

Orifice Plates - OPS

Orifice Assemblies - OPA

DESCRIPTION

Orifice plates are the most common flow elements due to their simplicity, ease of installation and maintenance. They are used in the flow measurement of aggressive and non-aggressive gases, steam and liquids, especially in large pipes. It is widely used for flow measurement of single-phase aggressive and non-aggressive media like gases, steam or liquids, especially in large pipes.

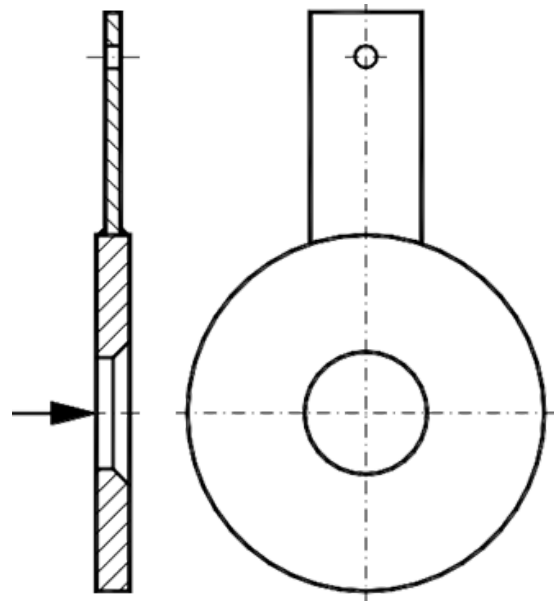
APPLICATIONS

1. Oil & Gas
2. Petrochemical Industries
3. Power Generation
4. Water treatment and distribution

DESIGN

Orifice plate with welded-on handle for direct installation between flanges or orifice flanges. Depending on the process conditions, the plate type may be manufactured as

- Square edged concentric
- Quarter circle nozzle
- Segmental
- Plate with conical entrance
- Double cone



Performance is predictable and reliable as the design and tolerances are governed by international standards such as ISO 5167, AGA3, and ASME. The plate type is chosen based on the specific process conditions.

PLATE SIZE AND THICKNESS

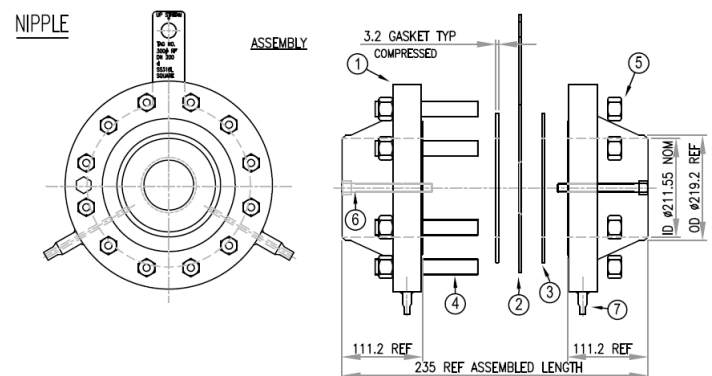
Available for line sizes from 25mm to 1250mm NB.
 Standard thickness of 3mm & 6mm.
 Other sizes and thickness on request.

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.

■ SPECIAL DESIGN OF THE BORE HOLE

Cylindrical bore hole without downstream bevel (square edge both sides) (1)

They are used for bi-directional flow measurement of clean liquids and gases. The calculation is based on ISO 5167.

Conical entrance orifice plate (2)

They are used particularly for small Reynolds numbers starting at $Re = 80$.

Often they are needed for high-viscosity fluids like oils etc. The calculation is based on ISO/TR15377.

Quadrant Edge orifice plate (2)

They are used particularly for small Reynolds numbers starting at $Re = 500$.

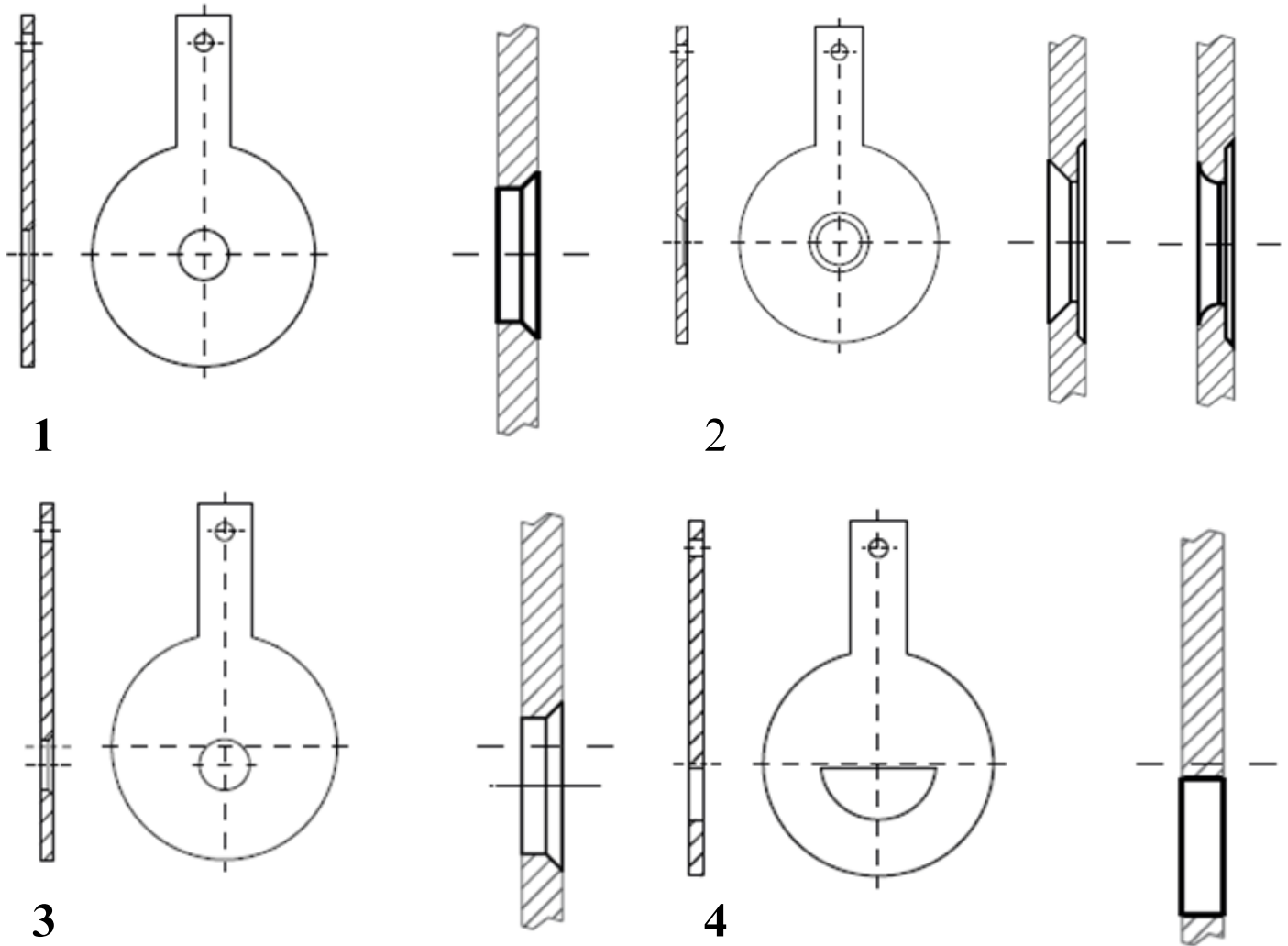
Typical applications are similar to conical entrance orifice plates. The calculation is based on ISO/TR 15377.

Eccentric orifice plate (3)

They are mostly used for liquids with entrained gases or liquids with solid particles. The calculation is based on ISO/TR15377.

Segment orifice plate (4)

Typical applications are identical to those of eccentric orifice plates. However, they are easier to manufacture especially for large pipe diameters. The calculation is based on ISO/ASME.



■ 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.