

# ORIFICE PLATE

MODEL  
S3.01



## PRODUCT DESCRIPTION

Orifice plate is a device used for measuring flow rate, for reducing pressure or for restricting flow. The orifice plate is a metal disk with a concentric hole in it, which is inserted into the pipe carrying the flowing fluid. Orifice plates are simple and available in a wide range of sizes. Orifice Plates are normally mounted between a set of Orifice Flanges and are installed in a straight run of smooth pipe to avoid disturbance of flow patterns from fittings and Valves.



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### KEY FEATURES

- Repeatability of measurement of 0.1 %
- Accuracy  $\leq \pm 0.5$  % of actual flow rate
- Suitable for liquid, gas and steam flow measurement
- Max. operating temperature and pressure limited by material and flange

### SPECIFICATIONS

Design	:	As per ISA RP 3.2, DN 1952, BS 1042, ISO-5167
Orifice Bore	:	As per ISO 5167 / BS 1042
Flange	:	ANSI B-16.36
Types	:	Square Edge Concentric , Eccentric , Segmental, Segmental , Quadrant Edge, Conical Entrance, Orifice plate with RTJ holder
Sealing face	:	Raised face, Ring type joint
Vent / Drain	:	Vent or Drain holes are provided as per customers requirement do not drilled for Orifice bore smaller than 25.4 mm.

### APPLICATION

- Water treatment and distribution
- Oil production and refining
- Gas processing and transmission
- Chemical and petrochemical industries
- Power generation

### MATERIAL OF CONSTRUCTION

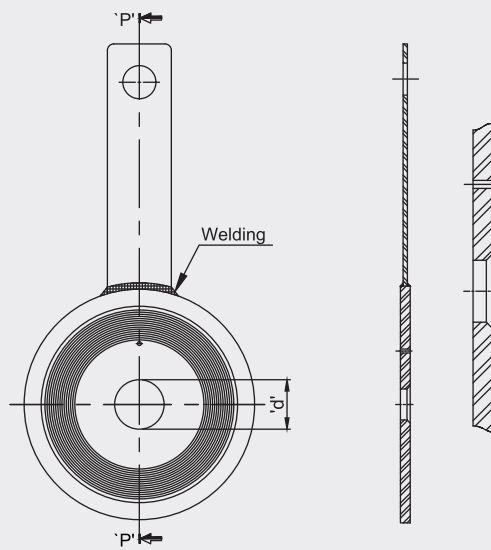
Orifice plate material	:	SS 316
Plate Holder	:	SS 316

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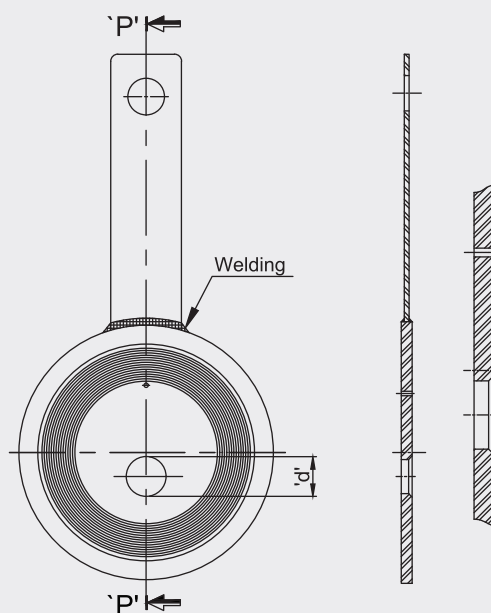
## DIMENSIONAL DRAWINGS

### Square Edge Concentric Orifice plate



These are most commonly used for flow measurement. This has special features such as simple structures, high accuracy, and ease of installation & replacement. The orifice plates are correctly finished to the dimensions, surface, roughness, and flatness to the applicable standard. These plates are recommended for clean liquids. Gases & steam flow, when the Reynolds number  $7$  ranges from 10000 to 10.

### Eccentric Orifice Plate



For liquids containing solid particles that are likely to sediment or for vapor's likely to deposit water condensate, this orifice plate is used with its eccentric bore bottom flush with the bottom of the piping inside surface so that the sedimentation of such inclusions are avoided. Likewise, for gases or vapor's, it may be installed with its eccentric bore top flush with the ID of the piping to avoid stay of gas or vapors in its vicinity.

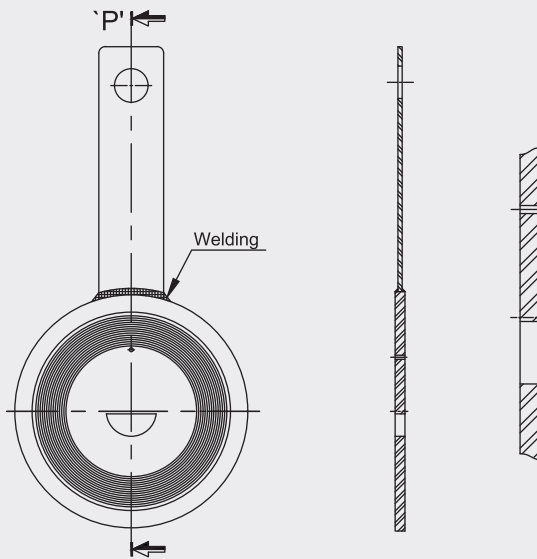
Important Notes: Above drawings are not to scale. All dimension are in mm

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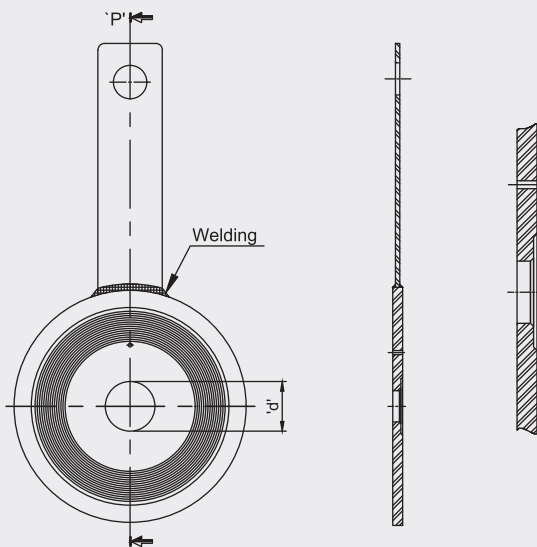
## DIMENSIONAL DRAWINGS

### Segmental



Segmental orifice plates are most useful where there are substantial entrained water or air and also if there are suspension in the fluids. This avoids build up in front of the orifice plate. The orifice hole is placed at the bottom for gas service and top for liquids.

### Quadrant Edge



The inlet edge of the bore of this orifice plate is rounded to a quarter circle. This orifice plate is usually used for viscous fluids & Reynolds number between 2000 to 10000.

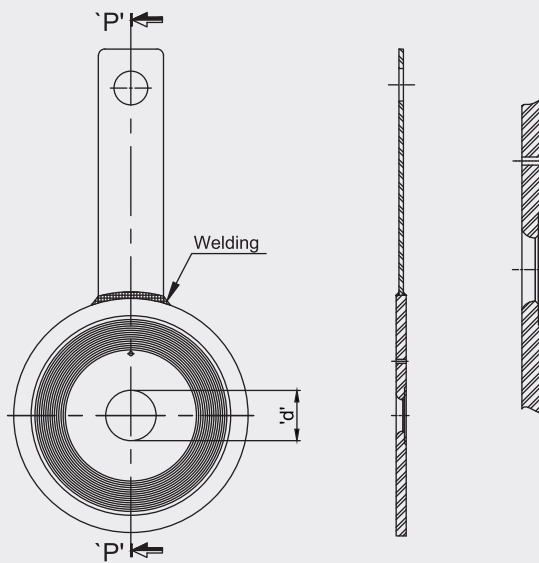
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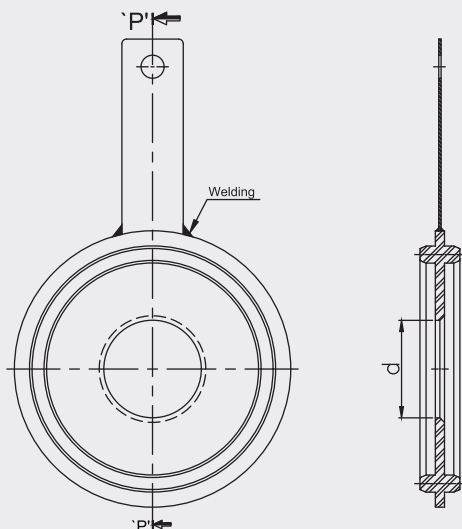
## DIMENSIONAL DRAWINGS

### Conical Entrance



These conical entrance orifice plates are used for low Reynolds number in the range of 80 to 2000 and give more constant or predictable discharge coefficient. At lower Reynolds numbers, the discharge coefficient of square edge orifice plate may change by as much as 30%. These are more usable for viscous service.

### RTJ holder



RTJ holder with plate is used when the orifice plate is used at high pressure & high temperature. When normal gaskets cannot be used due to more pressure-temperature, RTJ gaskets are used for leak prevention. These are available in oval or octal shapes. The Orifice Plate is Universal type and fitted on the RTJ holder with the help of screws. The RTJ holder material is selected such that it will be softer than the flange. The plate material will be as per process requirements.

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## MODEL CODING & ORDERING INFORMATION

DESCRIPTION	CODE	X3.01	SQ	XX	XX	RF	XX	38	S6	X17
<b>Model</b> Orifice plate	X3.01	X3.01								
<b>Type</b> Square Edge Concentric	SQ		SQ							
Eccentric	EC									
Segment	SE									
Quadrant Edge	QU									
Conical Edge	CO									
Ring type joint	RT									
<b>Line Size</b> As per customer specify	XX			XX						
<b>Pipe Schedule</b> As per customer specify	XX				XX					
<b>Plate face</b> Raised Face	RF					RF				
Ring type joint	RT									
<b>Bore Size</b> As per customer specify	XX						XX			
<b>Plate Thickness</b> 3.18 mm	38							38		
6.35 mm	65									
9.52 mm	95									
As per customer specify	XX									
<b>Plate Material</b> SS 304	S4									
SS 310	S6								S6	
SS 316	SL									
SS 316L	DC									
Duplex SS 2205	DU									
Duplex SS 2207	D7									
Inconel 625	I5									
Inconel 825	I2									
Hast C-276	HC									
Monel 400	M4									
<b>Other Option</b> Material Test Certificate	X17									X17
Tested to NACE Standard	X20									
Radiography for Welding	X83									
Dye Penetration Test	X87									

### SAMPLE ORDERING CODE:

**X3.01-SQ.XX.XX.RF.XX.38.S6.X17**

Note: Specifications and dimensions given in this product catalogue represents the state of engineering at the time of printing. Modifications may take place and material specified may be replaced by others without prior notice.