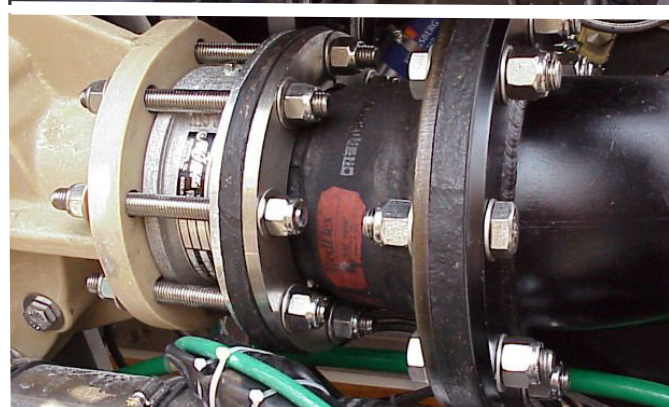
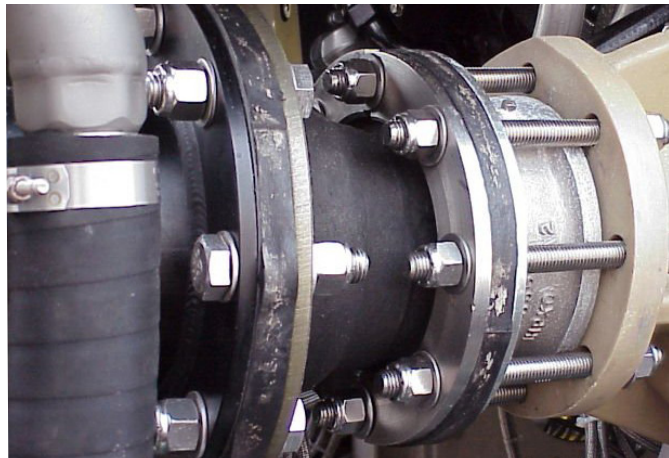


Red Valve

Redflex® Expansion Joints



# Redflex® Expansion Joints

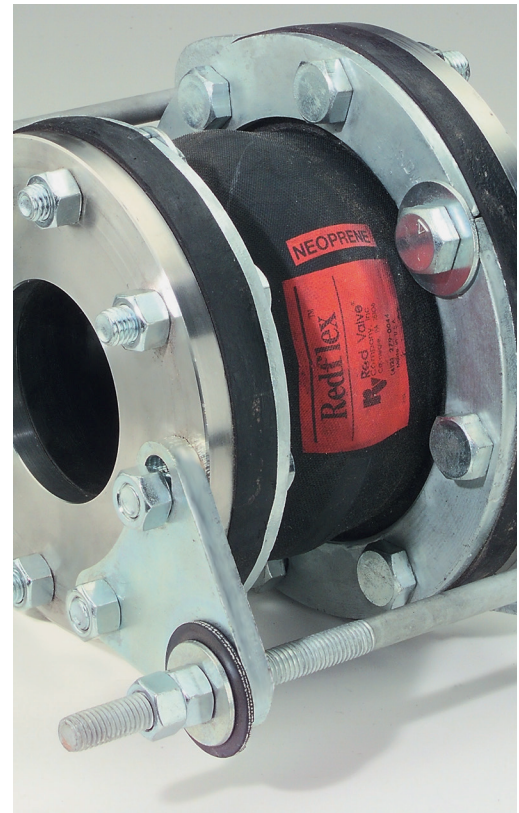
## Engineered for Performance, Precision & Reliability

Redflex® Expansion Joints, from Red Valve, are expertly designed to reduce piping stress, absorb movement, minimize noise, and isolate vibrations, ensuring smoother, more efficient operations across a wide range of industries.

Proudly manufactured in the USA, Redflex® Expansion Joints can be customized to fit your specific needs. Available in a variety of styles and configurations, these joints effectively accommodate pipe size reductions, misalignments, and offsets. We offer both flanged and slip-on connections, with options for single or multiple arches, open or filled, and a wide selection of elastomers to meet diverse process conditions.

Our product line also includes a variety of rubber fittings, elbows, vibration-dampening pipe, and rubber pipe for radius turns. In addition to standard options, Red Valve specializes in custom rubber fabrications tailored to your unique requirements.

Whether you're looking for a solution to enhance system performance, minimize wear, or ensure long-term reliability, Redflex® Expansion Joints and Rubber Fittings offer exceptional durability and flexibility to meet demanding application requirements.



## Sewage Treatment

Redflex® Expansion Joints are used throughout the wastewater treatment process, and are one of the most widely used product lines in sewage treatment plants around the world. Available in sizes 1-36" (25-900mm), they are successfully applied in the following applications:

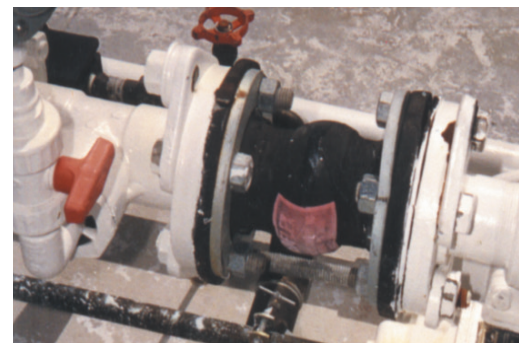
- Aeration
- Blowers
- Odor Control
- Sludge Pumps
- Raw Sewage
- Centrifugal Pumps
- Grit Removal
- Activated Sludge



## Industrial

The durable, all-elastomer construction of Redflex® Expansion Joints protects industrial piping systems from movement, stress, abrasion and corrosion.

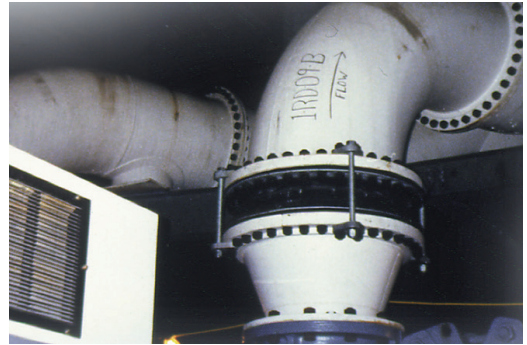
- Pulp & Paper Mills
- Chemical Processing
- Oil Refineries
- Cement Production
- Leather Tanning
- Food & Pharmaceutical



## Power Generation

Whether a power plant is coal fired, combined cycle, or co-generation - facilities around the world use Redflex® Expansion Joints on a wide range of applications.

- Scrubber Systems
- Cooling Water
- Pumps
- Ash Slurry
- Precipitators
- I.D. and F.D. Fans
- Preheaters
- Condenser-Turbine Connections



## HVAC

Redflex® Expansion Joints are ideal for HVAC systems on chilled water lines, condenser piping, water chiller inlets and adjacent to compressors to stop the transmission of vibration.

- Schools
- Stores
- Hotels & Motels
- Commercial Office Buildings
- Hospitals
- Stadiums



## Marine

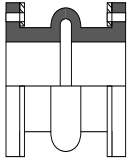
Redflex® Expansion Joints are installed aboard many types of marine vessels to absorb the transmission of vibration from pumps and blowers to increase operating efficiency.

- Compatible in Saltwater Environment
- Reduces Electrolysis
- Reduces Maintenance

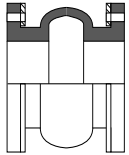


# Expansion Joint Types

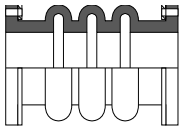
Many types of expansion joints, connectors, rubber pipes and fittings are available to meet almost any installation requirement.



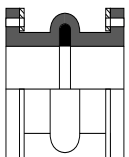
**Standard** - Single arch for use where the initial misalignment of the pipes to be connected does not exceed 1/8". Flanges must be parallel.



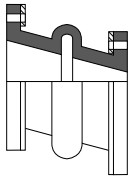
**Wide Arch** - Same face-to-face as standard Expansion Joint, but with greater movement capability. Can be used in place of multiple arches.



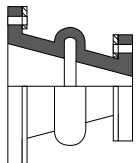
**Multiple Arch** - Standard joint with two or three arches. Recommended for greater movement where face-to-face dimensions are not limited.



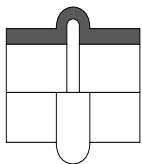
**Filled Arch** - Joints can be provided with filled arches to create a smooth bore to eliminate the possibility of buildup. The soft rubber filler restricts the movement of the joint to 50% of open arches.



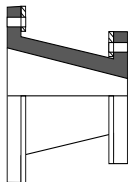
**Offset** - Used where initial misalignment of the axis of two pipes exceed 1/8" and where flanges are out of parallel.



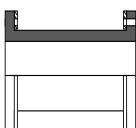
**Tapered** - Concentric or eccentric designs are used to connect flanges with different diameters – whether parallel or offset — with initial alignment less than 1/8". Particularly suited for centrifugal pump installations.



**Slip-On** - Standard joints are available with sleeve ends. Designed for slipping over pipe ends, special face-to-face dimensions are available.



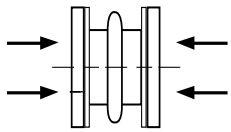
**Reducers** - Concentric or eccentric reducers are used to connect flanges with different diameters — whether parallel or offset — where expansion or contraction of the joint will not occur.



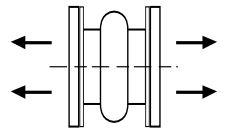
**Rubber Pipes & Fittings** - Replaces steel or cast iron pipe in straight runs or specified bends in working pressures up to 250 psi (1720 kPa). Vibration pipe is used to control vibration and reduce noise from pumps and compressors. Rubber and Vibration Pipe are both available with slip-on ends for low pressures. Fittings are available in 45° and 90° elbows, Y connectors, and T's.

# Expansion Joint Movements

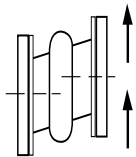
Expansion joints compensate for movements caused by thermal expansion and contraction, seismic events, machinery and line pressure.



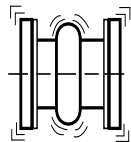
**Axial Compression** - The dimensional reduction or shortening in the face-to-face parallel length of the joint measured along the longitudinal axis.



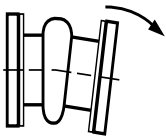
**Axial Elongation** - The dimensional increase or lengthening of face-to-face parallel length of the joint measured along the longitudinal axis.



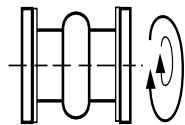
**Lateral or Transverse Deflection** - The movement or relating displacement of the two ends of the joint perpendicular to its longitudinal axis.



**Vibration** - The ability of a flexible connector to absorb mechanical oscillations in the system, usually high frequency.



**Angular Movement** - The angular displacement of the longitudinal axis of the expansion joint from its initial straight line position, measured in degrees. This is a combination of axial elongation and axial compression.



**Torsional Movement** - The twisting of one end of an expansion joint with respect to the other end about its longitudinal axis. Such movement is measured in degrees.

## Accessories

Red Valve offers a variety of expansion joint accessories including anchoring pipes, retaining rings and control units to control expansion and contraction, and expansion joints, vibration pipe and rubber reducers in piping systems.



*Redflex® Expansion Joint Retaining Rings*



*Red Valve offers a worldwide, world-class custom service network. With corporate offices in Pittsburgh, PA, manufacturing facilities in Gastonia, NC, and a network of sales representatives around the globe, Red Valve has the sales engineering team to help you select the best choice of valves and related products for your applications.*



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