



MICROFLEX INDUSTRIAL

INTRODUCTION
EXPANSION JOINTS



ABOUT

Founded in 1975 by Josif and George Atanasoski, Microflex Inc. has become a global provider of high quality flexible metal products serving the automotive, petrochemical, and power generation industries.

Located in a fully integrated, 120,000 sq. ft. manufacturing facility in Ormond Beach, Florida, Microflex designs, builds, and operates the world's most advanced metal forming and braiding equipment. Among their over 160 employees is a staff of engineers that design products for reliability and value.

Microflex holds many manufacturing quality certifications, including ISO9001, which assure the customer of a quality product, delivered on time.

DISCLAIMER

Since Microflex Inc. does not control or supervise any additional fabrication, installation or use of our products, we cannot assume responsibility for subsequent performance of the misapplication of the product data in any of our catalogs.

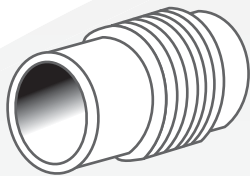
DESIGN



There are several different types of expansion joints. Each is designed to operate under a specific set of design conditions.

The following is a listing of the basic types of expansion joint designs, along with a brief description of their features and application requirements.

Although all of the following are pictured as round models, rectangular models are also available. The Information found in this catalog provided by the **Expansion Joint Manufacturers Association**.

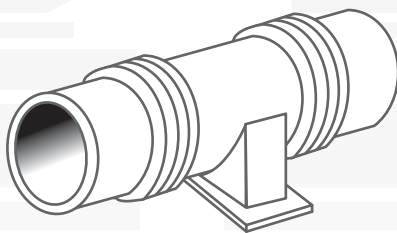


SINGLE EXPANSION JOINT

TYPE SINGLE

The simplest form of expansion joint of single bellows construction, **single expansion joints** absorbs all of the movement of the pipes section into which it is installed.

For more information, see this product's catalog.



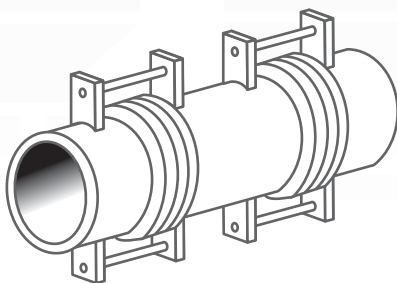
DOUBLE EXPANSION JOINT

TYPE DOUBLE

A **double expansion joint** consists of two bellows joined by a common connector which is anchored to some rigid part of the installation by means of an anchor base. The anchor base may be attached to the common connector either at installation or time of manufacture. Each bellows of a double expansion joint functions independently as a single unit.

Double bellows expansion joints should not be confused with universal expansion joints.

For more information, see this product's catalog.



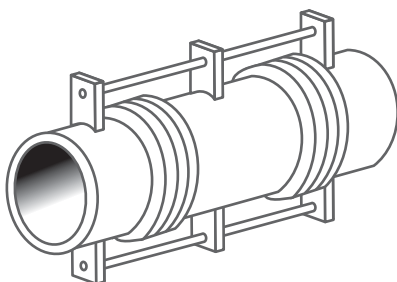
UNIVERSAL TIED EXPANSION JOINTS

TYPE UNIVERSAL TIED

Tied universal expansion joints are used when it is necessary for the assembly to eliminate pressure thrust forces from the piping system. In this case the expansion joint will absorb lateral movement and will not absorb any axial movement external to the tied length.

Universal tied, swing, hinged and gimbal type expansion joints are normally used for restraint of pressure thrust forces.

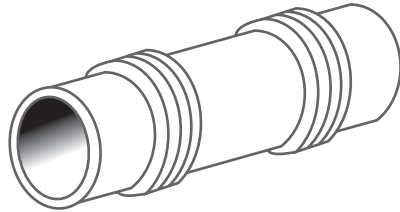
For more information, see this product's catalog.



Microflex[®] inc.

INTRODUCTION

DESIGN

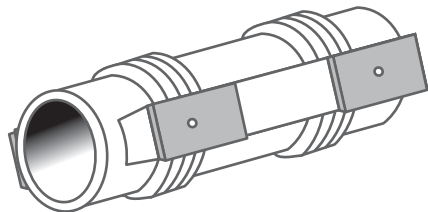
TYPE **UNIVERSAL**

UNIVERSAL EXPANSION JOINT

A **universal expansion joint** is one containing two bellows joined by a common connector for the purpose of absorbing any combination of the three basic movements.

This joint is used in cases to accommodate greater amounts of lateral movement than can be absorbed by a single expansion joint.

For more information, see this product's catalog.

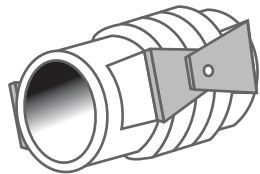
TYPE **SWING**

SWING EXPANSION JOINT

A **swing expansion joint** is designed to absorb lateral deflection and/or angular rotation in one plane only by the use of swing bars, each of which is pinned at or near the ends of the unit.

Universal tied, swing, hinged and gimbal type expansion joints are normally used for restraint of pressure thrust forces.

For more information, see this product's catalog.

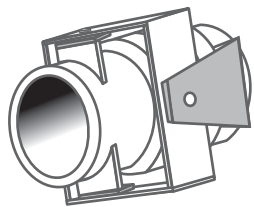
TYPE **HINGED**

HINGED EXPANSION JOINT

A **hinged expansion joint** contains one bellows and is designed to permit angular rotation in one plane only by the use of a pair of pins running through plates attached to the expansion joint ends. Hinged expansion joints should be used in sets of 2 or 3 to function properly.

Universal tied, swing, hinged and gimbal type expansion joints are normally used for restraint of pressure thrust forces.

For more information, see this product's catalog.

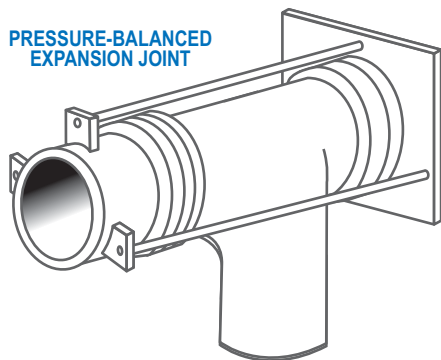
TYPE **GIMBAL**

GIMBAL EXPANSION JOINT

A **gimbal expansion joint** is designed to permit angular rotation in any plane by the use of 2 pairs of hinges affixed to a common floating gimbal ring.

Universal tied, swing, hinged and gimbal type expansion joints are normally used for restraint of pressure thrust forces.

For more information, see this product's catalog.

TYPE **PRESSURE-BALANCED**PRESSURE-BALANCED
EXPANSION JOINT

A **pressure-balanced expansion joint** is designed to absorb axial movement and/or lateral deflection while restraining the bellows pressure thrust force by means of the devices interconnecting the flow bellows with an opposed bellows also subjected to line pressure.

This type of joint is installed where a change of direction occurs in a run of pipe.

For more information, see this product's catalog.



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