



# Restriction Plates, Multi Plate Restriction Spools & Flow

## EPS - Restriction Orifice Plates and Multi Plate Restriction Spools

A restrictive orifice is used to create a calculated pressure drop within a gas, vapour or liquid flow. They are designed as either single plate elements for use with RF or RTJ flanges or as multi plate spools.

In cases where a single plate does not create an adequate pressure drop, a multi plate spool is designed. The 'EPS Multi Plate Restriction Spool' takes the pressure through a series of staged drops until finally the resultant output pressure matches the client requirements. Several stages of pressure drop can equate to long spools, so multi-holed plates are employed to enable the shortest spools possible.

As each application is unique, the product is designed around the process data and so each solution is bespoke. The use of exotic materials is common place to ensure a long product life. The plate thickness depends entirely upon the line size and  $\Delta p$  (differential pressure) and is calculated so as to prevent it from buckling under operating conditions.

### Manufacture

- Plates available to suit ½" pipeline to 48" in a range of thicknesses to suit the pressure drop.
- Manufactured in a wide range of materials
- General compliance with ISO 5167

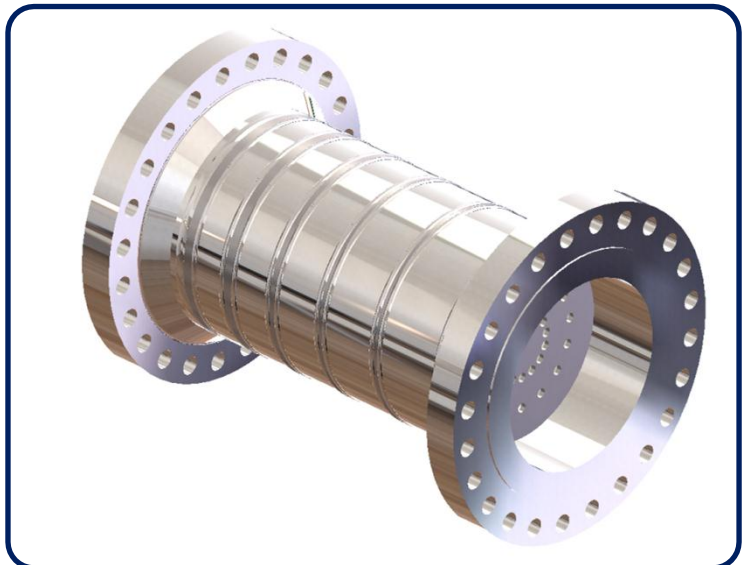
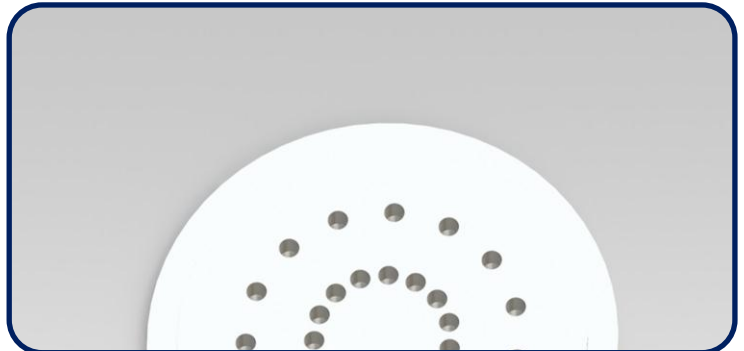
### Calculations

Each restriction plate has a three calculations completed to enable accurate performance.

- Orifice sizing
- Thickness and deflection
- Noise prediction

### Features & benefits

- Simplest and cheapest form of DPM measurement.
- Special Trim available
- Pressure rating 150# - 10,000 PSI
- Field Repairable





# Restriction Plates, Multi Plate Restriction Spools & Flow Conditioners

## EPS – Flow Conditioners

The EPS-Zanker plate (designed in accordance with ISO 5167-1:2003) is a device which reduces the flow medium swirl as well as effectively redistributes the velocity profile to produce optimum conditions for accurate DP measurement.

### EPS-Zanker plate

#### Features & Benefits

- Retro-fit in the field.
- Reduces meter run lengths in accordance with ISO 5167 and API 14.3 (AGA 3 part 2)
- Available sizes 2 to 48 inch
- Manufactured from solid material therefore provides a robust device

#### Options

- A vast range of materials from stainless to exotic materials for demanding services such as Duplex and Inconel.



## EPS – 19 Tube Bundle Flow Straightener

The 19 tube bundle is designed purely to reduce the inherent swirl of the process medium at a designated point upstream of the flow measurement. A tube bundle cannot however redistribute the velocity profile. There are typically two types of 19 tube bundle, namely the 'pin type' or the 'flanged type'. The pin type is typically only used on pipe lines up to and including 24". There after the flanged type is uses.

### EPS-19 Tube bundle

#### Features & Benefits

- Reduces meter run lengths in accordance with ISO 5167 and API 14.3 (AGA 3 part 2)
- Available sizes 2 to 48 inch

#### Options

- A vast range of materials from stainless to exotic materials for demanding services such as Duplex and Inconel.

