

MSS SP-44 Flange

The American National Standard developed and published by the Manufacturers Standardization Society (MSS) of the Valve and Fittings Inc., **MSS SP-44** Standard practice covers pressure-temperature ratings, materials, dimensions, tolerances, marking, and testing for steel pipeline flanges. In accordance with the document, the welding neck type flanges are to be forged steel, while the blind flanges can be made from either forged steel or steel plate.

Standard Specification For MSS SP-44 Flanges

Type: Plate Flange, Welding neck flange, steel butt-welded flanges, slip on flange, blind flange, welded neck flange, threaded flange, lapped joint flange (loose flange), socket welded flange, Orifice Flanges, long weld neck flange and special flange.

Material: Carbon steel: A105, SS400, SF440

RST37.2, S235JRG2, P250GH, C22.8, Stainless Steel: F304 F304L F316 F316L 316Ti, Copper etc.

Standard: ANSI/ASME B16.47 Ser.A, MSS SP-44 Flange.

Size: 26 inch to 48 inch

Pressure: As Per MSS SP-44 Flange.

Packing: No Fumigate or Fumigate Plywood/Wood Pallet or Case

Surface Treatment: Anti-rust Oil, Transparent/Yellow/Black Anti-rust Paint, Zinc, Hot dipped Galvanized.

E-catalogue: Available , please visit Catalogue of Flange.

Usage: Oil Field, Offshore, Water System, Shipbuilding, Natural Gas, Electric Power, Pipe Projects etc.

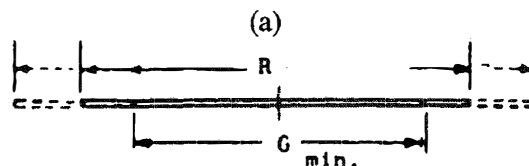
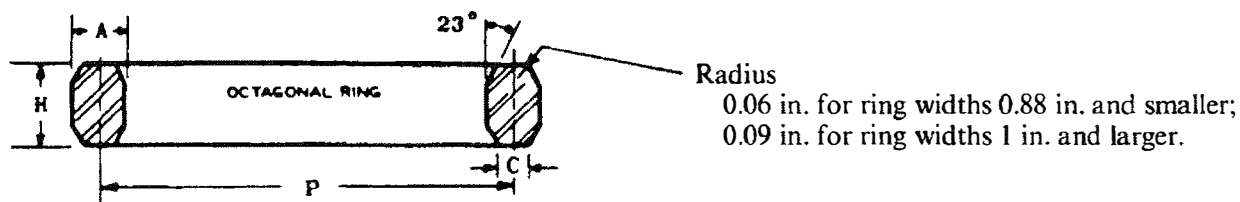


TABLE 4 — SHEET GASKET DIMENSIONS

Dimensions in inches

NOM. PIPE SIZE	O.D. GASKET $R^{(a)}$	I. D. GASKET G MIN.				
		150	300	400	600	900
12	15.00	12.75	12.75	12.75	12.75	12.75
14	16.25	14.00	14.00	14.00	14.00	14.00
16	18.50	16.00	16.00	16.00	16.00	16.00
18	21.00	18.00	18.00	18.00	18.00	18.00
20	23.00	20.00	20.00	20.00	20.00	20.00
22	25.25	22.00	22.00	22.00	22.00	—
24	27.25	24.00	24.00	24.00	24.00	24.00
26	29.50	26.00	27.62	27.00	26.62	26.38
28	31.50	28.00	29.50	28.88	28.38	28.38
30	33.75	30.00	31.62	30.88	30.38	30.38
32	36.00	32.00	33.75	33.00	32.50	32.38
34	38.00	34.00	35.62	34.88	34.25	34.38
36	40.25	36.00	37.62	36.88	36.25	36.38
38	Same as O.D. of Raised Face, R, in Tables 6, 7, 8, 9 & 10	38.00	38.00	37.75	37.50	37.00
40		40.00	40.00	39.75	39.50	39.00
42		42.00	42.00	41.75	41.50	41.00
44		44.00	44.00	43.75	43.50	43.00
46		46.00	46.00	45.75	45.50	45.00
48		48.00	48.00	47.75	47.50	47.00
50		50.00	50.00	49.62	49.25	—
52		52.00	52.00	51.62	51.25	—
54		54.00	54.00	53.62	53.25	—
56		56.00	56.00	55.62	55.25	—
58		58.00	58.00	57.62	57.25	—
60		60.00	60.00	59.62	59.25	—

NOTE: ^(a) Outside Diameter R may be made to fit the inside diameter of the bolts to act as a locating device when making a joint in the field, however, in no case should the contact area of the gasket be increased by changing the diameter of the raised face on the flange.


TABLE 5 — RING-JOINT GASKET DIMENSIONS ⁽¹⁾

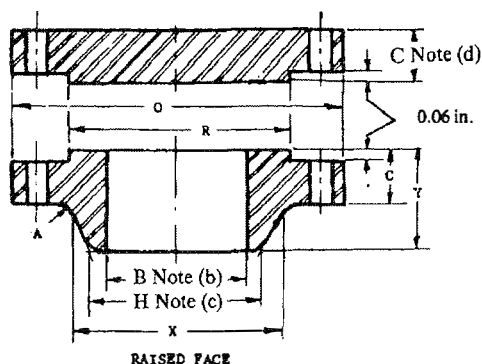
Dimensions in inches

CLASS 300,400, AND 600						CLASS 900				
Nom- inal Pipe Size	Pitch Dia. of Ring P	Width of Ring A	Height of Octagonal Ring H	Oct. Ring Flat C	Ring No.	Pitch Dia. of Ring P	Width of Ring A	Height of Octagonal Ring H	Oct. Ring Flat C	Ring No.
12	15.000	0.438	0.625	0.305	R57	15.000	0.438	0.625	0.305	R57
14	16.500	0.438	0.625	0.305	R61	16.500	0.625	0.812	0.413	R62
16	18.500	0.438	0.625	0.305	R65	18.500	0.625	0.812	0.413	R66
18	21.000	0.438	0.625	0.305	R69	21.000	0.750	0.938	0.485	R70
20	23.000	0.500	0.688	0.341	R73	23.000	0.750	0.938	0.485	R74
22	25.000	0.562	0.750	0.377	R81	—	—	—	—	—
24	27.250	0.625	0.812	0.413	R77	27.250	1.000	1.250	0.681	R78
26	29.500	0.750	0.938	0.485	R93	29.500	1.125	1.375	0.780	R100
28	31.500	0.750	0.938	0.485	R94	31.500	1.250	1.500	0.879	R101
30	33.750	0.750	0.938	0.485	R95	33.750	1.250	1.500	0.879	R102
32	36.000	0.875	1.062	0.583	R96	36.000	1.250	1.500	0.879	R103
34	38.000	0.875	1.062	0.583	R97	38.000	1.375	1.625	0.977	R104
36	40.250	0.875	1.062	0.583	R98	40.250	1.375	1.625	0.977	R105

SUPPLEMENTAL INFORMATION

NOTE: ⁽¹⁾ For matching tolerances of ring-joint gasket dimensions, see ASME B16.20.

Ring-Joint Gaskets are not contemplated for size 38, and larger flanges.


TABLE 6 — CLASS 150, 285 PSI AT ATMOSPHERIC TEMPERATURE RAISED FACE^(a)

Dimensions in inches

PIPE SIZE	FLANGE DIMENSIONS			HUB DIMENSIONS	DRILLING			Raised Face Dia. R	Fillet Radius (MIN) A
	OD of Flange O	Thick. of Flange C (MIN)	Length Thru Hub Y	OD Large End Hub X	No. of Bolt Holes	Dia. of Bolt Holes	Dia. of Bolt Circle		
12	19.00	1.25	4.50	14.38	12	1.00	17.00	15.00	0.38
14	21.00	1.38	5.00	15.75	12	1.12	18.75	16.25	0.38
16	23.50	1.44	5.00	18.00	16	1.12	21.25	18.50	0.38
18	25.00	1.56	5.50	19.88	16	1.25	22.75	21.00	0.38
20	27.50	1.69	5.69	22.00	20	1.25	25.00	23.00	0.38
22	29.50	1.81	5.88	24.00	20	1.38	27.25	25.25	0.38
24	32.00	1.88	6.00	26.12	20	1.38	29.50	27.25	0.38
26	34.25	2.69	4.75	26.62	24	1.38	31.75	29.50	0.38
28	36.50	2.81	4.94	28.62	28	1.38	34.00	31.50	0.44
30	38.75	2.94	5.38	30.75	28	1.38	36.00	33.75	0.44
32	41.75	3.18	5.69	32.75	28	1.62	38.50	36.00	0.44
34	43.75	3.25	5.88	34.75	32	1.62	40.50	38.00	0.50
36	46.00	3.56	6.19	36.75	32	1.62	42.75	40.25	0.50
38	48.75	3.44	6.19	39.00	32	1.62	45.25	42.25	0.50
40	50.75	3.56	6.44	41.00	36	1.62	47.25	44.25	0.50
42	53.00	3.81	6.75	43.00	36	1.62	49.50	47.00	0.50
44	55.25	4.00	7.00	45.00	40	1.62	51.75	49.00	0.50
46	57.25	4.06	7.31	47.12	40	1.62	53.75	51.00	0.50
48	59.50	4.25	7.56	49.12	44	1.62	56.00	53.50	0.50
50	61.75	4.38	8.00	51.25	44	1.88	58.25	55.50	0.50
52	64.00	4.56	8.25	53.25	44	1.88	60.50	57.50	0.50
54	66.25	4.75	8.50	55.25	44	1.88	62.75	59.50	0.50
56	68.75	4.88	9.00	57.38	48	1.88	65.00	62.00	0.50
58	71.00	5.06	9.25	59.38	48	1.88	67.25	64.00	0.50
60	73.00	5.19	9.44	61.38	52	1.88	69.25	66.00	0.50

General Notes:

For matching tolerances see Section 10.

For matching end detail see Figures 1, 2 and 3.

^(a) Rating for raised face flanges is predicated on the use of sheet gaskets shown in Table 2.

^(b) Dimensions to be specified by customer.

^(c) See Section 5.

^(d) Where calculated blind thickness is less than the mating welding neck, the thicknesses were made equal. See paragraph 5.5 for material requirements.

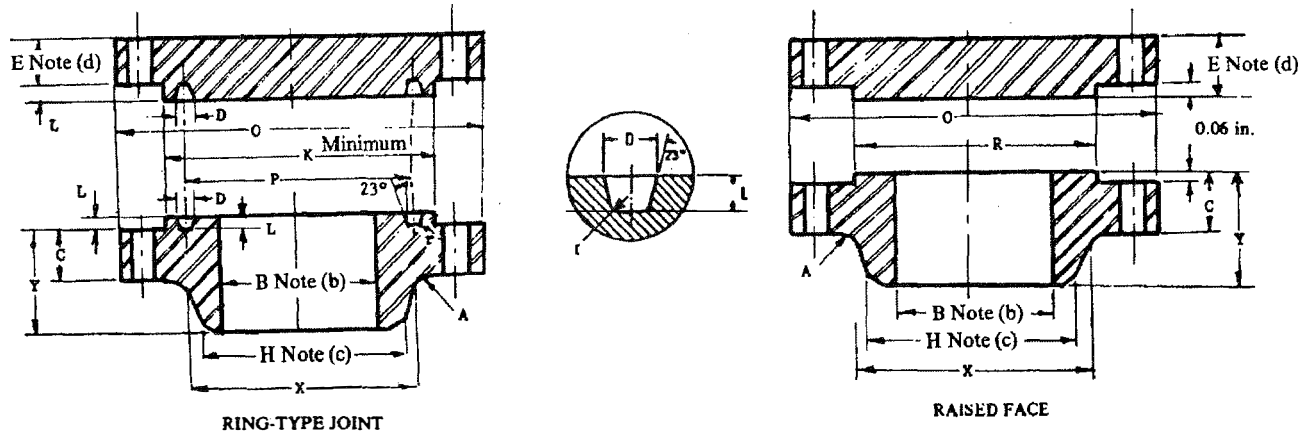


TABLE 7 — CLASS 300, 740 PSI AT ATMOSPHERIC TEMPERATURE RAISED FACE^(a) AND RING-TYPE JOINTS

Dimensions in inches

Pipe Size	FLANGE DIMENSIONS				HUB DIM. OD (e) Large End Hub X	DRILLING			FACING DIMENSIONS						Fillet Radius (min) A	Groove Fillet Radius r
	OD of Flange O	Thick of Flange		Length Thru Hub Y		No. of Bolt Holes	Dia. of Bolt Holes	Dia. of Bolt Circle	Raised Face Dia. R	Ring-Type Joint						
		Weld- Neck C	Bld. Flg. (d) E							Facing Dia. K	Depth of Groove L	Pitch Dia. P	Width of Groove D	Ring No.		
12	20.50	2.00	2.00	5.12	14.75	16	1.25	17.75	15.00	16.25	0.312	15.000	0.469	R57	0.38	0.03
14	23.00	2.12	2.12	5.62	16.75	20	1.25	20.25	16.25	18.00	0.312	16.500	0.469	R61	0.38	0.03
16	25.50	2.25	2.25	5.75	19.00	20	1.38	22.50	18.50	20.00	0.312	18.500	0.469	R65	0.38	0.03
18	28.00	2.38	2.38	6.25	21.00	24	1.38	24.75	21.00	22.62	0.312	21.000	0.469	R69	0.38	0.03
20	30.50	2.50	2.50	6.38	23.12	24	1.38	27.00	23.00	25.00	0.375	23.000	0.531	R73	0.38	0.06
22	33.00	2.62	2.62	6.50	25.25	24	1.62	29.25	25.25	27.00	0.438	25.000	0.594	R81	0.38	0.06
24	36.00	2.75	2.75	6.62	27.62	24	1.62	32.00	27.25	29.50	0.438	27.250	0.656	R77	0.38	0.06
26	38.25	3.12	3.31	7.25	28.38	28	1.75	34.50	29.50	31.88	0.500	29.500	0.781	R93	0.38	0.06
28	40.75	3.38	3.56	7.75	30.50	28	1.75	37.00	31.50	33.88	0.500	31.500	0.781	R94	0.44	0.06
30	43.00	3.62	3.75	8.25	32.56	28	1.88	39.25	33.75	36.12	0.500	33.750	0.781	R95	0.44	0.06
32	45.25	3.88	3.94	8.75	34.69	28	2.00	41.50	36.00	38.75	0.562	36.000	0.906	R96	0.44	0.06
34	47.50	4.00	4.12	9.12	36.88	28	2.00	43.50	38.00	40.75	0.562	38.000	0.906	R97	0.50	0.06
36	50.00	4.12	4.38	9.50	39.00	32	2.12	46.00	40.25	43.00	0.562	40.250	0.906	R98	0.50	0.06
38	46.00	4.25	4.25	7.12	39.12	32	1.62	43.00	40.50	—	—	—	—	—	0.50	—
40	48.75	4.50	4.50	7.62	41.25	32	1.75	45.50	42.75	—	—	—	—	—	0.50	—
42	50.75	4.69	4.69	7.88	43.25	32	1.75	47.50	44.75	—	—	—	—	—	0.50	—
44	53.25	4.88	4.88	8.12	45.25	32	1.88	49.75	47.00	—	—	—	—	—	0.50	—
46	55.75	5.06	5.06	8.50	47.38	28	2.00	52.00	49.00	—	—	—	—	—	0.50	—
48	57.75	5.25	5.25	8.81	49.38	32	2.00	54.00	51.25	—	—	—	—	—	0.50	—
50	60.25	5.50	5.50	9.12	51.38	32	2.12	56.25	53.50	—	—	—	—	—	0.50	—
52	62.25	5.69	5.69	9.38	53.38	32	2.12	58.25	55.50	—	—	—	—	—	0.50	—
54	65.25	6.00	6.00	9.94	55.50	28	2.38	61.00	57.75	—	—	—	—	—	0.50	—
56	67.25	6.06	6.06	10.25	57.62	28	2.38	63.00	59.75	—	—	—	—	—	0.50	—
58	69.25	6.25	6.25	10.50	59.62	32	2.38	65.00	62.00	—	—	—	—	—	0.50	—
60	71.25	6.44	6.44	10.75	61.62	32	2.38	67.00	64.00	—	—	—	—	—	0.50	—

General Notes:

For matching tolerances see Section 10.

For welding end detail see Figures 1, 2 and 3.

Notes: (a) Rating for raised face flanges is predicated on the use of sheet gaskets shown in Table 2.

(b) Dimensions to be specified by customer.

(c) See Section 5.

(d) Where calculated blind thickness is less than the mating welding neck, the thicknesses were made equal. See paragraph 5.5 for material requirements.

(e) Hub dimension for Size 24 and smaller flanges may vary as explained in paragraph 5.3.2.

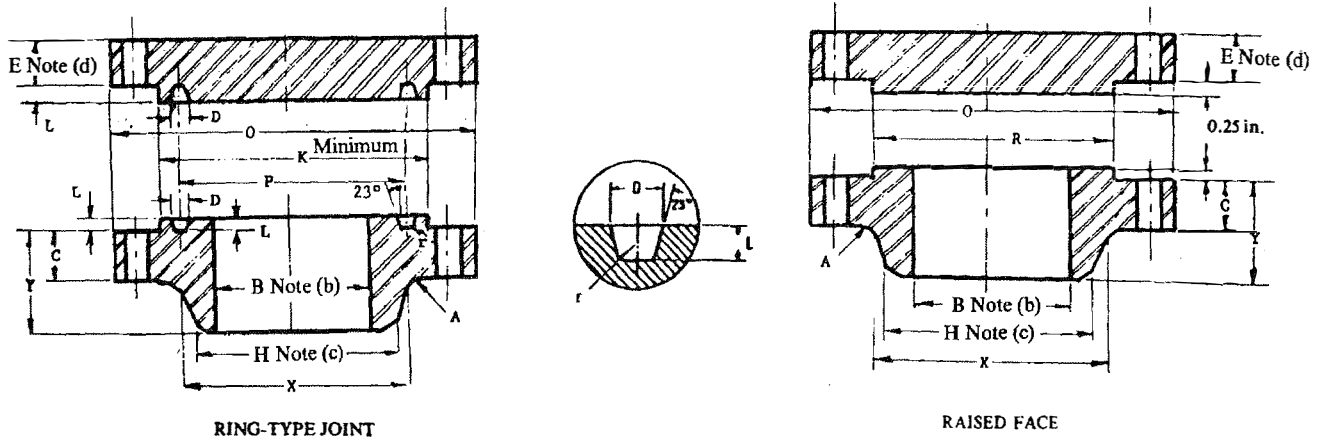


TABLE 8 — CLASS 400, 990 PSI AT ATMOSPHERIC TEMPERATURE RAISED FACE^(a) AND RING-TYPE JOINTS

Dimensions in inches

Pipe Size	FLANGE DIMENSIONS				HUB DIM. (c) OD Large End Hub	DRILLING			FACING DIMENSIONS						Fillet Radius (min.)	Groove Fillet Radius
	OD of Flange	THICK OF FLANGE		Length Thru Hub		No. of Bolt Holes	Dia. of Bolt Holes	Dia. of Bolt Circle	Raised Face Dia.	RING-TYPE JOINT						
		Weld-Neck	Bl'd. Flg. (d)							Facing Dia.	Depth of Groove	Pitch Dia.	Width of Groove	Ring No.		
12	20.50	2.25	2.25	5.38	14.75	16	1.38	17.75	15.00	16.25	0.312	15.000	0.469	R57	0.44	0.03
14	23.00	2.38	2.38	5.88	16.75	20	1.38	20.25	16.25	18.00	0.312	16.500	0.469	R61	0.44	0.03
16	25.50	2.50	2.50	6.00	19.00	20	1.50	22.50	18.50	20.00	0.312	18.500	0.469	R65	0.44	0.03
18	28.00	2.62	2.62	6.50	21.00	24	1.50	24.75	21.00	22.62	0.312	21.000	0.469	R69	0.44	0.03
20	30.50	2.75	2.75	6.62	23.12	24	1.62	27.00	23.00	25.00	0.375	23.000	0.531	R73	0.44	0.06
22	33.00	2.88	2.88	6.75	25.25	24	1.75	29.25	25.25	27.00	0.438	25.000	0.594	R81	0.44	0.06
24	36.00	3.00	3.00	6.88	27.62	24	1.88	32.00	27.25	29.50	0.438	27.250	0.656	R77	0.44	0.06
26	38.25	3.50	3.88	7.62	28.62	28	1.88	34.50	29.50	31.88	0.500	29.500	0.781	R93	0.44	0.06
28	40.75	3.75	4.12	8.12	30.81	28	2.00	37.00	31.50	33.88	0.500	31.500	0.781	R94	0.50	0.06
30	43.00	4.00	4.38	8.62	32.94	28	2.12	39.25	33.75	36.12	0.500	33.750	0.781	R95	0.50	0.06
32	45.25	4.25	4.56	9.12	35.00	28	2.12	41.50	36.00	38.75	0.562	36.000	0.906	R96	0.50	0.06
34	47.50	4.38	4.81	9.50	37.19	28	2.12	43.50	38.00	40.75	0.562	38.000	0.906	R97	0.56	0.06
36	50.00	4.50	5.06	9.88	39.38	32	2.12	46.00	40.25	43.00	0.562	40.250	0.906	R98	0.56	0.06
38	47.50	4.88	4.88	8.12	39.50	32	1.88	44.00	40.75	-----	-----	-----	-----	-----	0.56	-----
40	50.00	5.12	5.12	8.50	41.50	32	2.00	46.25	43.00	-----	-----	-----	-----	-----	0.56	-----
42	52.00	5.25	5.25	8.81	43.62	32	2.00	48.25	45.00	-----	-----	-----	-----	-----	0.56	-----
44	54.50	5.50	5.50	9.19	45.62	32	2.12	50.50	47.25	-----	-----	-----	-----	-----	0.56	-----
46	56.75	5.75	5.75	9.62	47.75	36	2.12	52.75	49.50	-----	-----	-----	-----	-----	0.56	-----
48	59.50	6.00	6.00	10.12	49.88	28	2.38	55.25	51.50	-----	-----	-----	-----	-----	0.56	-----
50	61.75	6.19	6.25	10.56	52.00	32	2.38	57.50	53.62	-----	-----	-----	-----	-----	0.56	-----
52	63.75	6.38	6.44	10.88	54.00	32	2.38	59.50	55.62	-----	-----	-----	-----	-----	0.56	-----
54	67.00	6.69	6.75	11.38	56.12	28	2.62	62.25	57.88	-----	-----	-----	-----	-----	0.56	-----
56	69.00	6.88	6.94	11.75	58.25	32	2.62	64.25	60.12	-----	-----	-----	-----	-----	0.56	-----
58	71.00	7.00	7.12	12.06	60.25	32	2.62	66.25	62.12	-----	-----	-----	-----	-----	0.56	-----
60	74.25	7.31	7.44	12.56	62.38	32	2.88	69.00	64.38	-----	-----	-----	-----	-----	0.56	-----

General Notes:

For matching tolerances see Section 10.

For welding end detail see Figures 1, 2 and 3.

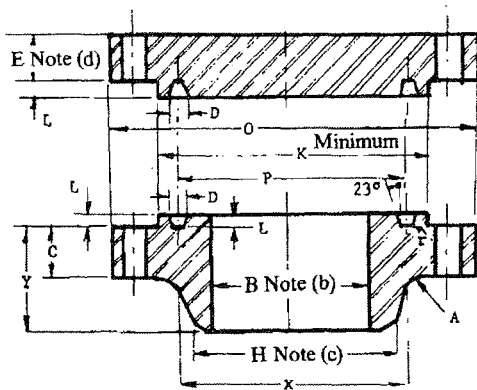
Notes: (a) Rating for raised face flanges is predicated on the use of sheet gaskets shown in Table 2.

(b) Dimensions to be specified by customer.

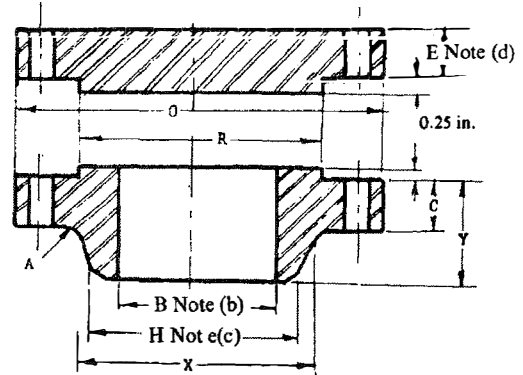
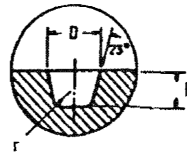
(c) See Section 5.

(d) Where calculated blind thickness is less than the mating welding neck, the thicknesses were made equal. See paragraph 5.5 for material requirements.

(e) Hub dimension for Size 24 and smaller flanges may vary as explained in paragraph 5.3.2.



RING-TYPE JOINT



RAISED FACE

TABLE 9 — CLASS 600, 1480 PSI AT ATMOSPHERIC TEMPERATURE RAISED FACE^(a) AND RING-TYPE JOINTS

Dimensions in inches

Pipe Size	FLANGE DIMENSIONS				HUB DIM.	DRILLING			FACING DIMENSIONS						Fillet Radius (min)	Groove Fillet Radius
	OD of Flange	THICK. OF FLAN.		Length Thru Hub	(e) OD Large End Hub	No. of Bolt Holes	Dia. of Bolt Holes	Dia. of Bolt Circle	Raised Face Dia.	RING-TYPE JOINT						
		Weld-Neck	Bl'd. Flg. (d)							Facing Dia.	Depth of Groove	Pitch Dia.	Width of Groove	Ring No.		
	O	C	E	Y	X				R	K	L	P	D		A	r
12	22.00	2.62	2.62	6.12	15.75	20	1.38	19.25	15.00	16.25	0.312	15.000	0.469	R57	0.44	0.03
14	23.75	2.75	2.75	6.50	17.00	20	1.50	20.75	16.25	18.00	0.312	16.500	0.469	R61	0.44	0.03
16	27.00	3.00	3.00	7.00	19.50	20	1.62	23.75	18.50	20.00	0.312	18.500	0.469	R65	0.44	0.03
18	29.25	3.25	3.25	7.25	21.50	20	1.75	25.75	21.00	22.62	0.312	21.000	0.469	R69	0.44	0.03
20	32.00	3.50	3.50	7.50	24.00	24	1.75	28.50	23.00	25.00	0.375	23.000	0.531	R73	0.44	0.06
22	34.25	3.75	3.75	7.75	26.25	24	1.88	30.62	25.25	27.00	0.438	25.000	0.594	R81	0.44	0.06
24	37.00	4.00	4.00	8.00	28.25	24	2.00	33.00	27.25	29.50	0.438	27.250	0.656	R77	0.44	0.06
26	40.00	4.25	4.94	8.75	29.44	28	2.00	36.00	29.50	31.88	0.500	29.500	0.781	R93	0.50	0.06
28	42.25	4.38	5.19	9.25	31.62	28	2.12	38.00	31.50	33.88	0.500	31.500	0.781	R94	0.50	0.06
30	44.50	4.50	5.50	9.75	33.94	28	2.12	40.25	33.75	36.12	0.500	33.750	0.781	R95	0.50	0.06
32	47.00	4.62	5.81	10.25	36.12	28	2.38	42.50	36.00	38.75	0.562	36.000	0.906	R96	0.50	0.06
34	49.00	4.75	6.06	10.62	38.31	28	2.38	44.50	38.00	40.75	0.562	38.000	0.906	R97	0.56	0.06
36	51.75	4.88	6.38	11.12	40.62	28	2.62	47.00	40.25	43.00	0.562	40.250	0.906	R98	0.56	0.06
38	50.00	6.00	6.12	10.00	40.25	28	2.38	45.75	41.50	—	—	—	—	—	0.56	—
40	52.00	6.25	6.38	10.38	42.25	32	2.38	47.75	43.75	—	—	—	—	—	0.56	—
42	55.25	6.62	6.75	11.00	44.38	28	2.62	50.50	46.00	—	—	—	—	—	0.56	—
44	57.25	6.81	7.00	11.38	46.50	32	2.62	52.50	48.25	—	—	—	—	—	0.56	—
46	59.50	7.06	7.31	11.81	48.62	32	2.62	54.75	50.25	—	—	—	—	—	0.56	—
48	62.75	7.44	7.69	12.44	50.75	32	2.88	57.50	52.50	—	—	—	—	—	0.56	—
50	65.75	7.75	8.00	12.94	52.88	28	3.12	60.00	54.50	—	—	—	—	—	0.56	—
52	67.75	8.00	8.25	13.25	54.88	32	3.12	62.00	56.50	—	—	—	—	—	0.56	—
54	70.00	8.25	8.56	13.75	57.00	32	3.12	64.25	58.75	—	—	—	—	—	0.56	—
56	73.00	8.56	8.88	14.25	59.12	32	3.38	66.75	60.75	—	—	—	—	—	0.62	—
58	75.00	8.75	9.12	14.56	61.12	32	3.38	68.75	63.00	—	—	—	—	—	0.62	—
60	78.50	9.19	9.56	15.31	63.38	28	3.62	71.75	65.25	—	—	—	—	—	0.69	—

General Notes:

For matching tolerances see Section 10.

For welding end detail see Figures 1, 2 and 3.

Notes: (a) Rating for raised face flanges is predicated on the use of sheet gaskets shown in Table 2.

(b) Dimensions to be specified by customer.

(c) See Section 5.

(d) Where calculated blind thickness is less than the mating welding neck, the thicknesses were made equal. See paragraph 5.5 for material requirements.

(e) Hub dimension for Size 24 and smaller flanges may vary as explained in paragraph 5.3.2.

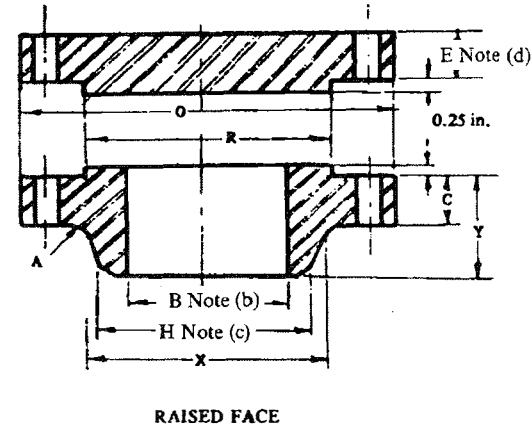
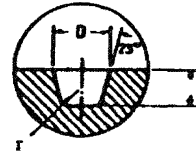
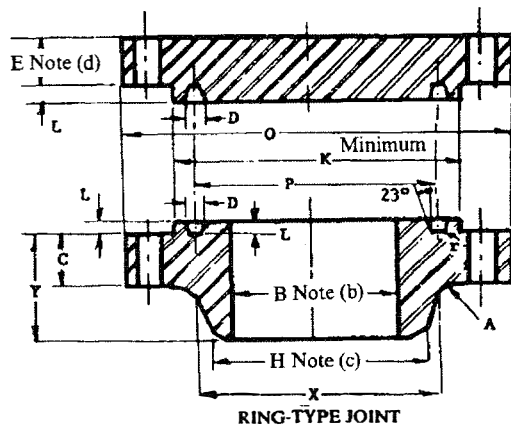


TABLE 10— CLASS 900, 2220 PSI AT ATMOSPHERIC TEMPERATURE RAISED FACE(a) AND RING-TYPE JOINTS Dimensions in inches

Pipe Size	FLANGE DIMENSIONS				HUB DIM. OD Large End Hub (e)	DRILLING			FACING DIMENSIONS						Fillet Radius (min) A	Groove Fillet Radius r
	OD of Flange O	THICK OF FLANGE		Length Thru Hub Y		No. of Bolt Holes	Dia. of Bolt Holes	Dia. of Bolt Circle	Raised Face Dia. R	RING-TYPE JOINT						
		Weld-Neck C	Bld. Flg. (d) E							Facing Dia. K	Depth of Groove L	Pitch Dia. P	Width of Groove D	Ring No.		
12	24.00	3.12	3.12	7.88	16.50	20	1.50	21.00	15.00	16.50	0.312	15.000	0.469	R57	0.44	0.03
14	25.25	3.38	3.38	8.38	17.75	20	1.62	22.00	16.25	18.38	0.438	16.500	0.656	R62	0.44	0.06
16	27.75	3.50	3.50	8.50	20.00	20	1.75	24.25	18.50	20.62	0.438	18.500	0.656	R66	0.44	0.06
18	31.00	4.00	4.00	9.00	22.25	20	2.00	27.00	21.00	23.38	0.500	21.000	0.781	R70	0.44	0.06
20	33.75	4.25	4.25	9.75	24.50	20	2.12	29.50	23.00	25.50	0.500	23.000	0.781	R74	0.44	0.06
24	41.00	5.50	5.50	11.50	29.50	20	2.62	35.50	27.25	30.38	0.625	27.250	1.062	R78	0.44	0.09
26	42.75	5.50	6.31	11.25	30.50	20	2.88	37.50	29.50	32.75	0.688	29.500	1.188	R100	0.44	0.09
28	46.00	5.62	6.75	11.75	32.75	20	3.12	40.25	31.50	35.00	0.688	31.500	1.312	R101	0.50	0.09
30	48.50	5.88	7.18	12.25	35.00	20	3.12	42.75	33.75	37.25	0.688	33.750	1.312	R102	0.50	0.09
32	51.75	6.25	7.62	13.00	37.25	20	3.38	45.50	36.00	39.50	0.688	36.000	1.312	R103	0.50	0.09
34	55.00	6.50	8.06	13.75	39.62	20	3.62	48.25	38.00	42.00	0.812	38.000	1.438	R104	0.56	0.09
36	57.50	6.75	8.44	14.25	41.88	20	3.62	50.75	40.25	44.25	0.812	40.250	1.438	R105	0.56	0.09
38	57.50	7.50	8.50	13.88	42.25	20	3.62	50.75	43.25	—	—	—	—	—	0.75	—
40	59.50	7.75	8.81	14.31	44.38	24	3.62	52.75	45.75	—	—	—	—	—	0.81	—
42	61.50	8.12	9.12	14.62	46.31	24	3.62	54.75	47.75	—	—	—	—	—	0.81	—
44	64.88	8.44	9.56	15.38	48.62	24	3.88	57.62	50.00	—	—	—	—	—	0.88	—
46	68.25	8.88	10.06	16.18	50.88	24	4.12	60.50	52.50	—	—	—	—	—	0.88	—
48	70.25	9.19	10.38	16.50	52.88	24	4.12	62.50	54.50	—	—	—	—	—	0.94	—

General Notes:

For matching tolerances see Section 10.

For welding end detail see Figures 1, 2 and 3.

Notes:

(a) Rating for raised face flanges is predicated on the use of sheet gaskets shown in Table 2.

(b) Dimensions to be specified by customer.

(c) See Section 5.

(d) Where calculated blind thickness is less than the mating welding neck, the thicknesses were made equal. See paragraph 5.5 for material requirements.

(e) Hub dimension for Size 24 and smaller flanges may vary as explained in paragraph 5.3.2.