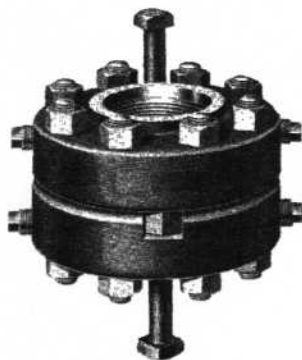
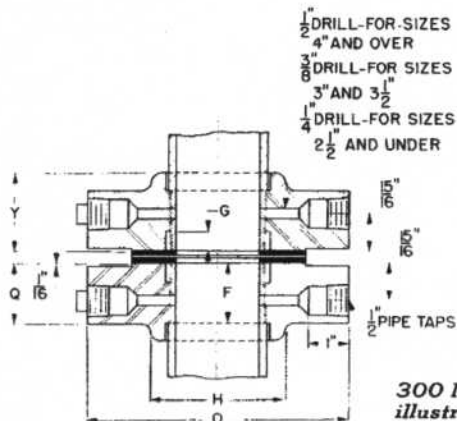


orifice threaded



300 lb illustrated



300 lb illustrated

manufacture: *Flanges furnished in carbon steel ASTM A105 in the following grades unless otherwise ordered:

class	size	A105 grade
300 lb	to 24 inch	I
300 lb	26 inch and up	II
400 & 600 lb	to 24 inch	I or II (as specified)
400 & 600 lb	26 inch and up	II
900-1500 lb	all sizes	II

ASTM A105 is same as ASME Boiler Construction Code Specification SA 105. Flanges furnished as complete unions unless otherwise ordered. Two carbon steel jack screw bolts furnished with each union. Two compressed asbestos composition gaskets furnished with raised face unions 24 inch and smaller; gaskets not furnished with larger sizes. Threaded unions conform to recommendations of American Gas Association. A.G.A. requires pipe to be threaded so that the end is not more than 3/16 inch from face of flange.

dimensions: All dimensions in inches.

pressure-temperature ratings: See page wff-93.

footnotes: *300 lb unions 24 inch and smaller furnished with carbon steel, regular square head bolts with semi-finished American Standard heavy series hex nuts. All other unions furnished with alloy stud bolts per ASTM A193 grade B7 with American Standard heavy series hex nuts ASTM A194 class 2H. Lengths of stud bolts include thickness of two nuts, but do not include height of points.

+Raised face thickness: 1/16 inch for 300 lb flanges, included in Q and Y; 1/4 inch thickness for 400-1500 lb flanges, not included in Q and Y (except 1-3 inch sizes of 400 and 600 lb flanges have 1/8 inch raised face, included in Q and Y).

Pipe taps: 1/2 inch for 300, 400 and 600 lb flanges; 3/4 inch for 900 and 1500 lb flanges. Tapped openings are provided with carbon steel pipe plugs.

nomi- nal pipe size	outside diam. of flange O	thick- ness of flange Q+	diam. of hub H	length through hub Y+	F	G	diam. of raised face	depth of jack screw slot	num- ber of bolt holes	diam. of bolt holes	diam. of bolts	length of bolts*	bolt circle	weight (approx.) per union lb
300 lb														
1	4 7/8	1 1/2	2 1/8	1 1/8	1 1/2	3/16	2 13/16	3/8	4	1 1/16	5/8	4	3 1/2	15
1 1/4	5 1/4	1 1/2	2 1/2	1 13/16	1 1/2	3/4	3 3/8	3/8	4	1 1/16	3/4	4	3 3/8	17
1 1/2	6 1/8	1 1/2	2 3/4	1 3/8	1 1/2	5/8	3 11/16	1/2	4	1 3/16	3/4	4 1/4	4 1/2	19
2	6 1/2	1 1/2	3 3/8	1 13/16	1 1/2	1/2	4 3/8	3/8	8	1 1/16	5/8	4	5	23
2 1/2	7 1/2	1 1/2	3 3/16	2	1 3/4	5/8	5 1/8	1/2	8	1 3/16	3/4	4 1/4	5 7/8	31
3	8 1/4	1 1/2	4 5/8	2 1/16	1 3/4	1/2	5 3/16	1/2	8	1 3/16	3/4	4 1/4	6 3/8	39
4	10	1 1/2	5 3/4	2 1/8	1 3/4	3/8	7 1/8	1/2	8	1 3/16	3/4	4 1/4	7 7/8	60
5	11	1 1/2	7	2 1/8	1 3/4	5/8	8 3/8	1/2	8	7/8	3/4	4 1/4	9 1/4	70
6	12 1/2	1 1/2	8 3/8	2 1/8	1 3/4	1/4	9 3/4	1/2	12	7/8	3/4	4 1/4	10 5/8	100
8	15	1 5/8	10 1/4	2 1/16	2	---	1 1/2	3/8	12	1	7/8	4 1/2	13	134
10	17 1/2	1 3/4	12 3/8	2 5/8	2 3/16	---	14 5/8	3/4	16	1 1/8	1	5 1/2	15 1/4	196
12	20 1/2	2	14 3/4	2 7/8	2 3/8	---	16 1/2	7/8	16	1 1/4	1 1/8	5 1/2	17 3/4	281
14	23	2 1/4	16 3/4	3	2 1/2	---	19	7/8	20	1 1/4	1 1/8	6	20 1/4	380
16	25 1/2	2 1/4	19	3 1/4	2 11/16	---	21 1/8	1	20	1 3/8	1 1/4	6 1/2	22 1/2	620
18	28	2 3/8	21	3 1/2	2 3/4	---	23 3/8	1	24	1 3/8	1 1/4	6 1/2	24 3/4	691
20	30 1/2	2 1/2	23 3/8	3 3/8	2 7/8	---	25 3/8	1	24	1 3/8	1 1/2	7 1/2	32	1201
24	36	2 3/4	27 3/8	4 3/8	3 1/4	---	30 3/8	1 1/4	24	1 5/8	1 1/2	7 1/2	32	1201

orifice threaded

nominal pipe size	outside diam. of flange O	thickness of flange Q+	diam. of hub H	length through hub Y+	F	diam. of raised face	depth of jack screw slot	jack screw size	number of bolt holes	diam. of bolt holes	diam. of stud bolts	length of stud bolts†	bolt circle	weight (approx) per union lb
400 lb Sizes 3-inch and smaller furnished same as 300 lb except with stud bolts long enough for extra nut.														
4	10	1 $\frac{3}{8}$	5 $\frac{3}{4}$	2	1 $\frac{1}{16}$	6 $\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{4}$ x3	8	1	$\frac{7}{8}$	5 $\frac{1}{2}$	7 $\frac{7}{8}$	64
5	11	1 $\frac{1}{2}$	7	2 $\frac{1}{8}$	1 $\frac{1}{8}$	7 $\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{4}$ x3	8	1	$\frac{7}{8}$	5 $\frac{3}{4}$	9 $\frac{1}{4}$	77
6	12 $\frac{1}{2}$	1 $\frac{5}{8}$	8 $\frac{1}{8}$	2 $\frac{1}{4}$	2 $\frac{1}{8}$	8 $\frac{1}{2}$	$\frac{3}{8}$	1x3 $\frac{1}{2}$	12	1	$\frac{7}{8}$	6 $\frac{1}{4}$	10 $\frac{3}{8}$	110
8	15	1 $\frac{7}{8}$	10 $\frac{1}{4}$	2 $\frac{1}{8}$	2 $\frac{1}{4}$	10 $\frac{5}{8}$	$\frac{3}{8}$	1x3 $\frac{1}{2}$	12	1 $\frac{1}{8}$	1	6 $\frac{3}{4}$	13	169
10	17 $\frac{1}{2}$	2 $\frac{1}{8}$	12 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	12 $\frac{3}{4}$	$\frac{1}{2}$	1x4	16	1 $\frac{1}{4}$	1 $\frac{1}{8}$	7 $\frac{5}{8}$	15 $\frac{1}{4}$	239
12	20 $\frac{1}{2}$	2 $\frac{1}{4}$	14 $\frac{3}{4}$	3 $\frac{1}{8}$	2 $\frac{5}{8}$	15	$\frac{5}{8}$	1x4	16	1 $\frac{3}{8}$	1 $\frac{1}{4}$	8	17 $\frac{3}{4}$	333

600 lb Sizes 3-inch and smaller furnished same as 300 lb except with stud bolts long enough for extra nut.														
4	10 $\frac{3}{4}$	1 $\frac{1}{2}$	6	2 $\frac{1}{8}$	1 $\frac{3}{8}$	6 $\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{4}$ x3	8	1	$\frac{7}{8}$	5 $\frac{3}{4}$	8 $\frac{1}{2}$	89
5	13	1 $\frac{3}{4}$	7 $\frac{1}{8}$	2 $\frac{3}{8}$	2 $\frac{1}{8}$	7 $\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{4}$ x3 $\frac{1}{2}$	8	1 $\frac{1}{8}$	1	6 $\frac{1}{2}$	10 $\frac{1}{2}$	147
6	14	1 $\frac{7}{8}$	8 $\frac{3}{4}$	2 $\frac{5}{8}$	2 $\frac{1}{4}$	8 $\frac{1}{2}$	$\frac{1}{2}$	1x3 $\frac{1}{2}$	12	1 $\frac{1}{8}$	1	6 $\frac{3}{4}$	11 $\frac{1}{2}$	193
8	16 $\frac{1}{2}$	2 $\frac{3}{8}$	10 $\frac{3}{4}$	3	2 $\frac{1}{2}$	10 $\frac{3}{8}$	$\frac{1}{2}$	1x4	12	1 $\frac{1}{4}$	1 $\frac{1}{8}$	7 $\frac{5}{8}$	13 $\frac{3}{4}$	274
10	20	2 $\frac{1}{2}$	13 $\frac{1}{2}$	3 $\frac{3}{8}$	2 $\frac{3}{8}$	12 $\frac{3}{4}$	$\frac{1}{2}$	1x4	16	1 $\frac{3}{8}$	1 $\frac{1}{4}$	8 $\frac{1}{2}$	17	430
12	22	2 $\frac{5}{8}$	15 $\frac{3}{4}$	3 $\frac{5}{8}$	3	15	$\frac{1}{2}$	1x4 $\frac{1}{2}$	20	1 $\frac{3}{8}$	1 $\frac{1}{4}$	9	19 $\frac{1}{4}$	531

900 lb														
3	9 $\frac{1}{2}$	1 $\frac{1}{2}$	5	2 $\frac{1}{8}$	1 $\frac{3}{8}$	5	$\frac{1}{4}$	$\frac{3}{4}$ x3 $\frac{1}{2}$	8	1	$\frac{7}{8}$	5 $\frac{3}{4}$	7 $\frac{1}{4}$	77
4	11 $\frac{1}{2}$	1 $\frac{3}{4}$	6 $\frac{1}{4}$	2 $\frac{3}{4}$	2 $\frac{1}{8}$	6 $\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{4}$ x3 $\frac{1}{2}$	8	1 $\frac{1}{4}$	1 $\frac{1}{8}$	7	9 $\frac{1}{4}$	133
5	13 $\frac{3}{4}$	2	7 $\frac{1}{2}$	3 $\frac{1}{8}$	2 $\frac{3}{8}$	7 $\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{4}$ x3 $\frac{1}{2}$	8	1 $\frac{3}{8}$	1 $\frac{1}{4}$	7 $\frac{1}{2}$	11	201
6	15	2 $\frac{3}{8}$	9 $\frac{1}{4}$	3 $\frac{3}{8}$	2 $\frac{1}{2}$	8 $\frac{1}{2}$	$\frac{1}{2}$	1x4 $\frac{1}{2}$	12	1 $\frac{1}{4}$	1 $\frac{1}{8}$	7 $\frac{5}{8}$	12 $\frac{1}{2}$	259
8	18 $\frac{1}{2}$	2 $\frac{1}{2}$	11 $\frac{3}{4}$	4	2 $\frac{3}{4}$	10 $\frac{5}{8}$	$\frac{1}{2}$	1x4 $\frac{1}{2}$	12	1 $\frac{1}{2}$	1 $\frac{3}{8}$	9	15 $\frac{1}{2}$	415
10	21 $\frac{1}{2}$	2 $\frac{3}{4}$	14 $\frac{1}{2}$	4 $\frac{1}{4}$	3 $\frac{3}{8}$	12 $\frac{3}{4}$	$\frac{1}{2}$	1x4 $\frac{1}{2}$	16	1 $\frac{1}{2}$	1 $\frac{3}{8}$	9 $\frac{1}{4}$	18 $\frac{1}{2}$	588
12	24	3 $\frac{1}{8}$	16 $\frac{1}{2}$	4 $\frac{5}{8}$	3 $\frac{3}{4}$	15	$\frac{1}{2}$	1x4 $\frac{1}{2}$	20	1 $\frac{1}{2}$	1 $\frac{3}{8}$	10	21	780

1500 lb														
1	5 $\frac{7}{8}$	1 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{8}$	1 $\frac{1}{2}$	2	$\frac{1}{4}$	$\frac{5}{8}$ x3	4	1	$\frac{7}{8}$	5 $\frac{1}{2}$	4	26
1 $\frac{1}{4}$	6 $\frac{1}{4}$	1 $\frac{3}{8}$	2 $\frac{1}{2}$	1 $\frac{3}{8}$	1 $\frac{1}{2}$	2 $\frac{1}{2}$	$\frac{1}{4}$	$\frac{5}{8}$ x3	4	1	$\frac{7}{8}$	5 $\frac{1}{2}$	4 $\frac{3}{8}$	30
1 $\frac{1}{2}$	7	1 $\frac{3}{8}$	2 $\frac{3}{4}$	1 $\frac{3}{8}$	1 $\frac{1}{2}$	2 $\frac{7}{8}$	$\frac{1}{4}$	$\frac{5}{8}$ x3	4	1 $\frac{1}{8}$	1	5 $\frac{3}{4}$	4 $\frac{7}{8}$	45
2	8 $\frac{1}{2}$	1 $\frac{1}{2}$	4 $\frac{1}{8}$	2 $\frac{1}{4}$	1 $\frac{3}{4}$	3 $\frac{5}{8}$	$\frac{1}{4}$	$\frac{5}{8}$ x3	8	1	$\frac{7}{8}$	5 $\frac{3}{4}$	6 $\frac{1}{2}$	65
2 $\frac{1}{2}$	9 $\frac{5}{8}$	1 $\frac{5}{8}$	4 $\frac{7}{8}$	2 $\frac{1}{2}$	2 $\frac{1}{8}$	4 $\frac{1}{8}$	$\frac{1}{4}$	$\frac{5}{8}$ x3	8	1 $\frac{1}{8}$	1	6 $\frac{1}{4}$	7 $\frac{1}{2}$	98
3	10 $\frac{1}{2}$	1 $\frac{7}{8}$	5 $\frac{1}{4}$	2 $\frac{3}{8}$	2 $\frac{1}{4}$	5	$\frac{1}{4}$	$\frac{3}{4}$ x4 $\frac{1}{2}$	8	1 $\frac{1}{4}$	1 $\frac{1}{8}$	7	8	123
4	12 $\frac{1}{4}$	2 $\frac{1}{8}$	6 $\frac{3}{8}$	3 $\frac{3}{8}$	2 $\frac{1}{2}$	6 $\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{4}$ x4 $\frac{1}{2}$	8	1 $\frac{3}{8}$	1 $\frac{1}{4}$	7 $\frac{3}{4}$	9 $\frac{1}{2}$	182
5	14 $\frac{3}{4}$	2 $\frac{3}{8}$	7 $\frac{3}{4}$	4 $\frac{1}{8}$	3 $\frac{3}{4}$	7 $\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{4}$ x4 $\frac{1}{2}$	8	1 $\frac{5}{8}$	1 $\frac{1}{2}$	9 $\frac{3}{4}$	11 $\frac{1}{2}$	326
6	15 $\frac{1}{2}$	3 $\frac{1}{4}$	9	4 $\frac{1}{16}$	3	8 $\frac{1}{2}$	$\frac{1}{2}$	1x6 $\frac{1}{2}$	12	1 $\frac{1}{2}$	1 $\frac{3}{8}$	10 $\frac{1}{4}$	12 $\frac{1}{2}$	407
8	19	3 $\frac{5}{8}$	11 $\frac{1}{2}$	5 $\frac{5}{8}$	3 $\frac{1}{4}$	10 $\frac{5}{8}$	$\frac{1}{2}$	1x6 $\frac{1}{2}$	12	1 $\frac{3}{4}$	1 $\frac{5}{8}$	11 $\frac{1}{2}$	15 $\frac{1}{2}$	645
10	23	4 $\frac{1}{4}$	14 $\frac{1}{2}$	6 $\frac{1}{4}$	3 $\frac{3}{8}$	12 $\frac{3}{4}$	$\frac{1}{2}$	1x6 $\frac{1}{2}$	12	2	1 $\frac{7}{8}$	13 $\frac{1}{4}$	19	1063
12	26 $\frac{1}{2}$	4 $\frac{7}{8}$	17 $\frac{3}{4}$	7 $\frac{1}{8}$	3 $\frac{7}{8}$	15	$\frac{1}{2}$	1x6 $\frac{1}{2}$	16	2 $\frac{1}{8}$	2	14 $\frac{3}{4}$	22 $\frac{1}{2}$	1660