



**STAINLESS STEEL
HOSES, HOSE
CONNECTORS, STEEL
FITTINGS & STAINLESS
STEEL BELLOWS**



Expansion control in pipelines, ducting and vessels which carry hot or cold fluids or which are exposed to the large variations in ambient temperature is a major problem confronting designers.

BELLOW ELEMENT.

The flexible element of an expansion joint, consisting of one or more convolutions obtained by the hydro-forming or mechanical forming according to the diameter of the shell of a material suitable for the required specification.

INNER SLEEVE.

A device which is also referred to as liner, telescopic sleeve etc. to avoid the head losses or turbulence and streamline the flow through bellows.

ENDS.

The ends of an expansion joint, which may be either equipped with flanges or suitably beveled for welding to adjacent equipment or piping etc.

AXIAL MOVEMENT.

The amount to motion parallel to the axis in a straight guided pipeline.

LATERAL MOVEMENT.

A single plane deflection from the centre line of one end of the bellows but that end is keeping to remain parallel with the other end.

ANGULAR MOTION.

The ends are displaced at angle θ to each other rather than remaining parallel.

TYPES OF EXPANSION JOINTS.

Some of the most common expansion joints being used for different applications are listed below.

AXIAL JOINTS.

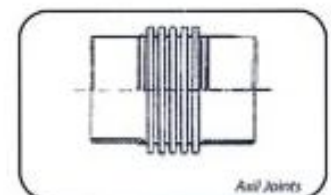
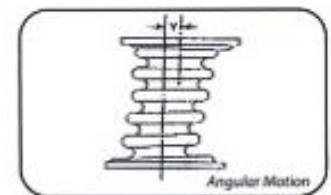
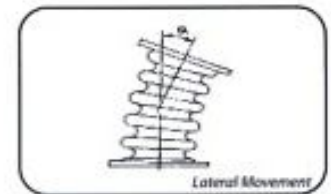
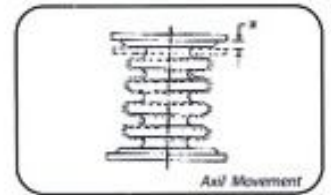
This expansion joint is simply a bellows element with pipe ends or flanges connections.

UNIVERSAL EXPANSION JOINTS.

The universal expansion joint consists of two bellows separated by pipe section or spool. The primary purpose of this arrangement is to have a unit which will accept large amounts of lateral deflection.

Bellow expansion joints standard or custom designed are recommended for the following applications.

- Vacuum Steam • Petrochemical • Hot Water • Utilities • Solar • Environmental





- HOSE
- BRAID
- ASSEMBLIES

ADVANTAGES OF FLEXIBLE METAL HOSES.

- Suitable for wide temperature range (-270 deg C to 700 deg C)
- Compensates for thermal expansion contraction in the piping system.
- High Physical Strength
- Fire Resistant
- Moisture Resistant
- Longer Life
- Good Corrosion Characteristics
- Resistant to abrasion, penetration and damage
- Connects misaligned rigid piping absorbs or dampens vibration and similar equipments.
- A flexible and quick option for rigid piping in difficult locations.

APPLICATIONS

- Cryogenic Equipment
- Nuclear Plants
- Steam & Hot Water
- Lubrication Systems
- Chemical Industry
- Steel Industry
- Food & Beverage Industry
- Fertilizer Industry
- Sugar & Paper Industry
- Automotive Exhaust Systems
- Ships & Aircrafts
- Air conditioning & Refrigeration Systems
- Gas Burner systems
- Compressed air & Pneumatic applications.



Assembly and Supply of:

- Hydraulic Hoses and Fittings
- Stainless steel corrugated hoses and fittings
- Stainless steel expansion bellows
- Steel tubes, tube fittings & tube clamps
- Suction / Discharge, Air & Chemical hoses etc.
- Pressure gauges, dowty seals, ball valves, quick release couplings etc



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