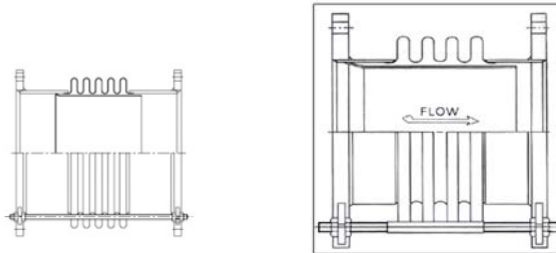


Metallic Expansion Joint

1. Single Expansion Joint

The single expansion joint has a bellows element with end connections as like flange, weld end, landing bar and others. It is the lowest price type and it can absorb all movements in in any direction or plane. This expansion joint can't resist any deflections with any force except the resistance of the bellows, which is a function of the spring rate times the deflection amount. It is incapable of resisting the pressure thrust along its axis, which is the product of the pressure times the effective area of the bellows. Large diameter expansion joints, even with low pressures, can generate very large axial pressure thrust forces, which must be reacted by main and directional anchors. If the piping analysis shows that the expansion joint must accept axial compression, then the piping must be guided and constrained according to the movement.



Tied single expansion joints add tied rods to a single expansion joints to increase design flexibility in a piping system. The tie rods are attached to the pipe or flange with lugs that carry the pressure thrust of the system, eliminating the need for main anchors.

