

AXIAL DYNAMICS

Bellows Expansion Joints -Handling & Installation

Handling

- 1) Do not roll **AXIAL DYNAMICS** Bellows Expansion Joints on their convolutions.
- 2) Protect from weld splatter
- 3) Protect Stainless Steel from cement, plaster and/or concrete mixtures.
- 4) Handle and store so that flange faces are not damaged .
- 5) Protect convolutions from accidental mechanical damage.
- 6) In storage, prevent foreign matter from becoming lodged on the inside or outside of Axial Dynamics convolutions or sleeves.
- 7) Do not use slings on or near convolutions.
- 8) Do not use slings on shipping bars.
- 9) Axial Dynamics Bellows units should be stored under cover, not piled one on top of the other, and placed on chocks clear of the floor.

Installation

Ensure that you have the correct Axial Dynamics joint for the application and that it will accept the calculated movement - having due regard to differences between installation and lowest shut-down temperatures.

- 1) Ensure that the Axial Dynamics joint will not be subjected to any torsional movement that it is not designed to accept.
- 2) Ensure that the guide clearance is not greater than 2mm.
- 3) Ensure that the Axial Dynamics joint is not installed within four pipe-diameters from any damper, gate valve, butterfly valve etc.
- 4) Ensure that the Axial Dynamics joint is not used to correct pipe misalignment and/or fitting errors outside of design parameters.
- 5) Install the Axial Dynamics joint with flow arrow pointing in the direction of the main pipeline flow.
- 6) Protect convolutions from weld splatter, cement, plaster or concrete mixtures.
- 7) Protect Axial Dynamics convolutions from mechanical damage.
- 8) Ensure that maximum joint design test pressure is not exceeded during pressure testing and that main anchors are designed to withstand this pressure.
- 9) Remove shipping bars, if fitted, after installation
- 10) Ensure that any insulation used is not chloride based. Stress corrosion cracking may result.
- 11) Not more than one Axial Dynamics Expansion Joint should be installed between any two main anchors without the addition of any intermediate anchor .
- 12) The position of the guides nearest to the expansion joints is most critical. The first guide must be located within a distance of four pipe-diameters from the first guide.
- 13) Recommended minimum length of pipe guides:-

Up to Ø 40 nb.....	80 mm long
Ø40 nb to Ø 125 nb	130mm long
Ø 150 nb to Ø 300 nb...	300mm long
Ø 350 nb to Ø 600 nb...	600mm long
- 14) Internal sleeves are recommended where internal flows exceed the following:

Air, Steam and other Gases
Up to Ø 150 nb .. 1.2 mtr / sec / 25mm of Ø
Over Ø 150 nb ... 8 mtr / sec
Water and other Liquids
Up to Ø 150 nb ... 0.5mtr / sec / 25mm of Ø
Over Ø 150 nb 2.5 mtr / sec
- 15) Hinged units should be positioned to ensure pivot pins are in correct plane.
- 16) Although **AXIAL DYNAMICS** Expansion Joints are maintenance-free we recommended they be inspected on a planned maintenance basis every six months.
- 17) Main anchors must be able to withstand the full pressure thrust forces exerted by any unrestrained Axial Dynamics bellows assembly.