

Gimbal Expansion Joints

MWC & MFC Series

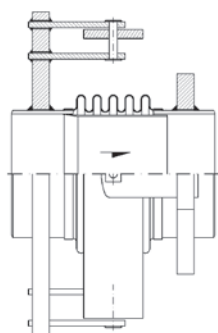
DESCRIPTION

Gimbal Expansion Joints are designed to allow angular movement in any plane by the use of two pairs of hinges affixed to a common floating gimbal ring. The gimbal ring, hinged and pins are designed to restrain the pressure thrust due to internal pressure and shear forces.

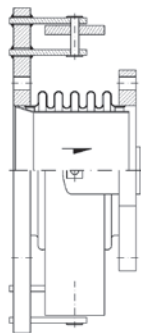
A gimbal ring is either round or square. For round gimbals the torsional moment shall be considered and for square gimbals the instability due to the bending shall be considered.

FEATURES

- Absorbs angular movements in all planes
- Restrains pressure thrust forces
- Transmits shear and wind loads
- Supports dead weight
- Avoid twisting the bellows
- No main anchors required



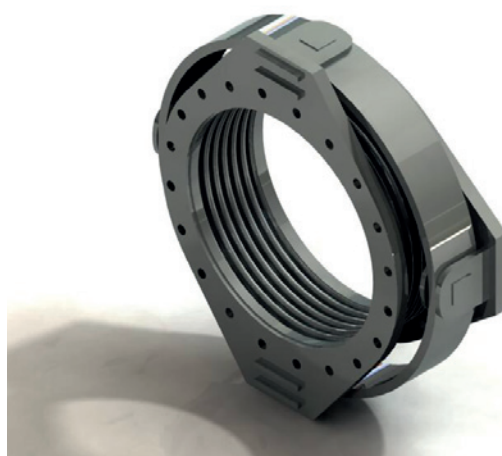
MWC



MFC



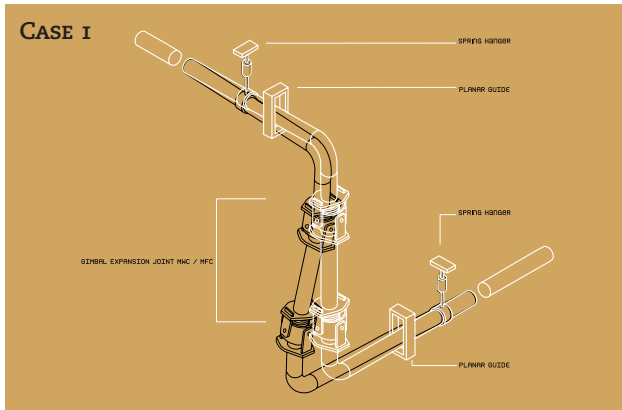
MWC
Gimbal expansion joint with welding ends.



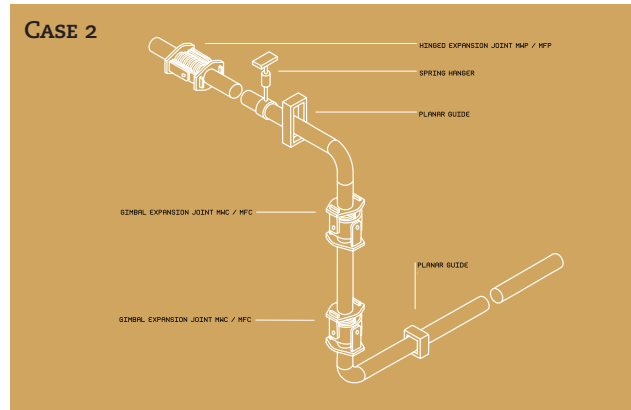
MFC
Gimbal expansion joint with flanges.

TYPE	SERIES	PRESSURE THRUST RESTRAIN	MOVEMENTS		
			AXIAL	LATERAL	ANGULAR
Gimbal	MWC	YES	NO	SINGLE-PLANE	SINGLE-PLANE
	MFC			NO	YES
				MULTI-PLANE	MULTI-PLANE
				NO	YES

TYPICAL APPLICATIONS OF GIMBAL EXPANSION JOINTS

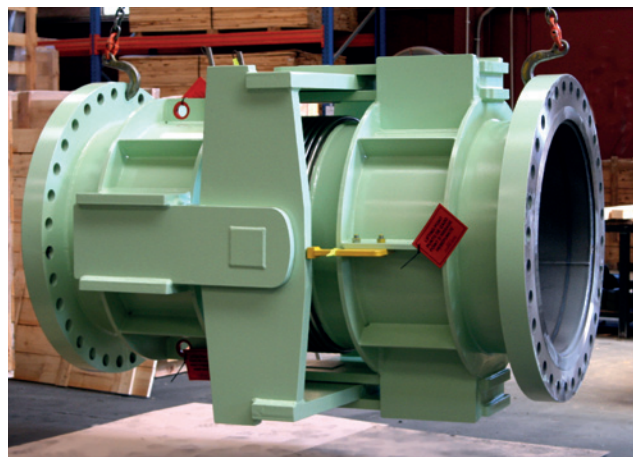
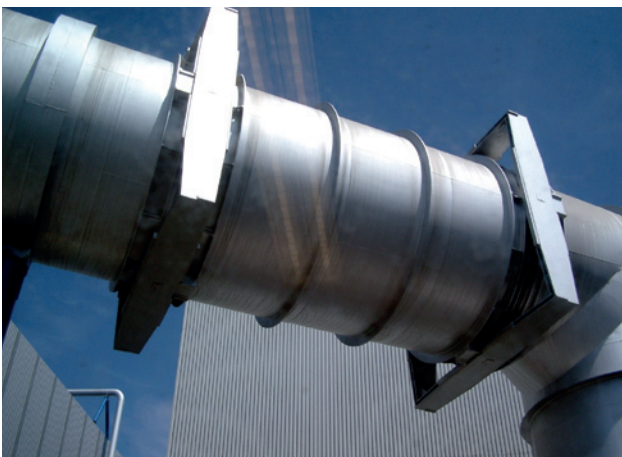


The capacity of the Gimbal Expansion Joints to absorb angular movements in any plane is usually applied by using two Gimbal Expansion Joints as shown in the diagram. Only two intermediate fixed points are required owing to the fact that the Gimbal system absorbs the thrust produced by the internal pressure. This system of two Gimbal Expansion Joints means that any vertical expansion of the pipes is absorbed by the bend in the horizontal sections of piping and it may therefore be necessary to install spring hangers in both sections.



When it is either impossible or undesirable for the horizontal sections of piping to absorb the expansion of the vertical section, a system composed of two Gimbal Expansion Joints plus one Hinged Expansion Joint must be used as shown in the diagram. The use of a Hinged Expansion Joint is justified by the fact that movement in the vertical section only occurs in one plane.

SAMPLE PICTURES



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