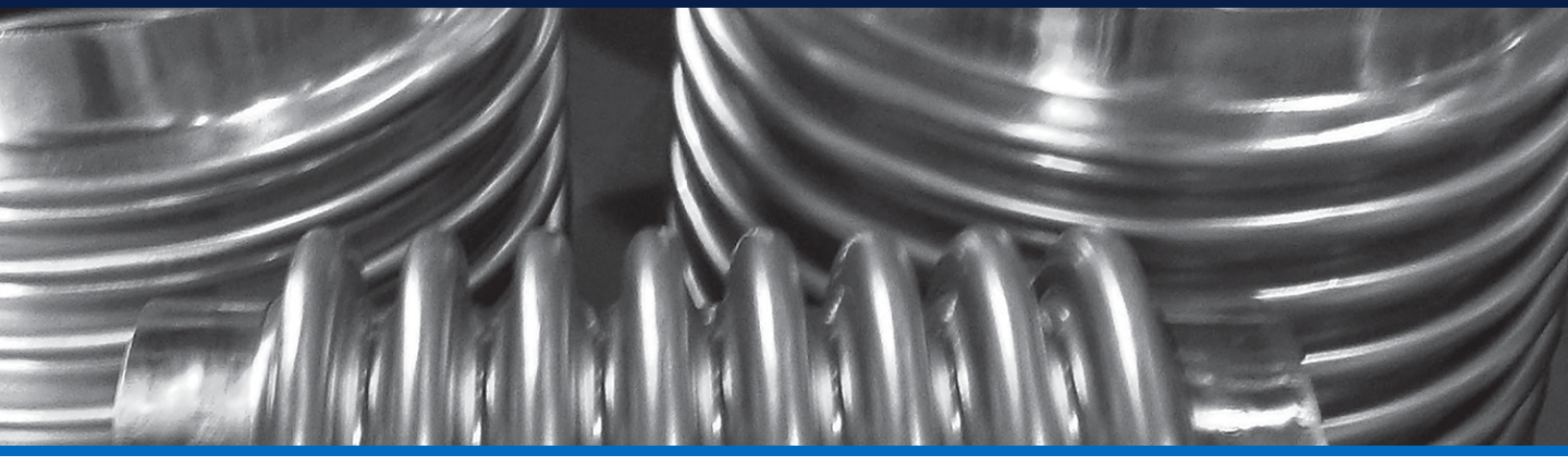
CONTROLLED MOVEMENT FOR DEMANDING PIPING

Metal expansion joints.

Bellows solutions for thermal movement in pressure piping and equipment connections.

METAL BELLOWS / MOVEMENT / PRESSURE THRUST



01

Take up movement

Bellows flex to accommodate specified axial, lateral or angular movement, depending on the joint design.

02

Manage thrust

Choose restrained or pressure-balanced designs to address system pressure thrust.

03

Match the alloy

Select stainless steel or nickel alloys around media, temperature and corrosion conditions.

Select the bellows, connections and hardware.

Catalog bellows range: 2-1/2–100 in. diameter; single- and multi-ply construction.
Alloys: 321, 304L, 310, 316 and 316L stainless; nickel alloys 400, 600, 625 and 800.
Confirm size, material and construction for the application.

Start with your application. Request a quote from Vital Hose.

DESIGNS & ASSEMBLY OPTIONS

Match the joint to the movement.

Select the configuration around movement, pressure thrust and the piping layout.

DESIGN	MOVEMENT / SELECTION
Single unrestrained	One bellows section; requires properly designed anchors and guides.
Universal	Two bellows sections for lateral movement; also allows axial and angular movement.
Tied universal	Restrains pressure thrust while allowing lateral movement; not for free external axial travel.
Hinged / gimbal	Angular rotation in one plane (hinged) or multiple planes (gimbal).
Pressure balanced	Elbow or in-line designs that balance pressure thrust; movement is design-specific.

Movement capacity and hardware must be evaluated for the complete system.

Specify the assembly as a system.

Bellows & connections

Single- or multi-ply bellows, flanged or weld ends; select alloy and thickness for service.

Hardware & accessories

Liners, covers, control or limit rods, purge connections and other hardware as required.

Documentation & testing

State design requirements and required hydrostatic, pneumatic, penetrant or leak testing.



Representative catalog assembly

Request a tailored quote.

Send Vital Hose your drawing, specification or the following:

Media · Design pressure / vacuum · Temperature
Size · Overall length · End connections
Axial / lateral / angular movement · Cycles
Anchors / guides · Quantity · Required tests

Confirm design pressure and temperature, movement range, cycle life and system restraint. Anchors, guides and pressure-thrust control are part of the design. Follow approved installation instructions; do not force the joint to correct piping misalignment or twist the bellows.

Specifications and imagery: Precision Hose & Expansion Joints, Metal Expansion Joints, March 2018, pp. 1–5, 8, 12. Confirm current product availability, ratings and final configuration when quoting.