Expansion Joint Components

Tube

- Synthetic or natural rubber forms seamless, leak-proof lining
- Extends fully through bore to outer flange edge
- Common materials include chlorobutyl, neoprene, natural rubber, EPDM, Viton* and Hypalon*

Body or Carcass

- When wrapped or plied, reinforcements provide support and flexibility between tube and cover
- Fabric reinforcement: polyester or other suitable fabrics impregnated with specified elastomers
- Metal reinforcement: bonded rectangular steel rings exclusive to Garlock, or continuous strands of wire and round steel body rings
- Metal reinforcement rings provide longer service life, extra safety protection, and extra rigidity, allowing higher pressure ratings

Cover

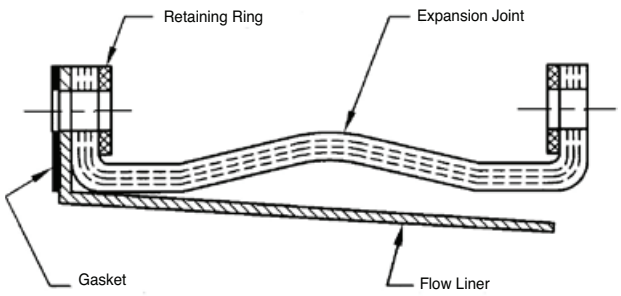
- Homogeneous layer of synthetic or natural rubber
- Chlorobutyl is standard; other elastomers available to meet your specific applications
- Rubber or other weather-resistant coating protects carcass from corrosion or damage

Metal Retaining Rings

- Must be used in all applications; provides metal surface to distribute bolting pressure equally, preventing flange damage during bolt tightening
- Install against external flange surface
- Standard material: mild steel with corrosion-resistant coating; galvanized or stainless steel also available

Metal Flow Liners

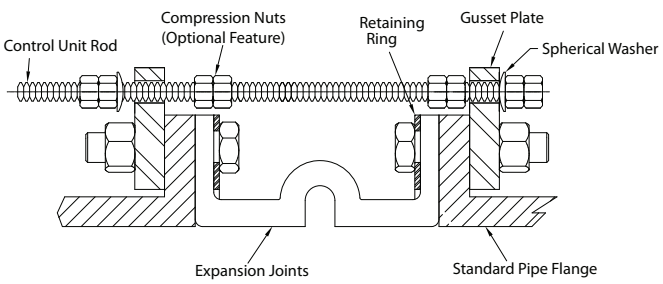
- Extends service life by providing protection from abrasive materials or solids, especially in high velocity applications
- Flanged at one end, installed at the head of the flow, tapered to a 5° angle, allows lateral deflection
- Liner flange thickness: 10 gauge
  Liner body thickness: 12 gauge
- Available in 304/316 stainless steel; also: titanium, Hastelloy C**
- Special metal liner configurations also available for reducing or multiple arch design. Contact Garlock.



Metal Flow Liner Installation

Control Units

- Recommended on most applications to prevent damage due to excessive pipe movements
- Consists of two or more tie rods connected between pipe flanges
- Triangular end plates (gussets) have two holes for bolting securely to flange, and one hole to accommodate the connecting tie rod
- Spherical washers are incorporated to accomodate moderate piping alignments, but also assists with angular, torsional and lateral movements
- Each rod incorporates double nuts on each end to keep the expansion joint from over-elongating
- When excessive axial compression is a concern, compression nuts can be incorporated to restrict movements as needed and to protect the expansion joint from damage
- NOT designed to replace pipeline anchoring



Typical Control Unit for Rubber Expansion Joint