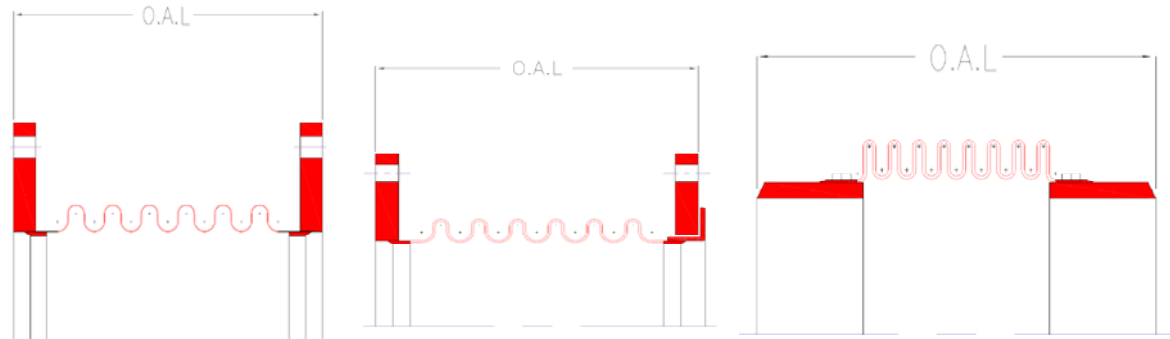


# Metallic Expansion Joint

## 8. Special Expansion Joint

### 1. Engine Exhaust Expansion Joint



**Type PEM-DF**  
Fixed Flanges each end

**Type PEM-DL**  
Fixed Flange one end  
Floating Flange other end

**Type PEM-DW**  
Weld ends each end

#### Materials

Bellows-All plies AISI 321 (alternate material available on request)

Flanges-ASTM A36 or A515 to ANSI B16.5, 150# Class

Pipe-ASTM A53, A106 or A285C, sch. STD or sch. 40

#### Notes

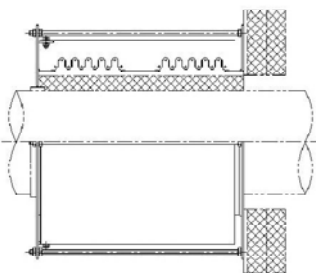
Materials of construction may be changed to meet specific requirements.

Optional features available include-Liners, shrouds and longer lengths.

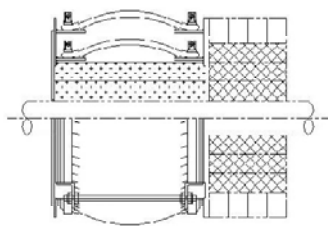
Increased Cycle Life may be calculated by using the enclosed graph.

Shorter Lengths may be calculated by the minimum installation length Formula

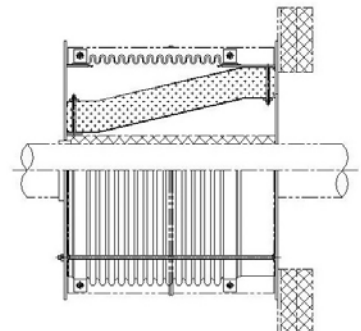
### 2. Special Expansion Joint for HRSG



Metallic Bellows Type

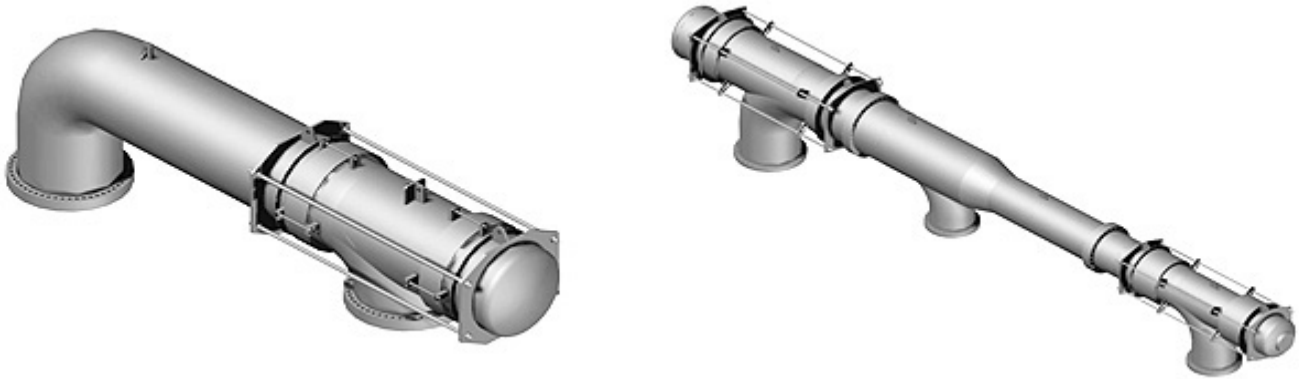


Fabric Bellows Type

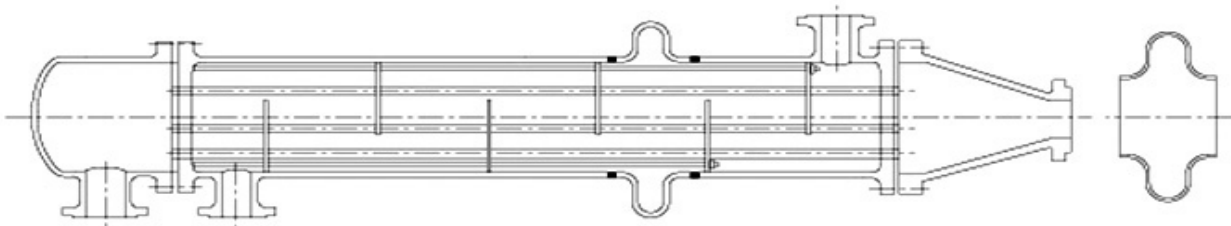


Preformed Bellows Type

### 3. Special Elbow Pressure Balance Expansion Joint-Cross Over Pipe

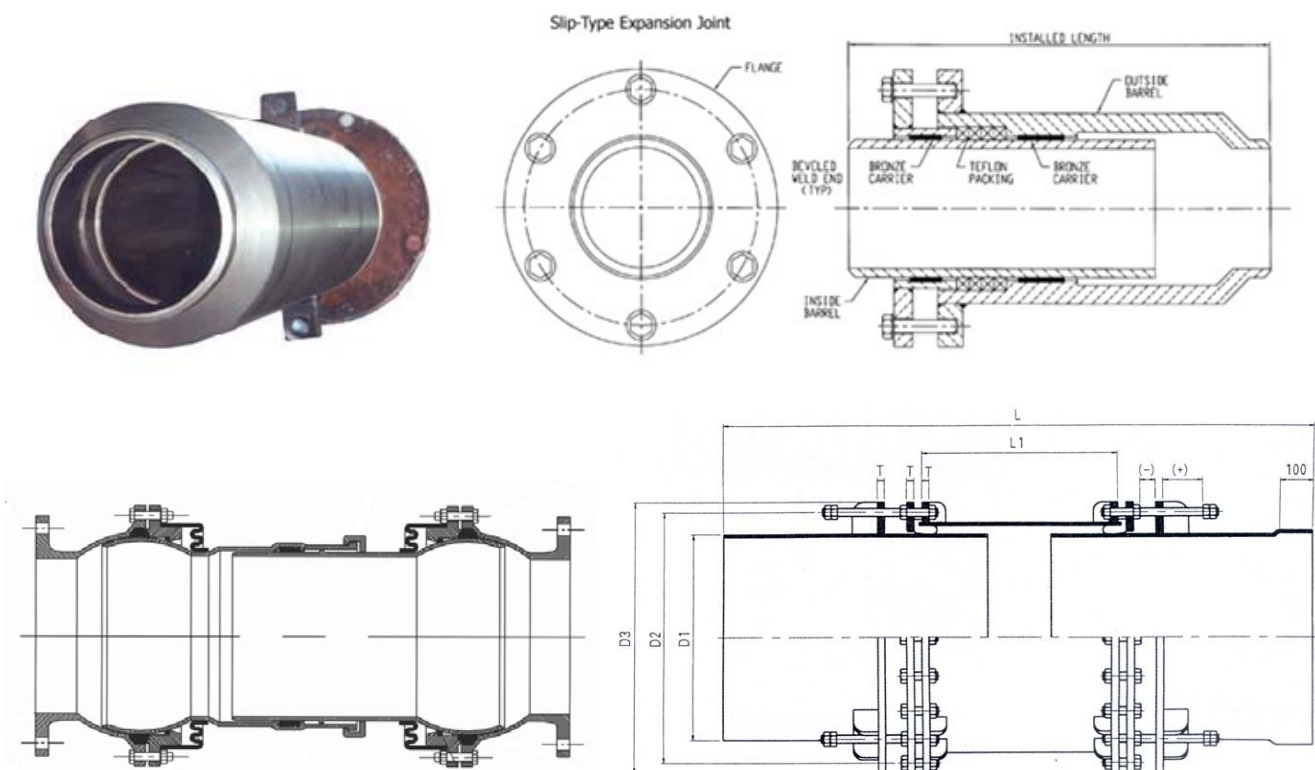


### 4. Expansion Joint for Heat Exchanger and Vessel



### 5. Slide Type and Bury Type Expansion Joint

Slide type expansion joints are used when the primary problem is a large axial movement. Materials can be selected to accommodate high temperatures and pressures. Design details include selection of packing and seals and perhaps resistance to abrasive solids. Some applications may require surfaces to minimize abrasive wear. Special features such as wipers can be included to prevent potential clogging of the space provided for slip movement.



## 6. Others

### **Bellows for GIS (SF6 GAS Insulated Switchgear)**

Expansion bellows used for the GIS device absorbs the shock generated during switching on and off. This bellows also permits changes in shape and length due to fluctuations in temperature while absorbing movements due to repair, reassembly or earthquake.

■ Applications: products with the voltage range listed below  
25.8kv, 72kv, 84kv, 145kv, 170kv, 362kv and 600kv



### **Precision Bellows**

