



ASTM B16.47 Large Diameter Steel Flanges Nps 26 - Nps 60 Metric/Inch

General:

ASME B16.47 specifies the dimensions, tolerances, materials, marking, and pressure ratings for large-diameter pipe flanges in sizes NPS 26 (DN 650) through NPS 60 (DN 1500). This standard covers flanges with pressure classes 75, 150, 300, 400, 600, and 900.

ASME B16.47 standard is limited to weld neck flanges and blind flanges.

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ASME/ANSI B16.5 provides:

- Weld neck flange
- Blind flange

MARKING

- Name: Manufacturer's name or trademark
- Material: Cast or Forged, material standard ASTM xxx.
- Pressure Ratings: (i.e., Class 75, 150, 300, 400, 600, or 900).
- Conformance: ASME B16 or B16.47 standard.
- Temperature: If a temperature is noted, indicate the corresponding pressure rating.
- Size: NPS
- Ring Joint Flanges: Shall be marked with letter R and ring groove number.
- Multiple Material Marking: In case multiple material used.

ASME B16.47 Series A and Series B Pressure Rating

ASME B16.47 Series A Flanges, by Class					
150	300	400	600	900	-
ASME B16.47 Series B Flanges, by Class					
75	150	300	400	600	900

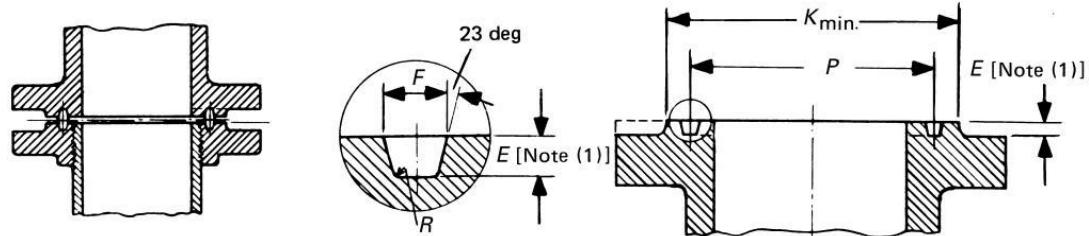
MATERIALS

| ASTM |
|------|------|------|------|------|------|------|------|
| A105 | A350 | A182 | A216 | A352 | A217 | A351 | A240 |
| ASTM | / |
| A515 | A537 | A203 | A515 | A203 | A204 | A387 | |

Plate material can only be used for blind flanges

DIMENSIONS

Table 1 Dimensions of Ring-Joint Facings

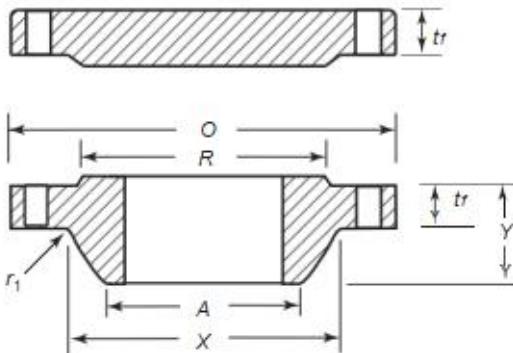


Nominal Pipe Size for Class				Groove Number	Groove Dimensions			Diameter	
300	400	600	900		Pitch Diameter, P	Depth, E	Width, F	Radius at Bottom, R	of Raised Portion, K
26	26	26	...	R93	749.30	12.70	19.84	1.5	810
28	28	28	...	R94	800.10	12.70	19.84	1.5	861
30	30	30	...	R95	857.25	12.70	19.84	1.5	917
32	32	32	...	R96	914.40	14.27	23.01	1.5	984
34	34	34	...	R97	965.20	14.27	23.01	1.5	1 035
36	36	36	...	R98	1 022.35	14.27	23.01	1.5	1 092
...	...	...	26	R100	749.30	17.48	30.18	2.3	832
...	...	...	28	R101	800.10	17.48	33.32	2.3	889
...	...	...	30	R102	857.25	17.48	33.32	2.3	946
...	...	...	32	R103	914.40	17.48	33.32	2.3	1 003
...	...	...	34	R104	965.20	20.62	36.53	2.3	1 067
...	...	...	36	R105	1 022.35	20.62	36.53	2.3	1 124

NOTE:

(1) Height of raised portion is equal to the depth of groove dimension E , but is not subjected to the tolerances for E . Full face contour may be used.

Table 2 Dimensions of Class 150 Series A Flanges

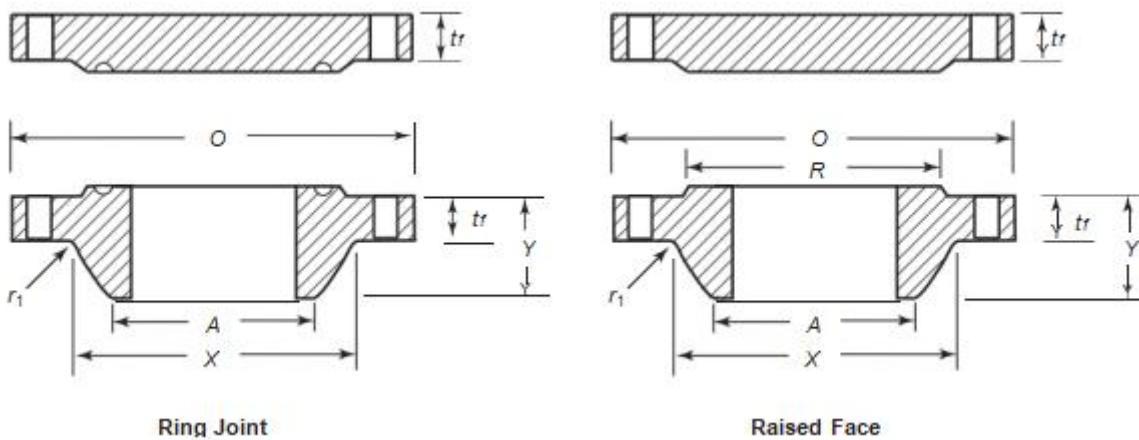


Nominal Pipe Size	O.D. of Flange, O	Minimum Thickness of Flange, tr [Note (1)]		Length Through Hub, Y [Note (2)]	Diam. of Hub, X [Note (2)]	Hub Diam. Top, A [Note (3)]	Raised Face Diam., R	Drilling				Minimum Fillet Radius, r_1
		WNF	Blind					Diam. of Bolt Circle	No. of Bolt Holes	Diam. of Bolt Hole, in.	Diam. of Bolt, in.	
26	870	66.7	66.7	119	676	660.4	749	806.4	24	1 $\frac{3}{8}$	1 $\frac{1}{4}$	10
28	925	69.9	69.9	124	727	711.2	800	863.6	28	1 $\frac{3}{8}$	1 $\frac{1}{4}$	11
30	985	73.1	73.1	135	781	762.0	857	914.4	28	1 $\frac{3}{8}$	1 $\frac{1}{4}$	11
32	1 060	79.4	79.4	143	832	812.8	914	977.9	28	1 $\frac{5}{8}$	1 $\frac{1}{2}$	11
34	1 110	81.0	81.0	148	883	863.6	965	1 028.7	32	1 $\frac{5}{8}$	1 $\frac{1}{2}$	13
36	1 170	88.9	88.9	156	933	914.4	1 022	1 085.8	32	1 $\frac{5}{8}$	1 $\frac{1}{2}$	13
38	1 240	85.8	85.8	156	991	965.2	1 073	1 149.4	32	1 $\frac{5}{8}$	1 $\frac{1}{2}$	13
40	1 290	88.9	88.9	162	1 041	1 016.0	1 124	1 200.2	36	1 $\frac{5}{8}$	1 $\frac{1}{2}$	13
42	1 345	95.3	95.3	170	1 092	1 066.8	1 194	1 257.3	36	1 $\frac{5}{8}$	1 $\frac{1}{2}$	13
44	1 405	100.1	100.1	176	1 143	1 117.6	1 245	1 314.4	40	1 $\frac{5}{8}$	1 $\frac{1}{2}$	13
46	1 455	101.6	101.6	184	1 197	1 168.4	1 295	1 365.2	40	1 $\frac{5}{8}$	1 $\frac{1}{2}$	13
48	1 510	106.4	106.4	191	1 248	1 219.2	1 359	1 422.4	44	1 $\frac{5}{8}$	1 $\frac{1}{2}$	13
50	1 570	109.6	109.6	202	1 302	1 270.0	1 410	1 479.6	44	1 $\frac{7}{8}$	1 $\frac{3}{4}$	13
52	1 625	114.3	114.3	208	1 353	1 320.8	1 461	1 536.7	44	1 $\frac{7}{8}$	1 $\frac{3}{4}$	13
54	1 685	119.1	119.1	214	1 403	1 371.6	1 511	1 593.8	44	1 $\frac{7}{8}$	1 $\frac{3}{4}$	13
56	1 745	122.3	122.3	227	1 457	1 422.4	1 575	1 651.0	48	1 $\frac{7}{8}$	1 $\frac{3}{4}$	13
58	1 805	127.0	127.0	233	1 508	1 473.2	1 626	1 708.2	48	1 $\frac{7}{8}$	1 $\frac{3}{4}$	13
60	1 855	130.2	130.2	238	1 559	1 524.0	1 676	1 759.0	52	1 $\frac{7}{8}$	1 $\frac{3}{4}$	13

NOTES:

- (1) The minimum flange thickness does not include the raised face thickness.
- (2) This dimension is for the large end of hub, which may be straight or tapered.
- (3) For welding and bevel.

Table 3 Dimensions of Class 300 Series A Flanges

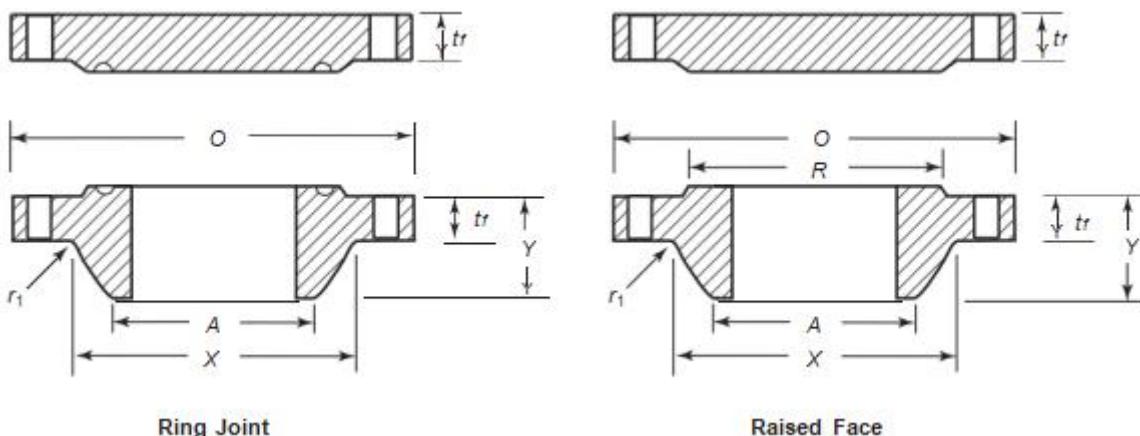


Nominal Pipe Size	O.D. of Flange, O	Minimum Thickness of Flange, t_f [Note (1)]		Length Through Hub, Y	Diam. of Hub, X [Note (2)]	Hub Diam. Top, A [Note (3)]	Drilling					Minimum Fillet Radius, r_1
		WNF	Blind				Raised Face Diam., R	Diam. of Bolt Circle	No. of Bolt Holes	Diam. of Bolt Hole, in.	Diam. of Bolt, in.	
26	970	77.8	82.6	183	721	660.4	749	876.3	28	1 1/4	1 5/8	10
28	1 035	84.2	88.9	195	775	711.2	800	939.8	28	1 3/4	1 5/8	11
30	1 090	90.5	93.7	208	827	762.0	857	997.0	28	1 7/8	1 3/4	11
32	1 150	96.9	98.5	221	881	812.8	914	1 054.1	28	2	1 7/8	11
34	1 205	100.1	103.2	230	937	863.6	965	1 104.9	28	2	1 7/8	13
36	1 270	103.2	109.6	240	991	914.4	1 022	1 168.4	32	2 1/8	2	13
38	1 170	106.4	106.4	179	994	965.2	1 029	1 092.2	32	1 5/8	1 1/2	13
40	1 240	112.8	112.8	192	1 048	1 016.0	1 086	1 155.7	32	1 3/4	1 5/8	13
42	1 290	117.5	117.5	198	1 099	1 066.8	1 137	1 206.5	32	1 3/4	1 5/8	13
44	1 355	122.3	122.3	205	1 149	1 117.6	1 194	1 263.6	32	1 7/8	1 3/4	13
46	1 415	127.0	127.0	214	1 203	1 168.4	1 245	1 320.8	28	2	1 7/8	13
48	1 465	131.8	131.8	222	1 254	1 219.2	1 302	1 371.6	32	2	1 7/8	13
50	1 530	138.2	138.2	230	1 305	1 270.0	1 359	1 428.8	32	2 1/8	2	13
52	1 580	142.9	142.9	237	1 356	1 320.8	1 410	1 479.6	32	2 1/8	2	13
54	1 660	150.9	150.9	251	1 410	1 371.6	1 467	1 549.4	28	2 3/8	2 1/4	13
56	1 710	152.4	152.4	259	1 464	1 422.4	1 518	1 600.2	28	2 3/8	2 1/4	13
58	1 760	157.2	157.2	265	1 514	1 473.2	1 575	1 651.0	32	2 3/8	2 1/4	13
60	1 810	162.0	162.0	271	1 565	1 524.0	1 626	1 701.8	32	2 3/8	2 1/4	13

NOTES:

- (1) The minimum flange thickness does not include the raised face thickness.
- (2) This dimension is for the large end of hub, which may be straight or tapered.
- (3) For welding and bevel.

Table 4 Dimensions of Class 400 Series A Flanges

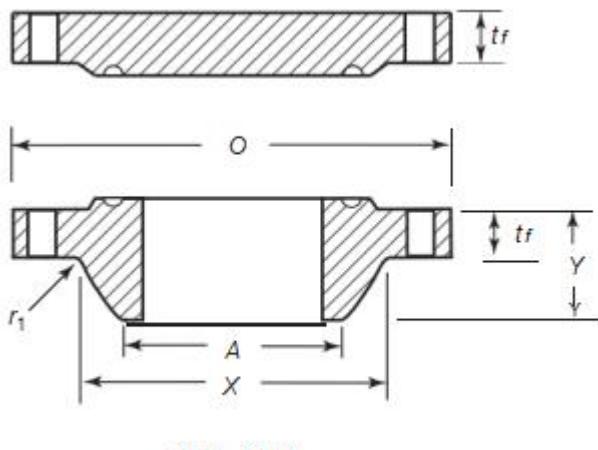


Nominal Pipe Size	O.D. of Flange, O	Minimum Thickness of Flange, t_f [Note (1)]		Length Through Hub, Y [Note (2)]	Diam. of Hub, X [Note (2)]	Hub Diam. Top, A [Note (3)]	Raised Face Diam., R	Drilling				Diam. of Bolt Circle	No. of Bolt Holes	Diam. of Bolt Hole, in.	Diam. of Bolt, in.	Minimum Fillet Radius, r_1
		WNF	Blind					Diam. of Bolt Circle	No. of Bolt Holes	Diam. of Bolt Hole, in.	Diam. of Bolt, in.					
26	970	88.9	98.5	194	727	660.4	749	876.3	28	1 $\frac{7}{8}$	1 $\frac{3}{4}$				11	
28	1 035	95.3	104.8	206	783	711.2	800	939.8	28	2	1 $\frac{1}{8}$				13	
30	1 090	101.6	111.2	219	837	762.0	857	997.0	28	2 $\frac{1}{8}$	2				13	
32	1 150	108.0	115.9	232	889	812.8	914	1 054.1	28	2 $\frac{1}{8}$	2				13	
34	1 205	111.2	122.3	241	945	863.6	965	1 104.9	28	2 $\frac{1}{8}$	2				14	
36	1 270	114.3	128.6	251	1 000	914.4	1 022	1 168.4	32	2 $\frac{1}{8}$	2				14	
38	1 205	123.9	123.9	206	1 003	965.2	1 035	1 117.6	32	1 $\frac{1}{8}$	1 $\frac{3}{4}$				14	
40	1 270	130.2	130.2	216	1 054	1 016.0	1 092	1 174.8	32	2	1 $\frac{1}{8}$				14	
42	1 320	133.4	133.4	224	1 108	1 066.8	1 143	1 225.6	32	2	1 $\frac{1}{8}$				14	
44	1 385	139.7	139.7	233	1 159	1 117.6	1 200	1 282.7	32	2 $\frac{1}{8}$	2				14	
46	1 440	146.1	146.1	244	1 213	1 168.4	1 257	1 339.8	36	2 $\frac{1}{8}$	2				14	
48	1 510	152.4	152.4	257	1 267	1 219.2	1 308	1 403.4	28	2 $\frac{3}{8}$	2 $\frac{1}{4}$				14	
50	1 570	157.2	158.8	268	1 321	1 270.0	1 362	1 460.5	32	2 $\frac{3}{8}$	2 $\frac{1}{4}$				14	
52	1 620	162.0	163.6	276	1 372	1 320.8	1 413	1 511.3	32	2 $\frac{3}{8}$	2 $\frac{1}{4}$				14	
54	1 700	169.9	171.5	289	1 426	1 371.6	1 470	1 581.2	28	2 $\frac{5}{8}$	2 $\frac{1}{2}$				14	
56	1 755	174.7	176.3	298	1 480	1 422.4	1 527	1 632.0	32	2 $\frac{5}{8}$	2 $\frac{1}{2}$				14	
58	1 805	177.8	181.0	306	1 530	1 473.2	1 578	1 682.8	32	2 $\frac{5}{8}$	2 $\frac{1}{2}$				14	
60	1 885	185.8	189.0	319	1 584	1 524.0	1 635	1 752.6	32	2 $\frac{7}{8}$	2 $\frac{3}{4}$				14	

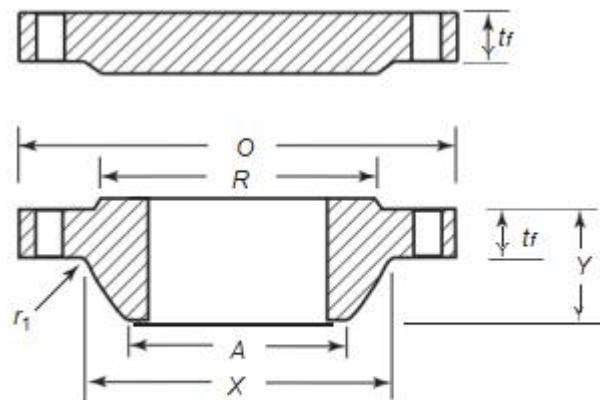
NOTES:

- (1) The minimum flange thickness does not include the raised face thickness.
- (2) This dimension is for the large end of hub, which may be straight or tapered.
- (3) For welding and bevel.

Table 5 Dimensions of Class 600 Series A Flanges



Ring Joint



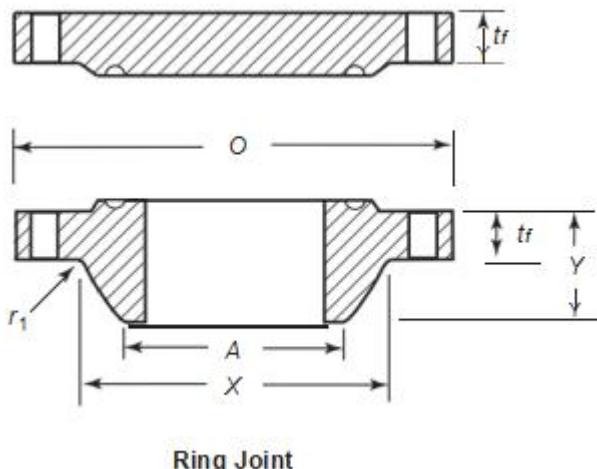
Raised Face

Nominal Pipe Size	O.D. of Flange, O	Minimum Thickness of Flange, t_f [Note (1)]		Length Through Hub, Y [Note (2)]	Diam. of Hub, X [Note (2)]	Hub Diam. Top, A [Note (3)]	Drilling					Minimum Fillet Radius, r_1
		WNF	Blind				Raised Face Diam., R	Diam. of Bolt Circle	No. of Holes	Diam. of Bolt, in.	Diam. of Hole, in.	
26	1 015	108.0	125.5	222	748	660.4	749	914.4	28	2	1 $\frac{7}{8}$	13
28	1 075	111.2	131.8	235	803	711.2	800	965.2	28	2 $\frac{1}{8}$	2	13
30	1 130	114.3	139.7	248	862	762.0	857	1 022.4	28	2 $\frac{1}{8}$	2	13
32	1 195	117.5	147.7	260	918	812.8	914	1 079.5	28	2 $\frac{3}{8}$	2 $\frac{1}{4}$	13
34	1 245	120.7	154.0	270	973	863.6	965	1 130.3	28	2 $\frac{3}{8}$	2 $\frac{1}{4}$	14
36	1 315	123.9	162.0	283	1 032	914.4	1 022	1 193.8	28	2 $\frac{5}{8}$	2 $\frac{1}{2}$	14
38	1 270	152.4	155.0	254	1 022	965.2	1 054	1 162.0	28	2 $\frac{3}{8}$	2 $\frac{1}{4}$	14
40	1 320	158.8	162.0	264	1 073	1 016.0	1 111	1 212.8	32	2 $\frac{3}{8}$	2 $\frac{1}{4}$	14
42	1 405	168.3	171.5	279	1 127	1 066.8	1 168	1 282.7	28	2 $\frac{5}{8}$	2 $\frac{1}{2}$	14
44	1 455	173.1	177.8	289	1 181	1 117.6	1 226	1 333.5	32	2 $\frac{5}{8}$	2 $\frac{1}{2}$	14
46	1 510	179.4	185.8	300	1 235	1 168.4	1 276	1 390.6	32	2 $\frac{5}{8}$	2 $\frac{1}{2}$	14
48	1 595	189.0	195.3	316	1 289	1 219.2	1 334	1 460.5	32	2 $\frac{1}{8}$	2 $\frac{3}{4}$	14
50	1 670	196.9	203.2	329	1 343	1 270.0	1 384	1 524.0	28	3 $\frac{1}{8}$	3	14
52	1 720	203.2	209.6	337	1 394	1 320.8	1 435	1 574.8	32	3 $\frac{1}{8}$	3	14
54	1 780	209.6	217.5	349	1 448	1 371.6	1 492	1 632.0	32	3 $\frac{1}{8}$	3	14
56	1 855	217.5	225.5	362	1 502	1 422.4	1 543	1 695.4	32	3 $\frac{5}{8}$	3 $\frac{1}{4}$	16
58	1 905	222.3	231.8	370	1 553	1 473.2	1 600	1 746.2	32	3 $\frac{5}{8}$	3 $\frac{1}{4}$	16
60	1 995	233.4	242.9	389	1 610	1 524.0	1 657	1 822.4	28	3 $\frac{5}{8}$	3 $\frac{1}{2}$	17

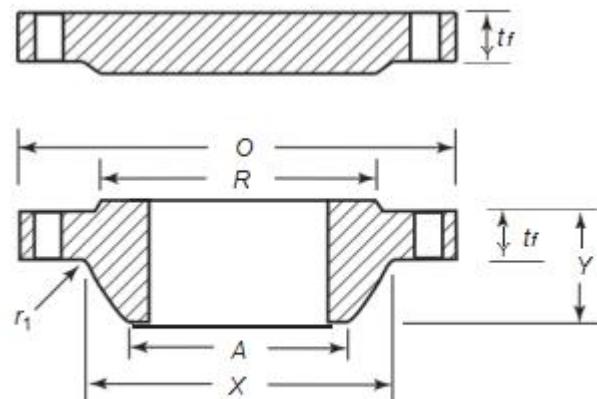
NOTES:

- (1) The minimum flange thickness does not include the raised face thickness.
- (2) This dimension is for the large end of hub, which may be straight or tapered.
- (3) For welding and bevel.

Table 6 Dimensions of Class 900 Series A Flanges



Ring Joint



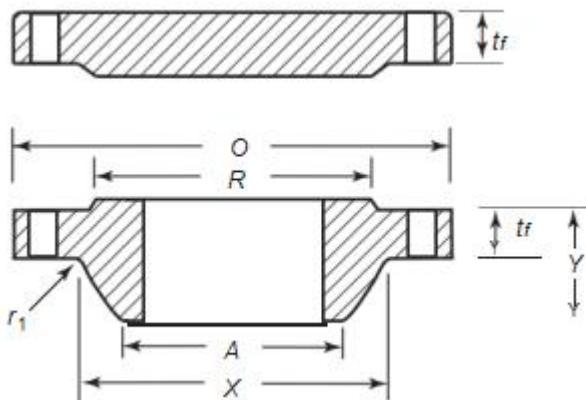
Raised Face

Nominal Pipe Size	O.D. of Flange, O	Minimum Thickness of Flange, t_f [Note (1)]		Length Through Hub, Y	Diam. of Hub, X [Note (2)]	Hub Diam. Top, A [Note (3)]	Raised Face Diam., R	Drilling				Minimum Fillet Radius, r_1
		WNF	Blind					Diam. of Bolt Circle	No. of Bolt Holes	Diam. of Bolt Hole, in.	Diam. of Bolt, in.	
26	1 085	139.7	160.4	286	775	660.4	749	952.5	20	2 $\frac{7}{8}$	2 $\frac{3}{4}$	11
28	1 170	142.9	171.5	298	832	711.2	800	1 022.4	20	3 $\frac{1}{8}$	3	13
30	1 230	149.3	182.6	311	889	762.0	857	1 085.8	20	3 $\frac{1}{8}$	3	13
32	1 315	158.8	193.7	330	946	812.8	914	1 155.7	20	3 $\frac{3}{8}$	3 $\frac{1}{4}$	13
34	1 395	165.1	204.8	349	1 006	863.6	965	1 225.6	20	3 $\frac{5}{8}$	3 $\frac{1}{2}$	14
36	1 460	171.5	214.4	362	1 064	914.4	1 022	1 289.0	20	3 $\frac{5}{8}$	3 $\frac{1}{2}$	14
38	1 460	190.5	215.9	352	1 073	965.2	1 099	1 289.0	20	3 $\frac{5}{8}$	3 $\frac{1}{2}$	19
40	1 510	196.9	223.9	364	1 127	1 016.0	1 162	1 339.8	24	3 $\frac{5}{8}$	3 $\frac{1}{2}$	21
42	1 560	206.4	231.8	371	1 176	1 066.8	1 213	1 390.6	24	3 $\frac{5}{8}$	3 $\frac{1}{2}$	21
44	1 650	214.4	242.9	391	1 235	1 117.6	1 270	1 463.7	24	3 $\frac{7}{8}$	3 $\frac{3}{4}$	22
46	1 735	225.5	255.6	411	1 292	1 168.4	1 334	1 536.7	24	4 $\frac{1}{8}$	4	22
48	1 785	233.4	263.6	419	1 343	1 219.2	1 384	1 587.5	24	4 $\frac{1}{8}$	4	24
50	...	...	...	...	...	...	...	...	...	...	...	...
52	...	...	...	...	...	...	...	...	...	...	...	...
54	...	...	...	...	...	...	...	...	...	...	...	...
56	...	...	...	...	...	...	...	...	...	...	...	...
58	...	...	...	...	...	...	...	...	...	...	...	...
60	...	...	...	...	...	...	...	...	...	...	...	...

NOTES:

- (1) The minimum flange thickness does not include the raised face thickness.
- (2) This dimension is for the large end of hub, which may be straight or tapered.
- (3) For welding and bevel.

Table 7 Dimensions of Class 75 Series B Flanges

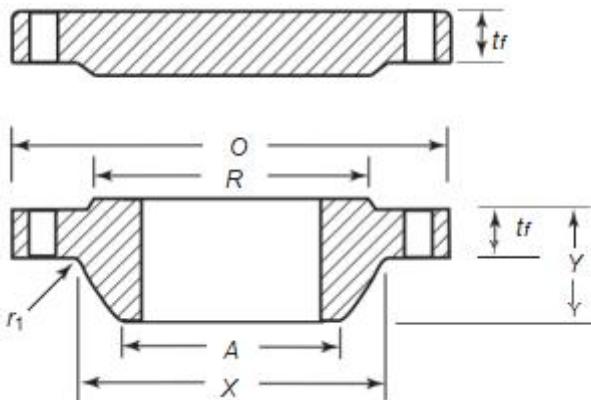


Nominal Pipe Size	O.D. of Flange, O	Minimum Thickness of Flange, tf [Note (1)]		Length Through Hub, Y	Diam. of Hub, X [Note (2)]	Hub Diam. Top, A [Note (3)]	Raised Face Diam., R	Drilling				Diam. of Bolt Hole, in.	Diam. of Bolt, in.	Minimum Fillet Radius, r_1
		WNF	Blind					Diam. of Bolt Circle	No. of Bolt Holes	Diam. of Bolt Hole, in.				
26	760	31.9	31.9	57	676	661.9	705	723.9	36	3/4	5/8	8		
28	815	31.9	31.9	60	727	712.7	756	774.7	40	3/4	5/8	8		
30	865	31.9	31.9	64	778	763.5	806	825.5	44	3/4	5/8	8		
32	915	33.5	35.0	68	829	814.3	857	876.3	48	3/4	5/8	8		
34	965	33.5	36.6	72	879	865.1	908	927.1	52	3/4	5/8	8		
36	1 035	35.0	40.9	84	935	915.9	965	992.2	40	7/8	3/4	10		
38	1 085	36.6	43.0	87	986	966.7	1 016	1 043.0	40	7/8	3/4	10		
40	1 135	36.6	43.0	91	1 037	1 017.5	1 067	1 093.8	44	7/8	3/4	10		
42	1 185	38.2	46.3	94	1 087	1 068.3	1 118	1 144.6	48	7/8	3/4	10		
44	1 250	41.4	47.7	103	1 140	1 119.1	1 175	1 203.3	36	1	7/8	10		
46	1 300	43.0	49.3	106	1 191	1 169.9	1 226	1 254.1	40	1	7/8	10		
48	1 355	44.6	52.5	110	1 241	1 220.7	1 276	1 304.9	44	1	7/8	10		
50	1 405	46.2	54.1	114	1 294	1 271.5	1 327	1 355.7	44	1	7/8	10		
52	1 455	46.2	55.7	119	1 345	1 322.3	1 378	1 409.7	48	1	7/8	10		
54	1 510	47.8	58.9	124	1 397	1 373.1	1 429	1 460.5	48	1	7/8	10		
56	1 575	49.3	60.4	133	1 451	1 423.9	1 486	1 520.8	40	1 1/8	1	11		
58	1 625	50.9	62.0	137	1 502	1 474.7	1 537	1 571.6	44	1 1/8	1	11		
60	1 675	54.1	65.2	143	1 553	1 525.5	1 588	1 622.4	44	1 1/8	1	11		

NOTES:

- (1) The minimum flange thickness does not include the raised face thickness.
- (2) This dimension is for the large end of hub, which may be straight or tapered.
- (3) For welding and bevel.

Table 8 Dimensions of Class 150 Series B Flanges

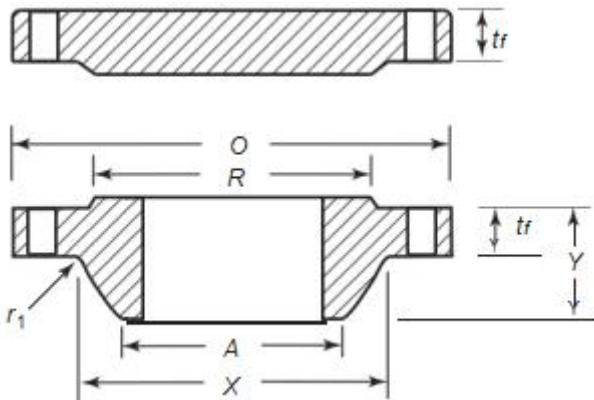


Nominal Pipe Size	O.D. of Flange, O	Minimum Thickness of Flange, t_f [Note (1)]		Length Through Hub, Y [Note (2)]	Diam. of Hub, X [Note (2)]	Hub Diam. Top, A [Note (3)]	Raised Face Diam., R	Drilling				Minimum Fillet Radius, r_1
		WNF	Blind					Diam. of Bolt Circle	No. of Bolt Holes	Diam. of Bolt Hole, in.	Diam. of Bolt, in.	
26	785	39.8	43.0	87	684	661.9	711	744.5	36	7/8	3/4	10
28	835	43.0	46.2	94	735	712.7	762	795.3	40	5/8	5/4	10
30	885	43.0	49.3	98	787	763.5	813	846.1	44	5/8	5/4	10
32	940	44.6	52.5	106	840	814.3	864	900.1	48	7/8	5/4	10
34	1 005	47.7	55.7	109	892	865.1	921	957.3	40	1	7/8	10
36	1 055	50.9	57.3	116	945	915.9	972	1 009.6	44	1	7/8	10
38	1 125	52.5	62.0	122	997	968.2	1 022	1 070.0	40	1 1/8	1	10
40	1 175	54.1	65.2	127	1 049	1 019.0	1 080	1 120.8	44	1 1/8	1	10
42	1 225	57.3	66.8	132	1 102	1 069.8	1 130	1 171.6	48	1 1/8	1	11
44	1 275	58.9	70.0	135	1 153	1 120.6	1 181	1 222.4	52	1 1/8	1	11
46	1 340	60.4	73.1	143	1 205	1 171.4	1 235	1 284.3	40	1 1/4	1 1/8	11
48	1 390	63.6	76.3	148	1 257	1 222.2	1 289	1 335.1	44	1 1/4	1 1/8	11
50	1 445	66.8	79.5	152	1 308	1 273.0	1 340	1 385.9	48	1 1/4	1 1/8	11
52	1 495	68.4	82.7	156	1 360	1 323.8	1 391	1 436.7	52	1 1/4	1 1/8	11
54	1 550	70.0	85.8	160	1 413	1 374.6	1 441	1 492.2	56	1 1/4	1 1/8	11
56	1 600	71.6	89.0	165	1 465	1 425.4	1 492	1 543.0	60	1 1/4	1 1/8	14
58	1 675	73.1	91.9	173	1 516	1 476.2	1 543	1 611.3	48	1 3/8	1 1/4	14
60	1 725	74.7	95.4	178	1 570	1 527.0	1 600	1 662.1	52	1 3/8	1 1/4	14

NOTES:

- (1) The minimum flange thickness does not include the raised face thickness.
- (2) This dimension is for the large end of hub, which may be straight or tapered.
- (3) For welding and bevel, see para.

Table 9 Dimensions of Class 300 Series B Flanges

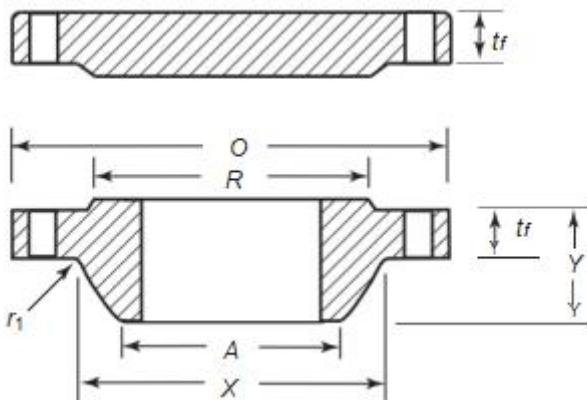


Nominal Pipe Size	O.D. of Flange, O	Minimum Thickness of Flange, t_f [Note (1)]		Length Through Hub, Y	Diam. of Hub, X [Note (2)]	Hub Diam. Top, A [Note (3)]	Raised Face Diam., R	Drilling				Diam. of Bolt, in.	Minimum Fillet Radius, r_1
		WNF	Blind					Diam. of Bolt Circle	No. of Bolt Holes	Diam. of Bolt Hole, in.			
26	865	87.4	87.4	168	702	665.2	737	803.3	32	1 $\frac{3}{8}$	1 $\frac{1}{4}$	14	
28	920	87.4	87.4	148	756	716.0	787	857.2	36	1 $\frac{3}{8}$	1 $\frac{1}{4}$	14	
30	990	92.1	92.1	156	813	768.4	845	920.8	36	1 $\frac{1}{2}$	1 $\frac{3}{8}$	14	
32	1 055	101.6	101.6	167	864	819.2	902	977.9	32	1 $\frac{5}{8}$	1 $\frac{1}{2}$	16	
34	1 110	101.6	101.6	171	918	870.0	953	1 031.9	36	1 $\frac{5}{8}$	1 $\frac{1}{2}$	16	
36	1 170	101.6	101.6	179	965	920.8	1 010	1 089.0	32	1 $\frac{3}{4}$	1 $\frac{5}{8}$	16	
38	1 220	109.6	109.6	165	1 016	971.6	1 060	1 139.8	36	1 $\frac{3}{4}$	1 $\frac{3}{8}$	16	
40	1 275	114.3	114.3	197	1 067	1 022.4	1 114	1 190.6	40	1 $\frac{3}{4}$	1 $\frac{3}{8}$	16	
42	1 335	117.5	117.5	203	1 118	1 074.7	1 168	1 244.6	36	1 $\frac{7}{8}$	1 $\frac{3}{4}$	16	
44	1 385	125.5	125.5	213	1 173	1 125.5	1 219	1 295.4	40	1 $\frac{7}{8}$	1 $\frac{3}{4}$	16	
46	1 460	127.0	128.6	221	1 229	1 176.3	1 270	1 365.2	36	2	1 $\frac{7}{8}$	16	
48	1 510	127.0	133.4	222	1 278	1 227.1	1 327	1 416.0	40	2	1 $\frac{7}{8}$	16	
50	1 560	136.6	138.2	233	1 330	1 277.9	1 378	1 466.8	44	2	1 $\frac{7}{8}$	16	
52	1 615	141.3	142.6	241	1 383	1 328.7	1 429	1 517.6	48	2	1 $\frac{7}{8}$	16	
54	1 675	135.0	147.7	238	1 435	1 379.5	1 480	1 578.0	48	2	1 $\frac{7}{8}$	16	
56	1 765	152.4	155.4	267	1 494	1 430.3	1 537	1 651.0	36	2 $\frac{3}{8}$	2 $\frac{1}{4}$	17	
58	1 825	152.4	160.4	273	1 548	1 481.1	1 594	1 712.9	40	2 $\frac{3}{8}$	2 $\frac{1}{4}$	17	
60	1 880	149.3	165.1	270	1 599	1 557.3	1 651	1 763.7	40	2 $\frac{3}{8}$	2 $\frac{1}{4}$	17	

NOTES:

- (1) The minimum flange thickness does not include the raised face thickness.
- (2) This dimension is for the large end of hub, which may be straight or tapered.
- (3) For welding and bevel.

Table 10 Dimensions of Class 400 Series B Flanges

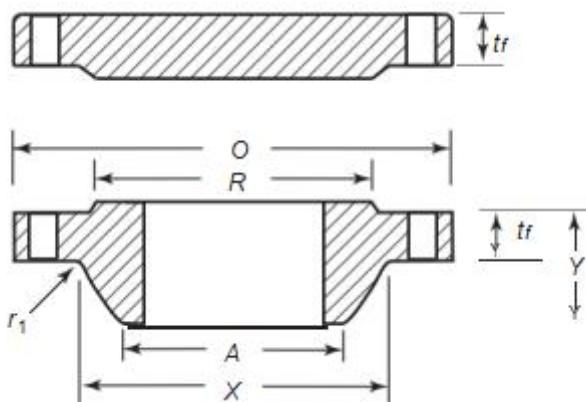


Nominal Pipe Size	O.D. of Flange, O	Minimum Thickness of Flange, tr [Note (1)]		Length Through Hub, Y	Diam. of Hub, X [Note (2)]	Hub Diam. Top, A [Note (3)]	Raised Face Diam., R	Drilling				Diam. of Bolt, in.	Minimum Fillet Radius, r_1
		WNF	Blind					No. of Bolt Holes	Diam. of Bolt Circle	Diam. of Bolt Hole, in.			
26	850	88.9	88.9	149	689	660.4	711	781.0	28	1½	1¾	11	
28	915	95.3	95.3	159	740	711.2	762	838.2	24	1½	1½	13	
30	970	101.6	101.6	170	794	762.0	819	895.4	28	1½	1½	13	
32	1 035	108.0	108.0	179	845	812.8	873	952.5	28	1¾	1¾	13	
34	1 085	111.2	111.2	187	899	863.6	927	1 003.3	32	1¾	1¾	14	
36	1 155	119.1	119.1	200	952	914.4	981	1 066.8	28	1¾	1¾	14	
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NOTES:

- (1) The minimum flange thickness does not include the raised face thickness.
- (2) This dimension is for the large end of hub, which may be straight or tapered.
- (3) For welding and bevel.

Table 11 Dimensions of Class 600 Series B Flanges

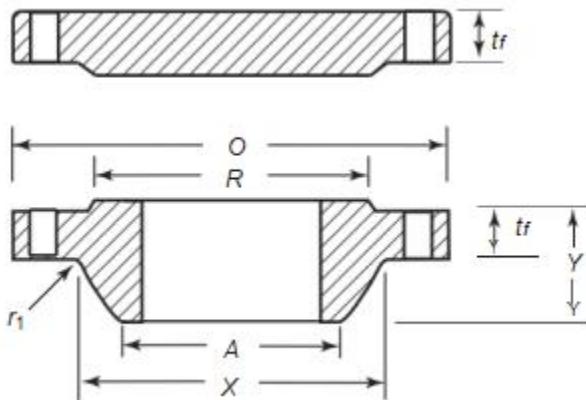


Nominal Pipe Size	O.D. of Flange, O	Minimum Thickness of Flange, t_f [Note (1)]		Length Through Hub, Y	Diam. of Hub, X [Note (2)]	Hub Diam. Top, A [Note (3)]	Raised Face Diam., R	Drilling				Minimum Fillet Radius, r_1
		WNF	Blind					Diam. of Bolt Circle	No. of Bolt Holes	Diam. of Bolt Hole, in.	Diam. of Bolt in.	
26	890	111.2	111.3	181	698	660.4	727	806.4	28	1 $\frac{3}{4}$	1 $\frac{5}{8}$	13
28	950	115.9	115.9	190	752	711.2	784	863.6	28	1 $\frac{7}{8}$	1 $\frac{3}{4}$	13
30	1 020	125.5	127.0	205	806	762.0	841	927.1	28	2	1 $\frac{7}{8}$	13
32	1 085	130.2	134.9	216	860	812.8	895	984.2	28	2 $\frac{1}{8}$	2	13
34	1 160	141.3	144.2	233	914	863.6	953	1 054.1	24	2 $\frac{3}{8}$	2 $\frac{1}{4}$	14
36	1 215	146.1	150.9	243	968	914.4	1 010	1 104.9	28	2 $\frac{3}{8}$	2 $\frac{1}{4}$	14
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NOTES:

- (1) The minimum flange thickness does not include the raised face thickness.
- (2) This dimension is for the large end of hub, which may be straight or tapered.
- (3) For welding and bevel.

Table 12 Dimensions of Class 900 Series B Flanges



Nominal Pipe Size	O.D. of Flange, O	Minimum Thickness of Flange, t_f [Note (1)]		Length Through Hub, Y	Diam. of Hub, X [Note (2)]	Hub Diam. Top, A [Note (3)]	Raised Face Diam., R	Drilling				Diam. of Bolt Circle	No. of Bolt Holes	Diam. of Bolt Hole, in.	Diam. of Bolt, in.	Minimum Fillet Radius, r_1
		WNF	Blind					Diam. Through Hub, X	Diam. Top, A	Diam. of Bolt Circle	No. of Bolt Holes					
26	1 020	135.0	154.0	259	743	660.4	762	901.7	20	2 $\frac{5}{8}$	20	2 $\frac{1}{2}$	11			
28	1 105	147.7	166.7	276	797	711.2	819	971.6	20	2 $\frac{7}{8}$	20	2 $\frac{3}{4}$	13			
30	1 180	155.6	176.1	289	851	762.0	876	1 035.0	20	3 $\frac{1}{8}$	20	3	13			
32	1 240	160.4	186.0	303	908	812.8	927	1 092.2	20	3 $\frac{1}{8}$	20	3	13			
34	1 315	171.5	195.0	319	962	863.6	991	1 155.7	20	3 $\frac{3}{8}$	20	3 $\frac{1}{4}$	14			
36	1 345	173.1	201.7	325	1 016	914.4	1 029	1 200.2	24	3 $\frac{1}{8}$	24	3	14			
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NOTES:

- (1) The minimum flange thickness does not include the raised face thickness.
- (2) This dimension is for the large end of hub, which may be straight or tapered.
- (3) For welding and bevel.