



MC Internally Pressurized Expansion Joint

OPERATION, INSTALLATION AND MAINTENANCE INSTRUCTIONS

General: The MC, expansion joints feature internally pressurized bellows, with axial movement capabilities. The Joint has factory installed control rings to resist squirm and prevent over compression of the joint. These joints are available in 50lb, 150lb, and 300lb Class, please consult the factory submittals for specific performance specifications.

Application:

1. MC expansion joints can only be used for axial movements. These joints are not suitable for applications that result in torque on the joint.
2. All expansion joints require guiding and anchoring in accordance with EJMA (Expansion Joint Manufacturers Association) guidelines.
3. Install only one joint between anchors.
4. When internally pressurized joints are used for applications with flow over 10 feet per second or with abrasive materials in the line, a liner should be installed to protect the bellows.
5. Internally pressurized joints supplied with a liner are flow directional and must be installed in the proper orientation. Joints without a liner are bi-directional.
6. Location of expansion joints should be reviewed to insure proper operation.

Installation:

1. Inspect joint for shipping damage, ensure that the shipping bars are intact.
2. Installation of expansion joint and anchors must be made as close to the design ambient temperature as possible. If expansion joint is installed into a hot pipeline or at other than design ambient temperature, consult Metraflex.
3. Anchors capable of handling the thrust load and friction load of the pipe must be installed on each side of the joint.
4. Pipe guides are to be installed between the joint and anchors in accordance with EJMA.
5. Joint is to be installed in its neutral position. Do not compensate for flange or pipe misalignment by putting torque, compressive, or extension force on the joint. Metraflex recommends that a mating flange remain unwelded until the opposite flange is bolted up.
6. Do not remove shipping bars or perform a system test before the installation of guides and anchors.

Testing:

1. Joint may be one-time pressure tested to 1.5 times the maximum rated working pressure as published on the factory submittal for each specific joint.
2. Metraflex recommends a hydrostatic test with all air in the system removed. If an air test is performed, appropriate safety precautions must be made.
3. Do not test until joint is properly anchored and guided per EJMA. The shipping bar is not designed to restrain the hydrostatic end load that will be developed by the expansion joint under pressure.

Precautions:

1. Joint will develop hydrostatic end loads equal to pressure time effective area and must be included in anchor load calculations. Effective area for each specific joint can be found on the factory submittal.
2. Do not exceed maximum pressure or temperature during operation.

Maintenance:

Expansion joints must be easily accessible to allow for periodic inspection. Bellows should be inspected for any signs of damage such as dents or scores. Damaged expansion joints should be replaced immediately. Metraflex expansion joints have no serviceable parts and do not require maintenance.

Contact Metraflex or your local Metraflex Representative with any questions.





MC Dual Internally Pressurized Expansion Joint OPERATION, INSTALLATION AND MAINTENANCE INSTRUCTIONS

General: The MC Dual expansion joint features internally pressurized bellows with an integrated intermediate anchor and factory installed control rings to resist squirm and prevent over compression of the joint. The MC Dual is capable of axial movement. These joints are available in 50lb, 150lb, and 300lb Class, please consult the factory submittals for specific performance specifications.

Application:

1. MC Dual expansion joints can be used for axial movements. These joints are not suitable for applications that result in torque on the joint.
2. All expansion joints require guiding and anchoring in accordance with EJMA (Expansion Joint Manufacturers Association) guidelines.
3. Install only one joint between anchors.
4. When internally pressurized joints are used for applications with flow over 10 feet per second or with abrasive materials in the line, a liner should be installed to protect the bellows.
5. Internally pressurized joints supplied with a liner are flow directional and must be installed in the proper orientation. Joints without a liner are bi-directional.
6. Location of expansion joints should be reviewed to ensure proper operation.

Installation:

1. Inspect joint for shipping damage, ensure that the shipping bar is intact.
2. Installation of expansion joint and anchors must be made as close to the design ambient temperature as possible. If expansion joint is installed into a hot pipeline or at other than design ambient temperature, consult Metraflex.
3. Dual MC expansion joints are supplied with an intermediate anchor and must be installed equidistant between main anchors.
4. Anchors capable of handling the thrust load and friction load of the pipe must be installed on each side of the joint.
5. Joint is to be installed in its neutral position. Do not compensate for flange or pipe misalignment by putting torque, compressive, or extension force on the joint. Metraflex recommends that a mating flange remain unwelded until the opposite flange is bolted up.
6. Do not remove shipping bars or perform a system test before the installation of guides and anchors.

Testing:

1. Joint may be one-time pressure tested to 1.5 times the maximum rated working pressure as published on the factory submittal for each specific joint.
2. Metraflex recommends a hydrostatic test with all air in the system removed. If an air test is performed, appropriate safety precautions must be made.
3. Do not test until joint is properly anchored and guided per EJMA. The shipping bar is not designed to restrain the hydrostatic end load that will be developed by the expansion joint under pressure.

Precautions:

1. Joint will develop hydrostatic end loads equal to pressure time effective area and must be included in anchor load calculations. Effective area for each specific joint can be found on the factory submittal.
2. Do not exceed maximum pressure or temperature during operation.

Maintenance:

Expansion joints must be easily accessible to allow for periodic inspection. Bellows should be inspected for any signs of damage such as dents or scores. Damaged expansion joints should be replaced immediately. Metraflex expansion joints have no serviceable parts and do not require maintenance.

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