

## BS4504 Flanges Dimensions and Tolerances

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	Dimension	Range	Tolerance
			mm
Flange Facings	Eccentricity of machined facing diameters	< DN 100	1.0
		> DN 100	2.0
	a (type B facing height)	2 mm	+0, -1.0
		3 mm	+0, -2.0
		4 mm	+0, -3.0
		5 mm	+0, -4.0
		6 mm	+0, -5.0
	b (type C and E facing height)	All	+0.5, -0
	b (type G facing height)	All	+0, -0.5
	b (type H facing height, outer)	All	+0.2, -0
	c (type D and F facing height)	All	+0, -0.5
d (type H facing height, inner)	All	+0.5, -0	
B and E (facing diameters)	All	+0, -0.5	
C and D (facing diameters)	All	+0.5, -0	
Surface Finish	Facing types A, B, E and F	All, turning	Ra = 3.2 $\mu\text{m}$ min 12.5 $\mu\text{m}$ max
		All, other than turning	Ra = 3.2 $\mu\text{m}$ min 6.3 $\mu\text{m}$ max

	Facing types C, D, G and H	All	Ra = 0.8 $\mu\text{m}$ min 3.2 $\mu\text{m}$ max
Flange Drilling Details	B (diameter of bolt circle)	Bolt sizes M10 to M24	$\pm 0.9$
		Bolt sizes M27 to M45	$\pm 1.4$
	Centre to centre of adjacent bolt holes	Bolt sizes M10 to M24	$\pm 0.45$
		Bolt sizes M27 to M45	$\pm 0.7$
All	A (outside diameter)	< DN 150	$\pm 2.0$
		>DN150<DN 500	$\pm 3.0$
		>DN500<DN 1200	$\pm 5.0$
		> DN 1200 < DN 1800	$\pm 7.0$
		> DN 1800	$\pm 10.0$
	C (fange thickness, machined on both faces)	< 18 mm thickness	$\pm 1.0$
		> 18 mm < 50 mm thickness	$\pm 1.0$
		> 50 mm thickness	$\pm 1.0$
	C (fange thickness, machined on front face)	< 18 mm thickness	+2.0, -1.0
		> 18 mm < 50 mm thickness	+4.0, -1.5
> 50 mm thickness		+7.0, -2.0	
Weld Neck Flanges, Code 111	B (outside diameter of hub at welding end)	< DN 125	+3.0, -0
		>DN125<DN 1200	+4.5, -0
		> DN 1200	+6.0, -0
	F (hub diameter)	<DN50	+0, -2.0
		>DN50<DN 150	+0, -4.0
		>DN150<DN 300	+0, -6.0
		>DN300<DN 600	+0, -8.0

		>DN600<DN 1200	+0, -10.0
	D (length through hub)	<DN80	±1.5
		>DN80<DN 250	±2.0
		> DN 250	±3.0
Slip on, Code 112 and Threaded, Code 113	E (slip on fange hub diameter)B (threaded fange hub diameter)	<DN50	+1.0, -0
		>DN50<DN 150	+2.0, -0
		>DN150<DN 300	+4.0, -0
		>DN300<DN 600	+8.0, -0
		>DN600<DN 1200	+12.0, -0
		> DN 1200 < DN 1800	+16.0, -0
		> DN 1800	+20.0, -0
	B (slip on bore diameter)	< DN 100	+0.5, -0
		>DN100<DN 400	+1.0, .0
		>DN400<DN 600	+1.5, .0
		> DN 600	+3.0, -0
	D (length through hub)	Same as Weld Neck D	
Blank Flanges, Code 105	B (fange thickness)	Same as C for all other fanges	
	C (unmachined centre portion)	Maximum specified	

## BS4504 FLANGE INDUSTRIES AND APPLICATIONS

### WIDELY USED IN THE INDUSTRIES

- Pumps, Valves, and vessels in manufacturing and food processing.
- Pipe connections in industrial waterworks.
- Heat exchangers and heating systems of all sizes.
- Mining support.
- Nuclear power systems.
- Plumbing and mechanical systems.
- Assemblies in the oil, gas, and petrochemical industries.
- Fire protection systems.