ORIFICE PLATE
MODEL : F100 SERIES

WISE®

DESCRIPTION

Orifice plates are widely used for flow measurement as they provide the simplest and the most economical means of flow detection. Orifice plates are available in the concentric type that the round opening (bore) of the orifice plate is positioned concentrically with the center of the pipe and the opening edge (bore edge) is availalale either in the concentric square edge type (sharp. square edge type) or in the quadrant edge type (round edge type). Orifice plates are also available in the eccentric type that the opening of the orifice is shifted from the center of the pipe. They also are available in the segmental type that the opening is a circular segmental segment and the orifice is comparable to a partially opened gate valve

SPECIFICATION

ORIFICE BORE TYPE -
Concentric Square Edged Orifice
Quadrant Edged Orifice
Eccentric Orifice
Segmental Orifice

FLOW CALCULATION STANDARDS -
ISO 5167
AGA report #3
ASME MFC-3M (R.W Miller)
L.K.Spink
JIS Z 8762

FLANGE RATINGS -
JIS 10, 16, 20, 30, 40, 63
ANSI Class 150, 300, 600, and 900, 1500, 2500

PRESSURE TAPS -
Flange taps
Corner taps
Vena contract taps
1D and 1/2D (Radius) taps
Pipe taps

PLATE THICKNESS -
3, 6, 9, 12mm

TAB HANDLE -
Welded to orifice plate

PLATE MATERIAL -
Standard : 304SS, 316LSS
Non-standard : Monel, Hastelley B/C, Titanium etc.

DRAIN AND VENT HOLE -
Per ASME recommendations
Not drilled for orifice bores smaller than 25.4mm

MARKINGS -
Upstream side of tab handle stamped “UPSTREAM” and with bore type and size, line size, tag number, and flange rating.

SPECIAL MARKINGS -
Special marking may be furnished to meet special requirement

ORIFICE PLATE APPLICATION SUMMARY

Orifice Type	Fluid Type					Nominal line Size Normally Used	
	Gas(Vapor)		Liquid				
	Clean	Dirty	Clean	Dirty	Viscous	Clean	Clean
Concentric - Square Edge	E	X	E	O	X	40 to 1500	1½ to 60
Concentric - Quadrant Edge	X	X	E	O	E	40 to 250	1½ to 10
Eccentric - Square Edge	O	O	O	E	X	100 to 350	4 to 14
Segmental - Square Edge	O	O	O	E	X	100 to 350	4 to 14

ORIFICE ORDERING INFORMATION

(Plate)

F100

TYPE
P1 : Orifice Plate

LINE SIZE

JIS (mm)	ANSI (inch)	DIN (mm)	JIS (mm)	ANSI (inch)	DIN (mm)
J015 : 15A	A001 : 1/2B	D015 : 15A	J250 : 250A	A012 : 10B	D250 : 250A
J020 : 20A	A002 : 3/4B	D020 : 20A	J300 : 300A	A013 : 12B	D300 : 300A
J025 : 25A	A003 : 1B	D025 : 25A	J350 : 350A	A014 : 14B	D350 : 350A
J040 : 40A	A004 1 1/2B	D040 : 40A	J400 : 400A	A015 : 16B	D400 : 400A
J050 : 50A	A005 : 2B	D050 : 50A	J450 : 450A	A016 : 18B	D450 : 450A
J065 : 65A	A006 2 1/2B	D065 : 65A	J500 : 500A	A017 : 20B	D500 : 500A
J080 : 80A	A007 : 3B	D080 : 80A	J600 : 600A	A018 : 24B	D600 : 600A
J100 : 100A	A008 : 5B	D100 : 100A	J700 : 700A	A019 : 28B	D700 : 700A
J125 : 125A	A009 : 5B	D125 : 125A	J800 : 800A	A020 : 32B	D800 : 800A
J150 : 150A	A010 : 6B	D150 : 150A	J000 : 1000A	A021 : 40B	D000 : 1000A
J200 : 200A	A011 : 8B	D200 : 200A	XXXX : OHTER		

BORE TYPE
C : Concentric Edge
Q : Quadrant Edge
E : Eccentric
S : Segmental

FLANGE RATING

JIS	ANSI	DIN
J010 : JIS 10K	A010 : ANSI 150#	P010 : PN10
J016 : JIS 16K	A020 : ANSI 300#	P016 : PN16
J020 : JIS 20K	A030 : ANSI 600#	P025 : PN25
J030 : JIS 30K	A040 : ANSI 900#	P040 : PN40
J040 : JIS 40K	A050 : ANSI 1500#	
J063 : JIS 63K	A060 : ANSI 2500#	

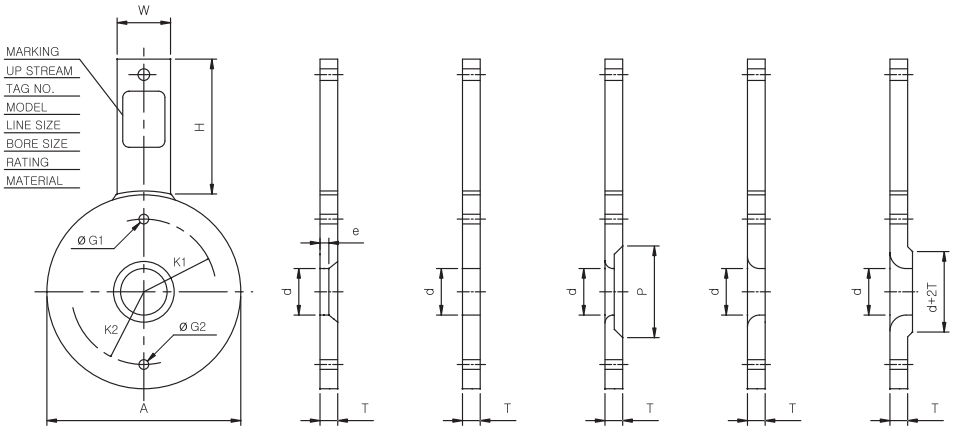
MATERIAL
4 : 304SS
6 : 316LSS
T : Titanium
M : Monel
O : Other

DRAIN / VENT
D : Drain
V : Vent
N : None

OPTION
XX : None

F100	P1	J200	C	J010	6	D	XX

DIMENSION



CONCENTRIC
EDGE

CONCENTRIC
QUARTER CIRCLE

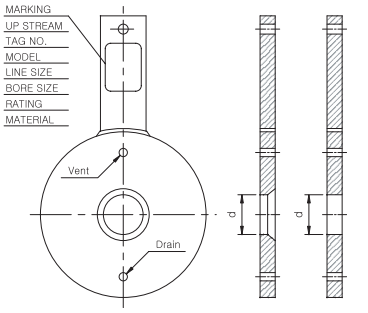
* d,K1,K2,G1,G2 : Reter to Specification Sheet

unit : mm

Norminal Dia	PLATE O.D.A						Plate Thk' T	Edge e	Tap Haddle	
	150#	300#	600#	900#	1500#	2500#			W	H
1/2B	47.8	53.8	53.8	63.6	63.6	69.9	3.0	-	25	90
3/4B	57.3	66.7	66.7	69.9	69.9	76.3	3.0	-	25	90
1B	66.8	73.0	73.0	79.4	79.4	85.8	3.0	0.5	25	90
1 1/2B	85.8	95.3	95.3	98.6	98.6	117.5	3.0	0.5	25	90
2B	104.6	111.1	111.1	142.8	142.8	146.1	3.0	0.5	25	90
2 1/2B	123.6	130.4	130.4	165.1	165.1	168.3	3.0	0.5	25	90
3B	136.6	149.1	149.1	168.3	174.6	196.9	3.0	1.0	25	90
4B	174.6	183.2	193.7	206.4	209.6	235.0	3.0	1.0	38	110
5B	197.0	216.0	241.5	247.7	260.4	279.5	3.0	1.5	38	110
6B	222.5	250.7	266.7	288.9	282.6	317.5	3.0	1.5	38	110
8B	279.5	308.0	320.7	358.8	352.4	387.4	3.0	1.5	38	110
10B	339.8	361.9	400.1	435.0	435.0	476.5	6.0	-	44	120
12B	409.8	422.3	457.3	498.5	520.7	549.5	6.0	-	44	120
14B	450.6	485.8	492.2	520.0	577.9	-	6.0	-	44	120
16B	514.1	539.8	565.2	574.7	641.4	-	6.0	-	44	120
18B	549.4	597.0	612.8	637.9	704.9	-	9.0	-	50	130
20B	606.4	654.1	682.6	698.5	755.7	-	9.0	-	50	130
22B	660.5	704.9	733.5	-	-	-	9.0	-	50	130
24B	717.8	774.7	790.6	838.2	901.7	-	9.0	-	50	130

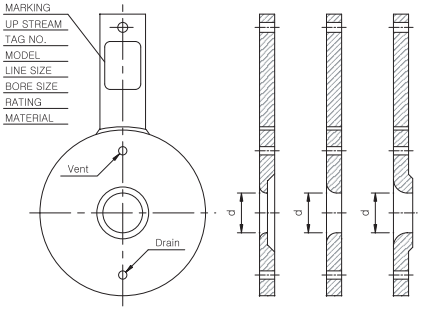
CONCENTRIC ORIFICE PLATE

Simple-structured with high precision, this orifice plate can be easily mounted and dismounted. In strict conformance with applicable standards, it is precisely finished to have required shape, size, surface, roughness and flatness.
For differential pressure measurement, it is combined with flange taps, vena contract taps or corner taps.



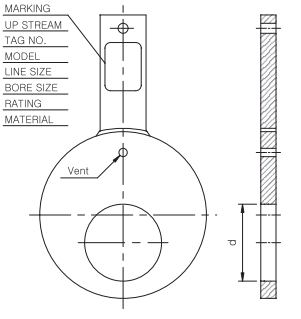
QUARTER-CIRCLE ORIFICE PLATE

The inlet edge of the bore of this orifice plate is rounded with a radius of a quarter circle. This orifice plate is principally used for measuring flow rates of low Reynolds Numbers.
Flange taps or corner taps are used.



ECCENTRIC ORIFICE PLATE

For Liquids containing solid particles that are liable to settle, or for vapors liable to deposit water condensate, this orifice plate is installed with its eccentric ore bottom flush with the bore bottom of the piping, so that the sedimentation of such inclusions is avoided, Likewise, for gases or vapors, it may be installed with its eccentric bore top flush with the bore top of the piping to avoid the stay of gas or vapor in its vicinity.
Flange taps or vena contract taps are used with.



SEGMENTAL ORIFICE PLATE

The vertical section of the bore of this orifice plate is a semicircle to perform the same function as the eccentric orifice plate.
Used for the similar purposes. Flange taps or vena contract taps are employed to take out fluid pressures.