Elbow Pressure Balanced Expansion Joints MPB-E Series

Description

A pressure balanced expansion joint accommodates axial and lateral movements and counteracts the bellows pressure thrust. An additional bellows is incorporated into the unit and is subject to the line pressure to generate a force equal and opposite to that on the main bellows. Tying these bellows together neutralises the pressure load on the unit. These joints are often installed at changes of direction in piping (MPB-E) but in-line designs (MPB-I) are also available.

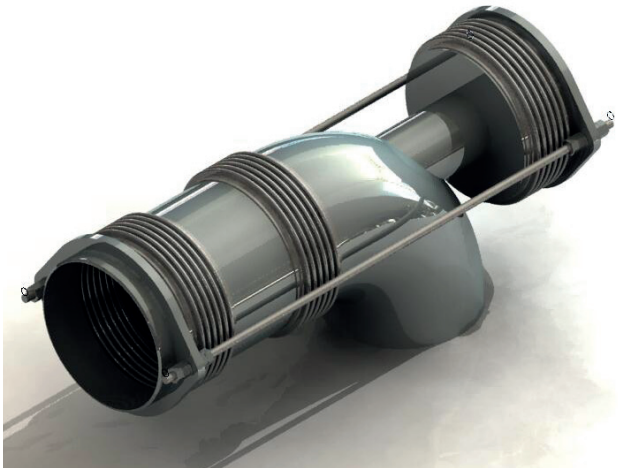
The Pressure Balanced Expansion Joints are used in situations similar to those described for the Axial and/or Lateral Expansions although this particular type of Expansion Joint offers the additional advantage of not transferring the thrust caused by the internal pressure to the pipes or adjacent equipment. This characteristic is especially important when it comes to joining the pipes to turbines or other delicate equipment which, by their nature, are unable to withstand these extra loads.

The only loads on the equipment are the sum of the forces required to move the line bellows and balancing bellows of the expansion joint.

This type of Joint can be fitted between intermediate fixed points so main anchoring of the pipe or adjacent equipment is not required.

Features

- Does not transfer the thrust caused by the internal pressure to the pipes or adjacent equipment
- Absorbs axial and lateral movements
- Eliminates change in pressure
- No main anchors required
- Pressure forces remain in balance

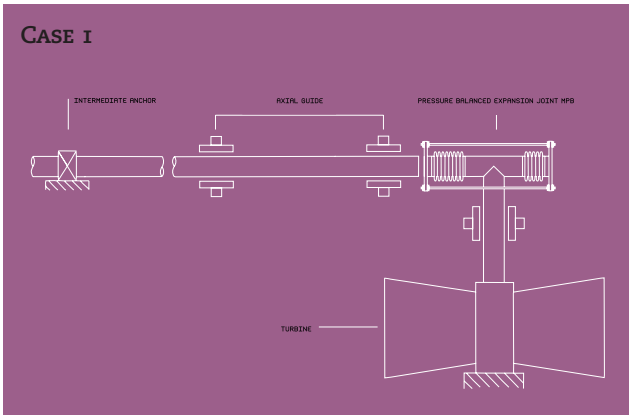


MPB-E ELBOW PRESSURE BALANCED.
Designed to absorb lateral and/or axial movements eliminating the thrust caused by the internal pressure.

TYPE	SERIES	PRESSURE THRUST RESTRAIN	MOVEMENTS		
			AXIAL	LATERAL	ANGULAR
Elbow Pressure Balanced	MPB-E	YES	YES	SINGLE-PLANE YES MULTI-PLANE YES	SINGLE-PLANE YES with 2 tie bars only MULTI-PLANE YES

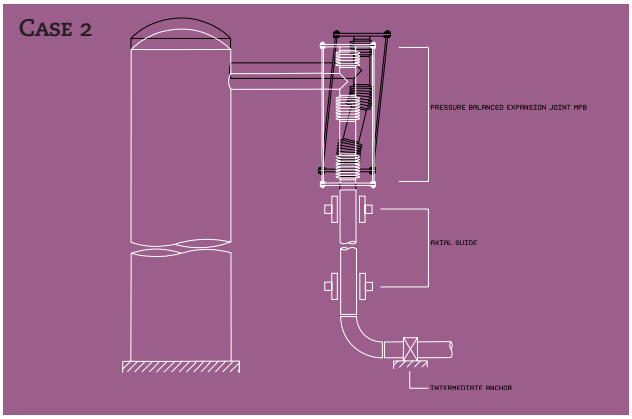
Typical applications of Elbow Pressure Balanced Expansion Joints

Case 1

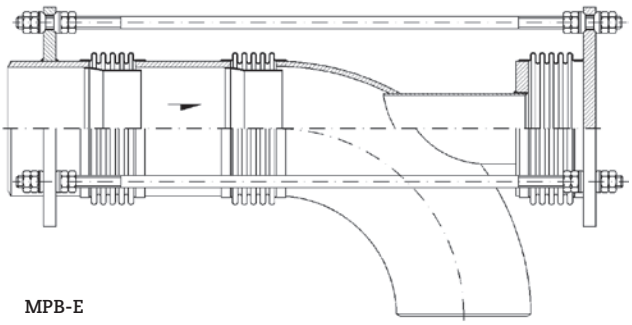


This case involves connecting a pipe to a turbine or other similar device which is of itself unable to withstand the thrust caused by internal pressure

Case 2



In order to absorb both lateral and axial movements, two movement absorption bellows plus one balanced bellows must be fitted as shown in the diagram below.



MPB-E

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