

METAL EXPANSION JOINT

DOUBLE GIMBAL

USTC-UFTC

OPERATION

The universal metal expansion joint (UFTC and USTC) is mainly intended to absorb angular and lateral expansion movements on two planes both thermal and mechanical origin.

BELLOWS FORMING

This model is composed of a single bellow of several waves in the form of "U". These waves are made by one or more metal sheets longitudinally welded and hydraulically or mechanically-shaped.

PRESSURE STRESSES

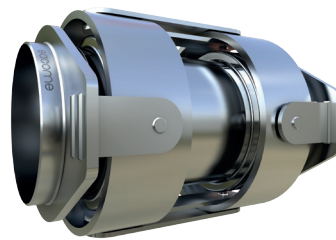
Due to its configuration, the designer must bear in mind that these models DO NOT transmit pressure stresses to the fixed points and guides of the piping system.

ADVANTAGES OF METAL EXPANSION JOINTS

- MINIMUM INSTALLATION COST
- LOW INSTALLATION SPACE REQUIRED
- DO NOT IMPLY PRESSURE DROPS INCREASING
- MINIMUM OPERATION COSTS DUE TO ENERGY LOSS OR ISOLATION. NO MAINTENANCE REQUIRED
- THEIR INHERENT FLEXIBILITY ALLOWS TO ABSORB MOVEMENTS IN MULTIPLE DIRECTIONS.

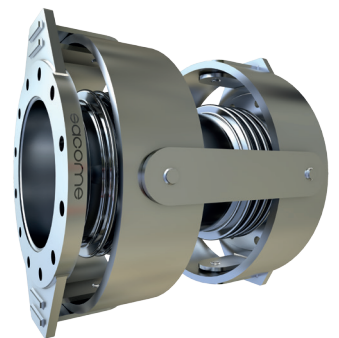
APPLICATIONS OF METAL EXPANSION JOINTS

- ABSORPTION OF AXIAL, ANGULAR OR LATERAL DISPLACEMENTS IN PIPES DUE TO CHANGES OF TEMPERATURE, EARTHQUAKES, SUBSIDENCE, DYNAMIC SYSTEMS, ETC.
- ABSORPTION OF VIBRATIONS
- CONNECTION TO ELASTIC FRAMES OR FRAGILE ELEMENTS (PUMPS, FURNACES, ETC).
- VACUUM INSTALLATIONS.
- ABSORPTION OF MOVEMENTS CAUSED BY THERMAL DILATIONS IN WELDED COMPONENTS



USTC

Metal expansion joint universal tied for angular and lateral movements in two planes. Welding ends.



UFTC

Metal expansion joint universal tied for angular and lateral movements in two planes. Fixed flanges.

DESIGN PRESSURE

From 0,5 barg to 40 barg.

DESIGN TEMPERATURE

From 10 °C to 800 °C.

STANDARD DIAMETERS

From DN25 to DN5500.

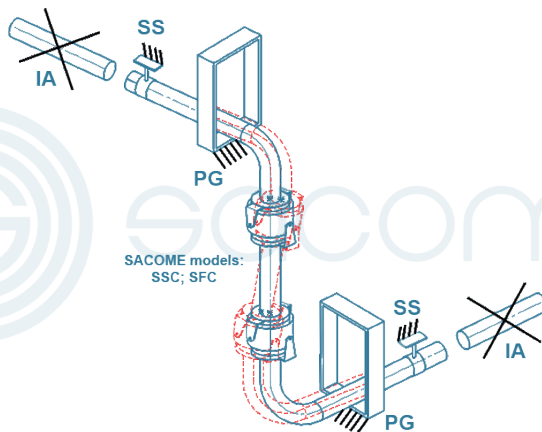
MATERIALS

The usual materials are stainless steel 321, 309S and 316L. Other materials: Inconel 600, Inconel 625, Incoloy 800, Incoloy 800H, Hastelloy C-276.

MOVEMENTS

ITEM	MODEL	DOES IT TRANSMIT PRESSURE EFFORT	AXIAL MOVEMENT		LATERAL MOVEMENT		ANGULAR MOVEMENT	
			COMPRESSION	EXTENSION	1 PLANE	2 PLANES	1 AXIS	2 AXIS
DOUBLE GIMBAL	USTC UFTC	NO	NO	NO	YES	NO	YES	NO

APPLICATIONS



To absorb rotations in any plane by means of Gimbal metal expansion joints, we can use two compensators to absorb lateral movement.

LEGEND

