

BUCKLEY INDUSTRIAL

www.buckley-industrial.co.uk

Expansion Joints



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AXIAL EXPANSION JOINTS

Bellows Technology stainless steel axial expansion joints incorporate a single 'set' of convolutions and are designed to absorb thermal pipe expansion and vibration in pipelines, ducting and exhaust systems. Axial expansion joints are 'unrestrained' joints, and as such it is essential that system anchors and pipe guides are positioned so as to ensure correct pipe alignment and sufficient fixed point anchoring of the system. Stainless steel axial expansion joints can be supplied 'pre-set' to offer maximum compression or extension.

Our range of stainless steel axial expansion joints are available with the following design and construction options

Size Range: 50mm/2" DN up to and including 3000mm/120" DN

Materials: Bellows membranes available in stainless steels and high alloy •exotic• materials.

Standard supplied lengths: *(alternative lengths are available on request)*

- 50mm - 100mm DN inclusive: 120mm up to and including 220mm
- 125mm - 150mm DN inclusive: 130mm up to and including 320mm
- 200mm - 300mm DN inclusive: 150mm up to and including 360mm
- 350mm - 100mm DN inclusive: 200mm and above
- 1100mm - 3000mm DN inclusive: 200mm and above

End Connections:

- Flanged to PN/ANSI/JIS standards in carbon and stainless steel
(non-standard flanges available on request)
- Pipe stub ends available with standard schedule wall thicknesses in carbon and stainless steel
(non-standard pipe diameters and wall thicknesses are available on request)

Additional features that are also available on request include:

- Fixed and/or Swivel flanges
- Non Destructive Testing
- Limit or control rods
- External protective shrouds
- Specialist flange coatings
- Certification and Documentation in line with customer requirements



UNIVERSAL EXPANSION JOINTS

Universal expansion joints (commonly referred to as Double Axial expansion joints) incorporate two separate 'sets' of convolutions joined together by a central connecting spool or pipe and can accept relatively large amounts of angulation, lateral and axial movements, they are commonplace in low pressure ducting, exhaust and silencer applications.

Construction options can include:

- 50mm - 3000mm DN inclusive, Lengths to suit, Multiply convoluted membranes
- Stainless steel expansion joints can be supplied with flanged, weld-end or slotted terminations in line with our customer requirements
- Material combinations can include stainless steels, carbon steels and high alloy 'exotic' materials
- Internal flow sleeves and liners
- Fixed and/or Swivel flanges
- Limit or Control rods
- External protective shrouds
- Extension stubs
- Shipping bars
- Specialist flange coatings
- Non Destructive Testing



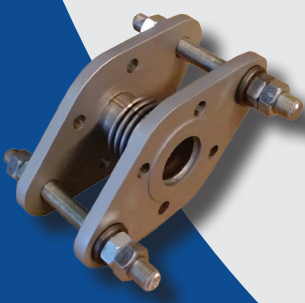
STAINLESS STEEL FLEXIBLE PUMP CONNECTORS

Single tied 'flexible pump connectors' incorporate a single 'set' of convolutions and are designed to absorb relatively small amounts of lateral travel or more commonly to isolate pumps and plant equipment from the effects of vibration and shock loadings. They are 'restrained' expansion joints, with the integral tie-bar assembly designed to restrain the pressure thrust generated when the unit is operating under pressure, thus relatively light anchors and guides may be utilised as only minimal forces are transferred to the adjacent equipment.

Single tied flexible pump connectors can be supplied with multiply convoluted membranes and rubber top-hat anti vibration washers, or with metallic spherical washers for higher pressure/temperature applications. Flexible pump connectors can also be supplied without tie bars.

Construction options can include:

- 50mm - 3000mm DN inclusive, Lengths to suit, Multiply convoluted membranes
- Stainless steel expansion joints can be supplied with flanged, weld-end or slotted terminations in line with our customer requirements
- Material combinations can include stainless steels, carbon steels and high alloy 'exotic' materials
- Internal flow sleeves and liners
- Fixed and/or Swivel flanges
- Metallic spherical washers or rubber top-hat washer options
- External protective shrouds
- Specialist flange coatings
- Non Destructive Testing



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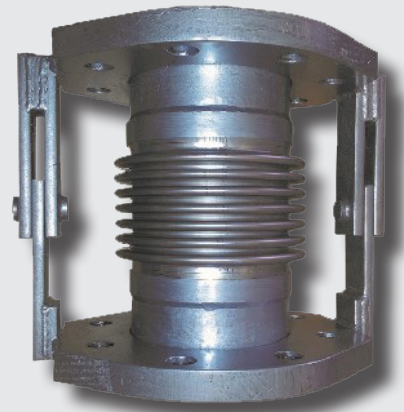
HINGED OR ANGULAR EXPANSION JOINTS

Angular expansion joints incorporate a hinge assembly so as to allow angulation in a single plane. Hinged expansion joints are predominantly used in combination with other hinged or gimbal expansion joints to create '2-pin' or '3-pin' systems, by effectively converting relatively large amounts of axial movement in to relatively small amounts of angulation.

As a 'restrained' expansion joint, the integral hinge design on an angular expansion joint restrains the pressure thrust generated by pressurisation of the system, therefore relatively light anchors and guides may be utilised as only minimal forces are transferred to the adjacent pipe work installation. Hinged expansion joints can also be manufactured as 'double' hinged expansion joints so as to allow lateral deflection in one plane only through angulation of each of the bellows elements. Bellows Technology hinged angular expansion joints are often utilised on pipe systems carrying steam, water, oil and condensate.

Construction options can include:

- 50mm - 3000mm DN inclusive
- Lengths to suit
- Multiply convoluted membranes
- Stainless steel expansion joints can be supplied with flanged, weld-end or slotted terminations in line with our customer requirements
- Material combinations can include stainless steels, carbon steels and high alloy exotic materials
- Internal flow sleeves and liners
- Fixed and/or Swivel flanges
- External protective shrouds
- Specialist flange coatings
- Non Destructive Testing



Buckley Industrial also offer custom made Stainless Steel Expansion Joints as well as Rubber or PTFE Expansion Joint. Please contact our sales team to discuss

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