

ASME B16.5 Flanges

ASME B16.5 covers flanges in Classes 150 through 1500 in sizes NPS 1/2 through NPS 24, and Class 2500 in sizes NPS 1/2 through NPS 12. In the 2013 edition of ASME B16.5, the primary tables report pressure-temperature ratings and dimensions in metric units with the bolt diameters and flange bolt holes expressed in inch units. The requirements in U.S. Customary units are reported in Mandatory Appendix II. All dimensions in this catalogue are reported in inch units. The pressure-temperature ratings for A105 and A350-LF2 flanges (Group 1.1 materials) can be found on Page 69.

<u>Tolerances</u>	
Outside Diameter of Raised Face (R) (For Ring Joint tolerances please see page19):	+/- 0.03" (0.06" RF) +/- 0.02" (0.25" RF)
Flange Thickness (t) (the plus tolerance is applicable to bolting bearing surfaces):	+ 0.12, - 0.0" (NPS 18 and smaller) + 0.19, - 0.0" (NPS 20 and larger)
Outside Diameter at Bevel (A) of Welding Neck:	+ 0.09, - 0.03" (NPS 5 and smaller) + 0.16, - 0.03" (NPS 6 and larger)
Inside Diameter (Welding Neck and small bore of Socket Weld):	+/- 0.03" (NPS 10 and smaller) +/- 0.06" (NPS 12 through 18) + 0.12, - 0.06" (NPS 20 and larger)
Wall Thickness at Bevel:	not less than 87.5% of the nominal pipe thickness.
Length Through Hub (W/N Flange):	+/- 0.06" (NPS 4 and smaller) + 0.06, - 0.12" (NPS 5 through 10) + 0.12, - 0.18" (NPS 12 and larger)
Flange Bore (Socket Weld):	+/- 0.01"
Flange Bore (Slip On, Lap Joint and counterbore of Threaded):	+ 0.03, - 0.0" (NPS 10 and smaller) + 0.06, - 0.0" (NPS 12 and larger)
Bolt Circle Diameter:	+/- 0.06"
Spacing of adjacent bolt holes (centre-to-centre):	+/- 0.03"
Concentricity between Bolt Circle Diameter and machined facing diameter:	0.03" max. (NPS 2 1/2 and smaller) 0.06" max. (NPS 3 and larger)