

# APPLICATIONS FOR PRESSURE BALANCED EXPANSION JOINTS

## THE PRESSURE BALANCED EXPANSION JOINT

The Pressure Balanced Expansion Joint (Figure F) is used most frequently in applications similar to those shown for the Single Expansion Joint, but where pressure thrust loading upon piping or equipment is considered excessive or objectionable.

The pressure balanced bellows creates an equal and opposite force to the working bellows. The usual arrangement is to have a balance and a flow side or working bellows, separated by an elbowed mid-section.

The bellows elements are connected by tie rods which allow them to balance pressure thrust forces. When pressure is applied, both bellows react simultaneously and the tie rods absorb the thrust forces, thus keeping loads off mating equipment. Movements X, Y & Z imposed on the Pressure Balance Unit are usually referenced to the applicable working points, by a 3-dimensional coordinate system. Related forces and moments are determined from this information.

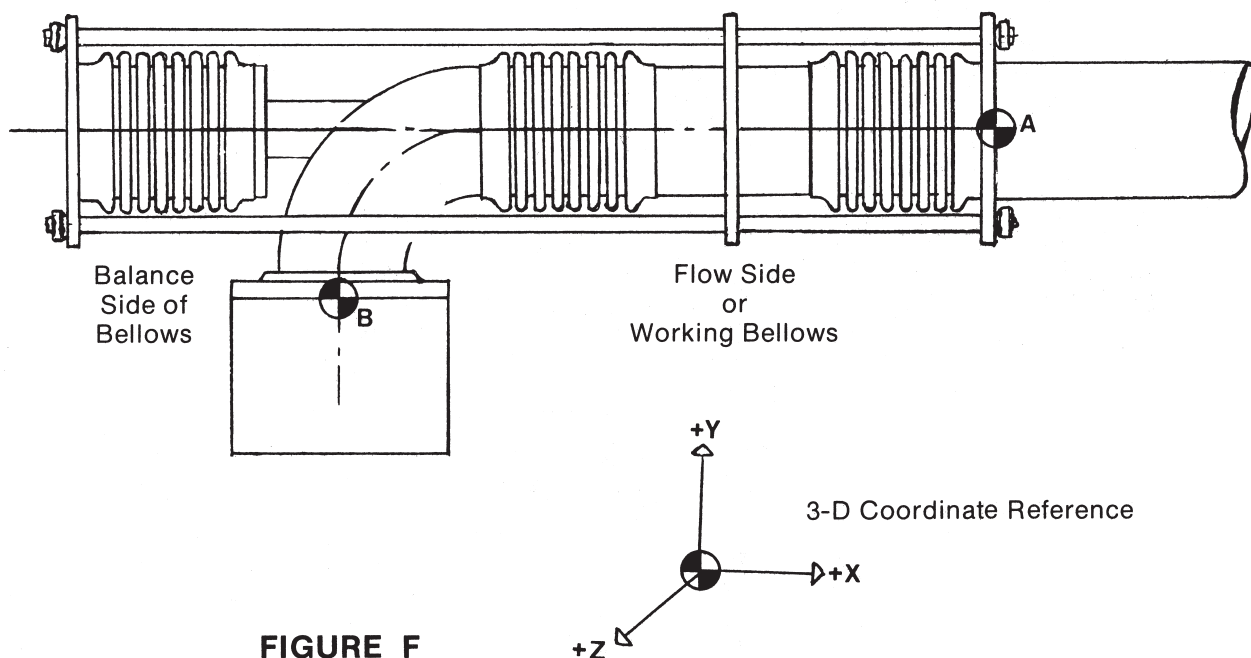


FIGURE F

Because of the design, the Pressure Balanced Expansion Joint eliminates pressure thrust loads on mating equipment and simplifies critical piping arrangements.