Exhaust Piping Expansion Joints vs. Manifold Joints.

Providing expansion compensation and vibration isolation for engine exhaust systems should be thought of as two unique and different segments. One is the connection between the engine manifold and the silencer or muffler. The other is the piping from the silencer to the roof.

**Exhaust piping:** The exhaust piping is typically long pipe runs from the silencer through to the roof or thru a nearby wall. Here the issue is the large thermal expansion of the long runs due to the high temperatures. Expansion joints designed for axial compression or lateral offset are required.

**Manifold bellows:** This is the section from the engine’s exhaust manifold to the silencer. This section experiences high engine vibration and the highest temperatures. Bellows in this section are used primarily to isolate the engine vibration. The run between engine and silencer is so short, there is very little thermal growth. However, because each engine manufacturer has it’s own unique flange connection to the manifold, the make and model of the engine is needed to specify the correct manifold bellows end connections.

Metraflex provides the expansion joint/ bellows for both applications. The standard products listed on the next page, are for the exhaust piping expansion joints. For the manifold expansion joint/ bellows, please see our website. The combinations for the various engine manufacturers, such as Cat, Detroit Diesel, Cummins, Waukesha, and Navistar, are too many to catalog in print.
### Exhaust Piping Expansion Joints - Max Operating, 5 PSI 1000°F

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### Diagrams
- **150# Fixed X**
  - **150# Fixed C/S Flanges**
  - **S/S Bevels**
- **150# Floating X**
  - **150# C/S Floating Flanges**
  - **S/S Bevels**
- **150# Fixed X**
  - **150# C/S Floating Flanges**
  - **S/S Bevels**
- **Sched 40 C/S Weld Ends**
  - **S/S Bevels**

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**Exhaust Piping Expansion Joints**

- **150# Fixed X**
- **150# Fixed C/S Flanges**
- **S/S Bevels**
- **150# Floating X**
- **150# C/S Floating Flanges**
- **S/S Bevels**
- **150# Fixed X**
- **150# C/S Floating Flanges**
- **S/S Bevels**
- **Sched 40 C/S Weld Ends**
- **S/S Bevels**
Pipe Guides and Anchors

Accesories

Rain Cap

Gasket & Bolt Kits
Non Asbestos, Graphite or Mica gaskets available for different temperature ranges. Carbon or s/s nuts and bolts.

Pipe Guides and Anchors

Pipe Guide
Insulated Pipe Guide
Pipe Anchor

Please see website for full listing: www.metraflex.com
Exhaust piping, standard bellows

Pressure: 5 PSI

Temperature: 1000° F w/carbon steel ends
            1200° F w/stainless steel ends

Movement: 3 inch axial
           1 inch lateral
Call or write for information on any of these other METRAFLEX PRODUCTS

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