

DIMENSIONAL STANDARD · ASME B16.36

ASME B16.36 Orifice Flange Dimensions

Class 300 and 600 weld neck orifice flange dimensions, NPS 1–24, with pressure-tap details, in mm.

This chart gives **ASME B16.36** weld neck orifice flange dimensions in millimetres for **Class 300 and Class 600**, NPS 1" to 24". Orifice flanges are supplied in pairs to hold an orifice plate for flow measurement; each flange carries pressure taps and a jack screw.

Outside diameter, raised face and drilling are the same as ASME B16.5 flanges of the same class, so orifice flanges mate with standard flanges and pipe. The minimum thickness is 36.6 mm (1.44") to leave room for the radial taps. Teshi Group manufactures orifice flange sets with jack screws, plugs and stud bolts.

- O** Outside diameter of flange
- T** Minimum flange thickness, excluding the raised face
- R** Diameter of raised face
- X** Hub diameter at base
- Y** Length through hub
- W** Bolt circle diameter
- Holes** Number of bolt holes
- Bolt** Nominal stud bolt diameter in inches
- Stud** Stud bolt length for a raised-face orifice flange pair

Class 300 orifice flange dimensions (mm)

NPS in	O Outside dia	T Min thickness	R Raised face dia	X Hub dia	Y Length thru hub	W Bolt circle	Holes No.	Hole dia mm	Bolt in	Stud Length, mm
1"	125	36.6	50.8	54	81	88.9	4	19.1	5/8"	125
1½"	155	36.6	73.0	70	84	114.3	4	22.2	¾"	135
2"	165	36.6	92.1	84	84	127.0	8	19.1	5/8"	125
2½"	190	36.6	104.8	100	87	149.2	8	22.2	¾"	135
3"	210	36.6	127.0	117	87	168.3	8	22.2	¾"	135
4"	255	36.6	157.2	146	90	200.0	8	22.2	¾"	135
6"	320	36.6	215.9	206	98	269.9	12	22.2	¾"	135
8"	380	39.7	269.9	260	110	330.2	12	25.4	7/8"	145
10"	445	46.1	323.8	321	116	387.4	16	28.6	1"	165
12"	520	49.3	381.0	375	129	450.8	16	31.8	1⅛"	180
14"	585	52.4	412.8	425	141	514.4	20	31.8	1⅛"	185
16"	650	55.6	469.9	483	144	571.5	20	34.9	1¼"	195
18"	710	58.8	533.4	533	157	628.6	24	34.9	1¼"	205
20"	775	62.0	584.2	587	160	685.8	24	34.9	1¼"	215
24"	915	68.3	692.2	702	167	812.8	24	41.3	1½"	240

Class 600 orifice flange dimensions (mm)

NPS in	O Outside dia	T Min thickness	R Raised face dia	X Hub dia	Y Length thru hub	W Bolt circle	Holes No.	Hole dia mm	Bolt in	Stud Length, mm
1"	125	36.6	50.8	54	81	88.9	4	19.1	5/8"	125
1½"	155	36.6	73.0	70	84	114.3	4	22.2	¾"	135
2"	165	36.6	92.1	84	84	127.0	8	19.1	5/8"	125
2½"	190	36.6	104.8	100	87	149.2	8	22.2	¾"	135
3"	210	36.6	127.0	117	87	168.3	8	22.2	¾"	135
4"	275	38.1	157.2	152	102	215.9	8	25.4	7/8"	150
6"	355	47.7	215.9	222	117	292.1	12	28.6	1"	180
8"	420	55.6	269.9	273	133	349.2	12	31.8	1½"	195
10"	510	63.5	323.8	343	152	431.8	16	34.9	1¼"	220
12"	560	66.7	381.0	400	156	489.0	20	34.9	1¼"	230
14"	605	69.9	412.8	432	165	527.0	20	38.1	1¾"	240
16"	685	76.2	469.9	495	178	603.2	20	41.3	1½"	260
18"	745	82.6	533.4	546	184	654.0	20	44.5	1¾"	280
20"	815	88.9	584.2	610	190	723.9	24	44.5	1¾"	300
24"	940	101.6	692.2	718	203	838.2	24	50.8	1¾"	335

Notes

- Dimensions are in millimetres unless stated otherwise. Bolt holes and bolt diameters follow ASME B16.5 (inch); the mm values are conversions.
- The bore is machined to the pipe inside diameter specified by the purchaser.
- Each flange has two pressure taps, usually ½" NPT, on opposite sides; other tap sizes and orientations are supplied on request.
- One jack screw per flange, set 180° apart, is used to separate the flanges to change the orifice plate.
- Raised face height is 2 mm for Class 300; for Class 600 it is 2 mm at NPS 1–3 and 7 mm at NPS 4–24.
- Stud lengths include an allowance of about 6 mm for the orifice plate and gaskets (NPS 1–12).
- Class 600 orifice flanges from NPS 1 to 3 have the same dimensions as Class 300.

Reference information compiled from the published standard for convenience. It does not replace the current edition of the governing standard, which takes precedence. Verify critical dimensions before design, purchase or fabrication. Teshi Engineers & Sales Promoters (P) Ltd accepts no liability for errors or omissions. Online version: <https://www.teshigroup.com/dimensional-standards/asme-b16-36-orifice-flange-dimensions/>