

RING JOINT FLANGES

ANSI B16.5, ANSI B16.20

Class 150 Facing Dimensions:

1	2	3	4	5	6	7	8	9	10
Nom. Pipe Size	Pitch Diam. of Ring and Groove	Width of Ring	Height of Octag. Ring	Width of Flat on Octag. Rings	Width of Groove	Depth of Groove	Dia. of raised Face for Ring Joint	Ring No.	Approx. Distance Between Flanges or Ring Joints When Ring is Compressed
P		A	H	C	D	L § £	K		
1	1 7/8	5/16	1/2	.206	11/32	1/4	2 1/2	R15	5/32
1 1/4	2 1/4	5/16	1/2	.206	11/32	1/4	2 7/8	R17	5/32
1 1/2	2 9/16	5/16	1/2	.206	11/32	1/4	3 1/4	R19	5/32
2	3 1/4	5/16	1/2	.206	11/32	1/4	4	R22	5/32
2 1/2	4	5/16	1/2	.206	11/32	1/4	4 3/4	R25	5/32
3	4 1/2	5/16	1/2	.206	11/32	1/4	5 1/4	R29	5/32
3 1/2	5 3/16	5/16	1/2	.206	11/32	1/4	6 1/16	R33	5/32
4	5 7/8	5/16	1/2	.206	11/32	1/4	6 3/4	R36	5/32
5	6 3/4	5/16	1/2	.206	11/32	1/4	7 5/8	R40	5/32
6	7 5/8	5/16	1/2	.206	11/32	1/4	8 5/8	R43	5/32
8	9 3/4	5/16	1/2	.206	11/32	1/4	10 3/4	R48	5/32
10	12	5/16	1/2	.206	11/32	1/4	13	R52	5/32
12	15	5/16	1/2	.206	11/32	1/4	16	R56	5/32
14	15 5/8	5/16	1/2	.206	11/32	1/4	16 3/4	R59	1/8
16	17 7/8	5/16	1/2	.206	11/32	1/4	19	R64	1/8
18	20 3/8	5/16	1/2	.206	11/32	1/4	21 1/2	R68	1/8
20	22	5/16	1/2	.206	11/32	1/4	23 1/2	R72	1/8
24	26 1/2	5/16	1/2	.206	11/32	1/4	28	R76	1/8
26*	28 5/8	3/8	9/16	.250	13/32	5/16	30 3/8	-	1/8
30*	32 7/8	3/8	9/16	.250	13/32	5/16	34 5/8	-	1/8
34*	37	1/2	11/16	.341	17/32	3/8	38 7/8	-	3/16
36*	39 1/4	1/2	11/16	.341	17/32	3/8	41 1/8	-	3/16

Class 300, 400 & 600 Facing Dimensions

P	A	H	C	D	L § £	K		lass 300	ass 400	ass 600
1/2	1 11/32	1/4	3/8	.170	9/32	7/32	2	R11	1/8	1/8
3/4	1 11/16	5/16	1/2	.206	11/32	1/4	2 1/2	R13	5/32	5/32
1	2	5/16	1/2	.206	11/32	1/4	2 3/4	R16	5/32	5/32
1 1/4	2 3/8	5/16	1/2	.206	11/32	1/4	3 1/8	R18	5/32	5/32
1 1/2	2 11/16	5/16	1/2	.206	11/32	1/4	3 9/16	R20	5/32	5/32
2	3 1/4	7/16	5/8	.305	15/32	5/16	4 1/4	R23	7/32	3/16
2 1/2	4	7/16	5/8	.305	15/32	5/16	5	R26	7/32	3/16
3	4 7/8	7/16	5/8	.305	15/32	5/16	5 3/4	R31†	7/32	3/16
3 1/2	5 3/16	7/16	5/8	.305	15/32	5/16	6 1/4	R34	7/32	3/16
4	5 7/8	7/16	5/8	.305	15/32	5/16	6 7/8	R37	7/32	3/16
5	7 1/8	7/16	5/8	.305	15/32	5/16	8 1/4	R41	7/32	3/16
6	8 5/16	7/16	5/8	.305	15/32	5/16	9 1/2	R45	7/32	3/16
8	10 5/8	7/16	5/8	.305	15/32	5/16	11 7/8	R49	7/32	3/16
10	12 3/4	7/16	5/8	.305	15/32	5/16	14	R53	7/32	3/16
12	15	7/16	5/8	.305	15/32	5/16	16 1/4	R57	7/32	3/16
14	16 1/2	7/16	5/8	.305	15/32	5/16	18	R61	7/32	3/16
16	18 1/2	7/16	5/8	.305	15/32	5/16	20	R65	7/32	3/16
18	21	7/16	5/8	.305	15/32	5/16	22 5/8	R69	7/32	3/16
20	23	1/2	11/16	.341	17/32	3/8	25	R73	7/32	3/16
24	27 1/4	5/8	13/16	.413	21/32	7/16	29 1/2	R77	1/4	7/32
26*	29 1/2	3/4	15/16	.485	25/32	1/2	31 7/8	R93	-	-
28*	31 1/2	3/4	15/16	.485	25/32	1/2	33 7/8	R94	-	-
30*	33 3/4	3/4	15/16	.485	25/32	1/2	36 1/8	R95	-	-
32*	36	7/8	1 1/16	.583	29/32	9/16	38 3/4	R96	-	-
34*	38	7/8	1 1/16	.583	29/32	9/16	40 3/4	R97	-	-
36*	40 1/4	7/8	1 1/16	.583	29/32	9/16	43	R98	-	-

Class 900 Facing Dimensions for Ring Joint Flanges:

For sizes 1/2" thru 2 1/2" use Class 1500 standards)

1	2	3	4	5	6	7	8	9	10
P		A	H	C	D	L § £	K		
3	4 7/8	7/16	5/8	.305	15/32	5/16	6 1/8	R31	5/32
4	5 7/8	7/16	5/8	.305	15/32	5/16	7 1/8	R37	5/32
5	7 1/8	7/16	5/8	.305	15/32	5/16	8 1/2	R41	5/32
6	8 5/16	7/16	5/8	.305	15/32	5/16	9 1/2	R45	5/32
8	10 5/8	7/16	5/8	.305	15/32	5/16	12 1/8	R49	5/32
10	12 3/4	7/16	5/8	.305	15/32	5/16	14 1/4	R53	5/32
12	15	7/16	5/8	.305	15/32	5/16	16 1/2	R57	5/32
14	16 1/2	5/8	13/16	.413	21/32	7/16	18 3/8	R62	5/32
16	18 1/2	5/8	13/16	.413	21/32	7/16	20 5/8	R66	5/32
18	21	3/4	15/16	.485	25/32	1/2	23 3/8	R70	3/16
20	23	3/4	15/16	.485	25/32	1/2	25 1/2	R74	3/16
24	27 1/4	1	1 1/4	.681	1 1/16	5/8	30 3/8	R78	7/32
26*	29 1/2	1 1/8	1 3/8	.780	1 3/16	11/16	32 3/4	R100	-
28*	31 1/2	1 1/4	1 1/2	.879	1 5/16	11/16	35	R101	-
30*	33 3/4	1 1/4	1 1/2	.879	1 5/16	11/16	37 1/4	R102	-
32*	36	1 1/4	1 1/2	.879	1 5/16	11/16	39 1/2	R103	-
34*	38	1 3/8	1 5/8	.977	1 7/16	13/16	42	R104	-
36*	40 1/4	1 3/8	1 5/8	.977	1 7/16	13/16	44 1/4	R105	-

Class 1500 standards Facing Dimensions:

P	A	H	C	D	L § £	K			
1/2	1 9/16	5/16	1/2	.206	11/32	1/4	2 3/8	R12	5/32
3/4	1 3/4	5/16	1/2	.206	11/32	1/4	2 5/8	R14	5/32
1	2	5/16	1/2	.206	11/32	1/4	2 13/16	R16	5/32
1 1/4	2 3/8	5/16	1/2	.206	11/32	1/4	3 3/16	R18	5/32
1 1/2	2 11/16	5/16	1/2	.206	11/32	1/4	3 5/8	R20	5/32
2	3 3/4	7/16	5/8	.206	15/32	5/16	4 7/8	R24	1/8
2 1/2	4 1/4	7/16	5/8	.206	15/32	5/16	5 3/8	R27	1/8
3	5 3/8	7/16	5/8	.305	15/32	5/16	6 5/8	R35	1/8
4	6 3/8	7/16	5/8	.305	15/32	5/16	7 5/8	R39	1/8
5	7 5/8	7/16	5/8	.305	15/32	5/16	9	R44	1/8
6	8 5/16	1/2	11/16	.341	17/32	3/8	9 3/4	R46	1/8
8	10 5/8	5/8	13/16	.413	21/32	7/16	12 1/2	R50	5/32
10	12 3/4	5/8	13/16	.413	21/32	7/16	14 5/8	R54	5/32
12	15	7/8	1 1/16	.583	29/32	9/16	17 1/4	R58	3/16
14	16 1/2	1	1 1/4	.681	1 1/16	5/8	19 1/4	R63	7/32
16	18 1/2	1 1/8	1 3/8	.780	1 3/16	11/16	21 1/2	R67	5/16
18	21	1 1/8	1 3/8	.780	1 3/16	11/16	24 1/8	R71	5/16
20	23	1 1/4	1 1/2	.879	1 5/16	11/16	26 1/2	R75	3/8
24	27 1/4	1 3/8	1 5/8	.977	1 7/16	13/16	31 1/4	R79	7/16

Class 2500 standards Facing Dimensions:

P	A	H	C	D	L § £	K			
1/2	1 11/16	5/16	1/2	.206	11/32	1/4	2 9/16	R13	5/32
3/4	2	5/16	1/2	.206	11/32	1/4	2 7/8	R16	5/32
1	2 3/8	5/16	1/2	.206	11/32	1/4	3 1/4	R18	5/32
1 1/4	2 27/32	7/16	5/8	.305	15/32	5/16	4	R21	1/8
1 1/2	3 1/4	7/16	5/8	.305	15/32	5/16	4 1/2	R23	1/8
2	4	7/16	5/8	.305	15/32	5/16	5 1/4	R26	1/8
2 1/2	4 3/8	1/2	11/16	.341	17/32	3/8	5 7/8	R28	1/8
3	5	1/2	11/16	.341	17/32	3/8	6 5/8	R32	1/8
4	6 3/16	5/8	13/16	.413	21/32	7/16	8	R38	5/32
5	7 1/2	3/4	15/16	.485	25/32	1/2	9 1/2	R42	5/32
6	9	3/4	15/16	.485	25/32	1/2	11	R47	5/32
8	11	7/8	1 1/16	.583	29/32	9/16	13 3/8	R51	3/16
10	13 1/2	1 1/8	1 3/8	.780	1 3/16	11/16	16 3/4	R55	1/4
12	16	1 1/4	1 1/2	.879	1 5/16	11/16	19 1/2	R60	5/16

§ The depth of groove is added to the minimum flange thickness.

£ The raised face "E" is equal to groove dimension "L" but is not subject to the tolerance for "L".

* Not covered in ANSI B16.5. Size 26" - 36" is series "A" only.

Groove widths of 15/32" and smaller have a maximum corner radius "r" of 1/32" - groove widths from 17/32" through 29/32" have a maximum corner radius "r" of 1/16" - and groove widths larger than 1" have a corner radius "r" of 3/32". Ring joint flanges will be furnished with Octagonal grooves since Oval grooves are no longer standard. Flanges having Octagonal grooves take either Oval or Octagonal rings, but flanges having Oval grooves take only Oval rings. The corner radius "R" is 1/16" for ring widths 7/8" and smaller and 3/32" for ring widths 1" and larger.