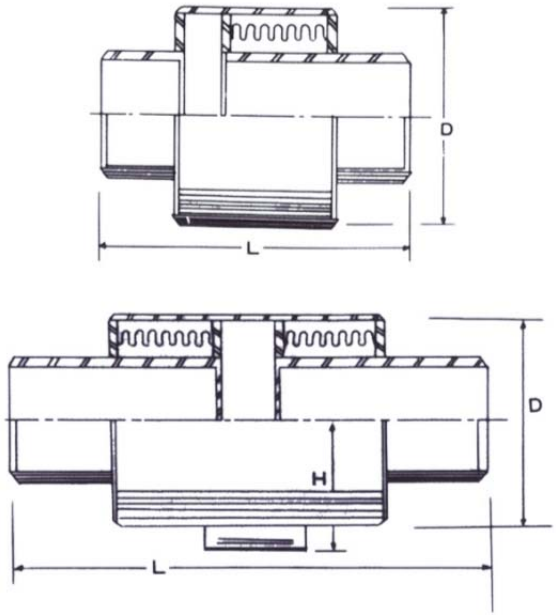
Metallic Expansion Joint

3. Externally Pressurized Expansion Joint (PEM-EF)

The externally pressurized expansion joints are suited for piping systems that require large amounts of axial compression or extension. In externally pressurized expansion joints, the bellows elements are arranged so that the media flow is on the external surface of the bellows. Externally pressurizing the bellows eliminates pressure instability and permits the absorption of large amounts of axial expansion.



Internally pressurized expansion joints become unstable even at low pressures when the number of convolutions reaches a certain limit. These problems created by these conditions cannot be solved using a single expansion joint. The externally pressurized expansion joint may be a good solution of the problems in these cases. When pressure is applied externally to the bellows, the bellows are placed in tension. In this condition squirm is not a factor. A greater number of convolutions can be added to the bellows even at higher pressures, resulting in increased movement capability. All the trapped liquid media can be purged from the outer casing eliminating the possibility of liquid flashing to vapor.
An anchor foot can be added to the single externally pressurized expansion joint allowing it to act as an intermediate anchor. The anchor foot is designed to withstand any loads produced by the deflection of the bellows. The double externally pressurized expansion joints are equipped with an anchor foot at the center of expansion joint as a standard.