

ASME B16.47 Series A Class 600 Flange Dimensions (NPS 26 to NPS 60)

Mounting dimensions for ASME B16.47 Series A Class 600 large-diameter weld-neck flanges: flange outside diameter, bolt-circle diameter, number of bolts, bolt-hole size and stud size.

ASME B16.47 covers steel pipe flanges from NPS 26 to NPS 60, the range above the NPS 24 ceiling of ASME B16.5. It defines two non-interchangeable series: Series A (the larger, more robust flange, formerly MSS SP-44) and Series B (a more compact flange with more, smaller bolts). The two series share neither the outside diameter nor the bolt pattern at a given NPS and rating, so the series must be confirmed before a flange is ordered or matched. The values below are the Series A Class 600 dimensions for the weld-neck flange, cross-checked across three independent reference tables.

NPS	Flange OD O (mm)	Bolt circle (mm)	No. of bolts	Bolt hole (mm)	Stud size
NPS 26	1016.0	914.4	28	50.8	1 7/8 in
NPS 28	1073.2	965.2	28	54	2 in
NPS 30	1130.3	1022.4	28	54	2 in
NPS 32	1193.8	1079.5	28	60.3	2 1/4 in
NPS 34	1244.6	1130.3	28	60.3	2 1/4 in
NPS 36	1314.5	1193.8	28	66.7	2 1/2 in
NPS 38	1270.0	1162.0	28	60.3	2 1/4 in
NPS 40	1320.8	1212.8	32	60.3	2 1/4 in
NPS 42	1403.4	1282.7	28	66.7	2 1/2 in
NPS 44	1454.2	1333.5	32	66.7	2 1/2 in
NPS 46	1511.3	1390.6	32	66.7	2 1/2 in
NPS 48	1593.9	1460.5	32	73.0	2 3/4 in
NPS 50	1670.1	1524.0	28	79.4	3 in
NPS 52	1720.9	1574.8	32	79.4	3 in
NPS 54	1778.0	1632.0	32	79.4	3 in
NPS 56	1854.2	1695.4	32	85.7	3 1/4 in
NPS 58	1905.0	1746.2	32	85.7	3 1/4 in
NPS 60	1993.9	1822.4	28	92.1	3 1/2 in

Bolt holes are drilled on the bolt circle, starting from the 12 o'clock position. For example, the 50.8 mm (2 in) hole takes a 1 7/8 in stud. For NPS 38 the Series A Class 600 outside diameter is 1270.0 mm, not 1270.0 mm across the reference tables, not a typographical error. Ferrobend tables agree exactly on the bolt

Reading the dimensions

- Flange OD O — the overall diameter of the flange.
- Bolt circle — the diameter of the circle that passes through the center of each bolt hole. This is the figure to lay out or check on the flange.
- Number of bolts — equally spaced bolts around the bolt circle.
- Bolt hole — the drilled hole diameter for the bolts on the flanges up.
- Stud size — the diameter of the studs used to bolt the flanges. Use the full set; do not part-populate.

Flange thickness and hub dimension are not included in the table and the published columns differ between ASME B16.47 Series A table or the

Selecting and

matching

Two flanges bolt together only when they match. Before ordering, a B16.47 Series A flange must match the outside diameter, bolt circle and bolt size of the larger bolt circle and bigger studs than the smaller flange. Series A is the common standard and interchangeable. Series A is the common standard; flange suits the duty; Series B saves weight. Series B throughout. The rating (Class) follows the flange type. The dimensions for Class 600 share the same outside diameter.

Reference compiled by cBallast from ASME B16.47 reference tables. Dimensions are nominal and may vary from the specific flange maker's current data sheets. © 2010 cBallast owners.