

FLANGES AS PER ANSI/ASME B16.5

DESCRIPTION

The pressure rating defines the maximum allowable pressure that a flange can withstand at defined temperatures. According to the ANSI/ASME B16.5 specification, there are the following seven flange pressure classes: Class 150#, Class 300#, Class 400#, Class 600#, Class 900#, Class 1500# and Class 2500#.

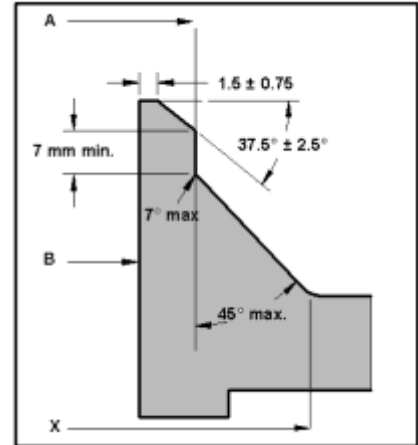
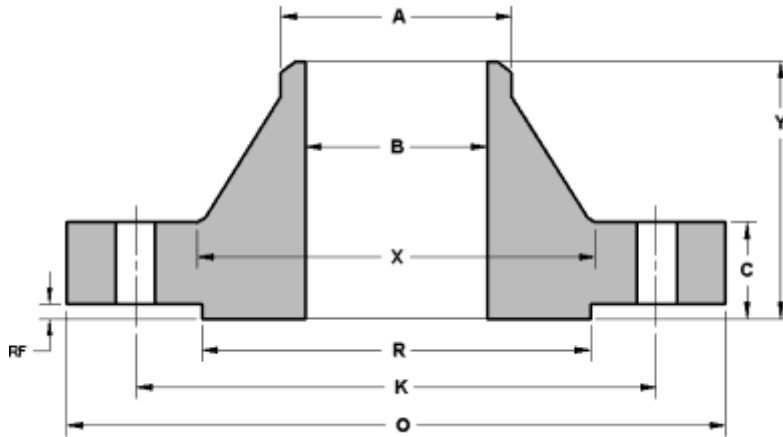
In the table shown, these ANSI flange pressure ratings are assigned to the nominal pressure. The respective operating pressures, depending on the material and temperature, can be found in the corresponding pressure-temperature ratings.

ANSI Class Rating	Nominal pressure in bar
Class 150#	20
Class 300#	50
Class 400#	64
Class 600#	100
Class 900#	150
Class 1500#	250
Class 2500#	420

Pressure-temperature ratings for this Standard have been determined by the procedures described in this In ASME B16.34 These procedures are counterpart to those identified as Standard Class in ASME B16.34. The primary considerations in establishing ratings are component dimensions and material properties to sustain pressure & other loads. Other considerations affecting or limiting ratings include (a) stresses in flanges resulting from bolt-up necessary to maintain a gasket seal (b) distortion of flanges and flanged fittings due to loads transmitted through attached piping (c) limitations applying primarily to flanged components (e.g., valves) but also imposed on flanges in order to preserve compatible ratings

WELDING NECK FLANGES

150 class
ASME B 16.5



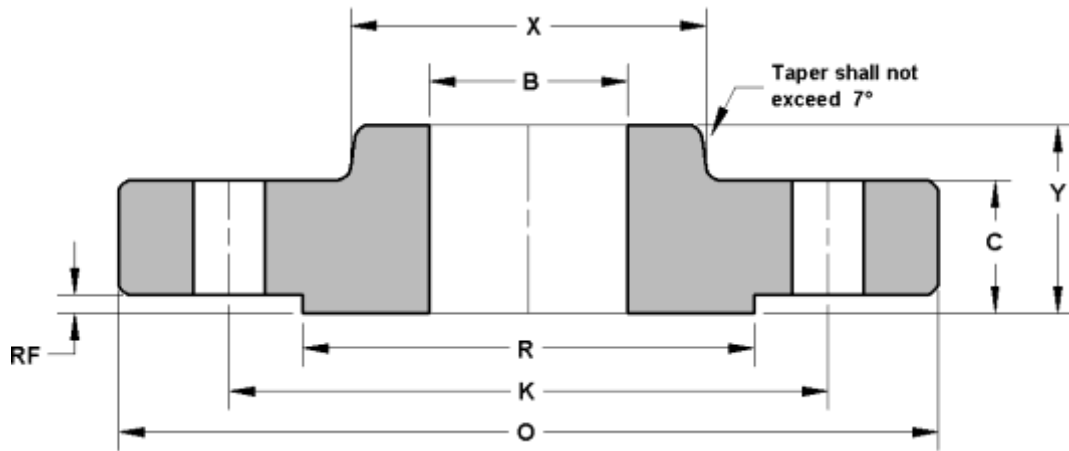
Dimensions are in mm.

DN	N P S	O	C	X	A	K	Y	R F	R	B S T D	Ø FO RI H O L E S	N. FO RI H O L E S	Kg. APPRO X
15	1/2	88.9	11.1	30.2	21.3	60.4	47.7	1.5	35.0	15.7	15.7	4	0.5
20	3/4	98.5	12.7	38.1	26.6	69.8	52.3	1.5	42.9	20.8	15.7	4	0.7
25	1"	107.9	14.2	49.2	33.5	79.2	55.6	1.5	50.8	26.6	15.7	4	1.1
32	1" 1/4	117.3	15.7	58.6	42.1	88.9	57.1	1.5	63.5	35.0	15.7	4	1.5
40	1" 1/2	127.0	17.5	65.0	48.2	98.5	61.9	1.5	73.1	40.8	15.7	4	1.8
50	2"	152.4	19.0	77.7	60.4	120.6	63.5	1.5	91.9	52.4	19.0	4	2.7
65	2" 1/2	177.8	22.3	90.4	73.1	139.7	69.8	1.5	104.6	62.7	19.0	4	4.4
80	3"	190.5	23.8	107.9	88.9	152.4	69.8	1.5	127.0	77.9	19.0	4	5.2
100	4"	228.6	23.8	134.8	114.3	190.5	76.2	1.5	157.2	102. 3	19.0	8	7.5
125	5"	254.0	23.8	163.5	141.2	215.9	88.9	1.5	185.6	128. 2	22.3	8	9.2
150	6"	279.4	25.4	192.0	168.4	241.3	88.9	1.5	215.9	154. 1	22.3	8	11.0
200	8"	342.9	28.4	246.1	219.2	298.4	101.6	1.5	269.7	202. 7	22.3	8	18.3
250	10"	406.4	30.2	304.8	273.0	361.9	101.6	1.5	323.8	254. 5	25.4	12	25.0
300	12"	482.6	31.7	365.2	323.8	431.8	114.3	1.5	381.0		25.4	12	39.0
350	14"	533.4	35.0	400.0	355.6	476.2	127.0	1.5	412.7		28.4	12	51.0
400	16"	596.9	36.5	457.2	406.4	539.7	127.0	1.5	469.9		28.4	16	60.0
450	18"	635.0	39.6	504.9	457.2	577.8	139.7	1.5	533.4		31.7	16	71.0

SLIP ON FLANGES

150 Class

ANSI / ASME B 16.5



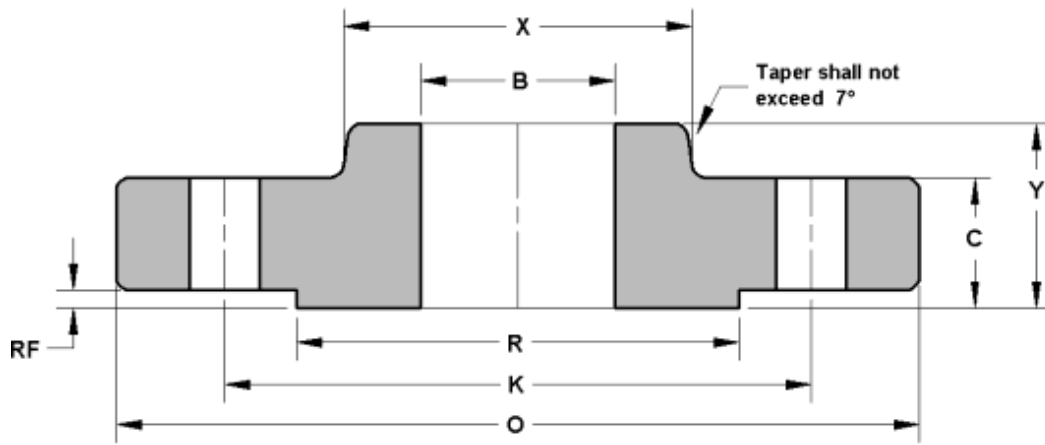
Dimensions are in mm.

DN	NP S	O	C	X	K	Y	RF	R	B	Ø FORI HOLES	N. FORI HOLES	Kg. APPROX
15	1/2	88.9	11.1	30.2	60.4	15.7	1.5	35.0	22.3	15.7	4	0.4
20	3/4	98.5	12.7	38.1	69.8	15.7	1.5	42.9	27.6	15.7	4	0.7
25	1"	107.9	14.2	49.2	79.2	17.5	1.5	50.8	34.5	15.7	4	0.8
32	1" 1/4	117.3	15.7	58.6	88.9	20.5	1.5	63.5	43.1	15.7	4	1.1
40	1" 1/2	127.0	17.5	65.0	98.5	22.3	1.5	73.1	49.5	15.7	4	1.4
50	2"	152.4	19.0	77.7	120.6	25.4	1.5	91.9	61.9	19.0	4	2.2
65	2" 1/2	177.8	22.3	90.4	139.7	28.4	1.5	104.6	74.6	19.0	4	3.6
80	3"	190.5	23.8	107.9	152.4	30.2	1.5	127.0	90.6	19.0	4	4.1
100	4"	228.6	23.8	134.8	190.5	33.2	1.5	157.2	116.0	19.0	8	5.6
125	5"	254.0	23.8	163.5	215.9	36.5	1.5	185.6	143.7	22.3	8	6.3
150	6"	279.4	25.4	192.0	241.3	39.6	1.5	215.9	170.6	22.3	8	7.5
200	8"	342.9	28.4	246.1	298.4	44.4	1.5	269.7	221.4	22.3	8	12.6
250	10"	406.4	30.2	304.8	361.9	49.2	1.5	323.8	276.3	25.4	12	18.5
300	12"	482.6	31.7	365.2	431.8	55.6	1.5	381.0	327.1	25.4	12	28.0
350	14"	533.4	35.0	400.0	476.2	57.1	1.5	412.7	359.1	28.4	12	36.0
400	16"	596.9	36.5	457.2	539.7	63.5	1.5	469.9	410.4	28.4	16	46.0
450	18"	635.0	39.6	504.9	577.8	68.3	1.5	533.4	461.7	31.7	16	50.0
500	20"	698.5	42.9	558.8	635.0	73.1	1.5	584.2	513.0	31.7	20	64.0
600	24"	812.8	47.7	663.4	749.3	82.5	1.5	692.1	615.9	35.0	20	89.0

SLIP ON FLANGES

300 Class

ANSI / ASME B 16.5



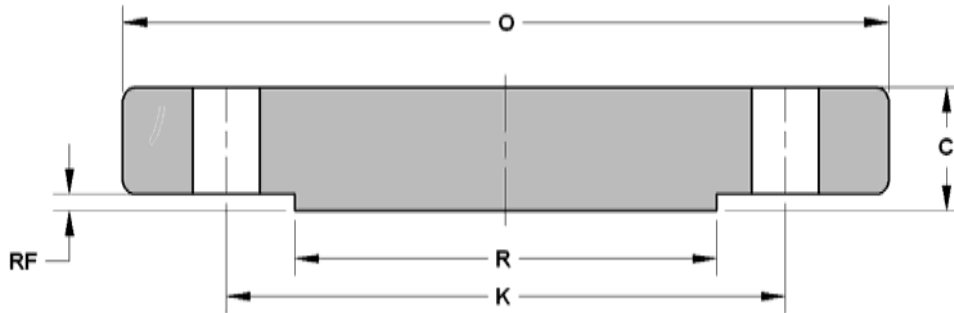
Dimensions are in mm.

DN	NPS	O	C	X	K	Y	RF	R	B	Ø FORI HOLES	N. FORI HOLES	Kg. APPROX
15	1/2	95.2	14.2	38.1	66.5	22.3	1.5	35.0	22.3	15.7	4	0.7
20	3/4	117.3	15.7	47.7	82.5	25.4	1.5	42.9	27.6	19.0	4	1.1
25	1"	123.9	17.5	53.8	88.9	26.9	1.5	50.8	34.5	19.0	4	1.4
32	1" 1/4	133.3	19.0	63.5	98.5	26.9	1.5	63.5	43.1	19.0	4	1.8
40	1" 1/2	155.4	20.5	69.8	114.3	30.2	1.5	73.1	49.5	22.3	4	2.6
50	2"	165.1	22.3	84.0	127.0	33.2	1.5	91.9	61.9	19.0	8	3.4
65	2" 1/2	190.5	25.4	100.0	149.3	38.1	1.5	104.6	74.6	22.3	8	4.4
80	3"	209.5	28.4	117.3	168.1	42.9	1.5	127.0	90.6	22.3	8	6.1
100	4"	254.0	31.7	146.0	200.1	47.7	1.5	157.2	116.0	22.3	8	10.1
125	5"	279.4	35.0	177.8	234.9	50.8	1.5	185.6	143.7	22.3	8	12.5
150	6"	317.5	36.5	206.2	269.7	52.3	1.5	215.9	170.6	22.3	12	14.1
200	8"	381.0	41.1	260.3	330.2	61.9	1.5	269.7	221.4	25.4	12	24.6
250	10"	444.5	47.7	320.5	387.3	66.5	1.5	323.8	276.3	28.4	16	37.1
300	12"	520.7	50.8	374.6	450.8	73.1	1.5	381.0	327.1	31.7	16	50.0
350	14"	584.2	53.8	425.4	514.3	76.2	1.5	412.7	359.1	31.7	20	70.0
400	16"	647.7	57.1	482.6	571.5	82.5	1.5	469.9	410.4	35.0	20	90.0
450	18"	711.2	60.4	533.4	628.6	88.9	1.5	533.4	461.7	35.0	24	112.0
500	20"	774.7	63.5	587.2	685.8	95.2	1.5	584.2	513.0	35.0	24	133.0
600	24"	914.4	69.8	701.5	812.8	106.4	1.5	692.1	615.9	41.1	24	208.0

BLIND FLANGES

150 Class

ANSI / ASME B 16.5



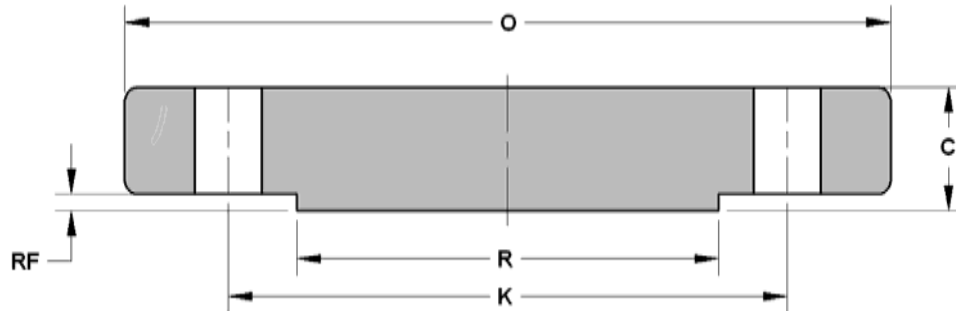
Dimensions are in mm.

DN	NPS	O	C	K	RF	R	Ø F O RI HOLES	N. FORI HOLES	Kg. APPROX
15	1/2	88.9	11.1	60.4	1.5	35.0	15.7	4	0.4
20	3/4	98.5	12.7	69.8	1.5	42.9	15.7	4	0.7
25	1"	107.9	14.2	79.2	1.5	50.8	15.7	4	0.9
32	1" 1/4	117.3	15.7	88.9	1.5	63.5	15.7	4	1.3
40	1" 1/2	127.0	17.5	98.5	1.5	73.1	15.7	4	1.6
50	2"	152.4	19.0	120.6	1.5	91.9	19.0	4	2.6
65	2" 1/2	177.8	22.3	139.7	1.5	104.6	19.0	4	4.1
80	3"	190.5	23.8	152.4	1.5	127.0	19.0	4	5.0
100	4"	228.6	23.8	190.5	1.5	157.2	19.0	8	7.1
125	5"	254.0	23.8	215.9	1.5	185.6	22.3	8	9.0
150	6"	279.4	25.4	241.3	1.5	215.9	22.3	8	11.8
200	8"	342.9	28.4	298.4	1.5	269.7	22.3	8	21.0
250	10"	406.4	30.2	361.9	1.5	323.8	25.4	12	30.0
300	12"	482.6	31.7	431.8	1.5	381.0	25.4	12	45.0
350	14"	533.4	35.0	476.2	1.5	412.7	28.4	12	59.0
400	16"	596.9	36.5	539.7	1.5	469.9	28.4	16	79.0
450	18"	635.0	39.6	577.8	1.5	533.4	31.7	16	97.0
500	20"	698.5	42.9	635.0	1.5	584.2	31.7	20	124.0
600	24"	812.8	47.7	749.3	1.5	692.1	35.0	20	188.0

BLIND FLANGES

300 Class

ANSI / ASME B 16.5



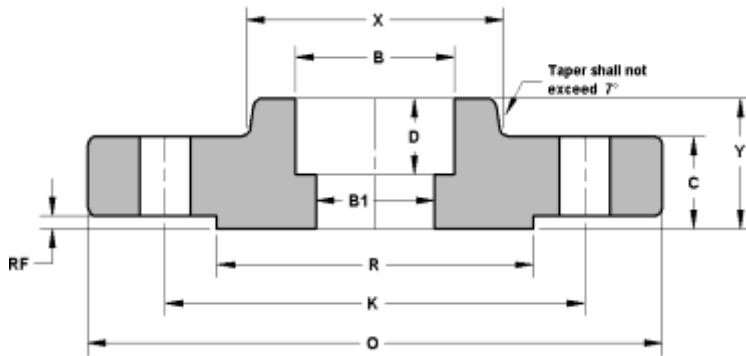
Dimensions are in mm.

DN	NPS	O	C	K	RF	R	Ø FORI HOLES	N. FORI HOLES	Kg. APPROX
15	1/2	95.2	14.2	66.5	1.5	35.0	15.7	4	0.7
20	3/4	117.3	15.7	82.5	1.5	42.9	19.0	4	1.2
25	1"	123.9	17.5	88.9	1.5	50.8	19.0	4	1.5
32	1" 1/4	133.3	19.0	98.5	1.5	63.5	19.0	4	2.0
40	1" 1/2	155.4	20.5	114.3	1.5	73.1	22.3	4	2.9
50	2"	165.1	22.3	127.0	1.5	91.9	19.0	8	3.4
65	2" 1/2	190.5	25.4	149.3	1.5	104.6	22.3	8	5.1
80	3"	209.5	28.4	168.1	1.5	127.0	22.3	8	7.0
100	4"	254.0	31.7	200.1	1.5	157.2	22.3	8	11.8
125	5"	279.4	35.0	234.9	1.5	185.6	22.3	8	15.5
150	6"	317.4	36.5	269.7	1.5	215.9	22.3	12	21.3
200	8"	381.0	41.1	330.2	1.5	269.7	25.4	12	35.2
250	10"	444.5	47.7	387.3	1.5	323.8	28.4	16	57.0
300	12"	520.7	50.8	450.8	1.5	381.0	31.7	16	82.0
350	14"	584.2	53.8	514.3	1.5	412.7	31.7	20	106.0
400	16"	647.7	57.1	571.5	1.5	469.9	35.0	20	140.0
450	18"	711.2	60.4	628.6	1.5	533.4	35.0	24	178.0
500	20"	774.7	63.5	685.8	1.5	584.2	35.0	24	223.0
600	24"	914.4	69.8	812.8	1.5	692.1	41.1	24	345.0

SOCKET WELDING FLANGES

150 CLASS

ANSI / ASME B 16.5



Dimensions are in mm.

DN	NPS	O	C	X	K	Y	RF	R	B	B1	D	Ø FORI HOLES	N. FORI HOLES	Kg. APPROX
15	1/2	88.9	11.1	30.2	60.4	15.7	1.5	35.0	22.3	15.7	9.6	15.7	4	0.4
20	3/4	98.5	12.7	38.1	69.8	15.7	1.5	42.9	27.6	20.8	11.1	15.7	4	0.7
25	1"	107.9	14.2	49.2	79.2	17.5	1.5	50.8	34.5	26.6	12.7	15.7	4	0.8
32	1" 1/4	117.3	15.7	58.6	88.9	20.5	1.5	63.5	43.1	35.0	14.2	15.7	4	1.1
40	1" 1/2	127.0	17.5	65.0	98.5	22.3	1.5	73.1	49.5	40.8	15.7	15.7	4	1.4
50	2"	152.4	19.0	77.7	120.6	25.4	1.5	91.9	61.9	52.5	17.5	19.0	4	2.2
65	2" 1/2	177.8	22.3	90.4	139.7	28.4	1.5	104.6	74.6	62.7	19.0	19.0	4	3.6
80	3"	190.5	23.8	107.9	152.4	30.2	1.5	127.0	90.6	77.9	20.5	19.0	4	4.1

SOCKET WELDING FLANGES

300 Class

ANSI / ASME B 16.5

15	1/2	95.2	14.2	38.1	66.5	22.3	1.5	35.0	22.3	15.7	9.6	15.7	4	0.7
20	3/4	117.3	15.7	47.7	82.5	25.4	1.5	42.9	27.6	20.8	11.1	19.0	4	1.2
25	1"	123.9	17.5	53.8	88.9	26.9	1.5	50.8	34.5	26.6	12.7	19.0	4	1.4
32	1" 1/4	133.3	19.0	63.5	98.5	26.9	1.5	63.5	43.1	35.0	14.2	19.0	4	1.9
40	1" 1/2	155.4	20.5	69.8	114.3	30.2	1.5	73.1	49.5	40.8	15.7	22.3	4	2.8
50	2"	165.1	22.3	84.0	127.0	33.2	1.5	91.9	61.9	52.5	17.5	19.0	8	3.3
65	2" 1/2	190.5	25.4	100.0	149.3	38.1	1.5	104.6	74.6	62.7	19.0	22.3	8	4.6
80	3"	209.5	28.4	117.3	168.1	42.9	1.5	127.0	90.6	77.9	20.5	22.3	8	6.3