

ASME B16.47 Series A Class 900 Flange Dimensions (NPS 26 to NPS 48)

Mounting dimensions for ASME B16.47 Series A Class 900 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. Class 900 is the highest-pressure Series A class and is tabulated from NPS 26 to NPS 48. The values below are the Series A Class 900 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	1085.9	952.5	20	73.0	2 3/4 in
NPS 28	1168.4	1022.4	20	79.4	3 in
NPS 30	1231.9	1085.8	20	79.4	3 in
NPS 32	1314.5	1155.7	20	85.7	3 1/4 in
NPS 34	1397.0	1225.6	20	92.1	3 1/2 in
NPS 36	1460.5	1289.0	20	92.1	3 1/2 in
NPS 38	1460.5	1289.0	20	92.1	3 1/2 in
NPS 40	1511.3	1339.8	24	92.1	3 1/2 in
NPS 42	1562.1	1390.6	24	92.1	3 1/2 in
NPS 44	1647.8	1463.7	24	98.4	3 3/4 in
NPS 46	1733.6	1536.7	24	104.8	4 in
NPS 48	1784.4	1587.5	24	104.8	4 in

Bolt holes are drilled on the bolt circle, starting with the 73.0 mm (2 7/8 in) hole takes a 2 3/4 in stud. For Class 400, 600 and 900 the Series A flange shares the NPS 36 outside diameter (1460.5 mm) reference tables, not a typographical error. NPS; outside diameter agrees across the three

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 the bolt holes. This is the figure to lay out or check when ordering a flange.
- Number of bolts — equally spaced around the bolt circle. 20 bolts from NPS 26 to NPS 38 and 24 studs from NPS 40 to NPS 48.
- Bolt hole — the drilled hole diameter. This is the diameter of the hole in the flange.
- Stud size — the diameter of the stud. Use the full set; do not part-populate.

Flange thickness and hub dimensions are not shown and the published columns differ between the ASME B16.47 Series A table or the MSS SP-44 table.

Selecting and matching

Two flanges bolt together only when they are the same size. Before ordering, a B16.47 Series A flange must match the outside diameter, bolt circle and bolt hole size. A larger bolt circle and bigger studs than the flange are not interchangeable. Series A is the common

flange suits the duty; Series B saves
Series B throughout. The rating (Clas
follow the flange type. The dimension
900 share the same outside diameter

Reference compiled by cBallast from ASME
reference tables. Dimensions are nominal and
the specific flange maker's current data sheet
owners.