



General Installation Guidelines

For Metal Expansion Joints



**SAFETY
FIRST**



**ENGINEERED
SOLUTIONS**



**QUALITY
ASSURED**



**AUSTRALIAN
MADE**



1. Verify Identification

Before installation, verify that the Afex serial number plate is securely attached and legible. The serial number plate must remain attached and accessible to maintain positive identification of the expansion joint assembly.

Removal of the serial number plate will void the manufacturer's warranty.

The serial number provides full traceability to the assembly, including materials, welding procedures, qualified welders, inspection records and other quality documentation contained within the Manufacturer's Data Report (MDR).

2. Inspect the Assembly

Before installation, carefully inspect the expansion joint for any signs of damage.

Check the following:

- Bellows element
- Flanges, pipe ends or weld ends
- Hardware (where fitted)
- Shipping bars (where fitted)
- Protective coatings or finishes (where applicable)

Shipping bars may be carrying a factory preset load. Damage during transport may alter the assembly length or preset position.

If any shipping or handling damage is evident, notify Afex immediately. Do not attempt to repair, straighten or modify the assembly without consulting Afex, as unauthorised repairs or modifications may void the manufacturer's warranty.

3. Shipping Bars

Where fitted, shipping bars must remain installed until the expansion joint has been fully installed.

Shipping bars are provided to maintain the correct assembly length and any factory preset during transport, handling and installation. They are not designed to restrain pressure thrust or operating loads.

If shipping bars interfere with installation, contact Afex before removal.



4. Check the Installation Gap

Verify that the installation gap matches the overall assembly length specified on the Aflex assembly drawing or datasheet.

The piping system should be adjusted to suit the expansion joint, not the expansion joint forced to suit the pipework, unless specifically stated otherwise on the project documentation.

5. Lifting and Handling

Where lifting lugs are provided, they should always be used.

If lifting lugs are not fitted, support the expansion joint using the structural hardware or end connections.

Never lift or support the assembly by:

- The bellows element
- Shipping bars
- Flow liner
- Any component not specifically designed as a lifting point

Incorrect lifting or handling may damage the expansion joint and void the manufacturer's warranty.

6. Flow Liner Orientation

Where a flow liner is fitted, ensure the expansion joint is installed in the correct flow direction.

Flow direction is indicated on the assembly or shipping labels.

Incorrect installation may result in premature wear or damage to the liner and bellows.

7. Pipe Alignment

Ensure all mating pipework and flanges are correctly aligned before installation.

Expansion joints are designed to accommodate specified thermal and operational movements. They should not be used to correct installation errors or excessive pipe misalignment unless specifically designed for that purpose.

Twisting (torsional loading) of the expansion joint during installation can significantly reduce service life and is not covered by the manufacturer's warranty



8. Remove Shipping Bars

Do not remove shipping bars until all flange bolts have been fully tightened or all welding has been completed and the expansion joint is fully supported by the piping system.

Remove all shipping bars before hydrostatic testing or system pressurisation.

Shipping bars are intended only for transport and installation and must not remain fitted during service.

Failure to remove shipping bars before operation may result in damage to the expansion joint and connected piping.

9. Anchors, Guides and Supports

Ensure the piping system incorporates the correct anchors, guides and supports in accordance with the latest EJMA recommendations and the overall piping system design.

Expansion joints are designed to accommodate movement; they are not intended to support pipework or compensate for inadequate piping restraint.

The type, location and load requirements of anchors, guides and supports will vary depending on the expansion joint design and piping configuration.

Unrestrained assemblies transmit pressure thrust to the piping system, while restrained assemblies transmit significantly lower loads. In all cases, anchors, guides and supports must be correctly designed to ensure the expansion joint performs as intended and achieves its expected service life.

10. Pipe Supports

Expansion joints are not pipe supports.

Ensure adjacent pipework is adequately supported so that dead weight, external loads and equipment loads are not transferred into the expansion joint unless specifically allowed for in the design.



11. Restraint Hardware

Where restraint hardware such as tie rods, hinges, gimbals or other engineered restraint systems are fitted, they form an integral part of the expansion joint design and must remain installed during service.

Do not remove, adjust or modify any restraint hardware unless specifically instructed by Afex.

Unauthorised modification may result in equipment damage, pipeline failure and will void the manufacturer's warranty.

12. Hydrostatic Testing and Operating Pressure

Do not hydrostatically test or operate the expansion joint above the Design Pressure specified on the Afex assembly datasheet.

If the required site hydrostatic test pressure exceeds the expansion joint design pressure, consult Afex before commencing the hydrostatic test.

13. Flange Bolting

Afex does not specify flange bolt tightening torques.

Refer to the applicable flange standard, project specification or engineering documentation for the correct bolting procedure, lubrication requirements and tightening torque values.

14. Protect the Expansion Joint During Installation

Until installation is complete, protect the expansion joint from damage.

Avoid exposure to:

- Welding spatter
- Grinding sparks
- Impact damage
- Construction debris
- Contamination by foreign materials

Do not use the expansion joint as a step, work platform, lifting point or support for other equipment.



15. Assistance

If you have any questions or experience any difficulties during installation, contact Aflex before proceeding.

Early consultation can prevent unnecessary damage, minimise downtime and help ensure the expansion joint performs safely and as intended throughout its service life.

Technical Notes

- These guidelines apply to Aflex metal expansion joints unless otherwise specified.
- Product-specific installation requirements may apply to certain assemblies and will be provided where necessary.
- Expansion joints should always be installed and operated within the limits specified on the Aflex assembly drawing and datasheet.
- Piping systems incorporating expansion joints should be designed in accordance with the latest EJMA (Expansion Joint Manufacturers Association) recommendations and recognised engineering practice.

