

BS 4504 Circular Flanges - General

British Standard BS 4504 : Section 3.1 : 1989 - Circular Flanges for Pipes, Valves and Fittings (PN Designated), Specification for Steel Flanges. This covers flanges in nominal pressure ranges PN 2.5 to PN 40 and nominal sizes up to DN 4000 (see table below). BS 4504 substantially agrees with ISO 7005-1 : 1992 (E) Part 1 : Steel Flanges.

BS 4504 : 1969 is still commonly used. This older standard allows for manufacture from bar, whereas the latest standard specifies that forging or plate are to be used, which can be significantly more expensive. There are minor differences in dimensions between the two versions. The following tables are based on the later version.

Summary of flanges covered by BS 4504 : Section 3.1

Code No.	Description	PN Range	DN Range
101	Plate flange for welding (see page 8-65)	PN 2.5	DN 10 to DN 2000
		PN 6, 10, 16, 25, 40	DN 10 to DN 600
102 ¹	Loose plate flange with weld-on plate collar or for lapped pipe end (Weld-on plate collar = Code 132 ¹ Lapped pipe end = Code 133 ¹)	PN 6, 10, 16, 25, 40	DN 10 to DN 600
104 ¹	Loose plate flange with weld-neck collar (Weld-neck collar = Code 134 ¹)	PN 6, 10, 16, 25, 40	DN 10 to DN 600
105	Blank flange (see page 8-70)	PN 2.5, 6	DN 10 to DN 2000
		PN 10, 16	DN 10 to DN 1200
		PN 25, 40	DN 10 to DN 600
111	Weld-neck flange (see page 8-66)	PN 2.5, 6, 10, 16	DN 10 to DN 2000 ²
		PN 25	DN 10 to DN 1000
		PN 40	DN 10 to DN 600
112	Hubbed slip-on flange for welding (see page 8-68)	PN 6	DN 10 to DN 300
		PN 10, 16, 25, 40	DN 10 to DN 600
113	Hubbed threaded flange (see page 8-69)	PN 6, 10, 16, 25, 40	DN 10 to DN 150
121 ¹	Integral flange	PN 6, 10, 16, 25	DN 10 to DN 2000
		PN 40	DN 10 to DN 600

Notes

- Flanges > DN 2000, are not covered in this summary.
- Dimensions: Nominal sizes, DN followed by a numerical designation of size (a convenient round number for reference purposes), are used as defined in ISO 6708.
- Pressure Ratings: Nominal pressures, i.e. PN followed by a numerical designation of size (a convenient round number for reference purposes), are used as defined in ISO 7268.

1 Dimensions for these flanges are not covered in this summary.

2 The DN range for weld neck flanges extends to DN 4000 for PN 2.5, to DN 3600 for PN 6, and to DN 3000 for PN 10.

Designations/Marking

Marking. All flanges are marked with BS number, code number, PN, DN, material designation, manufacturers name or trade mark, cast number or melt identification, thread identification, An example follows:

BS 4504/111/B - PN 16 - DN 400 - B4 - XXX - 12345

