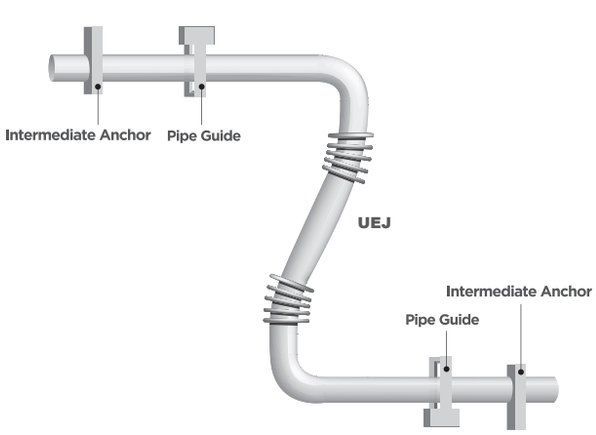
Universal Expansion Joint

Universal expansion joint consists of two bellows elements joined together by a piece of pipe(center spool) and fitted with either pipe ends or flanges. This type of expansion joint is usually furnished with control rods to distribute the movement between two bellows of the expansion joint and stabilize the center spool. When large amount of lateral deflection is required, universal expansion joint is used. For a given bellows element, the amount of lateral deflection capability can be increased or decreased by simply changing the length of the center spool. In addition to this, these assembly can also compensate other two types of movements: axial and angular, but is limited to low pressure applications because of center spool instability. This type of expansion joint also will result in lower forces on the anchors. Only light fixed points are required to absorb lateral movement and friction forces.

Untied Universal Expansion Joint

Untied universal expansion joints can absorb large amount of lateral deflections in addition to axial and angular movements. Usually these type of expansion joints are provided with control rods to distribute the movement equally between the two bellows. Control rods are not designed to withstand pressure thrust.



Kurbo's engineers are checking bellows quality of tied universal expansion joint

Features

- Absorbs large amounts of lateral deflection
- Simple and robust construction
- Eliminates pressure thrust load
- Low maintenance

Tied Universal Expansion Joint

It is same as untied universal expansion joints, but with addition of tie rods. These tie rods are designed to withstand the pressure thrust and so the external movement of the expansion joint is constrained even if the pressure thrust is increased. Angular movement can be accommodated only if two tie rods are provided 180 degree apart. To restrict this angular movement, four tie rods are provided at interval of 90 degrees, around the circumference of the expansion joint.

Although an axial expansion joint itself is less expensive than a tied universal expansion joint, when the anchoring and guiding costs are taken into consideration, there is no contest. The tied universal expansion joint has a much lower installed cost.