

Pipelines
Nominal Widths
Definition Grading

DIN
2402

Rohrleitungen; Nennweiten, Begriff, Stufung

Definition

The nominal width (symbol DN) is a characteristic value used in connection with piping as an identification factor relating parts which belong together, such as pipes, joints, specials and fittings. The nominal width does not have any units and must not be used for dimensioning within the meaning of DIN 406. The nominal widths correspond approximately to the inside diameters in mm of the pipes or components. In view of the manufacturing process for pipes, fittings and valves, the inside diameters may differ from the identification numbers of the nominal widths according to the wall thicknesses actually produced.

Designation of nominal width 250: DN 250

Nominal widths

	10	100	1000
	12 ¹⁾	125	1200 1400
	15 ²⁾	150	1600 1800
	16 ¹⁾	(175) ⁴⁾	
	20	200	2000 2200 2400
	25	250	2600 2800
3	32	300 350	3000 3200 3400 3600 3800
4	40	400 450	4000
5	50	500	
6	65 (70) ³⁾	600 700	
8	80	800 900	

- 1) These nominal widths are used in cases where closer grading is needed, e.g. in the case of unions, soldered fittings, etc.
- 2) This nominal width is used in cases where wider grading is adequate, e.g. in the case of flanges, screwed pipe connections, etc.
- 3) Only for non-pressurized drainpipes
- 4) Only for shipbuilding

Insofar as, in individual areas of industry, e.g. for long-distance gas pipe lines, intermediate sizes may be necessary for pipe lines with nominal widths of over 500, steps of 50 should be used for nominal widths up to 1200 and steps of 100 for nominal widths over 1200.

For nominal widths over 4000, steps of 200 should be used.

Explanations on page 2

Explanations

This Standard has been prepared by Advisory Committee FR 1 responsible for the basic standards on pipe lines, in the Committee for pipes, pipe fittings and pipe lines. It results from a revision of the standard dating from 1964.

The definition of nominal width has been re-worded for greater precision in order to avoid the misunderstandings which have occasionally arisen.

The previously used symbol NW has been changed and, in accordance with the decisions of the working groups for regional and world-wide standardization of pipes, flanges and pipe fittings, which have resulted in the preparation of international standard ISO 3545, the symbol DN has been introduced. In the international work it was found that the different symbols used in the various countries, e.g. NW, DN, ND occasionally resulted in a situation in which one and the same symbol could have differing meanings. Thus, in English language standards, ND means nominal width whilst in German language standards it means nominal pressure. The confusion thereby resulting could result in safety risks which had to be eliminated. Therefore, for nominal width, the symbol DN was selected for world-wide use independent of language, the underlying assumption here being that the letter D is understood throughout the world as characterizing a diameter whilst N is understood as representing "Nenn" or "nominal" etc.

The steps in the Table have been retained. Nominal width 450 previously bracketed has (also by international agreement) now been inserted between DN 400 and DN 500 as having equal validity.

The wording on the intermediate sizes above DN 500 is new. Numerical values in steps of 100 are shown in the Table as the main values. For these nominal widths, there are standard flanges, fittings and flanged fittings for all nominal pressures according to DIN 2401 Part 1. However, it has been found useful for economic reasons - which derive from service conditions - e.g. for long-distance gas pipe lines, to have a series in steps of 50. The international standards on piping adopt these steps. However, attention must be drawn to the fact that for these nominal widths, only flanges for nominal pressures above PN 40 have been standardized, this having been done in international standard ISO 2229; this standard contains additional flanges for permissible operating pressures of 20 bar at 20 °C.