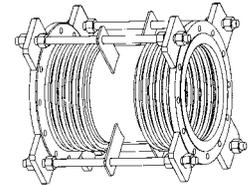


# SPECIAL DESIGN EXPANSION JOINTS

## DESCRIPTION & APPLICATIONS:

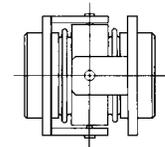
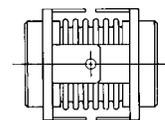
### UNIVERSAL

The universal design consists of a dual bellows which are tied the entire length of the expansion joint. Universal expansion joints are typically used to accommodate large amounts of lateral motion. When they are used in conjunction with 90° piping direction changes, they can be used in pipe runs where extensive anchoring and guiding cannot be provided. Force required to offset is low provided adequate length is available. As the length between the bellows increases, the spring rate decreases.



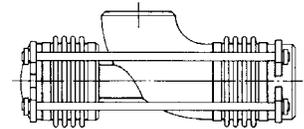
### HINGED & GIMBALED

In situations where only angular movement is to be allowed, hinged and gimbaled expansion joints are the solution. Hinged joints are designed to take up angular motion in a single plane. Slotted hinge expansion joints permit axial movement through use of a slot, and require main anchors. Gimbal bellows will allow angular motion in all planes. Hinged and gimbaled joints are commonly used in combination to absorb various movements.



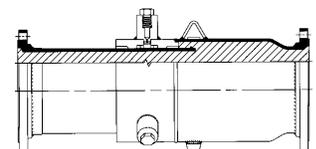
### PRESSURE BALANCED

An elbow style expansion joint designed for applications involving 90° change of direction and situations where main anchors cannot be placed in the system. The elbow is permitted to float free of bellows thrust forces. Either single or dual bellows pressure balanced are available. In-line pressure balanced expansion joints are constructed for axial applications of straight runs of pipe that cannot provide main anchors to react the pressure thrust of the expansion joint.



### SLIP-PAK

Slip-Pak expansion joints are an excellent choice when a heavy duty, long-life product is needed to take up large amounts of axial motion. Movements can be absorbed at high pressures and temperature. These joints are internally and externally guided. Long product life is assured by re-packing while in service. Meets MIL-E-17814E. Available in single or dual configurations.



### RECTANGULAR

Rectangular metallic bellows expansion joints are fabricated to absorb vibration and thermal movements in duct systems. High profile, low spring-rate corrugations will allow for large amounts of movement in short face-to-face designs. Flanges can be either internal or external. A variety of alloys can be used to assure trouble-free operation in high temperature conditions. Axial, lateral, and angular movement can all be accommodated. Similar, low-pressure bellows are also manufactured for circular duct systems.

