

Restriction Orifice - ROP

DESCRIPTION

Restriction orifices are used to generate a defined pressure loss in process piping or blow out lines. In special cases they may be designed to limit the flow to a specific value. Restriction orifices are applicable for all one-phase fluids.

APPLICATIONS

- Oil & Gas
- Petrochemical Industries
- Power Generation
- Water treatment and distribution

DESIGN

Restriction orifices are normally designed as a simple plate with an attached tag handle, which can be mounted between flanges or can be designed as an integral weld-in type. Normally, we offer them with a cylindrical bore hole. In special cases, the bore hole may not be positioned centric.

For simple pressure reduction applications, a thin orifice with a maximum thickness of 6 mm and discharge coefficient 0.6 will be required. In applications where Choked flow is desired, a thick orifice with a high discharge coefficient is required.

In order to achieve higher durability – especially considering possible cavitation – we offer hardness coatings like Stellite for extended life.

Restriction Orifice plates are subjected to severe conditions associated with high-pressure drops, such as noise generation, flashing of fluids into gas, cavitation and choked flow (Sonic Flow). Against such specific process applications, we can offer a multi-hole and/or multistage design. In special cases, they may be designed to achieve controlled flow or to limit the flow to a specific value.

PLATE SIZE AND THICKNESS

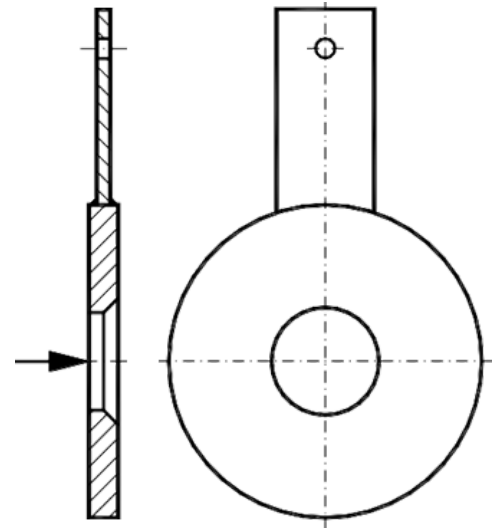
Available for line sizes from 25mm to 1250mm NB.
Standard thickness of 3mm & 6mm.
Other sizes and thickness on request

MATERIAL OF CONSTRUCTION

- Stainless Steel (standard)
- Hastelloy C276
- Monel 400
- Duplex
- Super Duplex
- Others on request.

FLANGES

As per ANSI and for rating upto #2500 class.
Stainless Steel or Carbon Steel as standard.
Other materials on request.



■ PRESSURE TAPS

Pressure taps will be designed according to customer requirements.
Typical tap designs are:

- Plain ends for fittings
- Butt weld ends
- Threaded ends
- Flanged ends

■ PLATE SEALING SURFACE

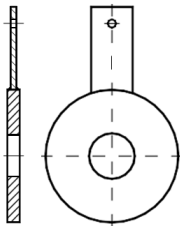
According to ASME B16.5:

- Flat (RF and SF)
- Groove (small/large)
- Tongue (small/large)
- Male/female (small/large)
- RTJ male or female

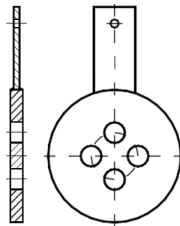
or according to other flange standards specified by the customer.

■ TYPES OF CONSTRUCTION

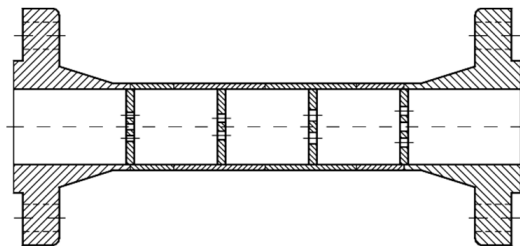
For mounting between flanges



single step/hole
restriction orifice

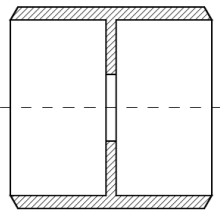


single step multihole
restriction orifice

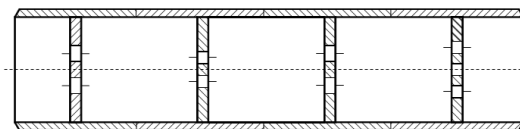


MRO - multistep multihole
restriction orifice

For weld-in



single step restriction orifice



MRO - multistep multihole restriction orifice

■ ACCESSORIES

Orifice flanges or pipe flanges, screws and gaskets may be offered for additional charges.

■ NOTES

Installation can be in either horizontal or vertical orientation and can be mounted between flanges complying to ASME B1 16.5 / EN 1092-1 or other standard such as DIN, JIS or BS.