

BS 3293 Flange Standard

BS 3293 STANDARD WELDING NECK, SLIP ON FLANGE DIMENSIONS AND TECHNICAL DRAWING

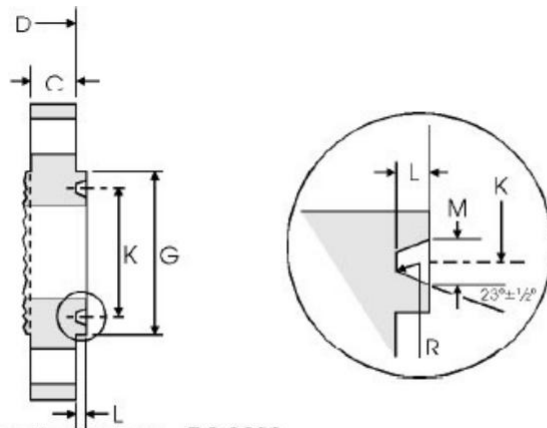
BS 3293 FLANGE DIMENSIONS AND TOLERANCES

BS 3293 : 1960

	Dimension	Tolerance	
		in	mm
Weld Neck and Slip On Flanges (pages 8-56 to 8-59)	G (raised face diameter)	$\pm 1/64$	± 0.40
	C (flange thickness)	$+3/16,$ -0	$+4.76,$ -0
	D (overall length)	$\pm 1/8$	± 3.18
	E (outside diameter at welding end of weld neck hub)	$+5/32,$ $1/32$	$+3.97,$ -0.79
	B (inside diameter of weld neck flange)	$+1/8,$ $1/16$	$+3.18,$ -1.59
	B (inside diameter of slip on flange)	$+1/16,$ -0	$+1.59,$ -0
Ring Joint Facing on Weld Neck and Slip On Flanges (see below)	L (depth of groove)	$+1/64,$ -0	$+0.40,$ -0
	M (width of groove)	± 0.008	± 0.20
	K (pitch diameter of groove)	± 0.005	± 0.13

BS 3293 RING JOINT FACINGS DIMENSIONS

DIMENSIONS IN MM



Note

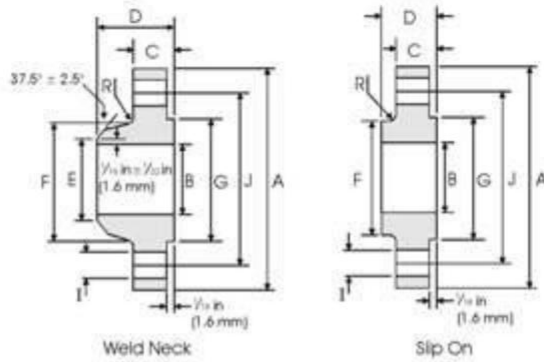
- Values for minimum flange thickness, C, and overall length, D, are detailed in the flange tables.
- For ring joint tolerances see above.
- $R = \frac{1}{16}$ in (0.40 mm) max, corner radius at bottom of groove.

Ring joint facing dimensions - BS 3293

Class (lb)				Groove/Ring Number	Raised Face	Groove			Weight		
150	300	400	600		G	K	L	M	kg/piece		
Nominal Pipe Size (NPS)					Face Diameter min	Pitch Diameter	Depth	Width	Class 300 lb	Class 400 lb	Class 600 lb
				in mm	in mm	in mm	in mm	WNF Slip on	WNF Slip on	WNF Slip on	
	26	26	26	R93	$31\frac{7}{8}$ 809.6	$29\frac{1}{2}$ 749.3	$\frac{1}{2}$ 12.7	$25\frac{7}{32}$ 19.8	298 270	349 304	446 417
	28	28	28	R94	$33\frac{7}{8}$ 860.4	$31\frac{1}{2}$ 800.1	$\frac{1}{2}$ 12.7	$25\frac{7}{32}$ 19.8	360 333	409 364	518 482
	30	30	30	R95	$36\frac{1}{8}$ 917.6	$33\frac{3}{4}$ 857.2	$\frac{1}{2}$ 12.7	$25\frac{7}{32}$ 19.8	412 376	465 419	570 537
	32	32	32	R96	$38\frac{3}{4}$ 984.2	36 914.4	$\frac{9}{16}$ 14.3	$29\frac{7}{32}$ 23.0	465 425	539 482	697 622
	34	34	34	R97	$40\frac{3}{4}$ 1035.0	38 965.2	$\frac{9}{16}$ 14.3	$29\frac{7}{32}$ 23.0	536 492	608 540	735 670
	36	36	36	R98	43 1092.2	$40\frac{1}{4}$ 1022.3	$\frac{9}{16}$ 14.3	$29\frac{7}{32}$ 23.0	595 548	689 621	800 764

BS 3293 WELD NECK AND FLANGE SLIP ON FLANGE CLASS 150 DIMENSIONS DIMENSIONS IN MM

marcelfor



Class 150 lb

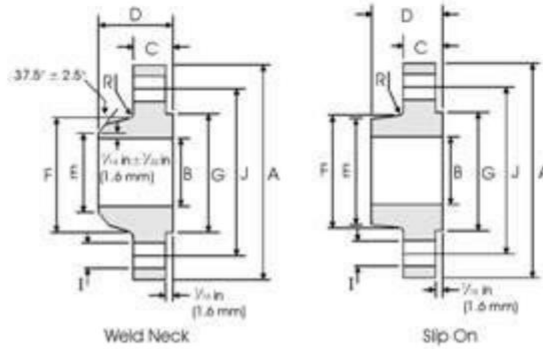
Nominal Pipe Size	Flange Data				Hub Data			Raised Face	Drilling Data			Radius	Weight
	A	B	C	D	E	F	G	H	I	J	R	kg/ piece	
	Overall Diameter	Slip on Inside Diameter	Flange Thickness	WNF Overall Length	Slip on Overall Length	WNF Diameter at Weld Bevel	WNF / Slip on Hub Diameter	Face Diameter	Number of Holes	Bolt Hole Diam.	Diameter of Circle of Holes	Fillet	WNF Slip On
in mm	in mm	in mm	in mm	in mm	in mm	in mm	in mm		in mm	in mm	in mm		
26	34 1/4 869.9	26 1/4 666.7	2 50.8	5 127.0	3 7/8 85.7	26 660.4	28 1/2 723.9	29 1/4 742.9	24	1 3/8 34.9	31 3/4 806.4	1/4 6.35	118 107
28	36 1/2 927.1	28 1/4 717.6	2 1/16 52.4	5 1/16 128.6	3 1/16 87.3	28 711.2	30 3/4 781.0	31 1/4 793.7	28	1 3/8 34.9	34 863.6	1/4 6.35	134 122
30	38 3/4 984.2	30 1/4 768.3	2 1/8 54.0	5 1/8 130.2	3 1/2 88.9	30 762.0	32 1/4 831.8	33 3/4 857.2	28	1 3/8 34.9	36 914.4	1/4 6.35	153 138
32	41 1/4 1060.4	32 1/4 819.1	2 1/4 57.1	5 1/4 133.3	3 3/8 92.1	32 812.8	35 889.0	35 3/4 906.0	28	1 3/8 41.3	38 1/2 977.9	5/16 7.94	190 170
34	43 3/4 1111.2	34 1/4 869.9	2 5/16 58.7	5 5/16 134.9	3 11/16 93.7	34 863.6	37 939.8	37 3/4 958.8	32	1 3/8 41.3	40 1/2 1028.7	5/16 7.94	212 184
36	46 1168.4	36 1/4 920.7	2 3/8 60.3	5 3/8 136.5	3 3/4 95.2	36 914.4	39 1/4 996.9	40 1/4 1022.3	32	1 3/8 41.3	42 1/4 1085.8	5/16 7.94	242 211
38	48 3/4 1238.2	38 1/4 971.5	2 3/8 60.3	5 3/8 136.5	3 3/4 95.2	38 965.2	41 3/4 1060.4	42 1/4 1073.1	32	1 3/8 41.3	45 1/4 1149.3	5/16 9.53	284 249
40	50 3/4 1289.0	40 1/4 1022.3	2 7/8 63.5	5 7/8 139.7	3 7/8 98.4	40 1016.0	43 3/4 1111.2	44 1/4 1123.9	36	1 3/8 41.3	47 1/4 1200.1	3/8 9.53	311 272
42	53 1346.2	42 1/4 1073.2	2 5/8 66.7	5 5/8 142.9	4 101.6	42 1066.8	46 1168.4	47 1193.8	36	1 3/8 41.3	49 1/2 1257.3	3/8 9.53	358 313
44	55 1/4 1403.3	44 1/4 1123.9	2 5/8 66.7	5 5/8 142.9	4 101.6	44 1117.6	48 1219.2	49 1244.6	40	1 3/8 41.3	51 1/4 1314.4	7/16 11.11	376 331
46	57 1/4 1454.2	46 1/4 1174.7	2 11/16 68.3	5 11/16 144.5	4 1/16 103.2	46 1168.4	50 1270.0	51 1295.4	40	1 3/8 41.3	53 3/4 1365.2	7/16 11.11	399 349
48	59 1/2 1511.1	48 3/4 1225.5	2 3/4 69.9	5 3/4 146.1	4 1/8 104.8	48 1219.2	52 1/4 1327.2	53 1/2 1358.9	44	1 3/8 41.3	56 1422.4	7/16 11.11	440 381

Notes

- For weld neck flanges, dimension B is to be specified by the purchaser. It corresponds to the pipe inside diameter.
- For slip on flanges, the hub may be cylindrical or have a draft of $\leq 7^\circ$ on the outside surface.
- WNF = Weld Neck Flange.
- Weights are based on manufacturer's data and are approximate.

BS 3293 WELD NECK AND FLANGE SLIP ON FLANGE CLASS 300
DIMENSIONS
DIMENSIONS IN MM

marcel



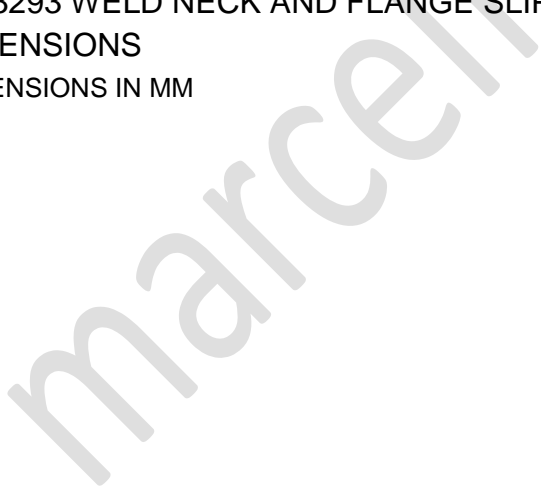
Class 300 lb

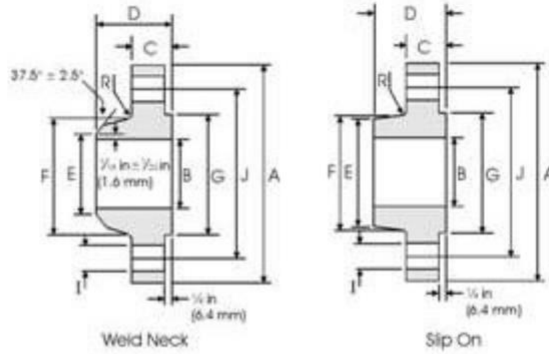
Pipe	Flange Data				Hub Data			Raised Face	Drilling Data			Radius	Weight
Nominal Pipe Size	A	B	C	D	E	F	G	H	I	J	R	kg/ piece	
	Overall Diameter	Slip on Inside Diameter	Flange Thickness	WNF / Slip on Overall Length	WNF Diam. at Weld Bevel	Slip on Hub Diam. at Small End	Hub Diameter	Face Diameter	Number of Holes	Bolt Hole Diam.	Diameter of Circle of Holes	Fillet	kg/ piece
	in	in	in	in	in	in	in	in		in	in	in	WNF Slip On
26	38 ¹ / ₄ 971.5	26 ¹ / ₄ 668.7	3 ⁷ / ₈ 79.4	7 ¹ / ₄ 184.1	26 ¹ / ₄ 668.7	27 ¹ / ₁₆ 687.4	28 ⁵ / ₈ 720.7	29 ¹ / ₂ 749.3	28	1 ³ / ₄ 44.4	34 ¹ / ₂ 876.3	5 ³ / ₈ 9.53	279 251
28	40 ³ / ₄ 1035.0	28 ¹ / ₄ 717.6	3 ⁷ / ₈ 85.7	7 ³ / ₄ 195.8	28 ¹ / ₄ 717.5	29 ¹ / ₈ 739.7	30 ¹ / ₂ 774.7	31 ¹ / ₂ 800.1	28	1 ³ / ₄ 44.4	37 ¹ / ₁₆ 939.8	11.11	340 313
30	43 1092.2	30 ¹ / ₄ 768.3	3 ⁷ / ₈ 92.1	8 ¹ / ₄ 209.5	30 ¹ / ₄ 768.3	31 ¹ / ₁₆ 792.2	32 ¹ / ₁₆ 827.2	33 ³ / ₄ 857.2	28	1 ⁷ / ₈ 47.6	39 ¹ / ₄ 998.9	11.11	390 354
32	45 ¹ / ₄ 1149.3	32 ¹ / ₄ 819.1	3 ⁷ / ₈ 98.4	8 ³ / ₄ 222.2	32 ¹ / ₄ 819.1	33 ¹ / ₄ 844.6	34 ¹ / ₁₆ 881.1	36 914.4	28	2 50.8	41 ¹ / ₂ 1054.1	11.11	435 385
34	47 ¹ / ₂ 1206.5	34 ¹ / ₄ 869.9	4 101.6	9 ¹ / ₈ 231.8	34 ³ / ₁₆ 871.5	35 ⁵ / ₁₆ 896.9	36 ¹ / ₈ 936.6	38 965.2	28	2 50.8	43 ¹ / ₂ 1104.9	12.7	504 460
36	50 1270.0	36 ¹ / ₄ 920.7	4 ¹ / ₈ 104.8	9 ¹ / ₂ 241.3	36 ³ / ₁₆ 922.3	37 ³ / ₈ 949.3	39 980.6	40 ¹ / ₄ 1022.3	32	2 ¹ / ₈ 54.0	46 1168.4	12.7	560 513

Notes

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BS 3293 WELD NECK AND FLANGE SLIP ON FLANGE CLASS 400
DIMENSIONS
DIMENSIONS IN MM





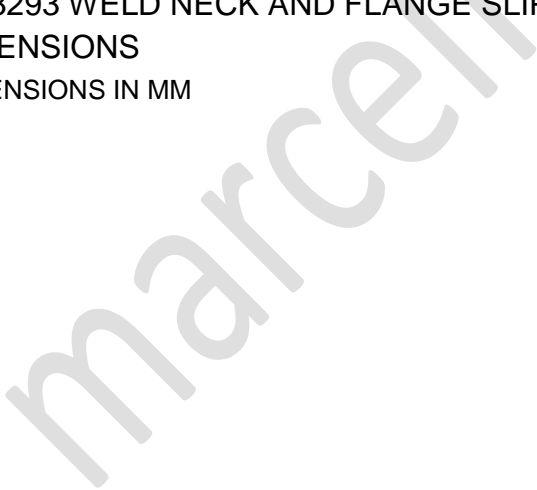
Class 400 lb

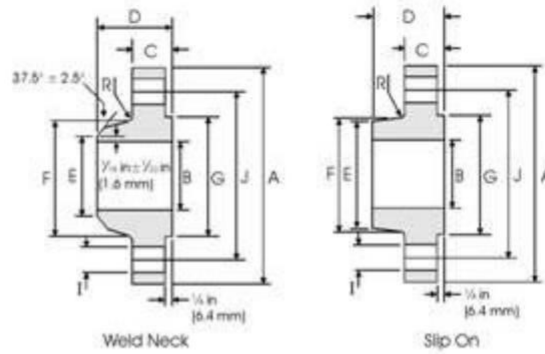
Pipe Nominal Pipe Size	Flange Data				Hub Data			Raised Face	Drilling Data			Radius	Weight
	A	B	C	D	E	F	G	H	I	J	R		
	Overall Diameter	Slip on Inside Diameter	Flange Thickness	WNF / Slip on Overall Length	WNF Diam at Weld Bevel	Slip on Hub Diam at Small End	Hub Diameter	Face Diameter	Number of Holes	Bot Hole Diam.	Diameter of Circle of Holes	Fillet	kg/ piece
in mm	in mm	in mm	in mm	in mm	in mm	in mm	in mm		in mm	in mm	in mm	WNF Slip On	
26	38 1/4	26 1/4	3 1/2	7 7/8	26 5/16	27 7/16	28 5/8	29 1/2	28	1 7/8	34 1/2	7/16	340
	971.5	666.7	88.9	193.7	668.3	693.7	727.1	749.3		47.6	876.3	11.11	295
28	40 3/4	28 1/4	3 3/4	8 1/8	28 5/16	29 1/8	30 13/16	31 1/2	28	2	37	1/2	399
	1035.0	717.6	95.2	206.4	719.1	746.1	782.6	800.1		50.8	939.8	12.7	354
30	43	30 1/4	4	8 5/8	30 5/16	31 1/2	32 15/16	33 3/4	28	2 1/8	39 3/4	1/2	454
	1082.2	768.3	101.6	219.1	769.6	800.1	836.6	857.2		54.0	996.9	12.7	408
32	45 1/4	32 1/4	4 1/4	9 1/8	32 3/8	33 7/16	35	36	28	2 3/8	41 1/2	1/2	522
	1149.3	819.1	107.9	231.8	822.3	852.5	889.0	914.4		54.0	1054.1	12.7	465
34	47 1/2	34 1/4	4 3/8	9 1/2	34 3/8	35 5/8	37 7/16	38	28	2 1/8	43 1/2	9/16	590
	1205.5	869.9	111.1	241.3	873.1	904.9	944.6	965.2		54.0	1104.9	14.29	522
36	50	36 1/4	4 1/2	9 7/8	36 7/16	37 3/4	39 7/8	40 1/4	32	2 3/8	46	9/16	669
	1270.0	920.8	114.3	250.8	925.5	958.8	1012.9	1022.3		54.0	1168.4	14.29	601

Notes

- For weld neck flanges, dimension B is to be specified by the purchaser. It corresponds to the pipe inside diameter.
- For slip on flanges, the hub may be cylindrical or have a draft of $\leq 7^\circ$ on the outside surface.
- WNF = Weld Neck Flange.
- Weights are based on manufacturer's data and are approximate.

BS 3293 WELD NECK AND FLANGE SLIP ON FLANGE CLASS 600
 DIMENSIONS
 DIMENSIONS IN MM





Class 600 lb

Pipe Nominal Pipe Size	Flange Data				Hub Data			Raised Face	Drilling Data			Radius	Weight
	A	B	C	D	E	F	G	H	I	J	R		
	Overall Diameter	Slip on Inside Diameter	Flange Thickness	WNF / Slip on Overall Length	WNF Diam. at Weld Bevel	Slip on Hub Diam. at Small Lend	Hub Diameter	Face Diameter	Number of Holes	Bot Hole Diam.	Diameter of Circle of Holes	Fillet	kg/ piece
in mm	in mm	in mm	in mm	in mm	in mm	in mm	in mm		in mm	in mm	in mm	WNF Slip On	
26	40 1016.0	26 5/16 666.7	4 1/4 107.9	8 3/4 222.2	26 7/16 671.52	27 13/16 706.4	29 7/16 747.7	29 1/2 749.3	28	2 50.8	36 914.4	9/16 14.29	437 408
28	42 1/4 1073.1	28 1/4 717.6	4 3/8 111.1	9 1/4 234.9	28 1/2 723.9	29 15/16 760.4	31 5/8 803.3	31 1/2 800.1	28	2 1/8 54.0	38 965.2	5/8 15.88	508 472
30	44 1/2 1130.3	30 1/4 768.3	4 1/2 114.3	9 3/4 247.6	30 1/2 774.7	32 1/16 814.4	33 15/16 862.0	33 3/4 857.2	28	2 1/8 54.0	40 1/4 1022.3	1 1/16 17.46	559 526
32	47 1193.8	32 1/4 819.1	4 5/8 117.5	10 1/4 260.3	32 1/2 825.5	34 3/16 868.4	36 1/8 917.6	36 914.4	28	2 3/8 60.3	42 1/2 1079.5	1 1/16 17.46	680 605
34	49 1244.6	34 1/4 869.9	4 3/4 120.6	10 5/8 269.9	34 9/16 877.9	36 5/16 922.3	38 5/16 973.1	38 965.2	28	2 3/8 60.3	44 1/2 1130.3	3/4 19.05	717 652
36	51 3/4 1314.4	36 1/4 920.7	4 7/8 123.8	11 1/8 282.6	36 9/16 928.7	38 7/16 975.3	40 5/8 1031.9	40 1/4 1022.3	28	2 3/8 66.7	47 1193.8	3/4 19.05	780 744

Notes

- For weld neck flanges, dimension B is to be specified by the purchaser. It corresponds to the pipe inside diameter.
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BS 3293 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.