

# ASME B16.47 Series A Class 400 Flange Dimensions (NPS 26 to NPS 60)

Mounting dimensions for ASME B16.47 Series A Class 400 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 400 sits between Class 300 and Class 600 on the pressure ladder. The values below are the Series A Class 400 dimensions for the weld-neck flange, cross-checked across two independent reference tables.

| NPS    | Flange OD O (mm) | Bolt circle (mm) | No. of bolts | Bolt hole (mm) | Stud size |
|--------|------------------|------------------|--------------|----------------|-----------|
| NPS 26 | 970              | 876.3            | 28           | 47.6           | 1 3/4 in  |
| NPS 28 | 1035             | 939.8            | 28           | 50.8           | 1 7/8 in  |
| NPS 30 | 1090             | 997.0            | 28           | 54             | 2 in      |
| NPS 32 | 1150             | 1054.1           | 28           | 54             | 2 in      |
| NPS 34 | 1205             | 1104.9           | 28           | 54             | 2 in      |
| NPS 36 | 1270             | 1168.4           | 32           | 54             | 2 in      |
| NPS 38 | 1205             | 1117.6           | 32           | 47.6           | 1 3/4 in  |
| NPS 40 | 1270             | 1174.8           | 32           | 50.8           | 1 7/8 in  |
| NPS 42 | 1320             | 1225.6           | 32           | 50.8           | 1 7/8 in  |
| NPS 44 | 1385             | 1282.7           | 32           | 54             | 2 in      |
| NPS 46 | 1440             | 1339.8           | 36           | 54             | 2 in      |
| NPS 48 | 1510             | 1403.4           | 28           | 60.3           | 2 1/4 in  |
| NPS 50 | 1570             | 1460.5           | 32           | 60.3           | 2 1/4 in  |
| NPS 52 | 1620             | 1511.3           | 32           | 60.3           | 2 1/4 in  |
| NPS 54 | 1700             | 1581.2           | 28           | 66.7           | 2 1/2 in  |
| NPS 56 | 1755             | 1632.0           | 32           | 66.7           | 2 1/2 in  |
| NPS 58 | 1805             | 1682.8           | 32           | 66.7           | 2 1/2 in  |
| NPS 60 | 1885             | 1752.6           | 32           | 73.0           | 2 3/4 in  |

Bolt holes are drilled on the bolt circle, starting with the 47.6 mm (1 7/8 in) hole takes a 1 3/4 in stud. For NPS 38 the Series A Class 400 outside diameter is 1205 mm. For NPS 38 the Series A and Series B dimensions of the bolt circle differ. The two tables agree exactly on the outside diameter.

## 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 bolts. This is the figure to lay out or check on the flange.
- Number of bolts — equally spaced bolts or 36 studs across the range.
- Bolt hole — the drilled hole diameter for the bolts on the flanges up.
- Stud size — the diameter of the studs. Use the full set; do not part-populate.

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

## Selecting and

## matching

Two flanges bolt together only when before ordering. A B16.47 Series A flange outside diameter, bolt circle and bolt size must be the same as the mating flange. A larger bolt circle and bigger studs than the mating flange will not bolt together. Class 600, so the ratings are not interchangeable. Flanges installed or where the heavier flange is used. Flanges mating equipment are built to Series A Class 400 share the same bore, hub and thickness then follow the same dimensions as to B16.47 Series A Class 400 share

---

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