

Orifice Plate is the most common Flow Element due to its Simplicity, ease of Installation and maintenance. Restriction Orifice uses the intrinsic high pressure loss characteristic to reduce the flowing pressure or to regulate fluid flow. Multistage restriction orifices are used to achieve high pressure drops with acceptable noise levels. These orifices are installed in a pipe section and supplied as a spool piece suitable for flange mounting or for welding directly to piping.

Standard Features

- ◆ Proven Technology
- ◆ Prevent Critical Flow or Cavitation Issues
- ◆ Reduce Site Restrictions and Noise Levels

Applications

- ◆ Pressure Vessels
- ◆ Controlled Pressure Restriction
- ◆ Blow-Down Service
- ◆ Hydrocarbon, Gas & Liquid media
- ◆ Pressure Vessels
- ◆ Other Critical Process Industries



Specification

Sizing :

In accordance with ISO 5167, ASME, AGA3 standards using "Flow Consultant" software by R.W. Miller & Associates

Materials :

1. Orifice Plates 304 & 316 SS standard. Specials Duplex & Super Duplex SS, Hastelloy, Stellite faced Stainless steel, Monel and Titanium. Mill Test Certificates can be provided on request.
2. Flanges Carbon steel & SS Standard. Specials DSS, SDSS & Monel. Others on request.

Plate Size :

Available for line sizes from 25 mm to 1250 mm NB.

Thickness :

Standard thickness of 3mm & 6 mm. Restriction orifices are offered in various thicknesses according to calculation based on line size, pressure drop and flowing temperature.

Edges :

Square, Sharp and free from burrs so that when viewed with naked eye no light is reflected by the corners. Plates without beveled edge are available for bi-directional flow measurement or for restriction applications at no additional charge.

Finish :

Directionally polished, uniform smooth finish standard. Optional differential finish for gasket area 8 microns and upstream flow facing area 3 to 3.6 microns.

Markings :

All plates are marked with the line size, bore size, material of plate, customer's Tag Number, Flange Class and Face type

Vent or Drain Holes :

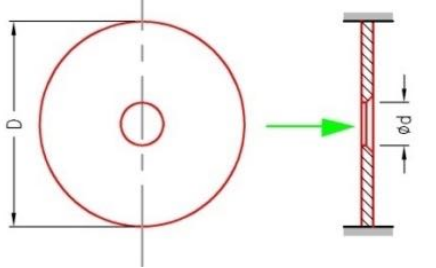
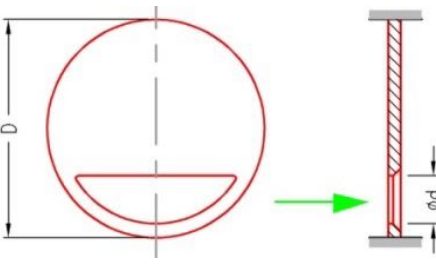
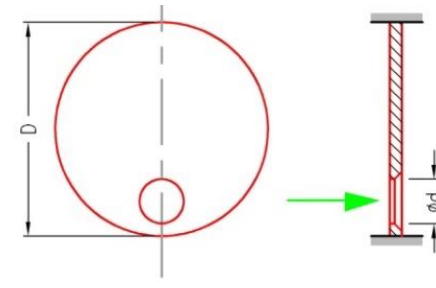
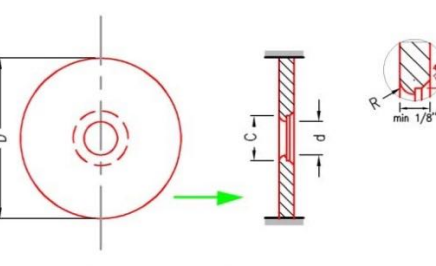
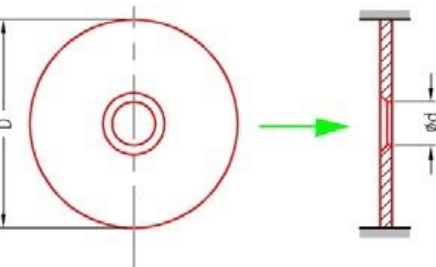
Vent or drain holes are an option.

Mounting :

Orifice assemblies are supplied with forged Carbon steel or Stainless steel flanges. Alloy steel flanges are supplied where required. Carrier Rings, RTJ holders and Meter runs with or without flanges are also available.

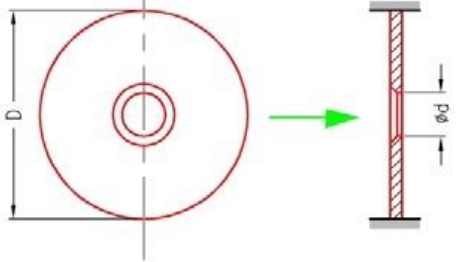
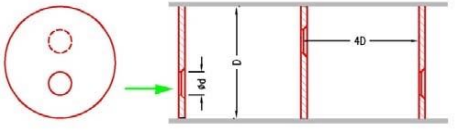
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Orifice Bore Types

Concentric Square Edge	<p>Used for liquids, gases, vapours & steam. Chamfering the downstream side is standard. For bi-directional flow monitoring, square edge without chamfer can be supplied.</p>	
Segmental Orifice	<p>Used for the measurement of flow where solids are entrained in liquid or gas streams or gases are entrained in liquid streams.</p>	
Eccentric Bore Orifice	<p>These plates with the orifice eccentrically located are used when the application requires a very small bore and the process requires a vent or drain hole.</p>	
Quadrant Edge Orifice	<p>Bore of Quadrant Edge Orifice has a radius which is a function of the orifice to pipe diameter ratio (beta ratio). This is specifically designed for use with viscous process fluids with Reynolds number around 5000 to 6000 such as slurries, syrups or heavy crude.</p>	
Conical Orifice	<p>The upstream face of the bore is beveled while the downstream face is a square edged. This design is suitable for viscous flow. It is more economical than the Quadrant edged orifice.</p>	

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Orifice Bore Types

Restriction Orifice	<p>While sizing Restriction Orifices, it better to verify if the flow becomes “critical” (Sonic) when passing through the bore and select a thicker plate as it can withstand the mechanical wear associated with sonic velocity flows.</p>	
Multistage Restriction Orifice	<p>For high pressure drop applications, or in case of limitation of allowed noise levels, several plates at varying bore diameters, or multi-hole plates are arranged within a spool piece to achieve the required pressure drops.</p>	



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