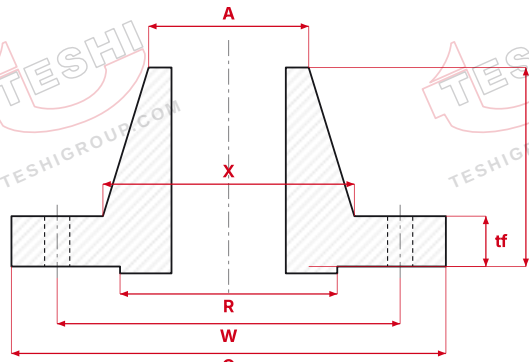


DIMENSIONAL STANDARD · ASME B16.5

ASME B16.5 Class 600 Flange Dimensions

Class 600 flange dimensions and bolting, NPS ½–24, in mm.

This chart gives the dimensions of **ASME B16.5 Class 600** pipe flanges in millimetres for NPS ½" to 24". It covers weld neck, slip-on, blind, socket weld, threaded and lap joint flanges, with drilling, stud bolt lengths and approximate weights.



Weld neck flange, raised face — section (not to scale)

Weld neck flange with raised face. Letters correspond to the column headings in the table.

- O** Outside diameter of flange
- tf** Minimum flange thickness (also the blind flange thickness), excluding the raised face
- R** Diameter of raised face
- X** Hub diameter at base
- A** Hub diameter at the welding end of a weld neck flange (pipe outside diameter)
- Y** Length through hub — given separately for weld neck, slip-on / threaded / socket weld and lap joint flanges
- W** Bolt circle diameter
- Holes** Number and diameter of bolt holes
- Bolt** Nominal bolt diameter in inches

Class 600 flange dimensions (mm)

NPS in	DN	O Outside dia	tf Min thickness	R Raised face dia	X Hub dia	A Hub at weld	Y Weld neck	Y Slip-on / Thr / SW	Y Lap joint	W Bolt circle	Holes No.	Hole dia mm	Bolt in
½"	15	95	14.3	34.9	38	21.3	52	22	22	66.7	4	15.9	½"
¾"	20	115	15.9	42.9	48	26.7	57	25	25	82.6	4	19.1	⅝"
1"	25	125	17.5	50.8	54	33.4	62	27	27	88.9	4	19.1	⅝"
1¼"	32	135	20.7	63.5	64	42.2	67	29	29	98.4	4	19.1	⅝"
1½"	40	155	22.3	73.0	70	48.3	70	32	32	114.3	4	22.2	¾"
2"	50	165	25.4	92.1	84	60.3	73	37	37	127.0	8	19.1	⅝"
2½"	65	190	28.6	104.8	100	73.0	79	41	41	149.2	8	22.2	¾"

NPS in	DN	O Outside dia	tf Min thickness	R Raised face dia	X Hub dia	A Hub at weld	Y Weld neck	Y Slip-on / Thr / SW	Y Lap joint	W Bolt circle	Holes No.	Hole dia mm	Bolt in
3"	80	210	31.8	127.0	117	88.9	83	46	46	168.3	8	22.2	¾"
3½"	90	230	35.0	139.7	133	101.6	86	49	49	184.2	8	25.4	⅞"
4"	100	275	38.1	157.2	152	114.3	102	54	54	215.9	8	25.4	⅞"
5"	125	330	44.5	185.7	189	141.3	114	60	60	266.7	8	28.6	1"
6"	150	355	47.7	215.9	222	168.3	117	67	67	292.1	12	28.6	1"
8"	200	420	55.6	269.9	273	219.1	133	76	76	349.2	12	31.8	1⅝"
10"	250	510	63.5	323.8	343	273.0	152	86	111	431.8	16	34.9	1¼"
12"	300	560	66.7	381.0	400	323.8	156	92	117	489.0	20	34.9	1¼"
14"	350	605	69.9	412.8	432	355.6	165	94	127	527.0	20	38.1	1⅝"
16"	400	685	76.2	469.9	495	406.4	178	106	140	603.2	20	41.3	1½"
18"	450	745	82.6	533.4	546	457.0	184	117	152	654.0	20	44.5	1⅝"
20"	500	815	88.9	584.2	610	508.0	190	127	165	723.9	24	44.5	1⅝"
24"	600	940	101.6	692.2	718	610.0	203	140	184	838.2	24	50.8	1⅞"

Class 600 bolting and approximate weights

NPS in	Studs No.	Stud dia in	Stud length Raised face	Stud length Ring joint	Weld neck kg, approx.	Slip-on kg, approx.	Blind kg, approx.
½"	4	½"	75	75	0.9	0.9	—
¾"	4	⅝"	90	90	1.8	1.4	1.4
1"	4	⅝"	90	90	1.8	1.8	1.8
1¼"	4	⅝"	95	95	2.7	2.3	2.3
1½"	4	¾"	110	110	3.6	3.2	3.6
2"	8	⅝"	110	110	5.4	4.1	4.5
2½"	8	¾"	120	120	8.1	5.9	6.8
3"	8	¾"	125	125	10.4	7.3	9.1
3½"	8	⅞"	140	140	11.8	9.5	13.2
4"	8	⅞"	145	145	19.0	16.8	18.6
5"	8	1"	165	165	31.0	29.0	31.0

NPS in	Studs No.	Stud dia in	Stud length Raised face	Stud length Ring joint	Weld neck kg, approx.	Slip-on kg, approx.	Blind kg, approx.
6"	12	1"	170	170	37.0	36.0	39.0
8"	12	1 1/8"	190	195	52.0	52.0	63.0
10"	16	1 1/4"	215	215	86.0	77.0	104
12"	20	1 1/4"	220	220	102	97.0	134
14"	20	1 3/8"	235	235	—	111	166
16"	20	1 1/2"	255	255	—	157	231
18"	20	1 5/8"	275	275	—	—	293
20"	24	1 5/8"	285	290	—	—	376
24"	24	1 7/8"	330	335	—	—	565

Notes

- Dimensions are in millimetres unless stated otherwise.
- Flange thickness t_f and length through hub Y do not include the 7 mm raised face.
- Blind flanges have the same outside diameter, thickness t_f and drilling as the other flange types of the same size and class.
- The bore of a weld neck or socket weld flange is machined to match the inside diameter of the pipe schedule stated in the order.
- Bolt holes are tabulated in inches in ASME B16.5; the millimetre values shown are direct conversions (bolt diameter plus 1/8").
- Stud bolt lengths do not include the height of the points. Weights are approximate catalogue values and vary with bore and manufacturer.

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 and properties before design, purchase or fabrication. Teshi Engineers & Sales Promoters (P) Ltd accepts no liability for errors or omissions.

Teshi Group

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+91 78900 09110
sales@teshigroup.com
www.teshigroup.com