

PN16 Flange Dimensions (EN 1092-1 Type 11, DN10 to DN350)

Mounting dimensions for PN16 weld-neck flanges to EN 1092-1: flange outside diameter, bolt-circle diameter, bolt-hole size, number of bolts, bolt size and flange thickness.

PN16 is the EN 1092-1 pressure rating for a nominal 16 bar flange and the most common rating for general water, HVAC and process service. The PN number fixes the bolt pattern, so a PN16 DN100 flange from any maker shares the same 220 mm outside diameter, 180 mm bolt circle and eight M16 bolts. The values below are the EN 1092-1 nominal dimensions for the Type 11 raised-face weld-neck flange across the common DN10 to DN350 range, cross-checked across two independent reference tables.

DN	Flange OD D (mm)	Bolt circle K (mm)	Bolt hole (mm)	No. of bolts	Bolt size	Flange thick C (mm)
DN10	90	60	14	4	M12	14
DN15	95	65	14	4	M12	14
DN20	105	75	14	4	M12	14
DN25	115	85	14	4	M12	16
DN32	140	100	18	4	M16	16
DN40	150	110	18	4	M16	16
DN50	165	125	18	4	M16	18
DN65	185	145	18	8	M16	18
DN80	200	160	18	8	M16	20
DN100	220	180	18	8	M16	20
DN125	250	210	18	8	M16	22
DN150	285	240	22	8	M20	22
DN200	340	295	22	12	M20	24
DN250	405	355	26	12	M24	26
DN300	460	410	26	12	M24	28
DN350	520	470	26	16	M24	30

Bolt holes are drilled on the bolt circle K, straddling the flange OD D (hole = thread + clearance): 14 mm holes take M12 bolts, 18 mm holes take M16 bolts to DN125, stepping up to M20 at DN150 and M24 at DN250.

Reading the dimensions

- D (flange outside diameter) — the overall diameter of the gasket retainer envelope.
- K (bolt circle diameter) — the diameter of the circle of bolt holes to lay out or check the drilling against.
- Bolt hole — the drilled hole diameter. The hole size varies for flanges up to DN125.
- Number of bolts — always a multiple of 4. Flanges of the same size and mating flanges share the same count.
- Bolt size — the metric thread of the bolts used.
- C (flange thickness) — the thickness of the flange.

Selecting and matching

Two flanges bolt together only when the DN, PN and bolt pattern are the same. Four before ordering. A PN16 flange will mate with a PN16 flange if the bore is the same — the bolt circle and flange thickness. EN 1092-1 are identical, so many DN15 to DN350 flanges have the same bolt patterns diverge. EN 1092-1 also defines the material group, which set the gasket and

for the Type 11 weld-neck flange; blind, p
bolt count and bolt size.

Reference compiled by cBallast from EN 1092-1
tables. Dimensions are nominal and provided for
flange maker's current data sheet before manufa