



VALVE AND FLOW CONTROL SPECIALISTS
SERVICE AND RELIABILITY

VALVE RELATED ENGINEERING DATA

ASTM MATERIAL DESIGNATIONS

PRESSURE TEMPERATURE - CASTINGS

PRESSURE TEMPERATURE - FORGINGS

FLANGE DIMENSIONS

STUD BOLTING CHART

ENGINEERING DATA

MATERIALS

Cross Reference of ASTM Material Designation Between Cast and Equivalent Forge

Important Note: Data provided on this chart is for information purposes only. Always refer to current ASTM standards to verify information and cross reference data.

CHEMICAL COMPOSITION	ASTM CAST	ASTM FORGED
CARBON STEEL		
0.25/0.35% C Max	A216 WCB	A105
LOW TEMPERATURE STEEL		
0.25/0.30% C Max	A352 LCB	A350 LF2
0.5 Ni	A352 LCC	
0.5 Mo	A352 LC1	
2 Ni	A352 LC2	
3.5 Ni	A352 LC3	A350 LF3
ALLOY STEEL		
0.5 Mo	A217 WC 1	A182 F1
1.25 Cr - 0.5 Mo	A217 WC 6	A182 F11
2.25 Cr - 1 Mo	A217 WC 9	A182 F22
5 Cr - 0.5 Mo	A217 C5	A182 F5
9 Cr - 1 Mo	A217 C12	A182 F9
STAINLESS STEEL		
13 Cr	A217 CA15	A182 F6
19 Cr - 9 Ni	A351 CF8	A182 F304
19 Cr - 10 Ni Low Carbon	A351 CF3	A182 F304L
19 Cr - 10 Ni - 2 Mo	A351 CF8M	A182 F316
19 Cr - 10 Ni - 2 Mo Low Carbon	A351 CF3M	A182 F316L
19 Cr - 9 Ni - Cb	A351 CF8C	A182 F347
DUPLEX STEEL		
19-22 Cr 27.5-30.5 Ni 2-3 Mo	A351 CN7M	B473
24-25 Cr 7-10 Ni 4 Mo N/V	A351 CD4MCU	A182 F53
18-21 Cr 9-13 Ni 3-4 Mo	A351 CG8M	
21-23.5 Cr 4.5-6.5 Ni 2.5-3.5 Mo	A890 4A / A351 CD3MN	A182 F51
24-26 Cr 6.5-8.5 Ni 3-4 Mo	A995 CD3MWCuN	A182 F55
NICKEL ALLOY		
INCONEL 825 - B564 N08825		A484 CU 5MCuC
INCONEL 625 - B564 N06625		A494 CW6MC
MONEL 400 - B564 N04400		A494 M35-1

PRESSURE TEMPERATURE

PRESSURE TEMPERATURE RATING FOR ASTM A216 WCB

SERVICE TEMPERATURE		CLASS 150	CLASS 300	CLASS 600	CLASS 900	CLASS 1500	CLASS 2500
°F	°C	psi	psi	psi	psi	psi	psi
-20 to 100	-29 to 38	285	740	1480	2220	3705	6170
200	93	260	680	1360	2035	3395	5655
300	149	230	655	1310	1965	3270	5450
400	204	200	635	1265	1900	3170	5280
500	260	170	605	1205	1810	3015	5025
600	316	140	570	1135	1705	2840	4730
650	343	125	550	1100	1650	2745	4575
700	371	110	530	1060	1590	2665	4425
750	399	95	505	1015	1520	2535	4230
800	427	80	410	825	1235	2055	3430
850	454	65	320	640	955	1595	2655
900	482	50	230	460	690	1150	1915
950	510	35	135	275	410	685	1145
1000	538	20	85	170	255	430	715

Note: A216 WCB, permissible, but not recommended for prolonged use above 800°F

PRESSURE TEMPERATURE RATING FOR ASTM A351 CF8M

SERVICE TEMPERATURE		CLASS 150	CLASS 300	CLASS 600	CLASS 900	CLASS 1500	CLASS 2500
°F	°C	psi	psi	psi	psi	psi	psi
-20 to 100	-29 to 38	275	720	1440	2160	3600	6000
200	93	235	620	1240	1860	3095	5160
300	149	215	560	1120	1680	2795	4660
400	204	195	515	1025	1540	2570	4280
500	260	170	480	955	1435	2390	3980
600	316	140	450	900	1355	2255	3760
650	343	125	440	885	1325	2210	3680
700	371	110	435	870	1305	2170	3620
750	399	95	425	855	1280	2135	3560
800	427	80	420	845	1265	2110	3520
850	454	65	420	835	1255	2090	3480
900	482	50	415	830	1245	2075	3460
950	510	35	385	775	1160	1930	3220
1000	538	20	365	725	1090	1820	3030

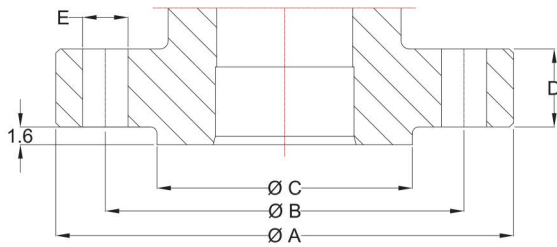
PRESSURE TEMPERATURE RATING FOR ASTM A352 LCB

SERVICE TEMPERATURE		CLASS 150	CLASS 300	CLASS 600	CLASS 900	CLASS 1500	CLASS 2500
°F	°C	psi	psi	psi	psi	psi	psi
-20 to 100	-29 to 38	265	695	1395	2090	3480	5805
200	93	255	660	1320	1980	3300	5505
300	149	230	640	1275	1915	3190	5315
400	204	200	615	1230	1845	3075	5125
500	260	170	585	1175	1760	2930	4885
600	316	140	550	1105	1655	2755	4595
650	343	125	535	1065	1600	2665	4440
700	371	110	510	1025	1535	2560	4270
750	399	95	475	955	1430	2385	3970
800	427	80	390	780	1175	1955	3255
850	454	65	300	595	895	1490	2485
900	482	50	200	405	605	1010	1685
950	510	35	135	275	410	685	1145
1000	538	20	85	170	255	430	715

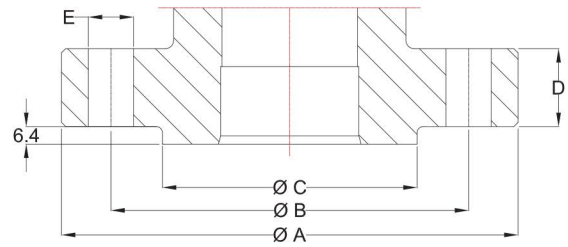
Note: A352 LCB not to be used over 650°F

B16.5 DIMENSIONS RF

DIMENSIONS FOR CLASS 150 & 300 RAISED FACE



DIMENSIONS FOR CLASS 600 & HIGHER RAISED FACE



CLASS 150 STEEL PIPE FLANGE DIMENSIONS

NOMINAL SIZE		A		B		C		D		E		BOLT	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Dia."
2	50	6.00	150.0	4.75	120.7	3.62	92.0	0.69	17.5	0.75	19.0	4	5/8
2½	65	7.00	180.0	5.50	139.7	4.12	105.0	0.81	20.7	0.75	19.0	4	5/8
3	80	7.50	190.0	6.00	152.4	5.00	127.0	0.88	22.3	0.75	19.0	4	5/8
4	100	9.00	230.0	7.50	190.5	6.19	157.0	0.88	22.3	0.75	19.0	8	5/8
6	150	11.00	280.0	9.50	241.3	8.50	216.0	0.94	23.9	0.88	22.0	8	3/4
8	200	13.60	345.0	11.75	298.5	10.62	270.0	1.06	27.0	0.88	22.0	8	3/4
10	250	16.00	405.0	14.25	362.0	12.75	324.0	1.13	28.6	1.00	25.0	12	7/8
12	300	19.10	485.0	17.00	431.8	15.00	381.0	1.19	30.2	1.00	25.0	12	7/8
14	350	21.10	535.0	18.75	476.3	16.25	413.0	1.31	33.4	1.12	29.0	12	1
16	400	23.40	595.0	21.25	539.8	18.50	470.0	1.38	35.0	1.12	29.0	16	1
18	450	25.00	635.0	22.75	577.9	21.00	533.0	1.50	38.1	1.25	32.0	16	1.1/8
20	500	27.60	700.0	25.00	635.0	23.00	584.0	1.63	41.3	1.25	32.0	20	1.1/8
24	600	32.10	815.0	29.50	749.3	27.25	692.0	1.81	46.1	1.38	35.0	20	1.1/4

CLASS 300 STEEL PIPE FLANGE DIMENSIONS

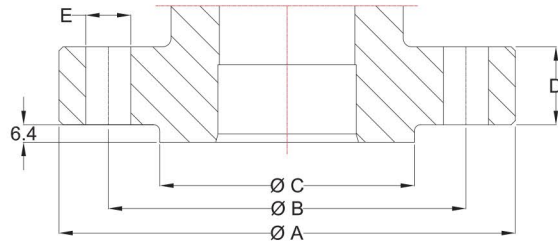
NOMINAL SIZE		A		B		C		D		E		BOLT	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Dia."
2	50	6.50	165.0	5.00	127.0	3.62	92.0	0.88	20.7	0.75	19.0	8	5/8
2½	65	7.50	190.0	5.88	149.0	4.12	105.0	1.00	23.9	0.88	22.0	8	3/4
3	80	8.27	210.0	6.61	168.0	5.00	127.0	1.12	27.0	0.88	22.0	8	3/4
4	100	10.00	255.0	7.87	200.0	6.19	157.0	1.25	30.2	0.88	22.0	8	3/4
6	150	12.60	320.0	10.62	270.0	8.50	216.0	1.44	35.0	0.88	22.0	12	3/4
8	200	15.00	380.0	13.00	330.0	10.62	270.0	1.62	39.7	1.00	25.0	12	7/8
10	250	17.50	445.0	15.25	387.5	12.75	324.0	1.88	46.1	1.12	29.0	16	1
12	300	20.50	520.0	17.75	451.0	15.00	381.0	2.00	49.3	1.25	32.0	16	1.1/8
14	350	23.00	585.0	20.25	514.5	16.25	413.0	2.12	52.4	1.25	32.0	20	1.1/8
16	400	25.60	650.0	22.50	571.5	18.50	470.0	2.25	55.6	1.38	35.0	20	1.1/4
18	450	28.00	711.0	24.75	628.5	21.00	533.0	2.38	58.8	1.38	35.0	24	1.1/4
20	500	30.50	775.0	27.00	686.0	23.00	584.0	2.50	62.0	1.38	35.0	24	1.1/4
24	600	36.00	915.0	32.00	813.0	27.25	692.0	2.75	68.3	1.62	41.0	24	1.1/2

CLASS 600 STEEL PIPE FLANGE DIMENSIONS

NOMINAL SIZE		A		B		C		D		E		BOLT	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Dia."
2	50	6.50	165.0	5.00	127.0	3.62	92.0	1.00	25.4	0.75	19.0	8	5/8
2½	65	7.50	190.0	5.88	149.2	4.12	105.0	1.12	28.6	0.88	22.0	8	3/4
3	80	8.27	210.0	6.62	168.3	5.00	127.0	1.25	31.8	0.88	22.0	8	3/4
4	100	10.80	275.0	8.50	215.9	6.19	157.0	1.50	38.1	1.00	25.0	8	7/8
6	150	14.00	355.0	11.50	292.1	8.50	216.0	1.88	47.7	1.12	29.0	12	1
8	200	16.50	420.0	13.75	349.2	10.62	270.0	2.19	55.6	1.25	32.0	12	1.1/8
10	250	20.00	510.0	17.00	431.8	12.75	324.0	2.50	63.5	1.38	35.0	16	1.1/4
12	300	22.00	560.0	19.25	489.0	15.00	381.0	2.62	66.7	1.38	35.0	20	1.1/4
14	350	23.80	605.0	20.75	527.0	16.25	413.0	2.75	69.9	1.50	38.0	20	1.3/8
16	400	27.00	685.0	23.75	603.2	18.50	470.0	3.00	76.2	1.62	41.0	20	1.1/2
18	450	29.30	745.0	25.75	654.0	21.00	533.0	3.25	82.6	1.75	45.0	20	1.5/8
20	500	32.00	815.0	28.50	723.9	23.00	584.0	3.50	88.9	1.75	45.0	24	1.5/8
24	600	37.00	940.0	33.00	838.2	27.25	692.0	4.00	102	2.00	51.0	24	1.7/8

B16.5 DIMENSIONS RF

DIMENSIONS FOR CLASS 600 & HIGHER RAISED FACE



CLASS 900 STEEL PIPE FLANGE DIMENSIONS

NOMINAL SIZE		A		B		C		D		E		BOLT	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Dia."
2	50	8.50	215.0	6.50	165.1	3.62	92.0	1.50	38.1	1.00	25.0	8	7/8
2½	65	9.62	245.0	7.50	190.5	4.12	105.0	1.62	41.3	1.12	29.0	8	1
3	80	9.50	240.0	7.50	190.5	5.00	127.0	1.50	38.1	1.00	25.0	8	7/8
4	100	11.50	290.0	9.25	235.0	6.19	157.0	1.75	44.5	1.25	32.0	8	1.1/8
6	150	15.00	380.0	12.50	317.5	8.50	216.0	2.19	55.6	1.25	32.0	12	1.1/8
8	200	18.50	470.0	15.50	393.5	1.62	270.0	2.50	63.5	1.50	38.0	12	1.3/8
10	250	21.50	545.0	18.50	469.9	12.75	324.0	2.75	69.9	1.50	38.0	16	1.3/8
12	300	24.00	610.0	21.00	533.4	15.00	381.0	3.12	79.4	1.50	38.0	20	1.3/8
14	350	25.25	640.0	22.00	558.8	16.25	413.0	3.38	85.8	1.62	41.0	20	1.1/2
16	400	27.75	705.0	24.25	616.0	18.50	470.0	3.50	88.9	1.75	45.0	20	1.5/8
18	450	31.00	785.0	27.00	685.8	21.00	533.0	4.00	101.6	2.00	51.0	20	1.7/8
20	500	33.75	855.0	29.50	749.3	23.00	584.0	4.25	108.0	2.12	54.0	20	2
24	600	41.00	1040.0	35.50	901.7	27.25	692.0	5.50	139.7	2.62	67.0	20	2.1/2

CLASS 1500 STEEL PIPE FLANGE DIMENSIONS

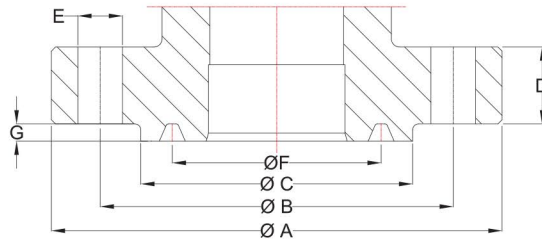
NOMINAL SIZE		A		B		C		D		E		BOLT	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Dia."
2	50	8.50	215.0	6.50	165.0	3.62	92.0	1.50	38.1	1.00	25.0	8	7/8
2½	65	9.70	245.0	7.50	190.5	4.12	105.0	1.63	41.3	1.12	29.0	8	1
3	80	10.40	265.0	8.00	203.0	5.00	127.0	1.88	47.7	1.25	32.0	8	1.1/8
4	100	12.20	310.0	9.50	241.5	6.19	157.0	2.13	54.0	1.38	35.0	8	1.1/4
6	150	15.60	395.0	12.50	317.5	8.50	216.0	3.25	82.6	1.50	38.0	12	1.3/8
8	200	19.10	485.0	15.50	393.7	10.62	270.0	3.63	92.1	1.75	45.0	12	1.5/8
10	250	23.00	585.0	19.00	482.6	12.75	324.0	4.25	108.0	2.00	51.0	12	1.7/8
12	300	26.60	675.0	22.50	571.5	15.00	381.0	4.88	123.9	2.12	54.0	16	2
14	350	29.50	750.0	25.00	635.0	16.25	413.0	5.25	133.4	2.38	60.0	16	2.1/4
16	400	32.50	825.0	27.75	704.8	18.50	470.0	5.75	146.1	2.62	67.0	16	2.1/2
18	450	36.00	915.0	30.50	774.7	21.00	533.0	6.38	162.0	2.88	73.0	16	2.3/4
20	500	38.80	985.0	32.75	831.8	23.00	584.0	7.00	177.8	3.12	79.0	16	3
24	600	46.00	1170.0	39.00	990.6	27.25	692.0	8.00	203.2	3.62	92.0	16	3.1/2

CLASS 2500 STEEL PIPE FLANGE DIMENSIONS

NOMINAL SIZE		A		B		C		D		E		BOLT	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Dia."
2	50	9.25	235.0	6.75	171.4	3.62	92.0	2.00	50.9	1.12	29.0	8	1
2½	65	10.40	265.0	7.75	196.8	4.12	105.0	2.25	57.2	1.25	32.0	8	1.1/8
3	80	12.00	305.0	9.00	228.6	5.00	127.0	2.62	66.7	1.38	35.0	8	1.1/4
4	100	14.00	355.0	10.75	273.0	6.19	157.0	3.00	76.2	1.62	41.0	8	1.1/2
6	150	19.00	485.0	14.50	323.8	8.50	216.0	4.25	108.0	2.12	54.0	8	2
8	200	21.65	550.0	17.25	438.2	10.62	270.0	5.00	127.0	2.12	54.0	12	2
10	250	26.60	675.0	21.25	539.8	12.75	324.0	6.50	165.1	2.62	67.0	12	2.1/2
12	300	30.00	760.0	24.38	619.1	15.00	381.0	7.25	184.2	2.88	73.0	12	2.3/4

B16.5 DIMENSIONS RTJ

DIMENSIONS FOR CLASS 900, 1500 & 2500 RING TYPE JOINT



CLASS 900 STEEL PIPE FLANGE DIMENSIONS

NOMINAL SIZE		A		B		C		D		E		F		G		BOLT		RTJ Ring #
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Dia."	
2	50	8.50	215.0	6.50	165.1	4.88	124.0	1.50	38.1	1.00	25.0	3.75	95.25	0.31	7.92	8	7/8	24
2½	65	9.62	245.0	7.50	190.5	5.39	137.0	1.62	41.3	1.12	29.0	4.25	107.95	0.31	7.92	8	1	27
3	80	9.50	240.0	7.50	190.5	6.14	156.0	1.50	38.1	1.00	25.0	4.88	123.83	0.31	7.92	8	7/8	31
4	100	11.50	290.0	9.25	235.0	7.12	181.0	1.75	44.5	1.25	32.0	5.88	149.23	0.31	7.92	8	1.1/8	37
6	150	15.00	380.0	12.50	317.5	9.49	241.0	2.19	55.6	1.25	32.0	8.31	211.12	0.31	7.92	12	1.1/8	45
8	200	18.50	470.0	15.50	393.5	12.13	308.0	2.50	63.5	1.50	38.0	10.63	269.88	0.31	7.92	12	1.3/8	49
10	250	21.50	545.0	18.50	469.9	14.25	362.0	2.75	69.9	1.50	38.0	12.75	323.85	0.31	7.92	16	1.3/8	53
12	300	24.00	610.0	21.00	533.4	16.50	419.0	3.12	79.4	1.50	38.0	15.00	381.00	0.31	7.92	20	1.3/8	57

CLASS 1500 STEEL PIPE FLANGE DIMENSIONS

NOMINAL SIZE		A		B		C		D		E		F		G		BOLT		RTJ Ring #
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Dia."	
2	50	8.50	215.0	6.50	165.0	4.88	124.0	1.50	38.1	1.00	25.0	3.75	95.25	0.31	7.92	8	7/8	24
2½	65	9.70	245.0	7.50	190.5	5.39	137.0	1.63	41.3	1.12	29.0	4.25	107.95	0.31	7.92	8	1	27
3	80	10.40	265.0	8.00	203.0	6.61	168.0	1.88	47.7	1.25	32.0	5.38	136.53	0.31	7.92	8	1.1/8	35
4	100	12.20	310.0	9.50	241.5	7.64	194.0	2.13	54.0	1.38	35.0	6.38	161.93	0.31	7.92	8	1.1/4	39
6	150	15.60	395.0	12.50	317.5	9.76	248.0	3.25	82.6	1.50	38.0	8.31	211.14	0.38	9.53	12	1.3/8	46
8	200	19.10	485.0	15.50	393.7	12.52	318.0	3.63	92.1	1.75	45.0	10.63	269.88	0.44	11.13	12	1.5/8	50
10	250	23.00	585.0	19.00	482.6	14.60	371.0	4.25	108.0	2.00	51.0	12.75	323.85	0.44	11.13	12	1.7/8	54
12	300	26.60	675.0	22.50	571.5	17.24	438.0	4.88	123.9	2.12	54.0	15.00	381.00	0.56	14.27	16	2	58

CLASS 2500 STEEL PIPE FLANGE DIMENSIONS

NOMINAL SIZE		A		B		C		D		E		F		G		BOLT		RTJ Ring #
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	No.	Dia."	
2	50	9.25	235.0	6.75	171.4	5.24	133.0	2.00	50.9	1.12	29.0	4.00	101.60	0.31	7.92	8	1	26
2½	65	10.40	265.0	7.75	196.8	5.87	149.0	2.25	57.2	1.25	32.0	4.38	111.13	0.38	9.53	8	1.1/8	28
3	80	12.00	305.0	9.00	228.6	6.61	168.0	2.62	66.7	1.38	35.0	5.00	127.00	0.38	9.53	8	1.1/4	32
4	100	14.00	355.0	10.75	273.0	7.99	203.0	3.00	76.2	1.62	41.0	6.19	157.18	0.44	11.13	8	1.1/2	38
6	150	19.00	485.0	14.50	323.8	10.98	279.0	4.25	108.0	2.12	54.0	9.00	228.60	0.50	12.70	8	2	47
8	200	21.65	550.0	17.25	438.2	13.39	340.0	5.00	127.0	2.12	54.0	11.00	279.40	0.56	14.27	12	2	51
10	250	26.60	675.0	21.25	539.8	16.73	425.0	6.50	165.1	2.62	67.0	13.50	342.90	0.69	17.48	12	2.1/2	55
12	300	30.00	760.0	24.38	619.1	19.49	495.0	7.25	184.2	2.88	73.0	16.00	406.40	0.69	17.48	12	2.3/4	60



BOLT SIZES FOR ANSI 150 TO 1500 CLASS FLANGES

Dimensions (inches) ANSI/ASME 150 - 600 lb

Flange Size	150 lb (1/16 Raised Face)				300 lb (1/16" Raised Face)				400 lb (1/4" Raised Face)				600 lb (1/4" Raised Face)				
	Nominal Pipe Size (in)	Number of Bolts	Diameter of Bolts (in)	Length of Headed Bolts (in)	Length of Stud Bolts (in)	Number of Bolts	Diameter of Bolts (in)	Length of Headed Bolts (in)	Length of Stud Bolts (in)	Number of Bolts	Diameter of Bolts (in)	Length of Headed Bolts (in)	Length of Stud Bolts (in)	Number of Bolts	Diameter of Bolts (in)	Length of Headed Bolts (in)	Length of Stud Bolts (in)
1/2	4	1/2	1-3/4	2-1/4	4	1/2	2	2-1/2	For these sizes 600 lb Flanges are used					4	1/2	2-1/2	3
3/4	4	1/2	2	2-1/4	4	5/8	2-1/2	2-3/4						4	5/8	2-3/4	3-1/4
1	4	1/2	2	2-1/2	4	5/8	2-1/2	3						4	5/8	3	3-1/2
1-1/4	4	1/2	2-1/4	2-1/2	4	5/8	2-3/4	3						4	5/8	3-1/4	3-3/4
1-1/2	4	1/2	2-1/4	2-3/4	4	3/4	3	3-1/2						4	3/4	3-1/2	4
2	4	5/8	2-3/4	3	8	5/8	3	3-1/4						8	5/8	3-1/2	4
2-1/2	4	5/8	3	3-1/4	8	3/4	3-1/4	3-3/4						8	3/4	4	4-1/2
3	4	5/8	3	3-1/2	8	3/4	3-1/2	4						8	3/4	4-1/4	4-3/4
3-1/2	8	5/8	3	3-1/2	8	3/4	3-3/4	4-1/4						8	7/8	4-3/4	5-1/4
4	8	5/8	3	3-1/2	8	3/4	3-3/4	4-1/4		8	7/8	4-3/4	5-1/4	8	7/8	5	5-1/2
5	8	3/4	3-1/4	3-3/4	8	3/4	4	4-1/2	8	7/8	5	5-1/2	8	1	5-3/4	6-1/4	
6	8	3/4	3-1/4	3-3/4	12	3/4	4-1/4	4-3/4	12	7/8	5-1/4	5-3/4	12	1	6	6-1/2	
8	8	3/4	3-1/2	4	12	7/8	4-3/4	5-1/4	12	1	6	6-1/2	12	1-1/8	7	7-1/2	
10	12	7/8	3-3/4	4-1/2	16	1	5-1/4	6	16	1-1/8	6-3/4	7-1/4	16	1-1/4	7-3/4	8-1/4	
12	12	7/8	4	4-1/2	16	1-1/8	5-3/4	6-1/2	16	1-1/4	7-1/4	7-3/4	20	1-1/4	8	8-1/2	
14	12	1	4-1/4	5	20	1-1/8	6	6-3/4	20	1-1/4	7-1/2	8	20	1-3/8	8-1/2	9	
16	16	1	4-1/2	5-1/4	20	1-1/4	6-1/2	7-1/4	20	1-3/8	8	8-1/2	20	1-1/2	9-1/4	9-3/4	
18	16	1-1/8	4-3/4	5-3/4	24	1-1/4	6-3/4	7-1/2	24	1-3/8	8-1/4	8-3/4	20	1-5/8	10	10-1/2	
20	20	1-1/8	5-1/4	6	24	1-1/4	7	8	24	1-1/2	9	9-1/2	24	1-5/8	10-3/4	11-1/4	
24	20	1-1/8	5-3/4	6-3/4	24	1-1/2	7-3/4	9	24	1-3/4	10	10-1/2	24	1-7/8	12-1/4	12-3/4	

Dimensions (inches) ANSI/ASME 900 - 2500 lb

Flange Size	900 lb (1/4 Raised Face)				1500 lb (1/4" Raised Face)				2500 lb (1/4" Raised Face)				
	Nominal Pipe Size (in)	Number of Bolts	Diameter of Bolts (in)	Length of Headed Bolts (in)	Length of Stud Bolts (in)	Number of Bolts	Diameter of Bolts (in)	Length of Headed Bolts (in)	Length of Stud Bolts (in)	Number of Bolts	Diameter of Bolts (in)	Length of Headed Bolts (in)	Length of Stud Bolts (in)
1/2	For these sizes 1500 lb Flanges are used					4	3/4	3-1/2	4	4	3/4	4-1/4	4-3/4
3/4						4	3/4	3-3/4	4-1/4	4	3/4	4-1/4	4-3/4
1						4	7/8	4-1/4	4-3/4	4	7/8	4-3/4	5-1/4
1-1/4						4	7/8	4-1/4	4-3/4	4	1	5-1/4	5-3/4
1-1/2						4	1	4-3/4	5-1/4	4	1-1/8	6	6-1/2
2						8	7/8	5	5-1/2	8	1	6-1/4	6-3/4
2-1/2						8	1	5-1/2	6	8	1-1/8	7	7-1/2
3		8	7/8	5	5-1/2	8	1-1/8	6-1/4	6-1/4	8	1-1/4	8	8-1/2
3-1/2		-	-	-	-	-	-	-	-	-	-	-	-
4		8	1-1/8	6	6-1/2	8	1-1/4	7	7-1/2	8	1-1/2	9-1/4	9-3/4
5	8	1-1/4	6-3/4	7-1/4	8	1-1/2	9	9-1/2	8	1-3/4	11	11-1/2	
6	12	1-1/8	7	7-1/2	12	1-3/8	9-1/2	10	8	2	13	13-1/2	
8	12	1-3/8	8	8-1/2	12	1-5/8	10-3/4	11-1/4	12	2	14-1/2	15	
10	16	1-3/8	8-1/2	9	12	1-7/8	12-3/4	13-1/4	12	2-1/2	18-1/2	19	
12	20	1-3/8	9-1/4	9-3/4	16	2	14-1/4	14-3/4	12	2-1/2	20-1/2	21	
14	20	1-1/2	10	10-1/2	16	2-1/4	15-1/2	16					
16	20	1-5/8	10-1/2	11	16	2-1/2	17	17-1/2					
18	20	1-7/8	12-1/4	12-3/4	16	2-3/4	18-3/4	19-1/4					
20	20	2	13	13-1/2	16	3	20-1/2	21					
24	20	2-1/2	16-1/2	17	16	3-1/2	23-1/2	24					

Specifications to B7L7, A193, B16 & B8M, A194, 2H, G4 & G8M Stainless SS316 and SS304 Grade 5,8-8,A325 HT & MS
Reference Types: Stud Bolts & Hex Nuts