



**THERMAL PRODUCTS INC.**  
Engineered Solutions To Industrial Applications

# Metallic Expansion Joints

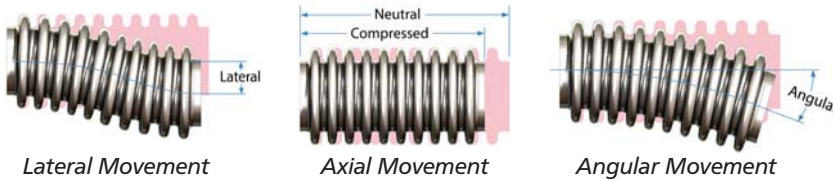
*Flexibility & Quality for the Global Market*

An expansion joint is a device containing one or more bellows used to absorb dimensional changes, such as those caused by thermal expansion or contraction of a pipeline or ducting systems.

Flexider has acquired 90 years of experience in design and fabrication of expansion joints. As a member of EJMA (Expansion Joint Manufacturers Association), Flexider is among the worldwide leaders in expansion joints.

## Design

Metal expansion joints are designed to absorb lateral, axial and angular movements in any combination, and can be fabricated in round or rectangular configurations for various working conditions.



Multiple options to meet design requirements are available:

- Multiple Plies
- Ring-Reinforced
- Restrained
- Monitored
- Pressure Balanced
- Insulated/refractory

## Our Products

Unlimited options are available: Tie Rods, Covers, Liners, Reinforcing Rings, Hinged, Gimbal, Universal, Externally Pressurized, Pressure Balanced, 2 Ply Testable, and more.

- Standard Sizes: 1 1/2" - 240" Dia. Call for larger sizing options.
- 24-48 Hour Emergency Delivery Available
- Custom designs are considered a standard at Flexider.
- Round & Rectangular
- Replacement Bellows

Our experienced Engineering Team can design your expansion joint to handle almost any pressure and movement requirements, in almost any material, including Stainless Steels, Nickel Alloys, Aluminum, Titanium, and many more exotics.

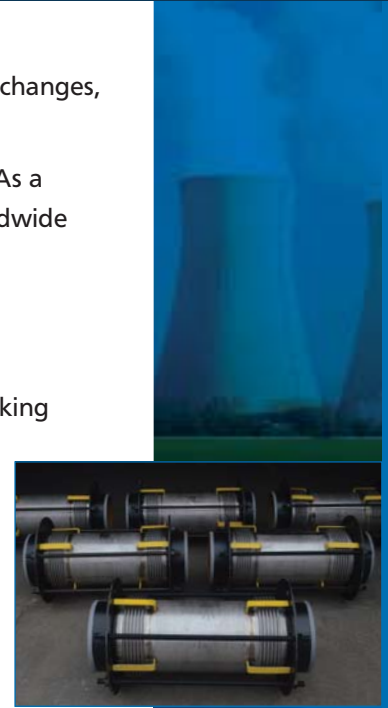
## Applications

For piping systems in various industrial applications:

- Refineries
- Power Plants
- Pulp & Paper
- Steel Mills
- LNG Processing Plants
- Marine
- Petrochemical Plants
- Waste Water Treatment Plants
- Solar Technologies
- Chemical Processing Plants
- Steam Distribution Systems
- Heat Exchangers

## Commitment to Quality

Flexider is committed to achieving total customer satisfaction through understanding our customer's needs and successfully delivering to our customers, high quality and cost effective products on time every time. This commitment to our customers is further realized by maintaining a practical but comprehensive Quality Management System and implementing its continuous improvement.



**Metallic Expansion Joints**

**Flexider USA**

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### Engineering and Design

Flexider custom designs each expansion joint to the customer's specific application requirements including pressure, temperature, required movements, spring rates and cycle life. All designs are in accordance with the latest Expansion Joint Manufacturers Association (EJMA) and/or American Society of Engineers (ASME) B31.1, B31.3 or Section VIII as required by the customer. Bellows design analysis and calculations (BDA) are provide with every order.

### Expansion Joint Styles



**S Flex**  
Tied Assembly



**S Flex**  
Hinged Assembly



**S Flex**  
Gimbal Assembly



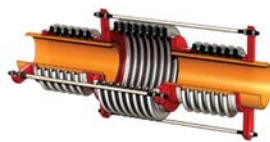
**X Flex**  
Externally Pressurized



**U Flex**  
Universal Assembly



**PB Flex**  
Externally Pressurized In-Line Pressure Balanced



**PB Flex**  
In-Line Pressure Balanced



**PB Flex**  
Pressure Balanced Elbow



**R Flex**  
Rectangular

### How to Order

To place an order or for more information regarding our products and services, please call (619) 618-2434 and one of our customer service representatives will gladly assist you. You may also email our sales team at [sales@flexiderusa.com](mailto:sales@flexiderusa.com) or visit us online at [www.flexiderusa.com](http://www.flexiderusa.com).

24 - EX S - 150 - W W - L - C - 625 - 11.375 - U - X

**Nominal Diameter**  
24

**Expansion Joint Type**  
EX - Externally Pressurized  
S - Single Bellows  
U - Universal

**Expansion Joint Style**  
U - Unrestrained  
T - Tie Rods (Lateral Movement Only)  
L - Limit Rods  
H - Hinge  
G - Gimbal  
B - Bellows Element Only  
S - Single Externally Pressurized  
D - Double Externally Pressurized

**Pressure Rating (PSIG)**  
150

**Upstream End Type**  
F - Forged Flange  
W - Weld End  
V - Vanstone  
P - Plate Flange  
A - Angle Flange  
C - Bellows Cuff (Bellows Element Only)

**Downstream End Type**  
F - Forged Flange  
W - Weld End  
V - Vanstone  
P - Plate Flange  
A - Angle Flange  
C - Bellows Cuff (Bellows Element Only)

**External Removable Cover**  
C - Cover included  
NC - Cover NOT included

**Internal Flow Liner**  
L - Liner included  
NL - Liner NOT included  
VL - Vanstone Liner

**Special Requirements**  
X - List of alternate materials of construction; special movement, spring rate, or cycle life requirements; additional non-destructive examination; special cleaning, coating, or packaging requirements; etc.

**Number of Cons**  
Fill in if known.  
U - Unknown (Manufacturer to recommend)

**Overall Length**  
11.375

**Bellows Material\***  
625

Stainless Steel	Nickel Alloys	Other
304	Alloy 200	Aluminum Alloys
304L	Alloy 201	Titanium
316	Alloy 400	Alloy X750
316L	Alloy 600	Alloy 718
317	Alloy 625	Hastelloy C276
317L	Alloy 625 LCF	Hastelloy C22
321	Alloy 800	347
904L	Alloy 825	Duplex 2205