

## FEATURES

- Design to BS EN ISO 5167
- Wide range of materials
- Proven technology
- Suitable for 1" lines and above
- Orifice sizing on request

### Range of Orifice Types:

- Concentric Square Edge
- Conical Entrance
- Quarter Circle
- Segmental
- Eccentric
- Restriction Orifice
- Multi-Hole



## PRODUCT OVERVIEW

The orifice plate is the most common differential pressure flow primary element. It is based on proven technology, has no moving parts and is suitable for high temperature and pressure applications. Orifice plates are recommended for clean liquids, gases and low velocity steam flows. Orifice plates are used either as a flow element or restriction orifice. When used as a flow element, differential pressure produced between upstream and downstream sides of the plate is measured by a differential pressure transmitter. Flow rate is calculated based on standards which are introduced in "Orifice bore sizing" of this brochure. The restriction orifices are used for reducing fluid pressure and are designed somewhat different from the orifice plates that are used for measuring flow rates.

## DIMENSIONS

The outside diameter of the orifice plate is equal to the bolt circle diameter of the connecting flanges minus the diameter of the bolt. This ensures that the plate is centred accurately in the line. Plate thicknesses depend on line size and differential pressure, and should be sufficient to prevent the plate from bending under operating conditions. Sangan Sanat Co. standard plate dimensions are shown in the attached table. Orifice plates can be made in accordance with customer drawings as required.

## MATERIALS

Standard material grades include 316 Stainless Steel, 304 Stainless, Tantalum, PTFE and PVDF. Please contact the sales office for other materials.

### ORIFICE BORE SIZING

Orifice calculations for flow measurement are performed to the latest revision of ISO 5167, ASME MFC-3M, AGA, or API standards according to the specific requirement by the customer and/or process conditions.

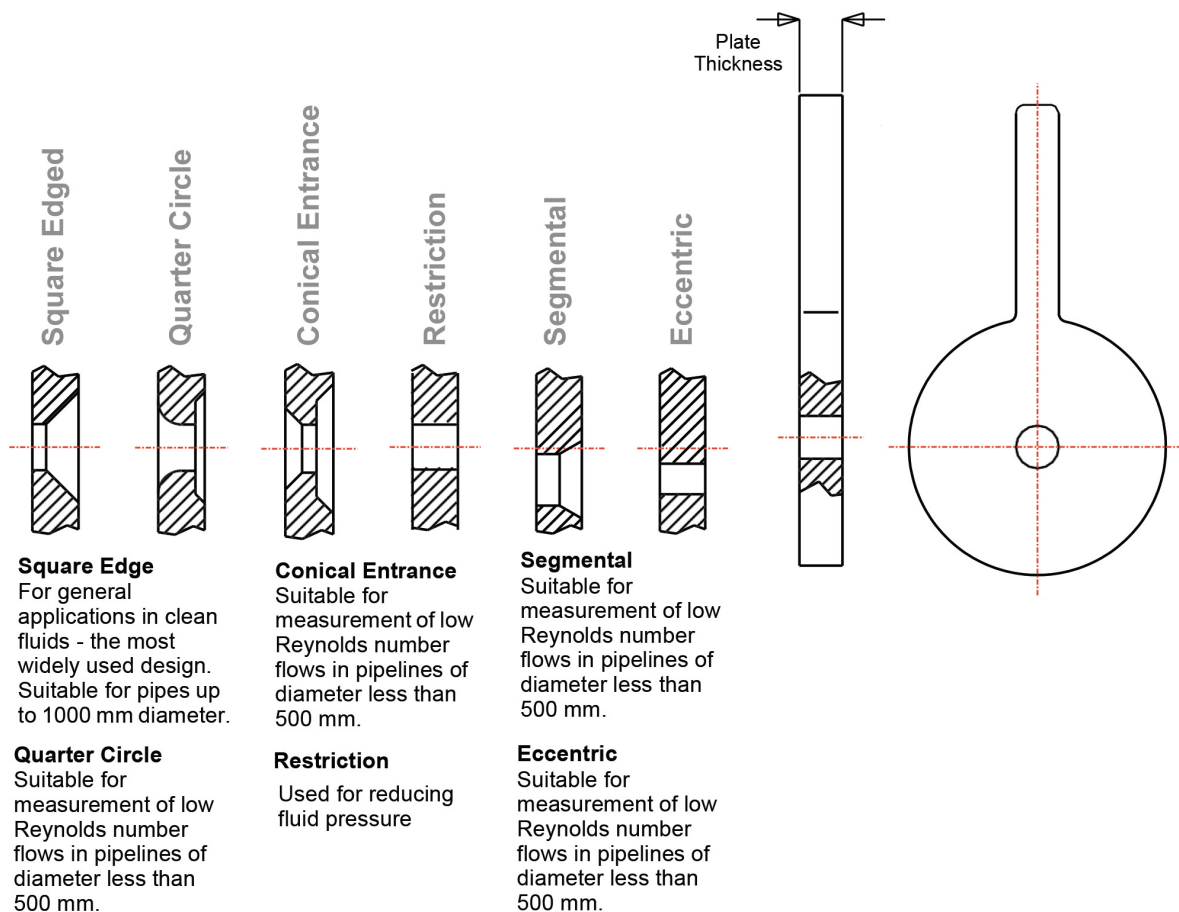
Orifice calculations for restriction plates are performed generally in accordance with the formulae in RW Miller's Flow Measurement Handbook, when requested.

The Sangan Sanat Co uses standard sizing programs such as RW Miller, Conval and proprietary developed softwares for special conditions not covered in standards.

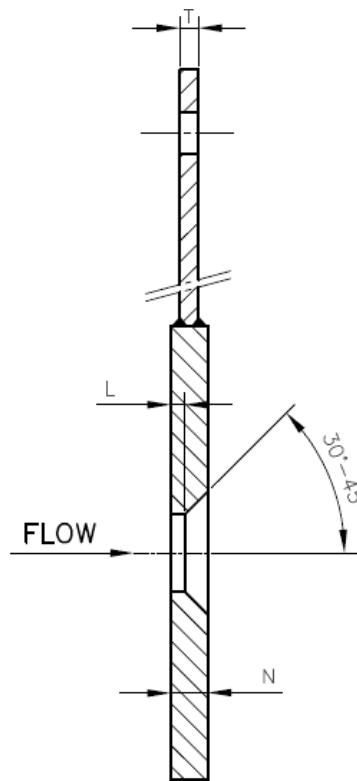
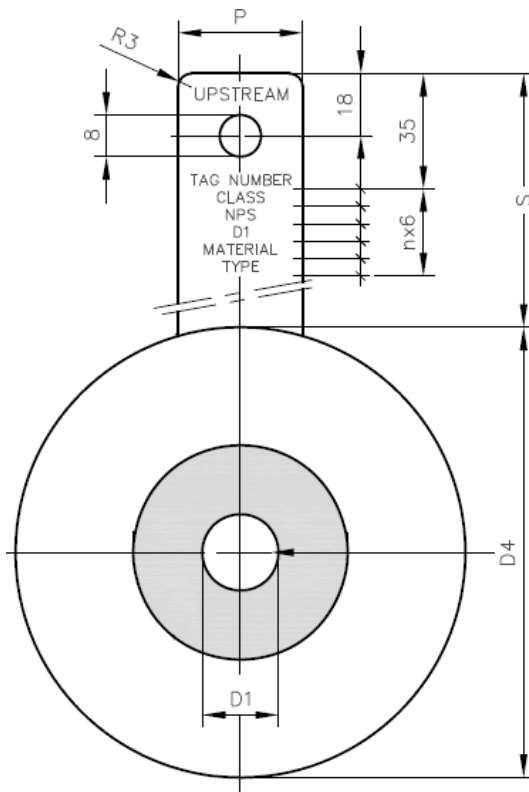
### ORIFICE CARRIER ASSEMBLIES

Orifice plates can be supplied complete with one or two piece orifice carriers, or ANSI B16.36 orifice flanges. Orifice meter runs are also available. See individual Product Data Sheets for further details.

### ORIFICE PLATE TYPES



#### DIMENSIONAL DRAWING



Tolerance	
D1	±1%
D4	0/-0.4 mm
L	±0.1 mm
P	±0.5 mm
S	±1 mm

NOMINAL LINE SIZE**		ASME B16.5 Flange Class															
		L	N*	P	T	150 LB		300 LB		600 LB		900 LB		1500 LB		2500 LB	
						D4	S	D4	S	D4	S	D4	S	D4	S	D4	S
15	½"	1.6	3	25	3	48	125	54	125	54	125	64	150	64	150	70	150
20	¾"	1.6	3	25	3	57	125	67	125	67	125	70	150	70	150	77	150
25	1"	1.6	3	25	3	67	125	73	125	73	125	80	150	80	150	86	150
40	1½"	1.6	3	25	3	86	125	96	125	96	125	99	150	99	150	118	150
50	2"	1.6	3	25	3	105	125	111	125	111	125	143	150	143	150	146	150
80	3"	1.6	3	32	3	137	125	149	125	149	125	168	150	175	150	197	150
100	4"	1.6	3	32	3	175	125	181	125	194	125	206	150	209	150	235	150
150	6"	1.6	3~6	32	3	222	125	250	125	266	125	289	150	282	150	317	150
200	8"	2.5	6	32	3	279	125	307	125	320	125	358	150	352	150	387	200
250	10"	2.5	6	32	3	339	125	361	160	399	160	434	150	434	150	475	200
300	12"	2.5	6	50	3	409	125	422	160	456	160	497	150	520	150	549	200
350	14"	2.5	6~8	50	6	450	160	485	160	491	160	519	150	577	200	-	-
400	16"	4	8~12	50	6	513	160	539	160	564	160	573	150	640	200	-	-
450	18"	4	8~12	50	6	548	160	596	160	611	160	637	200	703	200	-	-
500	20"	4	8~12	50	6	605	160	653	160	681	160	697	200	754	200	-	-
600	24"	4	8~12	50	6	716	160	773	160	789	160	836	200	899	200	-	-

\*Other thickness is available.

\*\*Up to 6" plate with handle are integrate (Others are welded).