

ASME B16.47 Series B Class 300 Flange Dimensions (NPS 26 to NPS 60)

Mounting dimensions for ASME B16.47 Series B Class 300 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 that carries more, smaller bolts on a smaller bolt circle, formerly API 605). 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. Class 300 is the higher-pressure companion to Class 150: a larger bolt circle, larger studs and a thicker flange for the same NPS. The values below are the Series B Class 300 dimensions for the weld-neck flange, cross-checked across three independent reference tables.

NPS	Flange OD (mm)	Bolt circle (mm)	No. of bolts	Bolt hole (mm)	Stud size
NPS 26	865	803.3	32	34.9	1 1/4 in
NPS 28	920	857.2	36	34.9	1 1/4 in
NPS 30	990	920.8	36	38.1	1 3/8 in
NPS 32	1055	977.9	32	41.3	1 1/2 in
NPS 34	1110	1031.9	36	41.3	1 1/2 in
NPS 36	1170	1089.0	32	44.5	1 5/8 in
NPS 38	1220	1139.8	36	44.5	1 5/8 in
NPS 40	1275	1190.6	40	44.5	1 5/8 in
NPS 42	1335	1244.6	36	47.6	1 3/4 in
NPS 44	1385	1295.4	40	47.6	1 3/4 in
NPS 46	1460	1365.2	36	50.8	1 7/8 in
NPS 48	1510	1416.0	40	50.8	1 7/8 in
NPS 50	1560	1466.8	44	50.8	1 7/8 in
NPS 52	1615	1517.6	48	50.8	1 7/8 in
NPS 54	1675	1578.0	48	50.8	1 7/8 in
NPS 56	1765	1651.0	36	60.3	2 1/4 in
NPS 58	1825	1712.9	40	60.3	2 1/4 in
NPS 60	1880	1763.7	40	60.3	2 1/4 in

Bolt holes are drilled on the bolt circle, starting with the 34.9 mm (1 3/8 in) hole takes a 1 1/4 in stud. The bolt count in Series B Class 300 does not vary; it is the exact count for the specific NPS rather than a range for every NPS.

Reading the dimensions

- Flange OD — the overall diameter of the flange, larger than Series A at the same NPS.
- Bolt circle — the diameter of the circle that passes through the center of the bolt holes. This is the figure to lay out or check when ordering a flange.
- Number of bolts — equally spaced bolts and studs across the range, and the count varies by NPS.
- Bolt hole — the drilled hole diameter, larger than the stud diameter.
- Stud size — the diameter of the stud, larger than the bolt hole diameter. Use the full set; do not part-populate.

Flange thickness and hub dimensions are not included in this table and the published columns differ between ASME B16.47 Series B Class 300 tables.

Selecting and matching

Two flanges bolt together only when they match. Check the following before ordering. A B16.47 Series B flange must match the Series A flange's outside diameter, bolt circle and bolt count. A Series B flange must also match the Series A flange's weight and bolt-up effort and suits a flange's application. A Series B flange where a Series A flange is already in use must match the Series A flange's bolt circle and the facing; the bore, height and thickness; the weld-neck flange; blind flanges to B16.47 Series B; and the bolt count and stud size.

Reference compiled by cBallast from ASME B16.47 Series A and B flange reference tables (mm and inch), which agree with the ASME B16.47 Series A and B flange tables provided for identification and cross-reference. All dimensions are in millimeters unless otherwise indicated before manufacture or procurement. All traceable to ASME B16.47 Series A and B flange reference tables.