint®
Metal Braided Hose & Expansion Joints

**Style BSH-MN**
Braided Stainless Hose with Male Nipples

**Features:**
- Stainless steel corrugated hose and braid with carbon steel male NPT threaded ends
- Available in standard and non-standard lengths
- Absorbs noise, vibration, and minor misalignment

**Style BSH-RF**
Braided Stainless Hose with Rigid Flanges

**Features:**
- Stainless steel corrugated hose and braid with carbon steel plate flanges
- Available in standard and non-standard lengths
- Absorbs noise, vibration, and minor misalignment

**Style BBH-SE**
Braided Bronze Hose with Sweat Ends

**Features:**
- Bronze corrugated hose and braid with copper female sweat ends
- Available in standard and non-standard lengths
- Absorbs noise, vibration, and minor misalignment

**Style SSEJ-WE, SSEJ-RF**
Stainless Steel Expansion Joints

**Features:**
- Wide variety of stainless steel and other bellow materials
- Standard ends or custom designs
- Absorbs thermal movements, vibration, and minor misalignment
- Compensators available in an externally pressurized design with multi-Ply stainless steel bellows

**Notes:**
1.) Expansion joints are sized to slip over schedule 40 pipe. Other I.D. dimensions are available.
2.) Movements are non-concurrent movements. Contact General Rubber for concurrent movements, and for sizes not shown up to 96” I.D.
3.) For full product specifications and installation instructions, see SPEC 1081-1, 1082-1 & 1083-1 and ININ 1081-1, 1082-1 & 1083-1.
4.) **WARNING:** Anchors should be used to resist the pressure thrust force and isolate movements between expansion joints. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.
Maxi-Joint
Control Units & Accessories

Features:
- Protects expansion joints from over-expansion and over-compression
- High tensile galvanized steel rods standard, stainless steel and other materials available
- Galvanized gusset plates standard, stainless steel and other materials available
- Rubber grommets isolate vibration and are standard on sizes 1”-12” diameter
- Internal nuts or compression sleeves available and prevent over-compression
- Spherical washers available and prevent binding while minimizing lateral forces
- Double nuts are used to lock limit points and allow for field adjustment
- Other standard drilling available, including ASA 300, DIN, PN, JIS, API, and Navy
- Universal tied / self-guiding control units available and prevent squirming on longer expansion joints
- Hinges are available and allow for angular movement in one dimension
- Gimbles are available and allow for angular movement in two dimensions

Style HCU
Hinged Control Units

Style PG
Pipe Guide
2.) Expansion joints should be installed between anchors. Anchors should be located at changes in pipe direction and guides should be spaced according to industry standards. Piping must be supported so the expansion joints do not carry any load. Adequate floor drains are always recommended. The maximum allowable movement in any one direction for expansion joints should be set to a maximum of 1/2 the allowable movements, equal on each side so that the sum does not exceed the allowable movement in any one direction.

3.) Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.

WARNING: Control units (sold separately) must be used when piping is not properly anchored. Number of rods are dependent upon maximum field test pressures. Expansion joints may operate in pipelines carrying fluids at elevated temperatures and pressures, so precaution should be taken to ensure proper installation and regular inspection. Care is required to protect personnel in the event of leakage or splash. Adequate floor drains are always recommended.

3.) Maximum Control Unit lengths and diameters, as well as gusset thickness, are meant to assist in determining adequate clearance and making hardware selection. The values are maximum values and are based on mild steel design. Dimensions will change when using high tensile steel and with different arrangements. Contact General Rubber and request a specific submittal drawing for your job.

4.) Outer and inner Control Unit gaps are set to a maximum of 1/2 the allowable movements, equal on each side so that the sum does not exceed the allowable movement in any one direction.

Notes:

1.) Maximum Control Unit lengths and diameters, as well as gusset thickness, are meant to assist in determining adequate clearance and making hardware selection. The values are maximum values and are based on mild steel design. Dimensions will change when using high tensile steel and with different arrangements. Contact General Rubber and request a specific submittal drawing for your job.
2.) Expansion joints should be installed between anchors. Anchors should be located at changes in pipe direction and guides should be spaced according to industry standards. Piping must be supported so the expansion joints do not carry any load. Contact General Rubber for more details.
Maxi-Joint®
Duct Type Expansion Joints with Slip-on Ends

Style 1080LW, 1081LW, 1091

Features:
• Versatile hand-built construction allows General Rubber to work with the system requirements to develop an optimal and cost-effective solution
• 250°F continuous service standard, 400°F available
• The no arch Style 1080 typically incorporates wire reinforcement for higher pressure and vacuum ratings, while the no arch Style 1080LW has no wire and is designed for ducting applications operating within ± 5 PSIG
• The single and multiple arch styles 1081LW, 1082LW, 1083LW and 1084LW are also designed for ducting applications operating within ± 5 PSIG as well as requiring significant all directional movement and/or low deflection forces
• The unique beaded ends on the fully molded Style 1091 prevent the sleeve from being pulled out from under the clamps, making this design ideal for vibrating bin activators as well as other industrial OEM equipment
• Economical slip-on design eliminates the need for mating flanges and hardware
• Wide variety of tube and cover elastomers available, including Pure Gum Rubber, EPDM, Neoprene, Butyl, Nitrile, Hypalon®, Viton®, Food Grade, and more

Maxi-Joint®
Duct Type Expansion Joints with Slip-on Ends

Style 1080LW
No Arch, Expansion Joints

Style 1081LW
Slip-on, Expansion Joints

Style 1091
Beaded Endless Belt
Available in 4” and 5” Widths
Bead is 1/4” Wide

Optional Split Wrap Design
Also Typical for Other Styles
Maxi-Joint®
Duct Type Expansion Joints with Rigid Flanges

Style 1092, 1097
Features:
- Up to 400°F and ± 3 PSI continuous service
- Zero porosity in wet or dry service
- Economical, all molded construction
- Standard face to face dimensions of style 1092 include 3", 4", 6", 8", 9" or 12" with molded flanges
- Round and rectangular designs in all styles
- Exceptional all directional movement capability
- Absorbs system noise, vibration and shock
- Compensates for minor misalignment and offset
- Integral flanged design
- Low stiffness and deflection forces
- Simple to install, lightweight and high strength
- Provides easy access to ducting and equipment
- Carbon steel, stainless steel, or hot dipped galvanized backup rings available for easy bolting to mating flanges
- Custom face to face dimensions with style 1097
- No gaskets required
- Excellent chemical and abrasion resistance
- Wide variety of tube and cover elastomers available

1092 – MOLDED FLANGE, FIXED FACE DESIGN

<table>
<thead>
<tr>
<th>Installed LENGTHS (inch)</th>
<th>MFD F/F + (inch)</th>
<th>MOVEMENT CAPABILITIES (inch)</th>
<th>Lateral</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Comp.</td>
<td>Ext.</td>
</tr>
<tr>
<td>3</td>
<td>1/2</td>
<td>1</td>
<td>1/2</td>
</tr>
<tr>
<td>4</td>
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</tr>
<tr>
<td>12</td>
<td>1/2</td>
<td>4</td>
<td>3/4</td>
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</tbody>
</table>

1097 – MOLDED FLANGE, VERSATILE FACE TO FACE CONSTRUCTION

<table>
<thead>
<tr>
<th>Installed LENGTHS (inch)</th>
<th>MFD F/F + (inch)</th>
<th>MOVEMENT CAPABILITIES (inch)</th>
<th>Lateral</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Comp.</td>
<td>Ext.</td>
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<td>1/2</td>
</tr>
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<td>6-1/2 - 9</td>
<td>3/4</td>
<td>2</td>
<td>3/4</td>
</tr>
<tr>
<td>9-1/2 - 12</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

Notes:
1.) Extension movement capabilities can be increased with additional pre-compression during installation.
2.) Anchors should be used to resist the pressure thrust force and isolate the thermal movements between expansion joints.
3.) For vacuum or large pre-compressed applications, a set-back may be required to keep the expansion joint from protruding into the gas stream or touching the flow liner/baffle.
4.) Retaining Rings/Backing Bars of 1/4" thickness standard. ~ Suggested bolt spacing at 4" centers max.
5.) For full product specifications and installation instructions, see SPEC 1092-1 and 1097-1 and ININ 1092-1 and 1097-1.
Maxi-Joint®
Duct Type Expansion Joints with Rigid Flanges

Style 1093
Features:
- Up to 600°F and ± 3 PSI continuous service
- 9 Mil thick laminated fluoroplastic PTFE corrosion barrier
- Round and rectangular designs in all styles
- Exceptional all directional movement capability
- Absorbs system noise, vibration and shock
- Compensates for minor misalignment and offset
- Integrally flanged design
- Low stiffness and deflection forces
- Simple to install, lightweight and high strength
- Provides easy access to ducting and equipment
- Carbon steel, stainless steel, or hot dipped galvanized backup rings available for easy bolting to mating flanges
- Superior chemical resistance
- Zero porosity in wet and dry service
- Heat form and sealed to any size and arrangement

<table>
<thead>
<tr>
<th>1093 – MOLDED FLANGE</th>
<th>VERSATILE FACE TO FACE CONSTRUCTION</th>
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<tbody>
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</tr>
<tr>
<td>12-1/2 - 16</td>
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</tbody>
</table>

Notes:
1.) Extension movement capabilities can be increased with additional pre-compression during installation.
2.) Anchors should be used to resist the pressure thrust force and isolate the thermal movements between expansion joints.
3.) For vacuum or large pre-compressed applications, a set-back may be required to keep the expansion joint from protruding into the gas stream or touching the flow line/surfaces.
4.) Retaining Rings/Backing Bars of 1/4” thickness standard. Suggested bolt spacing at 4” centers max.
5.) Flange gaskets suitable for the system temperature and fluid media should be used to ensure a full seal on all fluoroplastic styles (Style 1093).
6.) For full product specifications and installation instructions, see SPEC 1093-1 and INN 1093-1.
Maxi-Joint®
Duct Type Expansion Joints with Rigid Flanges

**Style 1094**

**Features:**
- Up to 1,000°F and ± 3 PSI continuous service
- 1/2" thick laminated fiberglass insulation layer
- Laminated fluoroplastic PTFE corrosion barrier
- Round and rectangular designs in all styles
- Exceptional all directional movement capability
- Absorbs system noise, vibration and shock
- Compensates for minor misalignment and offset
- Integrally flanged design
- Low stiffness and deflection forces
- Simple to install, lightweight and high strength
- Provides easy access to ducting and equipment
- Carbon steel, stainless steel, or hot dipped galvanized backup rings available for easy bolting to mating flanges
- Heat form and sealed to any size and arrangement

### 1094 – MOLDED FLANGE
VERSATILE FACE TO FACE CONSTRUCTION

<table>
<thead>
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<th>Installed LENGTHS (in)</th>
<th>MFD F/F (in)</th>
<th>MOVEMENT CAPABILITIES (in)</th>
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<tr>
<td>12-1/2 - 16</td>
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<td>5</td>
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</table>

**Style 1094**
Single (Fully Laminated) Layer Expansion Joints

---

Notes:
1.) Extension movement capabilities can be increased with additional pre-compression during installation.
2.) Anchors should be used to resist the pressure thrust force and isolate the thermal movements between expansion joints.
3.) For vacuum or large pre-compressed applications, a set-back may be required to keep the expansion joint from protruding into the gas stream or touching the flow liner/baffle.
4.) Retaining Rings/Back up Bars of 1/4" thickness standard. – Suggested bolt spacing at 4" centers max.
5.) Flange gaskets suitable for the system temperature and fluid media should be used to ensure a full seal on all fluoroplastic styles (Style 1094).
6.) For full product specifications and installation instructions, see SPEC 1094-1 and ININ 1094-1.
Maxi-Joint®
Duct Type Expansion Joints with Rigid Flanges

**Style 1095**

**Features:**

- Up to 500°F and ± 3 PSI continuous service
- Cycle life in the millions
- Solid fluoroplastic PTFE construction
- Ultimate chemical resistance
- Round and rectangular designs in all styles
- Exceptional all directional movement capability
- Absorbs system noise, vibration and shock
- Compensates for minor misalignment and offset
- Integral flanged design
- Low stiffness and deflection forces
- Simple to install, lightweight and high strength
- Provides easy access to ducting and equipment
- Carbon steel, stainless steel, or hot dipped galvanized backup rings available for easy bolting to mating flanges
- No fiberglass component to fatigue
- Heat form and sealed to any size and arrangement

<table>
<thead>
<tr>
<th>Installed LENGTHS (inch)</th>
<th>MFD F/F + (inch)</th>
<th>MOVEMENT CAPABILITIES (inch)</th>
<th>Lateral</th>
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<tr>
<td>12-1/2 - 16</td>
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<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

Notes:

1.) Extension movement capabilities can be increased with additional pre-compression during installation.
2.) Anchors should be used to resist the pressure thrust force and isolate the thermal movements between expansion joints.
3.) For vacuum or large pre-compressed applications, a set-back may be required to keep the expansion joint from protruding into the gas stream or touching the flow lines/tubes.
4.) Retaining Rings/Backing Bars of 1/4" thickness standard. Suggested bolt spacing at 4" centers max.
5.) Flange gaskets suitable for the system temperature and fluid media should be used to ensure a full seal on all fluoroplastic styles (Style 1095).
6.) For full product specifications and installation instructions, see SPEC 1095-1 and ININ 1095-1.
Maxi-Joint
Composite Belt Type Expansion Joints

**Style 1096FF, 1096DB, 1096RF, 1096AF**

**Features:**
- Flue gas service up to 1200°F continuous service
- 9 Mil thick laminated fluoroplastic PTFE corrosion barrier standard for superior chemical resistance
- Excellent all directional movement capability
- Absorbs system noise, vibration, and shock
- Field surveys and evaluations available
- Easy to field splice or repair by heat sealing
- Provides easy access to ducting and equipment
- Available with single or double baffles to protect composite belt from abrasive materials

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### MOVEMENT CAPABILITIES - STYLE 1096

<table>
<thead>
<tr>
<th>Width</th>
<th>Compression</th>
<th>Elongation</th>
<th>Lateral</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>2</td>
<td>1/2</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>3</td>
<td>3/4</td>
<td>1-1/2</td>
</tr>
<tr>
<td>12</td>
<td>4</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>16</td>
<td>5</td>
<td>1</td>
<td>3-1/2</td>
</tr>
</tbody>
</table>

### PRESSURE/VACUUM RATING

± 3 PSI Excursion

All dimensions expressed in inches.

<table>
<thead>
<tr>
<th>Style</th>
<th>Composite Construction</th>
<th>Temperature (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCJ-800 T</td>
<td>Fluoroplastic/Fiberglass</td>
<td>800 900</td>
</tr>
<tr>
<td>HCJ-1000 T</td>
<td>Fluoroplastic/Fiberglass</td>
<td>1,000 1,100</td>
</tr>
<tr>
<td>HCJ-1200 T</td>
<td>Fluoroplastic/Fiberglass</td>
<td>1,200 1,300</td>
</tr>
</tbody>
</table>

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**Style 1096FF**
(Flat Flanges)

- Bolt In Style
- Weld In Style
- Optional: Single Break Baffle (1/8” A-36 Standard)
- Temperature (F):
  - HCJ-800 T: 800 900
  - HCJ-1000 T: 1,000 1,100
  - HCJ-1200 T: 1,200 1,300

**Style 1096DB**
(Double Baffle)

- Bolt In Style
- Weld In Style
- Double Action Baffle Design

**Style 1096RF**
(Retro-Fit)

- Bolt In Style
- Weld In Style
- New Mounting Plates

**Style 1096AF**
(Angle Iron Flanges)

- Bolt In Style
- Weld In Style
- Joint I.D.
- F/F

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Toll Free: 800-233-6294
Web: www.general-rubber.com

general rubber corporation
Maxi-Joint®
Duct Type Expansion Joints with Rigid Flanges

Style 1098

Features:
• Versatile hand-built construction allows General Rubber to work with the system requirements to develop an optimal and cost-effective solution
• Single or multiple arch Style 1098 is designed for round or rectangular ducting systems operating within 400°F and ± 3 PSIG as well as requiring significant all directional movement and/or low deflection forces
• Round and rectangular designs in all styles
• Exceptional all directional movement capability
• Absorbs system noise, vibration and shock
• Compensates for minor misalignment and offset
• Integrally flanged design
• Low stiffness and deflection forces
• Simple to install, lightweight and high strength
• Provides easy access to ducting and equipment
• Carbon steel, stainless steel, or hot dipped galvanized backup rings available for easy bolting to mating flanges
• No gaskets required
• Excellent chemical and abrasion resistance
• Wide variety of tube and cover elastomers available

Style 1098 with 6 molded arches, Viton® tube and cover developed for Lawrence Livermore National Lab’s (NIF) National Ignition Facility Program.

Notes:
1.) Contact General Rubber with your design conditions and we will provide a detailed drawing with our proposal.
2.) Anchors should be used to resist the pressure thrust force and isolate the thermal movements between expansion joints.
3.) For vacuum or large pre-compressed applications, a set-back may be required to keep the expansion joint from protruding into the gas stream or touching the flow liner/baffle.
4.) Retaining Rings/Backing Bars of 1/4” thickness standard – Suggested bolt spacing at 4” centers max.
5.) For full product specifications and installation instructions, see SPEC 1098-1 and ININ 1098-1.

Toll Free: 800-233-6294
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Fax: 201-935-1915
sales@general-rubber.com
Maxi-Joint®
Teflon® Spray Shields

**Style TSS**

**Features:**
- Safely deflects harmful spray-out if leakage occurs at flanges, valves, or expansion joints
- Solid fluoroplastic PTFE construction offers superior chemical resistance and 400°F service
- Simple to Install, lightweight, and high strength
- Also used as solar covers in desert environments
- Metal shrouds can be used for similar purpose and are available

---

**Rope**
Tied Together At Both Ends Over Lapping The Solar Cover

**Section E - E**

Fiber Rope
**Maxi-Joint®**

**Link Penetration Seals**

**Style LPS**

**Features:**
- Seals pipes through walls, floors, and casings
  Sealing pressure 20 PSI (40 feet of head) and 250°F service
- Seals around any round or radius penetration
- Wide variety of sealing elements, pressure plates and hardware available
- Absorbs noise, vibration and minor misalignment
- Simple to install, most cost-effective solution

**Expansion Penetration Seals**

**Style EPS**

**Features:**
- Seals pipes through walls, floors, and casings
  with excellent all directional movement capability and low deflection forces
- Absorbs noise, vibration, pipe misalignment, thermal movements, ground settlement, and seismic displacements
- Sealing pressure 20 PSI (40 feet of head) and 250°F service
- Versatile flanged or slip-on designs
- Custom designs available for larger movements, higher pressure and/or higher service temperature
- Wide variety of sealing elements and hardware available

Optional Split Wrap Design
Also Typical for Other Styles

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Web: www.general-rubber.com
Fax: 201-935-1915
sales@general-rubber.com
Handling your toughest applications since 1950.

**POWER GENERATION**

General Rubber products are used on condenser water boxes, cooling towers, steam turbine exhaust lines, cooling water lines, scrubber units, and FGD systems.

**WATER AND WASTE TREATMENT**

Flexible connections and pinch valves are required on sludge and grit pumps, digesters, aeration systems, blowers, odor control, and methane gas ducting.

**CHEMICAL PROCESSING**

Expansion joints and pinch valves of chemical-resistant materials are required on caustic chemical pumps, digesters and scrubbers, and are found throughout the piping and ducting system.

**PAPER AND PULP**

Bleaching systems and lines containing white, black, and green liquors require chemical-resistant General Rubber products along with the pulp slurry pumps and scrubber units.

**HVAC**

Pump connectors and other noise vibration control products will reduce noise and vibration generated from mechanical equipment, including pumps, chillers, compressors, fans, heat exchangers, and cooling towers. They are also used to absorb thermal movements and vibration in risers and other pipelines.

**MINING**

The extremely abrasive slurry in tailing lines requires Pure Gum Rubber expansion joints and pinch valves. The ducting also often requires chemical-resistant flexible connections.

**MARINE**

Shipboard piping and ducting utilize Neoprene connectors built to Coast Guard, ABS, and ASTM F-1123-87 standards.

**The General Rubber Advantage**

High-quality General Rubber products solve problems in a remarkable number of applications, from electric boats to paper mills to major resort hotels. We have been audited and approved for use by the Nuclear Procurement Issues Committee (NUPIC). Nuclear and other power generating facilities select General Rubber because performance and reliability are critical.

As the pollution abatement and waste water treatment industries came of age, General Rubber responded by developing corrosion and abrasion-resistant products to meet their specific requirements. Similarly, chemical processing plants, paper mills, and mining operations have learned that they can depend on General Rubber products.

Milwaukee Park Stadium and many other commercial and industrial venues use General Rubber vibration control products for their heating, ventilation, and air conditioning (HVAC) systems to relieve stress and absorb objectionable noise and vibration. Ships, including the USS Cole, use General Rubber expansion joints to save space, reduce noise, and isolate vibration.

The General Rubber customer commitment is evident in every aspect of our business. Our sales team includes engineers who are prepared to discuss the intricacies of the application. They know what questions to ask to identify the best solution at the best price. If an effective solution cannot be obtained from our extensive product line, our professional engineers will custom design a solution optimal for your application. This willingness to search for answers is deeply ingrained in our customer commitment and lies behind our tradition of releasing new and innovative products each year.

Executive Vice President Amy Hammarstrom has a B.S. in Business Administration and is a Certified Auditor. Her primary responsibilities are to lead the internal operations and to enforce the ISO 9001 certified quality program.
Maxi-Joint is a brand under General Rubber Corp. representing our comprehensive line of expansion joints, flexible connectors, rubber flanged hoses and related accessories, as well as spray shields and penetration seals. These products provide critical functions in piping and ducting systems.

Since our inception in 1950, General Rubber Corp. has designed and developed a wide range of mechanical rubber products used in the most demanding applications. Rubber is one of the most compliant and resilient materials available. This not only makes it an ideal material for car tires, but also for expansion joints and flexible connectors. With a flexing cycle life in the tens of millions, fatigue is simply not a design concern.

Improved performance and engineered solutions are often accomplished by incorporating advanced materials and technologies to what otherwise would be considered a conventional product line. This benefits both the specifying engineer designing an optimal system, as well as the customer performing maintenance on, or upgrading an aging system.

Piping and ducting systems require support and flexibility as critical design elements. The obvious consequence of inadequate support is catastrophic system failure that can also be life threatening. It is less obvious however, that inadequate flexibility can produce the same devastating consequences. System flexibility is required to absorb thermal movements, ground settlement, misalignment, vibration and shock. The features and benefits of our expansion joints include absorbing these forces and displacements, and replacing them with the expansion joint's low stiffness (spring rate). In addition, our products absorb noise and vibration, as well as provide easy access to piping and equipment. Applying expansion joints to your system is the subject and title of the linked article published in Pumps and Systems magazine. It remains a good reference for understanding piping system requirements and basic expansion joint functions, including the role of control units in anchored and unanchored systems.

Improved performance is directly related to our materials of construction and design. We utilize industry leading construction materials including premium elastomeric compounds, tire cord and high tensile steel reinforcement. Utilizing tire cord is a good example of optimizing a design with advanced materials. The tire cord is engineered with a Resorcinol-Formaldehyde Latex (RFL) coating for superior bonding to the rubber. The cords themselves can be aligned on an optimal bias ply angle, offering tailored strength in the directions needed. This virtually eliminates delamination and reduces the total number of plies required. The result is improved performance in the form of increased movement capability and decreased spring rates, as well as improved reliability.
Style 1101CR is an economic and space-saving way to combine a concentric pipe fitting with an expansion joint.

Style 1082 Slip-On type with double arches allows for maximum movement with minimum cost.

New design features in piping expansion joints is the subject and title of the linked paper presented at The American Power Conference. It also remains a good reference for understanding the incredible performance improvements that can be achieved when advanced materials and technologies are utilized.

Engineered solutions are also directly related to our many years of experience and understanding of demanding applications. For example, supplying high pressure and self retracting expansion joints on offshore mooring platforms provided us with the understanding to do the same on a massive scale for the CCWP project in Qatar. This project required hundreds of much larger diameter high pressure dismantling expansion joints. We are proud of an environmental award we earned from the Fluid Sealing Association and Chemical Engineering magazine for submitting the linked case study on this project. Similarly, supplying original equipment into many nuclear power plants has also provided us with the opportunity and ability to upgrade both metal and rubber expansion joints for higher performance and greater reliability. In general, replacement and retrofit work often requires building the product to existing field dimensions, including permanent offsets caused by ground settlement, un-restrained thrust forces or equipment substitution. The custom fit unit is easier to install and will have a longer maintenance free life. Utilizing improved materials and designs will also improve the product’s service life and reliability as well. We are experienced at obtaining the relevant field information and producing an optimal product for that application.

Maxi-Joint expansion joints and flexible connectors provide critical design elements in piping and ducting systems. The experience and capability of General Rubber can effectively utilize these products in even the most demanding applications. In consideration of our products, you are assured that every aspect of your project will be our priority.

Thank you for your consideration.