



MTS

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Support Technology

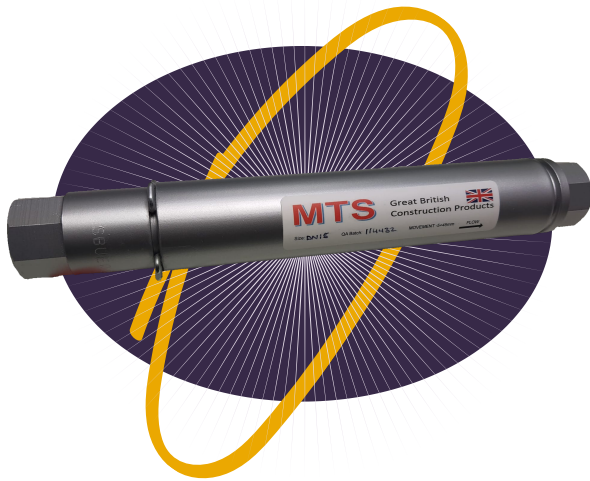
Thermal
Expansion

Fire Rated
Solutions

Mechanical
Services

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Thermal Expansion Products



Axial Expansion Joints

MTS Pipe Expansion Joints absorb axial movement, utilizing convoluted stainless steel and maintain the pipeline security.

Design Features:

- Absorbing up to 50mm of Thermal movement
- Constructed from Aluminum and Stainless Steel
- Suitable for temperatures of -10°C / $+100^{\circ}\text{C}$
- Pressure rated to PN16

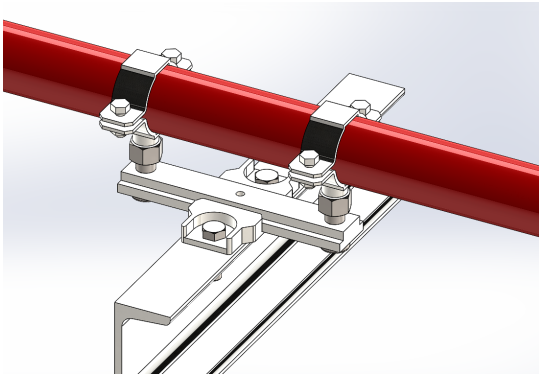


Primary Sliding Guides

MTS Primary Sliding Guides are perfect for restricting multi-directional movements experienced close to Expansion Joints,

Design Features:

- Upto 70mm Of Axial Travel
- Solid Construction
- Low Friction
- Superior Load Ratings

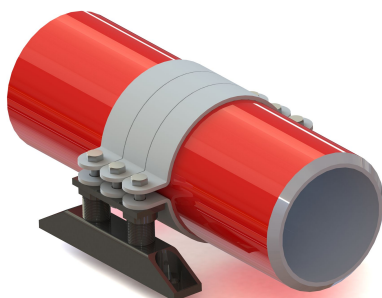


Pipe Anchoring

MTS PAP Anchor Bracket are designed to create a fixed point on the pipework. This is essential for controlling unwanted movement.

Design Features:

- High load resistance
- Adjustable steel construction
- Suitable for temperatures of 200°C
- Suitable for Risers



INSTRUCTIONS FOR THE HANDLING, STORAGE & INSTALLATION OF EXPANSION JOINTS



MTS-GBP Ltd has taken appropriate precautions to ensure that the product has been designed and manufactured to the required specifications. In order to obtain maximum and safe service the following should be adhered to:

STORAGE:

The product should be stored in a clean dry area. Care should be exercised to prevent mechanical damage by, for example, poor stacking, bumping or dropping.

SHIPPING DEVICES:

In some cases, expansion joints are fitted with shipping bars or other devices to prevent damage in transit. They must be removed before the expansion joint can function properly and should not be used as support during hydrostatic pressure testing prior to installation.

LABELS:

Labels identifying the part, manufacturer or compliance with standards or legislation should not be removed.

INSTALLATION:

It is important that expansion joints are installed at the proper lengths as recommended by the manufacturer. They should never be extended or compressed to make up deficiencies in pipe length or offset to accommodate piping which is not properly aligned unless such installation's tolerances have been specified in the design and manufacture. Do not neglect pre-compression or pre-extension of the expansion joint where it is required or designated by the manufacturer.

Care shall be taken to ensure that the expansion joints are installed at the correct location, and if provided with internal sleeves, the right way round indicated by the flow direction arrow.

Anchors and pipe guides shall be firmly installed prior to testing. It is most important that pipelines be suitably anchored and guided to enable the expansion joints to function correctly. Pipe hangars are not adequate guides.

During welding, no electrical current shall be conducted through the bellows.

The expansion joint shall not be used for an earthing connection.

After installation, transportation safety devices and pretension bars shall be removed.

Due to its flexibility, an expansion joint may be mechanically a weak section of any pipework system.

Operators installing expansion joints, or working in their vicinity, must avoid damage by denting, weld spatter, arc strikes, or the possibility of allowing foreign matter to interfere with the proper flexing of the bellows.

INSTRUCTIONS FOR THE HANDLING, STORAGE & INSTALLATION OF EXPANSION JOINTS



GASKETS:

Gaskets and seals shall be positioned correctly.

When removable flanged sleeves are inserted in the expansion joint, an extra gasket is required between the face of the expansion joint and the back face of the flanged sleeve, i.e. two gaskets per expansion joint ordinarily, three gaskets if one flanged sleeve is used per expansion joint and four gaskets if a pair of telescoping flanged sleeves are used. Caution should be used with graphite impregnated gaskets in contact with stainless steel facings or sleeves at high temperature.]

RECOMMENDED INSTALLATION INSTRUCTIONS:

The following recommendations are included to avoid the most common errors that occur during installation, and to prolong the cycle life and pressure capacity of expansion joints.

Do's

- Inspect for transit damage, including dents, broken hardware, damaged packaging, etc.
- Store in a clean dry area not subject to heavy traffic or a damaging environment.
- Use only designated lifting lugs where appropriate.
- Make the piping system fit the expansion joint. By stretching, compressing or offsetting the joint to fit the piping, it may be over-stressed when the system is in service.
- It is good practice to leave one flange loose until the expansion joint has been fitted into position. Make the necessary adjustment of loose flange before welding.
- Where appropriate, install the joint with the arrow pointing in the direction of flow.
- Install single Van Stone liners pointing in the direction of the flow. Be sure to install a gasket between the liner and the Van Stone flange as well as between the mating flange and liner.
- With telescoping Van Stone Liners, install the smallest ID liner pointing in the direction of flow.
- Remove all shipping devices (where fitted) after the installation is complete and before any pressure test of the fully installed system.
- Remove any foreign material that may have become lodged between the convolutions.

Don't

- Do not drop or knock the expansion joint or its container.
- Do not remove shipping bars (where fitted) until installation is complete.
- Do not remove any moisture-absorbing desiccant material or protective coatings until ready for installation.
- Do not use hanger lugs as lifting lugs without approval from the manufacturer.
- Do not use chains or any lifting device directly on the bellows or bellows outer cover.

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- Do not allow weld spatter to hit unprotected bellows. Protect with wet chloride-free insulation.
- Do not use steel wool or wire brushes on bellows or cleaning agents that contain chlorides.
- Do not forcibly rotate one end of an expansion joint for alignment of bolt holes.
- Do not put the system under pressure before installation of all guides and anchors.
- Do not exceed a test pressure of 1 1/2 times the maximum working pressure.
- Do not use shipping bars to retain pressure thrust if testing prior to installation.

The above general instructions are based on guidelines in the Standards of the Expansion Joint Manufacturers Association (EJMA), and to be read in conjunction with any specific instructions produced for an individual product. Further handling & installation instructions will be found in BS6129:Part 1:1981 - Code of practice for 'The selection and application of bellows expansion joints for use in pressure systems', and EN 14917 - Metal bellows expansion joints for pressure applications.