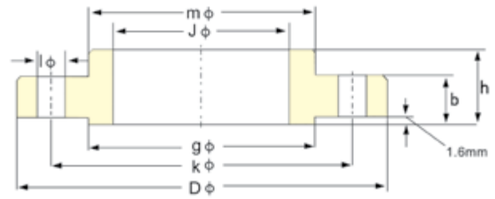
CONTENTS

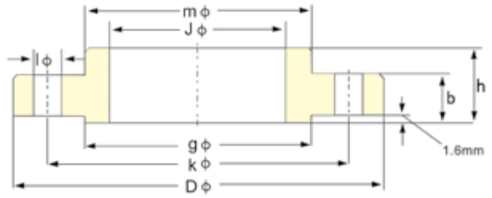
150 lb/sq.in.
Slip-on Flanges



ANSI B16.5

Pipe	Flange				Hub	Raised Face	Drilling Template				Weight (KG)
Nom. Size in	D mm	J mm	b mm	h mm	m mm	g mm	K mm	Number	l mm	Diam of Bolt (inch)	
1/2"	89	22.4	11.2	15.7	30.2	35.1	60.5	4	15.7	1/2	0.47
3/4"	99	27.7	12.7	15.7	38.1	42.9	69.9	4	15.7	1/2	0.58
1"	108	34.5	14.2	17.5	49.3	50.8	79.2	4	15.7	1/2	0.86
1.1/4"	117	43.2	15.7	20.6	58.7	63.5	88.9	4	15.7	1/2	1.08
1.1/2"	127	49.5	17.5	22.4	65	73.2	98.6	4	15.7	1/2	1.41
2"	152	62	19.1	25.4	77.7	91.9	120.7	4	19.1	5/8	2.26
2.1/2"	178	74.7	22.4	28.4	90.4	104.6	139.7	4	19.1	5/8	3.43
3"	191	90.7	23.9	30.2	108	127	152.4	4	19.1	5/8	3.87
3.1/2"	216	103.4	23.9	31.8	122.2	139.7	177.8	8	19.1	5/8	4.99
4"	229	116.1	23.9	33.3	134.9	157.2	190.5	8	19.1	5/8	5.75
5"	254	143.8	23.9	36.6	163.6	185.7	215.9	8	22.4	3/4	6.22
6"	279	170.7	25.4	39.6	192	215.9	241.3	8	22.4	3/4	7.38
8"	343	221.5	28.4	44.5	246.1	269.7	298.5	8	22.4	3/4	12.36
10"	406	276.4	30.2	49.3	304.8	323.9	362	12	25.4	7/8	17.1
12"	483	327.2	31.8	55.6	365.3	381	431.8	12	25.4	7/8	27.68
14"	533	359.2	35.1	57.2	400.1	412.8	476.3	12	28.4	1	35.2
16"	597	410.5	36.6	63.5	457.2	469.9	539.8	16	28.4	1	42.18
18"	635	461.8	39.6	68.3	505	533.4	577.9	16	31.8	1 1/8	49.71
20"	699	513.1	42.9	73.2	558.8	584.2	635	20	31.8	1 1/8	65.5
24"	813	616	47.8	82.6	663.4	692.2	749.3	20	35.1	1 1/4	90.5

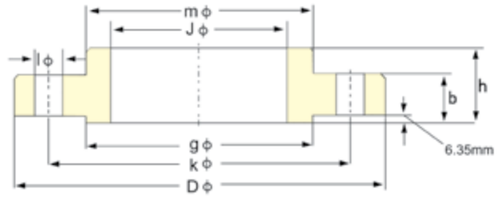
300 lb/sq.in.
Slip-on Flanges



ANSI B16.5

Pipe	Flange				Hub	Raised Face	Drilling Template				Weight (KG)
Nom. Size in	D mm	J mm	b mm	h mm	m mm	g mm	K mm	Number	l mm	Diam of Bolt (inch)	
1/2"	95	22.4	14.2	22.4	38.1	35.1	66.5	4	15.7	1/2	0.62
3/4"	117	27.7	15.7	25.4	47.8	42.9	82.6	4	19.1	5/8	1.15
1"	124	34.5	17.5	26.9	53.8	50.8	88.9	4	19.1	5/8	1.39
1.1/4"	133	43.2	19.1	26.9	63.5	63.5	98.6	4	19.1	5/8	1.67
1.1/2"	155	49.5	20.6	30.2	69.9	73.2	114.3	4	22.4	3/4	2.53
2"	165	62	22.4	33.3	84.1	91.9	127	8	19.1	5/8	2.8
2.1/2"	191	74.7	25.4	38.1	100.1	104.6	149.4	8	22.4	3/4	4.25
3"	210	90.7	28.4	42.9	117.3	127	168.1	8	22.4	3/4	5.81
3.1/2"	229	103.4	30.2	44.5	133.4	139.7	184.2	8	22.4	3/4	7.72
4"	254	116.1	31.8	47.8	146.1	157.2	200.2	8	22.4	3/4	10.13
5"	279	143.8	35.1	50.8	177.8	185.7	235	8	22.4	3/4	12.58
6"	318	170.7	36.6	52.3	206.2	215.9	269.7	12	22.4	3/4	16.04
8"	381	221.5	41.1	62	260.4	269.7	330.2	12	25.4	7/8	24.5
10"	445	276.4	47.8	66.5	320.5	323.9	387.4	16	28.4	1	34.16
12"	521	327.2	50.8	73.2	374.7	381	450.9	16	31.8	1 1/8	51.26
14"	584	359.2	53.8	76.2	425.5	412.8	514.4	20	31.8	1 1/8	72.12
16"	648	410.5	57.2	82.6	482.6	469.9	571.5	20	35.1	1 1/4	90.4
18"	711	461.8	60.5	88.9	533.4	533.4	628.7	24	35.1	1 1/4	109
20"	775	513.1	63.5	95.3	587.2	584.2	685.8	24	35.1	1 1/4	136
24"	914	616	69.9	106.4	701.5	692.2	812.8	24	41.1	1 1/2	204

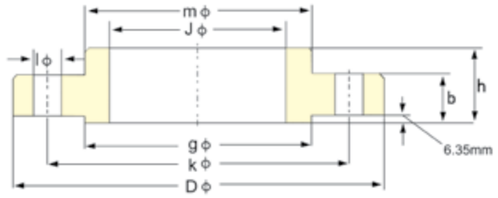
600 lb/sq.in.
Slip-on Flanges



ANSI B16.5

Pipe	Flange				Hub	Raised Face	Drilling Template				Weight (KG)
Nom. Size in	D mm	J mm	b mm	h mm	m mm	g mm	K mm	Number	l mm	Diam of Bolt (inch)	
1/2"	95	22.4	14.2	22.4	38.1	35.1	66.5	4	15.7	1/2	0.91
3/4"	117	27.7	15.7	25.4	47.8	42.9	82.6	4	19.1	5/8	1.4
1"	124	34.5	17.5	26.9	53.8	50.8	88.9	4	19.1	5/8	1.7
1.1/4"	133	43.2	20.6	28.4	63.5	63.5	98.6	4	19.1	5/8	2.27
1.1/2"	155	49.5	22.4	31.8	69.9	73.2	114.3	4	22.4	3/4	3.1
2"	165	62	25.4	36.6	84.1	91.9	127	8	19.1	5/8	3.63
2.1/2"	191	74.7	28.4	41.1	100.1	104.6	149.4	8	22.4	3/4	5.44
3"	210	90.7	31.8	46	117.3	127	168.1	8	22.4	3/4	7.26
3.1/2"	229	103.4	35.1	49.3	133.4	139.7	184.2	8	22.4	7/8	9.53
4"	273	116.1	38.1	53.8	152.4	157.2	215.9	8	25.4	7/8	14.97
5"	330	143.8	44.5	60.5	189	185.7	266.7	8	28.4	1	28.5
6"	356	170.7	47.8	66.5	222.3	215.9	292.1	12	28.4	1	36.32
8"	419	221.5	55.6	76.2	273.1	269.7	349.3	12	31.8	1 1/8	44
10"	508	276.4	63.5	85.9	342.9	323.9	431.8	16	35.1	1 1/4	76.2
12"	559	327.2	66.5	91.9	400.1	381	489	20	35.1	1 1/4	97.52
14"	603	359.2	69.9	93.7	431.8	412.8	527.1	20	38.1	1 3/8	102
16"	686	410.5	76.2	106.4	495.3	469.9	603.3	20	41.1	1 1/2	149.82
18"	743	461.8	82.6	117.3	546.1	533.4	654.1	20	44.5	1 5/8	180.1
20"	813	513.1	88.9	127	609.6	584.2	723.9	24	44.5	1 5/8	231.54
24"	940	616	101.6	139.7	717.6	692.2	838.2	24	50.8	1 7/8	330

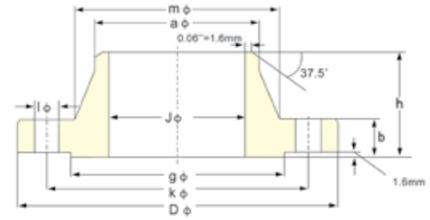
900 lb/sq.in.
Slip-on Flanges



ANSI B16.5

Pipe	Flange				Hub	Raised Face	Drilling Template				Weight (KG)
Nom. Size in	D mm	J mm	b mm	h mm	m mm	g mm	K mm	Number	l mm	Diam of Bolt (inch)	
1/2"	121	22.4	22.4	31.8	38.1	35.1	82.6	4	22.4	3/4	1.81
3/4"	130	27.7	25.4	35.1	44.5	42.9	88.9	4	22.4	3/4	2.4
1"	149	34.5	28.4	41.1	52.3	50.8	101.6	4	25.4	7/8	3.41
1.1/4"	159	43.2	28.4	41.1	63.5	63.5	111.3	4	25.4	7/8	4.1
1.1/2"	178	49.5	31.8	44.5	69.9	73.2	124	4	28.4	1	5.45
2"	216	62	38.1	57.2	104.6	91.9	165.1	8	25.4	7/8	9.98
2.1/2"	244	74.7	41.1	63.5	124	104.6	190.5	8	28.4	1	15.8
3"	241	90.7	38.1	53.8	127	127	190.5	8	25.4	7/8	11.8
4"	292	116.1	44.5	69.9	158.8	157.2	235	8	31.8	1 1/8	23.2
5"	349	143.8	50.8	79.2	190.5	185.7	279.4	8	35.1	1 1/4	37.65
6"	381	170.7	55.6	85.9	235	215.9	317.5	12	31.8	1 1/8	48.3
8"	470	221.5	63.5	101.6	298.5	269.7	393.7	12	38.1	1 3/8	75
10"	546	276.4	69.9	108	368.3	323.9	469.9	16	38.1	1 3/8	111.13
12"	610	327.2	79.2	117.3	419.1	381	533.4	20	38.1	1 3/8	146
14"	641	359.2	85.9	130	450.9	412.8	558.8	20	41.1	1 1/2	172.36
16"	705	410.5	88.9	133.4	508	469.9	616	20	44.5	1 5/8	192.95
18"	787	461.8	101.6	152.4	565.2	533.4	685.8	20	50.8	1 7/8	272.4
20"	857	513.1	108	158.8	622.3	584.2	749.3	20	53.8	2	331.42
24"	1041	616	139.7	203.2	749.3	692.2	901.7	20	66.5	2 1/2	632

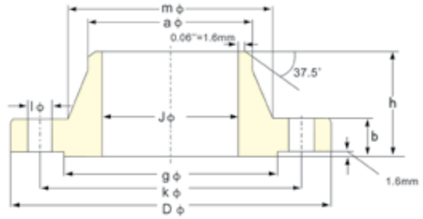
150 lb/sq.in.
Welding Neck Flanges



ANSI B 16.5

Pipe	Flange				Hub		Raised Face	Drilling Template				Weight (KG)
Nom. Size in	D mm	J mm	b mm	h mm	a mm	m mm	g mm	K mm	Number	l mm	Diam of bolt (inch)	
1/2"	89	15.7	11.2	47.8	21.3	30.2	35.1	60.5	4	15.7	1/2	0.51
3/4"	99	20.8	12.7	52.3	26.7	38.1	42.9	69.9	4	15.7	1/2	0.73
1"	108	26.7	14.2	55.6	33.5	49.3	50.8	79.2	4	15.7	1/2	1.07
1.1/4"	117	35.1	15.7	57.2	42.2	58.7	63.5	88.9	4	15.7	1/2	1.4
1.1/2"	127	40.9	17.5	62	48.3	65	73.2	98.6	4	15.7	1/2	1.81
2"	152	52.6	19.1	63.5	60.5	77.7	91.9	120.7	4	19.1	5/8	2.59
2.1/2"	178	62.7	22.4	69.9	73.2	90.4	104.6	139.7	4	19.1	5/8	4.28
3"	191	78	23.9	69.9	88.9	108	127	152.4	4	19.1	5/8	5.18
3.1/2"	216	90.2	23.9	71.4	101.6	122.2	139.7	177.8	8	19.1	5/8	5.45
4"	229	102.4	23.9	76.2	114.3	134.9	157.2	190.5	8	19.1	5/8	7.32
5"	254	128.3	23.9	88.9	141.2	163.6	185.7	215.9	8	22.4	3/4	8.91
6"	279	154.2	25.4	88.9	168.4	192	215.9	241.3	8	22.4	3/4	11.26
8"	343	202.7	28.4	101.6	219.2	246.1	269.7	298.5	8	22.4	3/4	17.68
10"	406	254.5	30.2	101.6	273.1	304.8	323.9	362	12	25.4	7/8	24.79
12"	483	304.8	31.8	114.3	323.9	365.3	381	431.8	12	25.4	7/8	38.98
14"	533	336.6	35.1	127	355.6	400.1	412.8	476.3	12	28.4	1	51.71
16"	597	387.4	36.6	127	406.4	457.2	469.9	539.8	16	28.4	1	64.41
18"	635	438.2	39.6	139.7	457.2	505	533.4	577.9	16	31.8	1 1/8	74.84
20"	699	489	42.9	144.5	508	558.8	584.2	635	20	31.8	1 1/8	89.36
24"	813	590.6	47.8	152.4	609.6	663.4	692.2	749.3	20	35.1	1 1/4	119.66

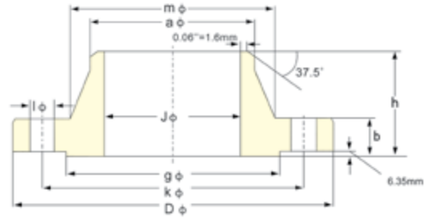
300 lb/sq.in.
Welding Neck Flanges



ANSI B 16.5

Pipe	Flange				Hub		Raised Face	Drilling Template				Weight (KG)
Nom. Size in	D mm	J mm	b mm	h mm	a mm	m mm	g mm	K mm	Number	l mm	Diam of bolt (inch)	
1/2"	95	15.7	14.2	52.3	21.3	38.1	35.1	66.5	4	15.7	1/2	0.78
3/4"	117	20.8	15.7	57.2	26.7	47.8	42.9	82.6	4	19.1	5/8	1.34
1"	124	26.7	17.5	62	33.5	53.8	50.8	88.9	4	19.1	5/8	1.64
1.1/4"	133	35.1	19.1	65	42.2	63.5	63.5	98.6	4	19.1	5/8	2.06
1.1/2"	155	40.9	20.6	68.3	48.3	69.9	73.2	114.3	4	22.4	3/4	3.06
2"	165	52.6	22.4	69.9	60.5	84.1	91.9	127	8	19.1	5/8	3.4
2.1/2"	191	62.7	25.4	76.2	73.2	100.1	104.6	149.4	8	22.4	3/4	5.31
3"	210	78	28.4	79.2	88.9	117.3	127	168.1	8	22.4	3/4	7.32
3.1/2"	229	90.2	30.2	81	101.6	133.4	139.7	184.2	8	22.4	3/4	8.17
4"	254	102.4	31.8	85.9	114.3	146.1	157.2	200.2	8	22.4	3/4	11.3
5"	279	128.3	35.1	98.6	141.2	177.8	185.7	235	8	22.4	3/4	15.12
6"	318	154.2	36.6	98.6	168.4	206.2	215.9	269.7	12	22.4	3/4	19.68
8"	381	202.7	41.1	111.3	219.2	260.4	269.7	330.2	12	25.4	7/8	30.48
10"	445	254.5	47.8	117.3	273.1	320.5	323.9	387.4	16	28.4	1	43.74
12"	521	304.8	50.8	130	323.9	374.7	381	450.9	16	31.8	1 1/8	64.41
14"	584	336.6	53.8	142.7	355.6	425.5	412.8	514.4	20	31.8	1 1/8	88.3
16"	648	387.4	57.2	146.1	406.4	482.6	469.9	571.5	20	35.1	1 1/4	112.94
18"	711	438.2	60.5	158.8	457.2	533.4	533.4	628.7	24	35.1	1 1/4	138.34
20"	775	489	63.5	162.1	508	587.2	584.2	685.8	24	35.1	1 1/4	167.37
24"	914	590.6	69.9	168.1	609.6	701.5	692.2	812.8	24	41.1	1 1/2	235.41

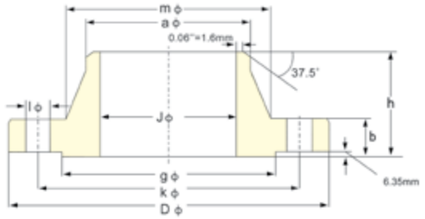
600 lb/sq.in.
Welding Neck Flanges



ANSI B 16.5

Pipe	Flange				Hub		Raised Face	Drilling Template				Weight (KG)
Nom. Size in	D mm	J mm	b mm	h mm	a mm	m mm	g mm	K mm	Number	l mm	Diam of bolt (inch)	
1/2"	95		14.2	52.3	21.3	38.1	35.1	66.5	4	15.7	1/2	0.9
3/4"	117		15.7	57.2	26.7	47.8	42.9	82.6	4	19.1	5/8	1.59
1"	124		17.5	62	33.5	53.8	50.8	88.9	4	19.1	5/8	1.9
1.1/4"	133		20.6	66.5	42.2	63.5	63.5	98.6	4	19.1	5/8	2.49
1.1/2"	155		22.4	69.9	48.3	69.9	73.2	114.3	4	22.4	3/4	3.63
2"	165		25.4	73.2	60.5	84.1	91.9	127	8	19.1	5/8	4.54
2.1/2"	191		28.4	79.2	73.2	100.1	104.6	149.4	8	22.4	3/4	6.35
3"	210		31.8	82.6	88.9	117.3	127	168.1	8	22.4	3/4	8.16
3.1/2"	229		35.1	85.9	101.6	133.4	139.7	184.2	8	22.4	7/8	11.8
4"	273		38.1	101.6	114.3	152.4	157.2	215.9	8	25.4	7/8	16.78
5"	330		44.5	114.3	141.2	189	185.7	266.7	8	28.4	1	30.87
6"	356		47.8	117.3	168.4	222.3	215.9	292.1	12	28.4	1	36.77
8"	419		55.6	133.4	219.2	273.1	269.7	349.3	12	31.8	1 1/8	50.8
10"	508		63.5	152.4	273.1	342.9	323.9	431.8	16	35.1	1 1/4	86.26
12"	559		66.5	155.4	323.9	400.1	381	489	20	35.1	1 1/4	102.51
14"	603		69.9	165.1	355.6	431.8	412.8	527.1	20	38.1	1 3/8	121.56
16"	686		76.2	177.8	406.4	495.3	469.9	603.3	20	41.1	1 1/2	177.06
18"	743		82.6	184.2	457.2	546.1	533.4	654.1	20	44.5	1 5/8	215.65
20"	813		88.9	190.5	508	609.6	584.2	723.9	24	44.5	1 5/8	267.86
24"	940		101.6	203.2	609.6	717.6	692.2	838.2	24	50.8	1 7/8	372

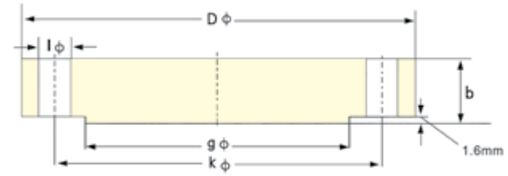
900 lb/sq.in.
Welding Neck Flanges



ANSI B 16.5

Pipe	Flange				Hub		Raised Face	Drilling Template				Weight (KG)
Nom. Size in	D mm	J mm	b mm	h mm	a mm	m mm	g mm	K mm	Number	l mm	Diam of bolt (inch)	
1/2"	121		22.4	60.5	21.3	38.1	35.1	82.6	4	22.4	3/4	2.1
3/4"	130		25.4	69.9	26.7	44.5	42.9	88.9	4	22.4	3/4	2.72
1"	149		28.4	73.2	33.5	52.3	50.8	101.6	4	25.4	7/8	3.86
1.1/4"	159		28.4	73.2	42.2	63.5	63.5	111.3	4	25.4	7/8	4.54
1.1/2"	178		31.8	82.6	48.3	69.9	73.2	124	4	28.4	1	5.9
2"	216		38.1	101.6	60.5	104.6	91.9	165.1	8	25.4	7/8	10.89
2.1/2"	244		41.1	104.6	73.2	124	104.6	190.5	8	28.4	1	16.33
3"	241		38.1	101.6	88.9	127	127	190.5	8	25.4	7/8	15
4"	292		44.5	114.3	114.3	158.8	157.2	235	8	31.8	1 1/8	23.13
5"	349		50.8	127	141.2	190.5	185.7	279.4	8	35.1	1 1/4	38.5
6"	381		55.6	139.7	168.4	235	215.9	317.5	12	31.8	1 1/8	49.89
8"	470		63.5	162.1	219.2	298.5	269.7	393.7	12	38.1	1 3/8	79.45
10"	546		69.9	184.2	273.1	368.3	323.9	469.9	16	38.1	1 3/8	118.04
12"	610		79.2	200.2	323.9	419.1	381	533.4	20	38.1	1 3/8	157
14"	641		85.9	212.9	355.6	450.9	412.8	558.8	20	41.1	1 1/2	181.6
16"	705		88.9	215.9	406.4	508	469.9	616	20	44.5	1 5/8	224.73
18"	787		101.6	228.6	457.2	565.2	533.4	685.8	20	50.8	1 7/8	308.72
20"	857		108	247.7	508	622.3	584.2	749.3	20	53.8	2	376.82
24"	1041		139.7	292.1	609.6	749.3	692.2	901.7	20	66.5	2 1/2	685

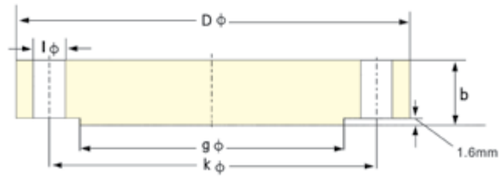
150 lb/sq.in.
Blind Flanges



ANSI B16.5

Pipe	Flange		Raised Face	Drilling Template				Weight (KG)
Nom. Size in	D mm	b mm	g mm	K mm	Number	l mm	Diam of Bolt (inch)	
1/2"	89	11.2	35.1	60.5	4	15.7	1/2	0.47
3/4"	99	12.7	42.9	69.9	4	15.7	1/2	0.63
1"	108	14.2	50.8	79.2	4	15.7	1/2	0.94
1.1/4"	117	15.7	63.5	88.9	4	15.7	1/2	1.23
1.1/2"	127	17.5	73.2	98.6	4	15.7	1/2	1.62
2"	152	19.1	91.9	120.7	4	19.1	5/8	2.64
2.1/2"	178	22.4	104.6	139.7	4	19.1	5/8	4.06
3"	191	23.9	127	152.4	4	19.1	5/8	4.9
3.1/2"	216	23.9	139.7	177.8	8	19.1	5/8	5.9
4"	229	23.9	157.2	190.5	8	19.1	5/8	7.41
5"	254	23.9	185.7	215.9	8	22.4	3/4	8.76
6"	279	25.4	215.9	241.3	8	22.4	3/4	11.31
8"	343	28.4	269.7	298.5	8	22.4	3/4	19.92
10"	406	30.2	323.9	362	12	25.4	7/8	29.39
12"	483	31.8	381	431.8	12	25.4	7/8	43.7
14"	533	35.1	412.8	476.3	12	28.4	1	59.42
16"	597	36.6	469.9	539.8	16	28.4	1	77.11
18"	635	39.6	533.4	577.9	16	31.8	1 1/8	94.8
20"	699	42.9	584.2	635	20	31.8	1 1/8	123.38
24"	813	47.8	692.2	749.3	20	35.1	1 1/4	188.24

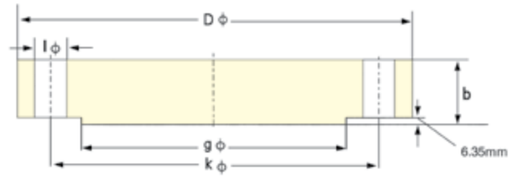
300 lb/sq.in.
Blind Flanges



ANSI B16.5

Pipe	Flange		Raised Face	Drilling Template				Weight (KG)
Nom. Size in	D mm	b mm	g mm	K mm	Number	l mm	Diam of Bolt (inch)	
1/2"	95	14.2	35.1	66.5	4	15.7	1/2	0.62
3/4"	117	15.7	42.9	82.6	4	19.1	5/8	1.16
1"	124	17.5	50.8	88.9	4	19.1	5/8	1.42
1.1/4"	133	19.1	63.5	98.6	4	19.1	5/8	1.79
1.1/2"	155	20.6	73.2	114.3	4	22.4	3/4	2.68
2"	165	22.4	91.9	127	8	19.1	5/8	3.09
2.1/2"	191	25.4	104.6	149.4	8	22.4	3/4	4.75
3"	210	28.4	127	168.1	8	22.4	3/4	6.79
3.1/2"	229	30.2	139.7	184.2	8	22.4	3/4	9.53
4"	254	31.8	157.2	200.2	8	22.4	3/4	12
5"	279	35.1	185.7	235	8	22.4	3/4	15.96
6"	318	36.6	215.9	269.7	12	22.4	3/4	21.2
8"	381	41.1	269.7	330.2	12	25.4	7/8	34.6
10"	445	47.8	323.9	387.4	16	28.4	1	55.34
12"	521	50.8	381	450.9	16	31.8	1 1/8	78.9
14"	584	53.8	412.8	514.4	20	31.8	1 1/8	107.05
16"	648	57.2	469.9	571.5	20	35.1	1 1/4	139.25
18"	711	60.5	533.4	628.7	24	35.1	1 1/4	176.9
20"	775	63.5	584.2	685.8	24	35.1	1 1/4	223.17
24"	914	69.9	692.2	812.8	24	41.1	1 1/2	342

600 lb/sq.in.
Blind Flanges

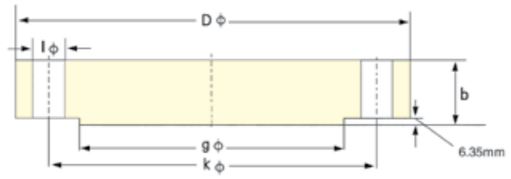


ANSI B16.5

Pipe	Flange		Raised Face	Drilling Template				Weight (KG)
Nom. Size in	D mm	b mm	g mm	K mm	Number	l mm	Diam of Bolt (inch)	
1/2"	95	14.2	35.1	66.5	4	15.7	1/2	0.91
3/4"	117	15.7	42.9	82.6	4	19.1	5/8	1.40
1"	124	17.5	50.8	88.9	4	19.1	5/8	1.81
1.1/4"	133	20.6	63.5	98.6	4	19.1	5/8	2.40
1.1/2"	155	22.4	73.2	114.3	4	22.4	3/4	3.40
2"	165	25.4	91.9	127	8	19.1	5/8	4.40
2.1/2"	191	28.4	104.6	149.4	8	22.4	3/4	6.80
3"	210	31.8	127	168.1	8	22.4	3/4	8.90
3.1/2"	229	35.1	139.7	184.2	8	22.4	7/8	13.17
4"	273	38.1	157.2	215.9	8	25.4	7/8	18.60
5"	330	44.5	185.7	266.7	8	28.4	1	30.84
6"	356	47.8	215.9	292.1	12	28.4	1	38.00
8"	419	55.6	269.7	349.3	12	31.8	1 1/8	62.20
10"	508	63.5	323.9	431.8	16	35.1	1 1/4	102.00
12"	559	66.5	381	489	20	35.1	1 1/4	132.00
14"	603	69.9	412.8	527.1	20	38.1	1 3/8	158.00
16"	686	76.2	469.9	603.3	20	41.1	1 1/2	224.73
18"	743	82.6	533.4	654.1	20	44.5	1 5/8	285.00
20"	813	88.9	584.2	723.9	24	44.5	1 5/8	365.00
24"	940	101.6	692.2	838.2	24	50.8	1 7/8	533.45

900 lb/sq.in.

Blind Flanges

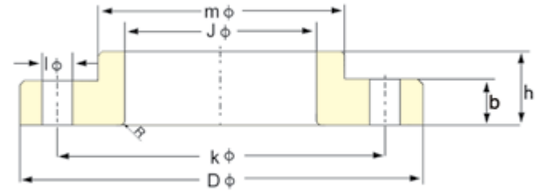


ANSI B16.5

Pipe	Flange		Raised Face	Drilling Template				Weight (KG)
Nom. Size in	D mm	b mm	g mm	K mm	Number	l mm	Diam of Bolt (inch)	
1/2"	121	22.4	35.1	82.6	4	22.4	3/4	1.9
3/4"	130	25.4	42.9	88.9	4	22.4	3/4	2.7
1"	149	28.4	50.8	101.6	4	25.4	7/8	4.09
1.1/4"	159	28.4	63.5	111.3	4	25.4	7/8	4.54
1.1/2"	178	31.8	73.2	124	4	28.4	1	5.9
2"	216	38.1	91.9	165.1	8	25.4	7/8	11.34
2.1/2"	244	41.1	104.6	190.5	8	28.4	1	16
3"	241	38.1	127	190.5	8	25.4	7/8	13.17
4"	292	44.5	157.2	235	8	31.8	1 1/8	24.5
5"	349	50.8	185.7	279.4	8	35.1	1 1/4	39.46
6"	381	55.6	215.9	317.5	12	31.8	1 1/8	51.5
8"	470	63.5	269.7	393.7	12	38.1	1 3/8	89
10"	546	69.9	323.9	469.9	16	38.1	1 3/8	131.54
12"	610	79.2	381	533.4	20	38.1	1 3/8	187
14"	641	85.9	412.8	558.8	20	41.1	1 1/2	224.07
16"	705	88.9	469.9	616	20	44.5	1 5/8	272.4
18"	787	101.6	533.4	685.8	20	50.8	1 7/8	385.9
20"	857	108	584.2	749.3	20	53.8	2	488
24"	1041	139.7	692.2	901.7	20	66.5	2 1/2	905

150 lb/sq.in.

Lap Joint Flanges

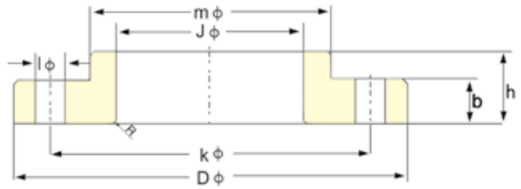


ANSI B16.5

Pipe	Flange				Hub	Radius	DRILLING Template				Weight (KG)
Nom. Size in	D mm	J mm	b mm	h mm	m mm	R	K mm	Number	l mm	Diam of Bolt (inch)	
1/2"	89	22.9	11.2	15.7	30.2	3	60.5	4	15.7	1/2	0.51
3/4"	99	28.2	12.7	15.7	38.1	3	69.9	4	15.7	1/2	0.64
1"	108	35.1	14.2	17.5	49.3	3	79.2	4	15.7	1/2	0.93
1.1/4"	117	43.7	15.7	20.6	58.7	4.8	88.9	4	15.7	1/2	1.16
1.1/2"	127	50	17.5	22.4	65	6.4	98.6	4	15.7	1/2	1.51
2"	152	62.5	19.1	25.4	77.7	7.9	120.7	4	19.1	5/8	2.38
2.1/2"	178	75.4	22.4	28.4	90.4	7.9	139.7	4	19.1	5/8	3.60
3"	191	91.4	23.9	30.2	108	9.7	152.4	4	19.1	5/8	4.04
3.1/2"	216	104.1	23.9	31.8	122.2	9.7	177.8	8	19.1	5/8	4.99
4"	229	116.8	23.9	33.3	134.9	11.2	190.5	8	19.1	5/8	5.96
5"	254	144.5	23.9	36.6	163.6	11.2	215.9	8	22.4	3/4	6.44
6"	279	171.5	25.4	39.6	192	12.7	241.3	8	22.4	3/4	7.59
8"	343	222.3	28.4	44.5	246.1	12.7	298.5	8	22.4	3/4	12.66
10"	406	277.4	30.2	49.3	304.8	12.7	362	12	25.4	7/8	16.78
12"	483	328.2	31.8	55.6	365.3	12.7	431.8	12	25.4	7/8	28.30
14"	533	360.2	35.1	79.2	400.1	12.7	476.3	12	28.4	1	41.50
16"	597	411.2	36.6	87.4	457.2	12.7	539.8	16	28.4	1	52.98
18"	635	462.3	39.6	96.8	505	12.7	577.9	16	31.8	1 1/8	59.00
20"	699	514.4	42.9	103.1	558.8	12.7	635	20	31.8	1 1/8	72.12
24"	813	616	47.8	111.3	663.4	12.7	749.3	20	35.1	1 1/4	99.02

300 lb/sq.in.

Lap Joint Flanges

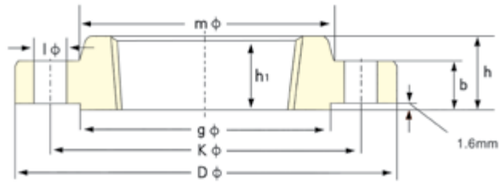


ANSI B16.5

Pipe	Flange				Hub	Radius	DRILLING Template				Weight (KG)
Nom. Size in	D mm	J mm	b mm	h mm	m mm	R	K mm	Number	l mm	Diam of Bolt (inch)	
1/2"	95	22.9	14.2	22.4	38.1	3	66.5	4	15.7	1/2	0.61
3/4"	117	28.2	15.7	25.4	47.8	3	82.6	4	19.1	5/8	1.15
1"	124	35.1	17.5	26.9	53.8	3	88.9	4	19.1	5/8	1.38
1.1/4"	133	43.7	19.1	26.9	63.5	5	98.6	4	19.1	5/8	1.66
1.1/2"	155	50	20.6	30.2	69.9	6	114.3	4	22.4	3/4	2.52
2"	165	62.5	22.4	33.3	84.1	8	127	8	19.1	5/8	2.79
2.1/2"	191	75.4	25.4	38.1	100.1	8	149.4	8	22.4	3/4	4.22
3"	210	91.4	28.4	42.9	117.3	10	168.1	8	22.4	3/4	5.78
3.1/2"	229	104.1	30.2	44.5	133.4	10	184.2	8	22.4	3/4	7.72
4"	254	116.8	31.8	47.8	146.1	11	200.2	8	22.4	3/4	10.07
5"	279	144.5	35.1	50.8	177.8	11	235	8	22.4	3/4	12.52
6"	318	171.5	36.6	52.3	206.2	13	269.7	12	22.4	3/4	15.95
8"	381	222.3	41.1	62	260.4	13	330.2	12	25.4	7/8	24.37
10"	445	277.4	47.8	95.3	320.5	13	387.4	16	28.4	1	39.92
12"	521	328.2	50.8	101.6	374.7	13	450.9	16	31.8	1 1/8	58.70
14"	584	360.2	53.8	111.3	425.5	13	514.4	20	31.8	1 1/8	83.46
16"	648	411.2	57.2	120.7	482.6	13	571.5	20	35.1	1 1/4	106.14
18"	711	462.3	60.5	130	533.4	13	628.7	24	35.1	1 1/4	133.95
20"	775	514.4	63.5	139.7	587.2	13	685.8	24	35.1	1 1/4	157.65
24"	914	616	69.9	152.4	701.5	13	812.8	24	41.1	1 1/2	240.40

150 lb/sq.in.

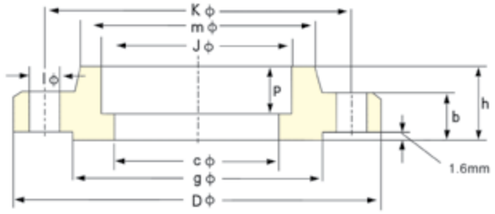
Threaded Flanges



ANSI B 16.5

Pipe	Flange			Raised Face	Hub		Drilling Template				Weight (KG)
Nom. Size in	D mm	J mm	b mm	h/h1 mm	m mm	g mm	K mm	Number	l mm	Diam of Bolt (inch)	
1/2"	89	No Counter Bore Required on 150 lb Threaded Flanges Keine E indrehung bei gewinde Flanschen 150 lb	11.2	15.7	30.2	35.1	60.5	4	15.7	1/2	0.47
3/4"	99		12.7	15.7	38.1	42.9	69.9	4	15.7	1/2	0.59
1"	108		14.2	17.5	49.3	50.8	79.2	4	15.7	1/2	0.87
1.1/4"	117		15.7	20.6	58.7	63.5	88.9	4	15.7	1/2	1.11
1.1/2"	127		17.5	22.4	65	73.2	98.6	4	15.7	1/2	1.45
2"	152		19.1	25.4	77.7	91.9	120.7	4	19.1	5/8	2.33
2.1/2"	178		22.4	28.4	90.4	104.6	139.7	4	19.1	5/8	3.55
3"	191		23.9	30.2	108	127	152.4	4	19.1	5/8	4.02
3.1/2"	216		23.9	31.8	122.2	139.7	177.8	8	19.1	5/8	4.99
4"	229		23.9	33.3	134.9	157.2	190.5	8	19.1	5/8	5.99
5"	254		23.9	36.6	163.6	185.7	215.9	8	22.4	3/4	6.68
6"	279		25.4	39.6	192	215.9	241.3	8	22.4	3/4	7.99
8"	343		28.4	44.5	246.1	269.7	298.5	8	22.4	3/4	13.29
10"	406		30.2	49.3	304.8	323.9	362	12	25.4	7/8	19.5
12"	483		31.8	55.6	365.3	381	431.8	12	25.4	7/8	29.03
14"	533		35.1	57.2	400.1	412.8	476.3	12	28.4	1	38.56
16"	597		36.6	63.5	457.2	469.9	539.8	16	28.4	1	44.49
18"	635		39.6	68.3	505	533.4	577.9	16	31.8	1 1/8	54.43
20"	699		42.9	73.2	558.8	584.2	635	20	31.8	1 1/8	70.31
24"	813		47.8	82.6	663.4	692.2	749.3	20	35.1	1 1/4	95.25

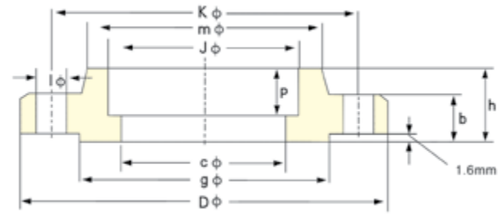
150 lb/sq.in.
Socket Welding Flanges



ANSI B16.5

Pipe	Flange						Hub	Raised Face	Drilling Template				Weight (KG)
Nom. Size in	D mm	J mm	C mm	p mm	b mm	h mm	m mm	g mm	K mm	Number	l mm	Diam of Bolt (inch)	
1/2"	89	22.4	15.7	9.7	11.2	15.7	30.2	35.1	60.5	4	15.7	1/2	0.47
3/4"	99	27.7	20.8	11.2	12.7	15.7	38.1	42.9	69.9	4	15.7	1/2	0.59
1"	108	34.5	26.7	12.7	14.2	17.5	49.3	50.8	79.2	4	15.7	1/2	0.87
1.1/4"	117	43.2	35.1	14.2	15.7	20.6	58.7	63.5	88.9	4	15.7	1/2	1.11
1.1/2"	127	49.5	40.9	15.7	17.5	22.4	65	73.2	98.6	4	15.7	1/2	1.45
2"	152	62	52.6	17.5	19.1	25.4	77.7	91.9	120.7	4	19.1	5/8	2.33
2.1/2"	178	74.7	62.7	19.1	22.4	28.4	90.4	104.6	139.7	4	19.1	5/8	3.55
3"	191	90.7	78	20.6	23.9	30.2	108	127	152.4	4	19.1	5/8	4.02
3.1/2"	216	103.4	90.2	22.4	23.9	31.8	122.2	139.7	177.8	8	19.1	5/8	4.99
4"	229	116.1	102.4	23.9	23.9	33.3	134.9	157.2	190.5	8	19.1	5/8	5.99
5"	254	143.8	128.3	23.9	23.9	36.6	163.6	185.7	215.9	8	22.4	3/4	6.68
6"	279	170.7	154.2	26.9	25.4	39.6	192	215.9	241.3	8	22.4	3/4	7.99
8"	343	221.5	202.7	31.8	28.4	44.5	246.1	269.7	298.5	8	22.4	3/4	13.29
10"	406	276.4	254.5	33.3	30.2	49.3	304.8	323.9	362	12	25.4	7/8	19.5
12"	483	327.2	304.8	39.6	31.8	55.6	365.3	381	431.8	12	25.4	7/8	29.03
14"	533	359.2	336.6	41.4	35.1	57.2	400.1	412.8	476.3	12	28.4	1	38.56
16"	597	410.5	387.4	44.5	36.6	63.5	457.2	469.9	539.8	16	28.4	1	44.49
18"	635	461.8	438.2	49.3	39.6	68.3	505	533.4	577.9	16	31.8	1 1/8	54.43
20"	699	513.1	489	54.1	42.9	73.2	558.8	584.2	635	20	31.8	1 1/8	70.31
24"	813	616	590.6	63.5	47.8	82.6	663.4	692.2	749.3	20	35.1	1 1/4	95.25

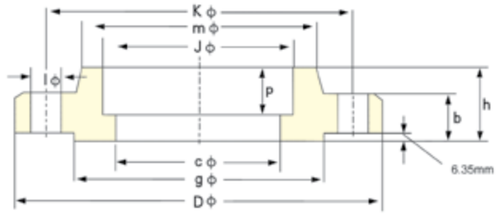
300 lb/sq.in.
Socket Welding Flanges



ANSI B16.5

Pipe	Flange						Hub	Raised Face	Drilling Template				Weight (KG)
Nom. Size in	D mm	J mm	C mm	p mm	b mm	h mm	m mm	g mm	K mm	Number	l mm	Diam of Bolt (inch)	
1/2"	95	22.4	15.7	9.7	14.2	22.4	38.1	35.1	66.5	4	15.7	1/2	0.62
3/4"	117	27.7	20.8	11.2	15.7	25.4	47.8	42.9	82.6	4	19.1	5/8	1.19
1"	124	34.5	26.7	12.7	17.5	26.9	53.8	50.8	88.9	4	19.1	5/8	1.44
1.1/4"	133	43.2	35.1	14.2	19.1	26.9	63.5	63.5	98.6	4	19.1	5/8	1.73
1.1/2"	155	49.5	40.9	15.7	20.6	30.2	69.9	73.2	114.3	4	22.4	3/4	2.62
2"	165	62	52.6	17.5	22.4	33.3	84.1	91.9	127	8	19.1	5/8	2.94
2.1/2"	191	74.7	62.7	19.1	25.4	38.1	100.1	104.6	149.4	8	22.4	3/4	4.49
3"	210	90.7	78	20.6	28.4	42.9	117.3	127	168.1	8	22.4	3/4	6.2
3.1/2"	229	103.4	90.2	22.4	30.2	44.5	133.4	139.7	184.2	8	22.4	3/4	-
4"	254	116.1	102.4	23.9	31.8	47.8	146.1	157.2	200.2	8	22.4	3/4	-
5"	279	143.8	128.3	23.9	35.1	50.8	177.8	185.7	235	8	22.4	3/4	-
6"	318	170.7	154.2	26.9	36.6	52.3	206.2	215.9	269.7	12	22.4	3/4	-
8"	381	221.5	202.7	31.8	41.1	62	260.4	269.7	330.2	12	25.4	7/8	-
10"	445	276.4	254.5	33.3	47.8	66.5	320.5	323.9	387.4	16	28.4	1	-
12"	521	327.2	304.8	39.6	50.8	73.2	374.7	381	450.9	16	31.8	1 1/8	-
14"	584	359.2	336.6	41.4	53.8	76.2	425.5	412.8	514.4	20	31.8	1 1/8	-
16"	648	410.5	387.4	44.5	57.2	82.6	482.6	469.9	571.5	20	35.1	1 1/4	-
18"	711	461.8	438.2	49.3	60.5	88.9	533.4	533.4	628.7	24	35.1	1 1/4	-
20"	775	513.1	489	54.1	63.5	95.3	587.2	584.2	685.8	24	35.1	1 1/4	-
24"	914	616	590.6	63.5	69.9	106.4	701.5	692.2	812.8	24	41.1	1 1/2	-

600 lb/sq.in.
Socket Welding Flanges



ANSI B16.5

Pipe	Flange						Hub	Raised Face	Drilling Template				Weight (KG)
Nom. Size in	D mm	J mm	C mm	p mm	b mm	h mm	m mm	g mm	K mm	Number	l mm	Diam of Bolt (inch)	
1/2"	95	22.4		9.7	14.2	22.4	38.1	35.1	66.5	4	15.7	1/2	0.91
3/4"	117	27.7		11.2	15.7	25.4	47.8	42.9	82.6	4	19.1	5/8	1.36
1"	124	34.5		12.7	17.5	26.9	53.8	50.8	88.9	4	19.1	5/8	1.81
1.1/4"	133	43.2		14.2	20.6	28.4	63.5	63.5	98.6	4	19.1	5/8	2.6
1.1/2"	155	49.5		15.7	22.4	31.8	69.9	73.2	114.3	4	22.4	3/4	3.18
2"	165	62		17.5	25.4	36.6	84.1	91.9	127	8	19.1	5/8	3.9
2.1/2"	191	74.7		19.1	28.4	41.1	100.1	104.6	149.4	8	22.4	3/4	5.9
3"	210	90.7		20.6	31.8	46	117.3	127	168.1	8	22.4	3/4	7.4
3.1/2"	229	103.4		22.4	35.1	49.3	133.4	139.7	184.2	8	22.4	7/8	-
4"	273	116.1		23.9	38.1	53.8	152.4	157.2	215.9	8	25.4	7/8	-
5"	330	143.8		23.9	44.5	60.5	189	185.7	266.7	8	28.4	1	-
6"	356	170.7		26.9	47.8	66.5	222.3	215.9	292.1	12	28.4	1	-
8"	419	221.5		31.8	55.6	76.2	273.1	269.7	349.3	12	31.8	1 1/8	-
10"	508	276.4		33.3	63.5	85.9	342.9	323.9	431.8	16	35.1	1 1/4	-
12"	559	327.2		39.6	66.5	91.9	400.1	381	489	20	35.1	1 1/4	-
14"	603	359.2		41.4	69.9	93.7	431.8	412.8	527.1	20	38.1	1 3/8	-
16"	686	410.5		44.5	76.2	106.4	495.3	469.9	603.3	20	41.1	1 1/2	-
18"	743	461.8		49.3	82.6	117.3	546.1	533.4	654.1	20	44.5	1 5/8	-
20"	813	513.1		54.1	88.9	127	609.6	584.2	723.9	24	44.5	1 5/8	-
24"	940	616		63.5	101.6	139.7	717.6	692.2	838.2	24	50.8	1 7/8	-

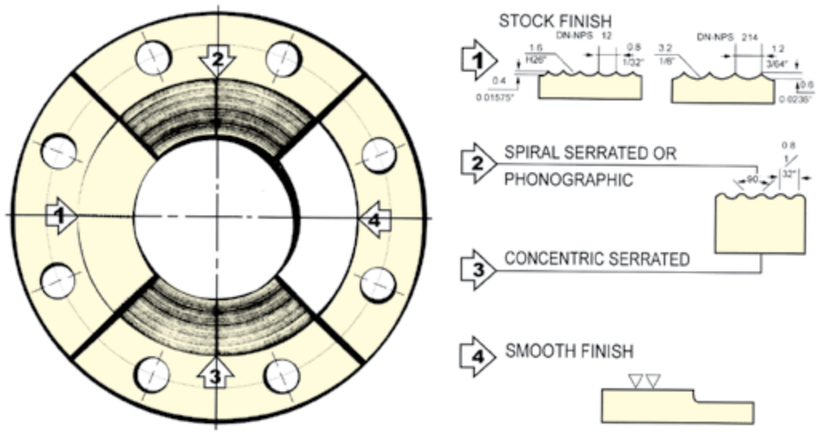
MATERIAL SPECIFICATIONS

ASTM	Grade	Classfication	CHEMICAL COMPOSTTION								MECHANICAL JPROPERTIES				
			C %	Ma %	P Max %	S Max %	Si %	Ni %	Cr %	Mo %	T.S Min. psi (kg/mm^2)	Y.S Min. psi (kg/mm^2)	EL Min. %	Red Min. %	HB
A-105*	-	Carbon Steel	MAX 0.35	0.6-1.05	0.04	0.05	MAX 0.35	MAX 0.4	MAX 0.3	MAX 0.12	70 (49.2)	36 (25.3)	22	30	MAX 187
A-181	60	Carbon Steel	MAX 0.35	MAX 0.9	0.04	0.05	MAX 0.35	-	-	-	60(42.2)	30 (21.1)	22	35	-
A-181	70	Carbon Steel	MAX 0.35	MAX 0.9	0.05	0.05	MAX 0.35	-	-	-	70 (49.2)	35(25.3)	18	24	-
A-182	F1	1/2 Mo	MAX 0.28	0.6-0.9	0.05	0.045	0.15-0.35	-	-	0.44-0.65	70 (49.2)	40(28.1)	20	30	143-192
A-182	F5	5Gr-1/Mo	MAX 0.15	0.3-0.6	0.045	0.03	MAX 0.5	MAX 0.5	4/6	0.44-0.65	70 (49.2)	40(28.1)	20	35	143-217
A-182	F5a	5Gr-1/Mo	MAX 0.25	MAX 0.6	0.03	0.03	MAX0.5	MAX 0.5	4/6	0.44-0.65	90(63.3)	65(45.7)	22	50	187-248
A-182	F304	18Gr-8Ni	MAX 0.08	MAX 2	0.04	0.03	MAX 1	8/11	18-20	-	75 (52.7)	30 (21.1)	30	50	-
A-182	F304L	18Gr-8Ni low	MAX 0.035	MAX 2	0.04	0.03	MAX 1	8/13	18-20	-	70 (49.2)	25 (17.6)	30	50	-
A-182	F316	18Gr-8Ni Mo	MAX 0.08	MAX 2	0.04	0.03	MAX 1	10/14	16-18	2/3	75 (52.7)	30 (21.7)	30	50	-
A-182	F316L	18Gr-8Ni Mo-Low	MAX 0.035	MAX 2	0.04	0.03	MAX 1	10/15	16-18	2/3	65 (45.7)	25 (17.6)	30	50	-
A-182	F321	18Gr-8Ni Ti	MAX 0.08	MAX 2	0.03	0.03	MAX 1	9/12	Min 17	-	75 (52.7)	30 (21.1)	30	50	-
A-182	F347	18Gr-8Ni Cb	MAX 0.08	MAX 2	0.03	0.03	MAX 1	9/13	17-20	-	75 (52.7)	30 (21.1)	30	50	-
A-350*	LF1	Carbon Steel	MAX 0.3	0.75-1.05	0.035	0.04	0.15-0.3	MAX 0.4	MAX 0.3	MAX 0.12	60-85 (42.2-59.7)	30 (21.1)	25	38	-
A-350*	LF2	Carbon Steek	MAX 0.3	MAX 1.35	0.035	0.04	0.15-0.3	MAX 0.4	MAX 0.3	MAX 0.12	70 -95 (49.2-66.8)	36 (25.3)	22	30	-
A-350*	LF3	3 1/2 Ni	MAX 0.2	MAX 0.9	0.035	0.04	0.2-0.35	3.25-3.75	MAX 0.3	MAX 0.12	70 -95 (49.2-66.8)	37.5 (26.4)	22	35	-

Standard	Thick-ness	-	C %	Ma %	P Max %	S Max %	Si %	Ni %	Cr %	MO %	AL %	V %	CU %	MN %	N %
S355J2G3	≤30	-	≤0.22	≤ 1,60	0.035	0.035	≤ 0,55	-	-	-	-	-	-	-	-
S355J2G3	>30	-	≤0.2	≤ 1,60	0.035	0.035	≤ 0,55	-	-	-	-	-	-	-	-
C22.8	-		0,18-0,23	0,30 - 0,90	0.025	0.015	≤ 0,40	≤ 0,30	≤ 0,30	-	0,015-0,05	-	-	-	-
P250GH	-	-	0.18-0.23	-	0.025	0.015	0.2-0.4	0.3	0.3	0.08	-	0.02	0.3	0.4-0.9	-
S235JRG2	≤ 16	-	≤ 0,17	-	0.035	0.035	≤ 0,55	-	≤ 0,30	≤ 0,08	≥ 0,02	-	≤ 0.55	≤ 1,40	0.012
	≤ 40	-	≤ 0,20	-	0.035	0.035	≤ 0,55	-	≤ 0,30	≤ 0,08	≥ 0,02	-	≤ 0.55	≤ 1,40	0.012
	>40	-	≤ 0,22	-	0.035	0.035	≤ 0,55	-	≤ 0,30	≤ 0,08	≥ 0,02	-	≤ 0.55	≤ 1,40	0.012

STANDARD FINISH

STANDARD FINISHES for Face of Flange (ANSI B16.5)



STOCK FINISH:The most eidely used of any gasket finish,because,practically,is suitable for all ordinary service conditions. This is a continuous spiral groove.Flanges sizes 12" (304.8mm)and smaller,are produced with a 1/16" round–nosed tool at a feed of 1/32" per revolution.For sizes 14" (355.6mm)and larger,the finish is made with 1/8" round–nosed tool at a feed of 3/64" per revolution.

SPIRALSERRATED OR PHONOGRAPHIC:This finish is produced by using a 90° round–nosed tool.

CONCENTRIC SERRATED:This finish a produced by using a 90° round–nosed tool.

SMOOTH FINISH:The cutting tool employed shall have an approximate 0.06" radius.

The resultant surface finish shall have a 125 μ inch to 250 μ inch (ANSI B 16.5 para 6.4;4.1)

1.RAISED FACE,AND LARGE MALE AND FEMALE

Either a serrated–concentric or serrated–spiral finish having from 34 to 64 grooves per inch is used.

The cutting tool employed hsa an approximate 0.06 in.radius.The resultant surface finish shall have a 125μ inch (3.2μ m)to 500 μ inch (12.5 μ m) approximate roughness.

2.TONGUE AND GROOVE,AND SMALL MALE AND FEMALE

The gasket contact surface does not exceed 125 μ in.(3.2μ m)roughness.

3.RING JOINT

The inside wall surface of gasket groove does not exceed 63 μ in.(1.6μ m)roughness

4.BLIND

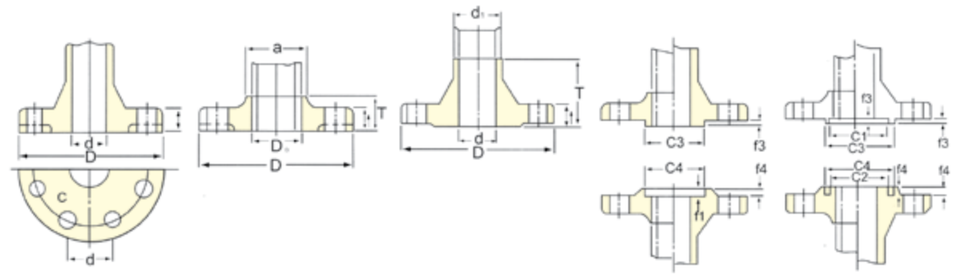
Blind flanges need not be faced in the center.if,when this center part is raised,its diameter is at least 1 in.smallest than the inside diameter of fittings of the corresponding pressure class.When the center part is depressed.its diameter is not greater than the inside diameter of the corresponding pressure class fittings. Machining of the depressed center is not required.

TOLERANCE

ANSI B16.5 FORGED FLANGES

SOLID FLANGE SLIP–ON FLANGE WELDING NECK FLANNGE TYPE OF GASKET SURFACE

MALE & FEMALE TYPE TONGUE & GRPPVE TYPE



THREAD SOCKET–WELDING SLIP–ON LAP JOINT AND BLING

Outside Dismeter	When O.D.is 24" or less	± 1/16" (1.6mm)
	When O.D.is Over 24"	± 1.8" (3.2mm)
Inside Diameter	Thread	Within Limits on boring gauge
	Socket–Welding Slip–on and Lap joint	10" & Smaller +1/32" (0.8mm)–0" 12" & Larger +1/16" (1.6mm)–0"
Outside Diameter of Hub	5" and Smaller	+3/32" (2.4mm) –1/32" (0.8mm)
	6" and Larger	+5/32" (4.0mm) –1/32" (0.8mm)
Diameter of Contact Face	1/16" Raised Face	± 1/32" (0.8mm)
	1/4" Raised Face Tongue & Groove Male.Female	± 1/64" (0.4mm)
Diameter of Counterbore	Same as for Inside Diameter	
Drilling	Bolt Cirle	± 16" (1.6mm)
	Bolt Hole Spacing	± 1/32" (0.8mm)
	Eccentricity of Bolt Circle with Respect to Facing	21/2" Smaller 1/32" (0.8mm)Max. 3" &Larger 1/16" (1.6mm)Max.
	Eccentricity of Bolt Circle with Respect to Bore	1/32" (0.8mm)Max.
	Eccentricity of Facing with Respect to Bore	1/32" (0.8mm)Max.
Thickness	18" and Smaller	+ 1/8" (3.2mm)–0"
	20" and Larger	+3/16" (4.8mm)–0"
Length Thru Hub	10" and Smaller	± 1/16" (1.6mm)
	12" and Larger	± 1/8" (3.2mm)

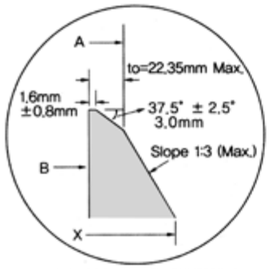
WELDING NECK

Outside Dismeter	When O.D.is 24" or less	± 1/16" (1.6mm)
	When O.D.is Over 24"	± 1/8" (3.2mm)
Inside Diameter	10" and Smaller	± 1/32" (0.8mm)
	12" thru 18"	± 1/16" (1.6mm)
	20" and Larger	+1/8" (3.2mm) –1/16" (1.6mm)
Diameter of Contact Face	1/16" Raised Face	± 1/32" (0.8mm)
	1/4" Raised Face Tongur & Groove Male.Female	± 1/64" (0.4mm)
Diameter of Hub at Base	When Hub Base is 24" or Smaller	± 1/16" (1.6mm)
	When Hub ase is Over 24"	± 1/8" (3.2mm)
Diameter of Hub at Point of Welding	5" and Smaller	+3/32" (2.4mm) –1/32" (4.0mm)
	6" and Larger	+5/32" (4.0mm) –1/32mm(0.8mm)
Drilling	Bolt Cirle	± 1/16" (1.6mm)
	Bolt Hole Spacing	± 1/32" (0.8mm)
	Eccentricity of Bolt Circle with Respect to facing	21/2" &Smaller 1/32"0.8mm)Max. 3" & Larger 1/16" (1.6mm)Max.
	Eccentricity of Bolt Circle with Respect	1/32" (0.8mm)Max.
	Eccentricity of Bolt Circle with Respect to Bore	1/32" (0.8mm)Max.
Thickness	18" and Smaller	+1/8" (3.2mm)–0"
	20" and Larger	+3/16" (4.8mm)–0"
Length Thru Hub	10" and Smaller	± 1/16" (1.6mm)
	12" and Larger	± 1/8" (3.2mm)

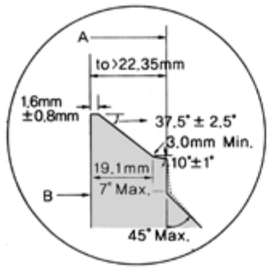
Note:*This tolerance is not covered in ANSI B16.5,but maker' s option.

CLASS 75 FLANGES

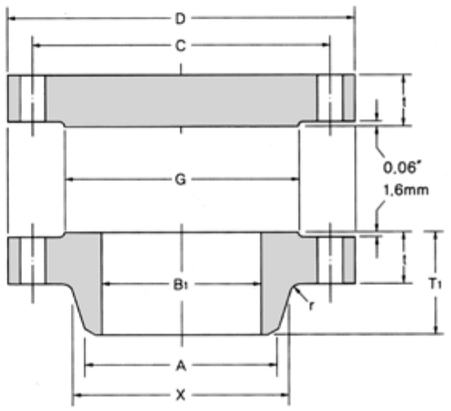
ANSI B16.47 SER.B(API 650)



BEVEL FOR WALL THICKNESS(to)
0.88" IN.(22.35mm) OR LESS.



BEVEL FOR WALL THICKNESS(to)
GREATER THAN 0.88 IN.(22.35mm)

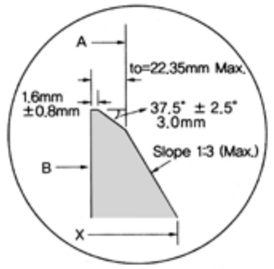


Nominal Pipe Size	Outside Diam	O.D. of Raised Face	Diam. of Hub at Base	Diam. of Hub at Bevel	BORE Wall Thickness 6.35mm	BORE Wall Thickness 9.5mm	BORE Wall Thickness 12.7mm	Length Thru Hub	THICKNESS Blind	THICKNESS Welding	Radius at Base of Hub	DRILLING Bolt Circle Diam	DRILLING Number of Holes	DRILLING Diam. of Holes	Approximate Weight(kg) Welding neck	Approximate Weight(kg) Blind
	D	G	X	A	B1			T1	t	t	r	c				
26	762	704.9	676.1	661.9	647.7	641.4	635.0	58.7	33.3	33.3	7.9	723.9	36	19.1	36.3	115.7
28	813	755.7	726.9	712.7	698.5	692.2	685.8	62.0	33.3	33.3	7.9	774.7	40	19.1	38.6	131.5
30	864	806.5	777.7	763.5	749.3	743.0	736.6	65.0	33.3	33.3	7.9	825.5	44	19.1	40.8	149.7
32	914	857.3	828.5	814.3	800.1	793.8	787.4	69.9	36.6	35.1	7.9	876.3	48	19.1	47.6	176.9
34	965	908.1	879.3	865.1	850.9	844.6	838.2	73.2	38.1	35.1	7.9	927.1	52	19.1	49.9	195.0
36	1034	965.2	935.0	915.9	850.9	895.4	889.0	85.9	42.4	36.6	9.7	992.1	40	22.4	65.8	235.0
38	1084	1016.0	985.8	966.7	952.5	946.2	939.8	88.9	44.5	38.1	9.7	1042.9	40	22.4	72.6	269.9
40	1135	1066.8	1036.6	1017.5	1003.3	997.0	990.6	91.9	44.5	38.1	9.7	1093.7	44	22.4	77.1	344.7
42	1186	1117.6	1087.4	1068.3	1054.1	1047.8	1041.4	95.3	47.8	39.6	9.7	1144.5	48	22.4	83.9	406.0
44	1251	1174.8	1140.0	1119.1	1104.9	1049.4	1143.0	104.6	49.3	42.9	9.7	1203.5	36	25.4	104.3	483.1
46	1302	1225.6	1190.8	1169.9	1155.7	1149.4	1143.0	108.0	50.8	44.5	9.7	1254.3	40	25.4	111.1	537.5
48	1353	1276.4	1241.6	1220.7	1206.5	1200.2	1193.8	111.3	53.8	46.0	9.7	1305.1	44	25.4	122.5	596.5
50	1403	1327.2	1293.9	1271.5	1257.3	1251.0	1244.6	115.8	55.4	47.8	9.7	1355.9	44	25.4	131.5	682.7
52	1457	1378.0	1344.7	1322.3	1308.1	1301.8	1295.4	120.7	57.2	47.8	9.7	1409.7	48	25.4	140.6	755.2
54	1508	1428.8	1397.0	1373.1	1358.9	1352.6	1346.2	125.5	60.5	49.3	9.7	1460.5	48	25.4	154.2	834.6
56	1575	1485.9	1450.8	1423.9	1409.7	1403.4	1397.0	134.9	62.0	50.8	11.2	1521.0	40	28.4	181.4	957.1
58	1626	1536.7	1501.6	1474.7	1460.5	1454.2	1447.8	138.2	63.5	52.3	11.2	1571.8	44	28.4	195.0	1043.3
60	1676	1587.5	1552.4	1525.5	1511.3	1505.0	1498.6	144.5	66.5	55.6	11.2	1622.6	44	28.4	215.5	1134.0

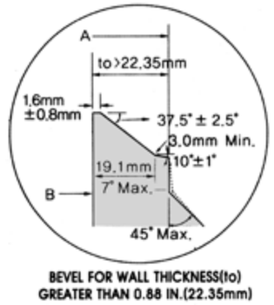
Notes
(1) ' Bore' (B1) of flanges shall be specified by the purchaser.
(2) Class 300 flanges will be furnished with 0.06" (1.6mm) raised face which is included in 'Thickness' (t) and 'Length thru Hub' (T1).

CLASS 150 FLANGES

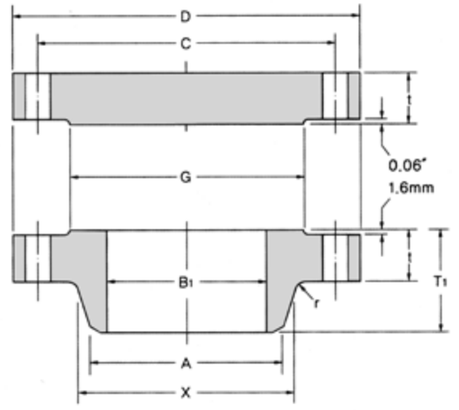
ANSI B16.47 SER.B(API 650)



BEVEL FOR WALL THICKNESS(to)
0.88" IN.(22.35mm) OR LESS.



BEVEL FOR WALL THICKNESS(to)
GREATER THAN 0.88 IN.(22.35mm)

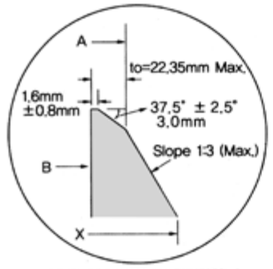


Nominal Pipe Size	Outside Diam	O.D. of Raised Face	Diam. of Hub at Base	Diam. of Hub at Bevel	BORE Wall Thickness 6.35mm	BORE Wall Thickness 9.5mm	BORE Wall Thickness 12.7mm	Length Thru Hub	THICKNESS Blind	THICKNESS Welding	Radius at Base of Hub	DRILLING Bolt Circle Diam	DRILLING Number of Holes	DRILLING Diam. of Holes	Approximate Weight(kg) Welding neck	Approximate Weight(kg) Blind
	D	G	X	A	B1			T1	t	t	r	c				
26	786	711.2	684.3	661.9	647.7	641.4	635.0	88.9	44.5	41.1	9.7	744.5	36	22.4	54.4	169.2
28	837	762.0	735.1	712.7	698.5	692.2	685.8	95.3	47.8	44.5	9.7	795.3	40	22.4	63.5	205.9
30	887	812.8	787.4	763.5	749.3	743.0	736.6	100.1	50.8	44.5	9.7	846.1	44	22.4	68.0	246.3
32	941	863.6	839.7	814.3	800.1	793.8	737.4	108.0	53.8	46.0	9.7	900.2	48	22.4	77.1	293.9
34	1005	920.8	892.0	865.1	850.9	844.6	838.2	110.2	57.2	49.3	9.7	957.3	40	25.4	95.3	355.2
36	1057	971.6	944.6	915.9	901.7	895.4	889.0	117.3	58.7	52.3	9.7	1009.7	44	25.4	108.9	403.7
38	1124	1022.4	997.0	968.2	952.5	946.2	939.8	124.0	63.5	53.8	9.7	1069.8	40	28.4	131.5	494.0
40	1175	1079.5	1049.3	1019.0	1003.3	997.0	990.6	128.5	66.5	55.6	9.7	1120.6	44	28.4	140.6	565.6
42	1226	1130.3	1101.9	1069.8	1054.1	1047.8	1041.4	133.4	68.3	58.7	11.2	1171.4	48	28.4	156.5	631.9
44	1276	1181.1	1152.7	1120.6	1104.9	1098.6	1092.2	136.7	71.4	60.5	11.2	1222.2	52	31.8	167.8	716.2
46	1341	1234.9	1205.0	1171.4	1155.7	1149.4	1143.0	144.5	74.7	62.0	11.2	1284.2	40	31.8	197.3	827.4
48	1392	1289.1	1257.3	1222.2	1206.5	1200.2	1193.8	149.4	77.7	65.0	11.2	1335.0	44	31.8	217.7	927.6
50	1443	1339.9	1308.1	1273.0	1257.3	1251.0	1244.6	153.9	80.8	68.3	11.2	1385.8	48	31.8	235.9	1036.0
52	1494	1390.7	1360.4	1323.8	1308.1	1301.8	1295.4	157.2	84.1	69.9	11.2	1436.6	52	31.8	249.5	1155.3
54	1549	1441.5	1412.7	1374.6	1358.9	1352.6	1346.2	162.1	87.4	71.4	11.2	1492.3	56	31.8	281.2	1291.9
56	1600	1492.3	1465.3	1425.4	1409.7	1403.4	1397.0	166.6	90.4	73.2	14.2	1543.1	60	31.8	294.8	1426.1
58	1675	1543.1	1516.1	1476.2	1460.5	1454.2	1447.8	174.8	93.5	74.7	14.2	1611.4	48	35.1	353.8	1614.8
60	1726	1600.2	1570.0	1527.0	1511.3	1505.0	1498.6	179.3	96.8	76.2	14.2	1662.2	52	35.1	385.6	1774.9

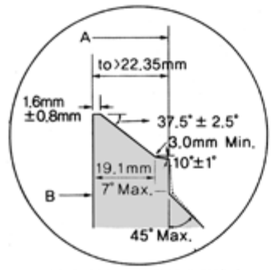
Notes
1) 'Bore' (B1) of flanges shall be specified by the purchaser.
2) Class 300 flanges will be furnished with 0.06" (1.6mm) raised face which is included in 'Thickness' (t) and 'Length thru Hub' (T1).

CLASS 300 FLANGES

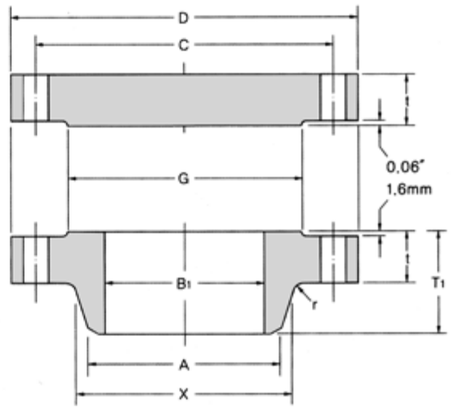
ANSI B16.47 SER.B(API 650)



BEVEL FOR WALL THICKNESS(to)
0.88" IN.(22.35mm) OR LESS.



BEVEL FOR WALL THICKNESS(to)
GREATER THAN 0.88 IN.(22.35mm)

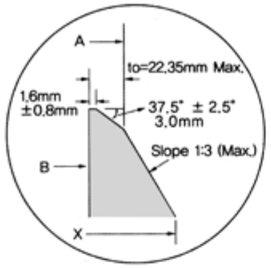


Nominal Pipe Size	Outside Diam	O.D. of Raised Face	Diam. of Hub at Base	Diam. of Hub at Bevel	BORE			Length Thru Hub	THICKNESS		Radius at Base of Hub	DRILLING			Approximate Weight(kg)	
					Wall Thickness				Blind	Welding		Bolt Circle Diam	Number of Holes	Diam. of Holes		
					6.35mm	9.5mm	12.7mm								Welding neck	Blind
	D	G	X	A	B1			T1	t	t	r	c				
26	867	736.6	701.5	665.2	647.7	641.4	635.0	144.5	88.9	88.9	14.2	803.1	32	35.1	181.4	411.4
28	921	787.4	755.7	716.0	698.5	692.2	685.8	149.4	88.9	88.9	14.2	857.3	36	35.1	204.1	464.0
30	991	844.6	812.8	768.4	749.3	743.0	736.6	158.0	93.7	93.7	14.2	920.8	36	38.1	249.5	566.5
32	1054	901.7	863.6	819.2	800.1	793.8	787.4	168.1	103.1	103.1	15.7	977.9	32	41.1	310.7	705.8
34	1108	952.5	917.4	870.0	850.9	844.6	838.2	173.0	103.1	103.1	15.7	1031.7	36	41.1	340.2	779.7
36	1171	1009.7	965.2	920.8	901.7	895.4	889.0	180.8	103.1	103.1	15.7	1089.2	32	44.5	381.0	871.4
38	1222	1060.5	1016.0	971.6	952.5	946.2	939.8	192.0	111.3	111.3	15.7	1140.0	36	44.5	415.0	1023.8
40	1273	1114.6	1066.8	1022.4	1003.3	997.0	990.6	198.4	115.8	115.8	15.7	1190.8	40	44.5	449.1	1156.2
42	1334	1168.4	1117.6	1074.7	1054.1	1047.8	1041.4	204.7	119.1	119.1	15.7	1244.6	36	47.8	514.8	1304.6
44	1384	1219.2	1173.2	1125.5	1104.9	1098.6	1092.2	214.4	127.0	127.0	15.7	1295.4	40	47.8	560.2	1498.7
46	1461	1270.0	1228.9	1176.3	1155.7	1149.4	1143.0	222.3	130.0	128.5	15.7	1365.3	36	50.8	666.8	1708.3
48	1511	1327.2	1277.9	1227.1	1206.5	1200.2	1193.8	223.8	134.9	128.5	15.7	1416.1	40	50.8	714.4	1897.4
50	1562	1378.0	1330.5	1277.9	1257.3	1251.0	1244.6	235.0	139.7	138.2	15.7	1466.9	44	50.8	775.7	2099.7
52	1613	1428.8	1382.8	1328.7	1308.1	1301.8	1295.4	242.8	144.3	142.7	15.7	1517.7	48	50.8	834.6	2311.5
54	1673	1479.6	1435.1	1379.5	1358.9	1352.6	1346.2	239.8	149.4	136.7	15.7	1577.8	48	50.8	898.1	2575.5
56	1765	1536.7	1493.8	1430.3	1409.7	1403.4	1397.0	268.2	157.0	153.9	17.5	1651.0	36	60.5	1177.1	3012.8
58	1827	1593.9	1547.9	1481.1	1460.5	1454.2	1447.8	274.6	162.1	153.9	17.5	1712.0	40	60.5	1256.6	3332.6
60	1878	1651.0	1598.7	1531.9	1511.3	1505.0	1498.6	271.5	166.6	150.9	17.5	1763.8	40	60.5	1301.8	3619.7

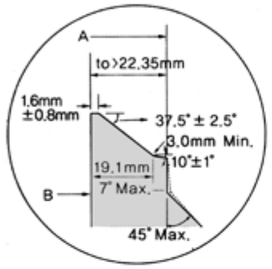
Notes
1) 'Bore' (B1) of flanges shall be specified by the purchaser.
2) Class 300 flanges will be furnished with 0.06" (1.6mm) raised face which is included in 'Thickness' (t) and 'Length thru Hub' (T1).

CLASS 400 FLANGES

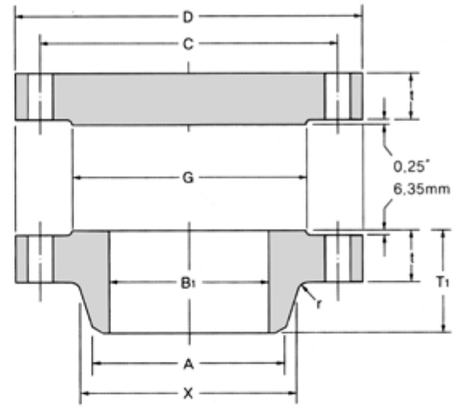
ANSI B16.47 SER.B(API 650)



BEVEL FOR WALL THICKNESS(to)
0.88" IN.(22.35mm) OR LESS.



BEVEL FOR WALL THICKNESS(to)
GREATER THAN 0.88 IN.(22.35mm)

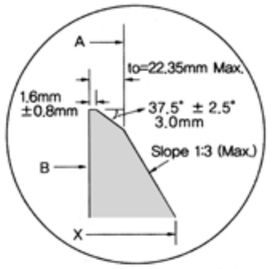


Nominal Pipe Size	Outside Diam	O.D. of Raised Face	Diam. of Hub at Base	Diam. of Hub at Bevel	BORE			Length Thru Hub	THICKNESS		Radius at Base of Hub	DRILLING			Approximate Weight(kg)	
					Wall Thickness				Blind	Welding		Bolt Circle Diam	Number of Holes	Diam. of Holes		
					6.35mm	9.5mm	12.7mm								Welding neck	Blind
	D	G	X	A	B1			T1	t	t	r	c				
26	850.9	711.2	688.8	660.4	647.7	641.4	635.0	149.4	88.9	88.9	11.2	781.1	28	38.1	163.3	396.4
28	914.4	762.0	739.6	711.2	698.5	692.2	685.8	158.8	95.3	95.3	12.7	838.2	24	41.1	204.1	490.3
30	971.6	819.2	793.8	762.0	749.3	743.0	736.6	169.9	101.6	101.6	12.7	895.4	28	41.1	240.4	590.6
32	1035.1	873.3	844.6	812.8	800 .1	793.8	787.4	179.3	108.0	108.0	12.7	952.5	28	44.5	288.0	712.2
34	1085.9	927.1	898.7	863.6	850.9	844.6	838.2	187.5	111.3	111.3	14.2	1003.3	32	44.5	313.0	807.9
36	1155.7	980.9	952.5	914.4	901.7	895.4	889.0	200.2	119.1	119.1	14.2	1066.8	28	47.8	387.8	979.8
38	1206.5	1035.1	1003.3	965.2	952.5	946.2	939.8	206.2	124.0	124.0	14.2	1117.6	32	47.8	424.1	1111.3
40	1270.0	1092.2	1054.1	1016.0	1003.3	997.0	990.6	215.9	130.0	130.0	14.2	1174.8	32	50.8	494.4	1291.9
42	1320.8	1143.0	1107.9	1066.8	1054.1	1047.8	1041.4	223.8	133.4	133.4	14.2	1225.6	32	50.8	539.8	1432.9
44	1384.3	1200.2	1158.7	1117.6	1104.9	1098.6	1092.2	233.2	139.7	139.7	14.2	1282.7	32	53.8	623.7	1648.8
46	1441.5	1257.3	1212.9	1168.4	1155.7	1149.4	1143.0	244.3	146.1	146.1	14.2	1339.9	36	53.8	691.7	1868.8
48	1511.3	1308.1	1267.0	1219.2	1206.5	1200.2	1193.8	257.0	152.4	152.4	14.2	1403.4	28	60.5	811.9	2143.7
50	1568.5	1361.9	1320.8	1270.0	1257.3	1251.0	1244.6	268.2	158.8	157.2	14.2	1460.5	32	60.5	884.5	2405.4
52	1619.3	1412.7	1371.6	1320.8	1308.1	1301.8	1295.4	276.4	163.6	162.1	14.2	1511.3	32	60.5	963.9	2641.3
54	1701.8	1470.2	1425.4	1371.6	1358.9	1352.6	1346.2	289.1	171.5	169.9	14.2	1581.2	28	66.5	1163.5	3058.2
56	1752.6	1527.0	1479.6	1422.4	1409.7	1403.4	1397.0	298.5	176.3	174.8	14.2	1632.0	32	66.5	1229.3	3334.9
58	1803.4	1577.8	1530.4	1473.2	1460.5	1454.2	1447.8	306.3	180.8	177.8	14.2	1682.8	32	66.5	1465.1	3622.4
60	1886.0	1635.3	1584.5	1524.0	1511.3	1505.0	1498.6	319.0	189.0	185.7	14.2	1752.6	32	73.2	1732.8	4139.6

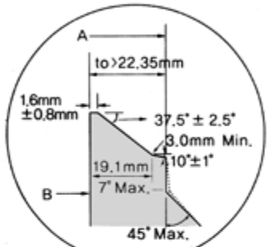
Notes
Diotesions for class 600, 900 NPS 36" and larger as the same as for series A flanges.

CLASS 600 FLANGES

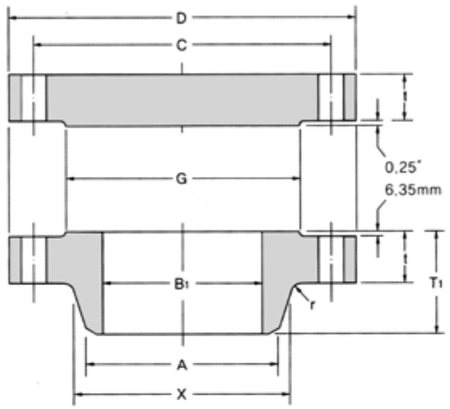
ANSI B16.47 SER.B(API 650)



BEVEL FOR WALL THICKNESS(to) 0.88" IN.(22.35mm) OR LESS.



BEVEL FOR WALL THICKNESS(to) GREATER THAN 0.88 IN.(22.35mm)

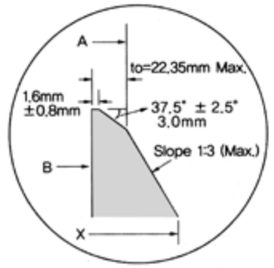


Nominal Pipe Size	Outside Diam	O.D. of Raised Face	Diam. of Hub at Base	Diam. of Hub at Bevel	BORE Wall Thickness 6.35mm	BORE Wall Thickness 9.5mm	BORE Wall Thickness 12.7mm	Length Thru Hub	THICKNESS Blind	THICKNESS Welding	Radius at Base of Hub	DRILLING Bolt Circle Diam	DRILLING Number of Holes	DRILLING Diam. of Holes	Approximate Weight(kg) Welding neck	Approximate Weight(kg) Blind
	D	G	X	A	B1	B1	B1	T1	t	t	r	c				
26	889.0	726.9	698.5	660.4	647.7	641.4	635.0	180.8	111.3	111.3	12.70	806.5	28	44.5	249.5	541.6
28	952.5	784.4	752.3	711.2	698.5	692.2	685.8	190.5	115.8	115.8	12.70	863.6	28	47.8	294.8	647.3
30	1022.4	841.2	806.5	762.0	749.3	743.0	736.6	204.7	127.0	125.5	12.70	927.1	28	50.8	367.4	817.4
32	1085.9	895.4	860.6	812.8	800.1	793.8	787.4	215.9	134.9	130.0	12.70	984.3	28	53.8	430.9	979.3
34	1162.1	952.5	914.4	863.6	850.9	844.6	838.2	233.4	144.3	141.2	14.22	1054.1	24	60.5	546.6	1199.8
36	1212.9	1009.7	968.2	914.4	901.7	895.4	889.0	242.8	150.9	146.1	14.22	1104.9	28	60.5	607.8	1366.7
38	1270.0	1054.1	1022.4	965.2	952.5	946.2	939.8	254.0	155.4	152.4	14.22	1162.3	28	60.5	666.8	1544.1
40	1320.8	1111.3	1073.2	1016.0	1003.3	997.0	990.6	263.7	162.1	158.8	14.22	1212.9	32	60.5	739.4	1740.9
42	1403.4	1168.4	1127.3	1066.8	1054.1	1047.8	1041.4	279.4	171.5	168.1	14.22	1282.7	28	66.5	920.8	2079.8
44	1454.2	1225.6	1181.1	1117.6	1104.9	1098.6	1092.2	289.1	177.8	173.0	14.22	1333.5	32	66.5	979.8	2315.6
46	1511.3	1276.4	1234.9	1168.4	1155.7	1149.4	1143.0	300.0	185.7	179.3	14.22	1390.7	32	66.5	1093.2	2611.8
48	1593.9	1333.5	1289.1	1219.2	1206.5	1200.2	1193.8	316.0	195.3	189.0	14.22	1460.5	32	73.2	1295.0	3055.9
50	1670.1	1384.3	1343.2	1270.0	1257.3	1251.0	1244.6	328.7	203.2	196.9	14.22	1524.0	28	79.2	1510.5	3490.5
52	1720.9	1435.1	1394.0	1320.8	1308.1	1301.8	1295.4	336.6	209.6	203.2	14.22	1574.8	32	79.2	1614.8	3822.0
54	1778.0	1492.3	1447.8	1371.6	1358.9	1352.6	1346.2	349.3	217.4	209.6	14.22	1632.0	32	79.2	1778.1	4233.4
56	1854.2	1543.1	1501.6	1422.4	1409.7	1403.4	1397.0	362.0	225.6	217.4	15.75	1695.5	32	85.9	1941.4	4776.0
58	1905.0	1600.2	1552.4	1473.2	1460.5	1454.2	1447.8	369.8	231.6	222.3	15.75	1746.3	32	85.9	2104.7	5177.4
60	1993.9	1657.4	1609.9	1524.0	1511.3	1505.0	1498.6	388.9	242.8	233.4	17.53	1822.5	28	91.9	2268.0	5945.8

Notes
Dimensions for class 600, 900 NPS 36 – and larger as the same as for series A flanges

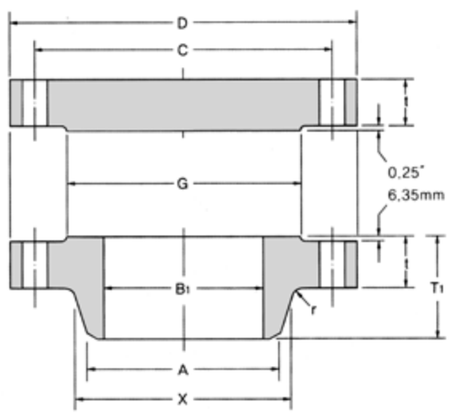
CLASS 900 FLANGES

ANSI B16.47 SER.B(API 650)



BEVEL FOR WALL THICKNESS(to) 0.88" IN.(22.35mm) OR LESS.

BEVEL FOR WALL THICKNESS(to) GREATER THAN 0.88 IN.(22.35mm)



Nominal Pipe Size	Outside Diam	O.D. of Raised Face	Diam. of Hub at Base	Diam. of Hub at Bevel	BORE Wall Thickness 6.35mm	BORE Wall Thickness 9.5mm	BORE Wall Thickness 12.7mm	Length Thru Hub	THICKNESS Blind	THICKNESS Welding	Radius at Base of Hub	DRILLING Bolt Circle Diam	DRILLING Number of Holes	DRILLING Diam. of Holes	Approximate Weight(kg) Welding neck	Approximate Weight(kg) Blind
	D	G	X	A	B1	B1	B1	T1	t	t	r	c				
26	1022.4	762.0	743.0	660.4	647.7	641.4	635.0	258.8	153.9	134.9	11.2	901.7	20	66.5	476.3	990.7
28	1104.9	819.2	797.1	711.2	698.5	692.2	685.8	276.4	166.6	147.6	12.7	971.6	20	73.2	689.5	1252.8
30	1181.1	876.3	850.9	762.0	749.3	743.0	736.6	289.1	176.0	155.4	12.7	1035.1	20	79.2	825.6	1512.3
32	1238.3	927.1	908.1	812.8	800.1	793.8	787.4	303.3	185.7	160.3	12.7	1092.2	20	79.2	936.7	1753.2
34	1314.5	990.6	962.2	863.6	850.9	844.6	838.2	319.0	195.1	171.5	14.2	1155.7	20	85.9	1111.3	2075.7
36	1346.2	1028.7	1016.0	914.4	901.7	895.4	889.0	325.4	201.7	173.0	14.2	1200.2	24	79.2	1143.1	2251.2
38	1460.5	1098.6	1073.2	965.2	952.5	946.2	939.8	352.6	215.9	190.5	19.1	1289.1	20	91.9	1535.4	2836.4
40	1511.3	1162.1	1127.3	1016.0	1003.3	997.0	990.6	363.5	223.8	196.9	20.6	1339.9	24	91.9	1642.0	3148.0
42	1562.1	1212.9	1176.3	1066.8	1054.1	1047.8	1041.4	371.3	231.6	206.2	20.6	1390.7	24	91.9	1796.3	3481.4
44	1648.0	1270.0	1234.9	1117.6	1104.9	1098.6	1092.2	390.7	242.8	214.4	22.4	1463.5	24	98.6	1950.5	4061.5
46	1733.6	1333.5	1292.4	1168.4	1155.7	1149.4	1143.0	411.0	255.5	225.6	22.4	1536.7	24	104.6	2104.7	4729.2
48	1784.4	1384.3	1343.2	1219.2	1206.5	1200.2	1193.8	419.1	263.7	233.4	23.9	1587.5	24	104.6	2258.9	5170.1

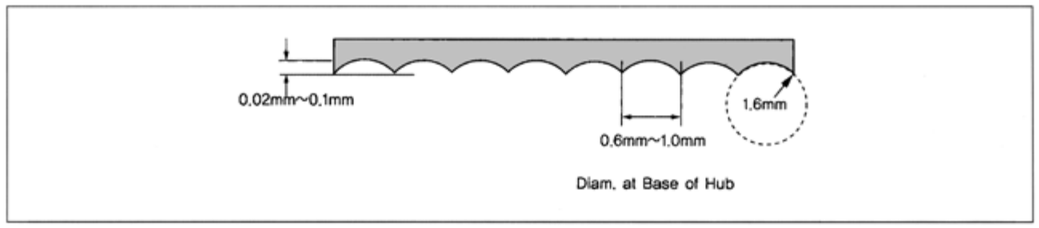
Notes
Dimensions for class 600, 900 NPS 36 – and larger as the same as for series A flanges

FINISH & TOLE PANCE

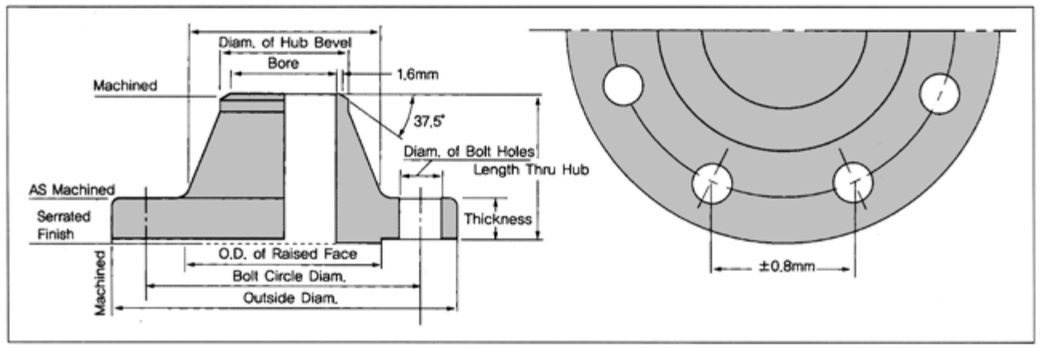
ANSI B16.47 SER.B FORGED FLANGES

1. Standard Finishes for Contact Face of Flanges

The flange face shall have a serrated finish consisting of 20 t0 40 grooves per inch, 0.002 in. t0 0.005 in. deep, cut spirally or concentrically with a round-nose tool.



2. Dimensional Tolerances for ASME B16.47 SER. B Flanges



Dimension	Folerance
Outside diameter of raised face	± 0.8mm
Flange thickness	+4.8mm, -0mm
Length thru hub	± 3.0mm
Diam. of hub at bevel	+4.1mm, -0.8mm
Bolt circle diameter	± 1.6mm
Center-to-center of adjacent bolt holes	± 0.8mm
Bore	+3.0mm, -1.6mm
Outside diameter	+3.0mm
Diameter at base of hub	± 3.0mm

Notes

(1) Flanges shall have bearing surfaces for bolting that are parallel to the flange face within I degree. Any back facing or spot facing required to accomplish parallelism between the flange face and nut bearing surface on the back of the flange shall not reduce the flange thickness.

(2) Tolerance for the welding end of a welding neck flange shall be in conformance with ANSI B16.25.

(3) Other tolerances than specified the table shall be in accordance with ANSI B16.5.

(4) The flange shall be either back-faced or spot-faced at the bolt- holes on the flange back if the nut bearing su rface at the back of the flange is not parallel with the flange face within the tolerances listed in Note(l), if the fillet at the hub interferes with the nut bearing surface or if the flange thickness exceed the minimum required thickness by more than 0.19 inch(4.8 millimeters) . The nut bearing surface is the spot-facing diameter at the bolt- holes as given in MSS SP-9. Spot-facing shall be in accordance with MSS SP-9

(5) Tolerances marked' are not covered in API 605.

ANSI B16.47 SER"A"

(MSS SP 44)FLANGES

A. MATERIALS

a) The steel used in the manufacture of the flanges shall be selected to meet the foltowing requirements.

b) The F48 and higher grades of Class 400,600 and 900 flanges shall be killed steel.

c) The steeJ used shall be suitable for field welding to other flanges, fittings, or pipe manufactured under ASTM specifications A105, A53, A106, A381, or API Standards 5L and 5LX.

d) The steel used shall have a maximum carbon content of 0.35 and a carbon equivalent computed by the following equation:

$$C_{E}=C+\frac{Mn}{6}+\frac{Si+Cr+Mo}{5}+\frac{Ni+Cu}{15}$$

that should not exceed 0.50%, based on check analysis. If the carbon equivalent factor exceeds 0.50%,the acceptance of the flanges shall be based on agreement of customer.

e) The choice and used of alloying elements, combined with the elements within the limits prescribed in paragraph A.d) to give the required tensile properties prescribed in paragraph A.f) shall be made by FELIX and reported in the chemical analysis tc identify the type of steel.

f) The steel used shall have tensile properties conforming to the requirements prescribed in following table.

B. HEAT TREATMENT

The F42 and higher grades of flanges of all pressure classes and the class 400 and higher classes of Grade F36 flanges shall I normalized or quenched and tempered.

C.TEST SPECIMEN

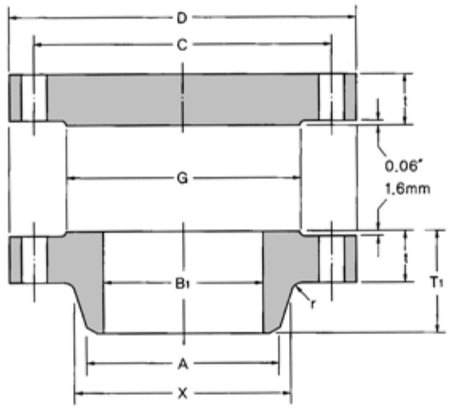
The test specimens may be taken from the forgings or, at the manufacturers' option, from the billets or forging bar entering into the finished product, provided such test blank has undergone relatively the same forming and the equivalent heat treatment as the finished flange. The dimensions of the test blank must be such as to adequately reflect the heat treatment properties of the hub of the flange.

ANSI B16.47 SER. A(MSS) FORGED FLANGES

Grade	Yield Point Min.		Tensile Strength Min.		Elongation in 2 In. Min. Recent
	KSI	Mpa	KSI	Mpa	
F36	36	248	60	414	20
F42	42	290	60	414	20
F46	46	317	60	414	20
F48	48	331	62	427	20
F50	50	345	64	441	20
F52	52	359	66	455	20
F56	56	386	68	469	20
F60	60	414	75	517	20
F65	65	448	77	531	18

CLASS 150 FLANGES

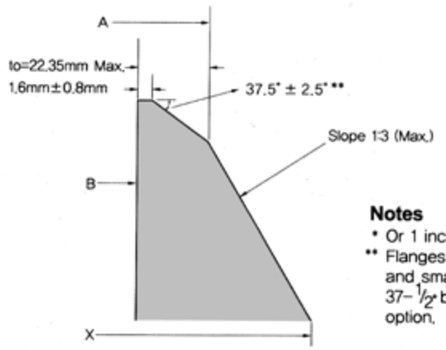
ANSI B16.47 SER.A(MSS SP 44)



Nominal Pipe Size	Outside Diam.	O.D. of Raised Face	Diam. at Base of Hub	Thickness	BORE		Length thru Hub
					Wall Thickness		
					9.5mm	12.7mm	
	D	G	X	t	B1		T1
12	483	381.0	365.3	31.8	304.8	298.5	114.3
14	533	412.8	400.1	35.1	336.6	330.2	127.0
16	597	469.9	457.2	36.6	387.4	381.0	127.0
18	635	533.4	505.0	39.6	438.2	431.8	139.7
20	699	584.2	558.8	42.9	489.0	482.6	144.5
22	749	64.4	609.6	46.0	539.8	533.4	149.4
24	813	692.2	663.4	47.8	590.6	584.2	152.4
26	870	749.3	676.1	68.3	641.4	635.0	120.7
28	927	800.1	726.9	71.4	692.2	685.8	125.5
30-	984	857.3	781.1	74.7	743.0	736.6	136.7
32	1060	914.4	831.9	80.8	793.8	787.4	144.5
34	1111	965.2	882.7	82.6	844.6	838.2	149.4
36	1168	1022.4	933.5	90.4	895.4	889.0	157.0
38	1238	1073.2	990.6	87.4	946.2	939.8	157.2
40	1289	1124.0	1041.4	90.4	997.0	990.6	163.6
42	1340	1193.8	1092.2	96.8	1047.8	1041.4	171.5
44	1403	1244.6	1143.0	101.6	1098.6	1092.2	177.8
46	1454	1295.4	1196.8	103.1	1149.4	1143.0	185.7
48	1511	1358.9	1247.6	108.0	1200.2	1193.8	192.0
50	1568	1409.7	1301.8	111.3	1251.0	1244.6	203.2
52	1626	1460.5	1352.6	115.8	1301.8	1295.4	209.6
54	1683	1511.3	1403.4	120.7	1352.6	1346.2	215.9
56	1746	1574.8	1457.5	124.0	1403.4	1397.0	228.6
58	1803	1625.6	1508.3	128.5	1454.2	1447.8	235.0
60	1854	1676.4	1559.1	131.8	1505.0	1498.6	239.8

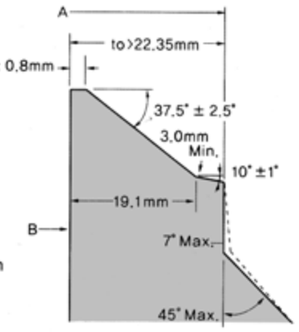
Notes
(1) For the 'Bore'(Bi) other than wall thickness 0.375" (9.5mm) and 0.500" (12.7mm), refer to page 50, 51.
(2) Class 1 50 flanges will be furnished with 0.06" (1 .6mm) raised face, which is included in 'Thickness'(t) and 'Length through Hub'(Ti)
(3) Dimensional tolerance are in accordance with ANSI B16.5

WELDING-ENDS FOR WELDING-NECK FLANGES



BEVEL FOR WALL THICKNESS(to) 0.88" IN.(22.35mm) OR LESS.

Notes
* Or 1 inch at manufacturer's option
** Flanges sizes 24" (609.6mm) and smaller may be furnished with 37–½° bevel at manufacturer's option.



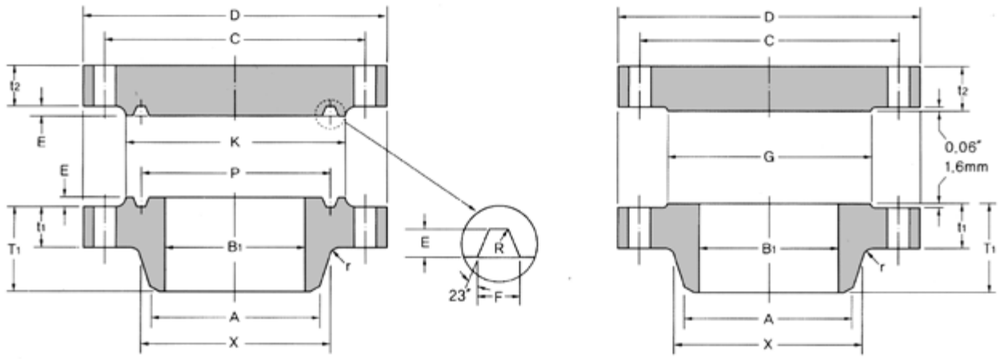
BEVEL FOR WALL THICKNESS(to) GREATER THAN 0.88 IN.(22.35mm)

Nominal Pipe Size	Diam. of Hub Bevel	Radius of Fillet	DRILLING			Approximate Weight(kg)	
			Bolt Circle Diam	Number of Holes	Diam of Holes	Weld-neck	Blind
	A	r	C				
12	304.8	9.7	431.8	12	25.4	38.98	43.70
14	355.6	9.7	476.3	12	28.4	51.71	59.42
16	406.4	9.7	539.8	16	28.4	64.41	77.11
18	457.2	9.7	577.9	16	31.8	74.84	94.80
20	508.0	9.7	635.0	20	31.8	89.36	123.38
22	558.8	9.7	692.2	20	35.1	112.00	–
24	609.6	9.7	749.3	20	35.1	119.66	188.24
26	660.4	9.7	806.5	24	35.1	136.10	318.40
28	711.2	11.2	863.6	28	35.1	156.50	377.80
30	762.0	11.2	914.4	28	35.1	181.40	445.40
32	812.8	11.2	977.9	28	41.1	229.10	561.10
34	863.6	12.7	1028.7	32	41.1	244.90	627.80
36	914.4	12.7	1085.9	32	41.1	290.30	760.20
38	965.2	12.7	1149.4	32	41.1	326.60	825.10
40	1,016.0	12.7	1200.2	36	41.1	351.50	925.30
42	1,066.8	12.7	1257.3	36	41.1	403.70	1080.00
44	1,117.6	12.7	1314.5	40	41.1	449.10	1232.40
46	1,168.4	12.7	1365.3	40	41.1	480.80	1343.10
48	1,219.2	12.7	1422.4	44	41.1	537.50	1518.70
50	1,270.0	12.7	1479.6	44	47.8	576.10	1685.60
52	1,320.8	12.7	1536.7	44	47.8	639.60	1885.20
54	1,371.6	12.7	1593.9	44	47.8	719.00	2104.30
56	1,422.4	12.7	1651.0	48	47.8	798.30	2327.90
58	1.473.2	12.7	1708.2	48	47.8	868.60	2574.20
60	1,524.0	12.7	1759.0	52	47.8	927.60	2791.50

(4) Maximum Pressure Rating for raised face flanges is 285 psi(19.5BARS) at atmospheric temperature .
(5) Flange dimendions of size 12" (304.8mm) thrugh 24" (609.6mm) flanges except 22" (558.8mm) are in accordance with ANSI B 16.5.

CLASS 300 FLANGES

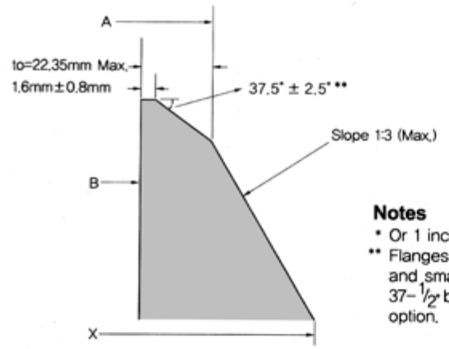
ANSI B16.47 SER.A(MSS SP 44)



Nominal Pipe Size	Outside Diam	O.D. of Raised Face	Diam. at Base of Hub	Thickness		BORE		Length Thru Hub	Diam. of Hub at Bevel	Radius of Fillet
				Welding Neck	Blind	Wall Thickness 9.5mm	Wall Thickness 12.7mm			
	D	G	X	t1	t2	B1		T1	A	r
12	521	381.0	374.7	50.8	50.8	304.8	298.5	130.0	304.8	9.7
14	584	412.8	425.5	53.8	53.8	336.6	330.2	142.7	355.6	9.7
16	648	469.9	482.6	57.2	57.2	387.4	381.0	146.1	406.4	9.7
18	711	533.4	533.4	60.5	60.5	468.2	431.8	158.8	457.2	9.7
20	775	584.2	587.2	63.5	63.5	489.0	482.6	162.1	508.0	9.7
22	838	641.4	641.4	66.5	66.5	539.8	533.4	165.1	558.8	9.7
24	914	692.2	701.5	69.9	69.9	590.6	584.2	168.1	609.6	9.7
26	972	749.3	720.9	79.2	84.1	641.4	635.0	184.2	660.4	9.7
28	1035	800.1	774.7	85.9	90.4	692.2	685.8	196.9	711.2	11.2
30	1092	857.3	827.0	91.9	95.3	743.0	736.6	209.6	762.0	11.2
32	1149	914.4	881.1	98.6	100.1	793.8	787.4	222.3	812.8	11.2
34	1207	965.2	936.8	101.6	104.6	844.6	838.2	231.6	863.6	12.7
36	1270	1022.4	990.6	104.6	111.3	895.4	889.0	241.3	914.4	12.7
38	1168	1028.7	993.6	108.0	108.0	946.2	939.8	180.8	965.2	12.7
40	1238	1085.9	1047.8	114.3	114.3	997.0	990.6	193.5	1,016.0	12.7
42	1289	1136.7	1098.6	119.1	119.1	1047.8	1041.4	200.2	1,066.8	12.7
44	1353	1193.8	1149.4	124.0	124.0	1198.6	1092.2	206.2	1,117.6	12.7
46	1416	1244.6	1203.5	128.5	128.5	1149.4	1143.0	215.9	1,168.4	12.7
48	1467	1301.8	1254.3	133.4	133.4	1200.2	1193.8	223.8	1,219.2	12.7
50	1530	1358.9	1305.1	139.7	139.7	1251.0	1244.6	231.6	1,270.0	12.7
52	1581	1409.7	1355.9	144.5	144.5	1301.8	1295.4	238.3	1,320.8	12.7
54	1657	1466.9	1409.7	152.4	152.4	1352.6	1346.2	252.5	1,371.6	12.7
56	1708	1517.7	1463.5	153.9	153.9	1403.4	1397.0	260.4	1,422.4	12.7
58	1759	1574.8	1514.3	158.8	158.8	1454.2	1447.8	266.7	1,473.2	12.7
60	1810	1625.6	1565.1	163.6	163.6	1505.0	1498.6	273.1	1,524.0	12.7

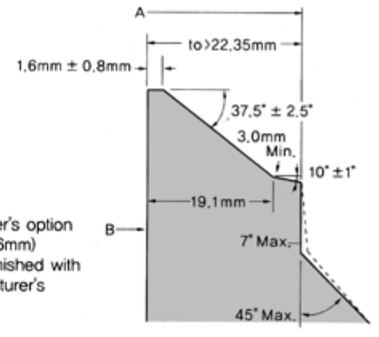
Notes
(1) For the 'Bore'(Bi) other than wall thickness 0.375 " (9.5mm) and 0.500" (1 2.7mm), refer to page 50, 51 .
(2) Class 300 flanges will be furnished with 0.06" (1 .6mm) raised face, which is included in 'Thickness' (t) and 'Length through Hub' (T1)
(3) Dimensional tolerance are in accordance with ASME 816.5.

WELDING-ENDS FOR WELDING-NECK FLANGES



BEVEL FOR WALL THICKNESS(to) 0.88" IN.(22.35mm)* OR LESS.

Notes
* Or 1 inch at manufacturer's option
** Flanges sizes 24" (609,6mm) and smaller may be furnished with 37–½° bevel at manufacturer's option.



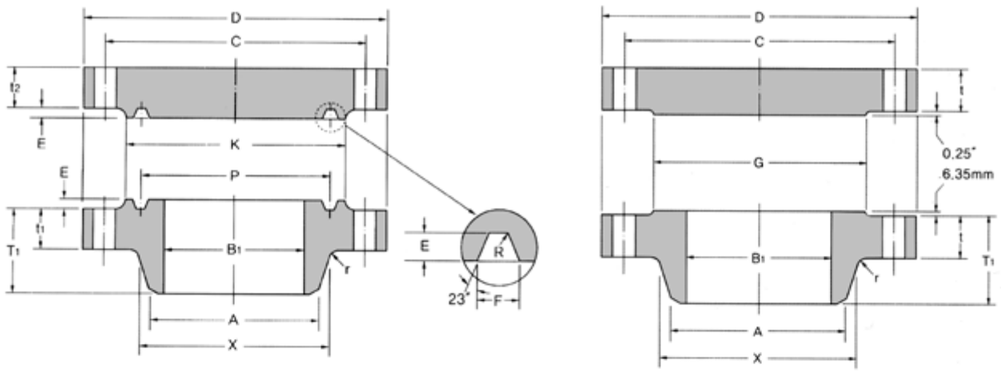
BEVEL FOR WALL THICKNESS(to) GREATER THAN 0.88 IN.(22.35mm)

Nominal Pipe Size	DRILLING			Pitch Diam	GROOVE DIMENSIONS			Diam. of Raised Face	Ring and Groove Number	Approximate Weight(kg)	
	Bolt Circle Diam	Number of Holes	Diam of Holes		Width	Depth	Radius			Weld-neck	Blind
	C			P	F	E	R	K			
12	450.9	16	31.8	381.0	11.9	7.9	0.8	412.8	R57	64.41	78.90
14	514.4	20	31.8	419.1	11.9	7.9	0.8	457.2	R61	88.30	107.05
16	571.5	20	35.1	469.9	11.9	7.9	0.8	508.0	R65	112.94	139.25
18	628.7	24	35.1	533.4	11.9	7.9	0.8	574.5	R69	138.34	176.90
20	685.8	24	35.1	584.2	13.5	9.5	1.5	635.0	R73	167.37	223.17
22	743.0	24	41.1	635.0	15.1	11.1	1.5	685.8	R81	213.00	–
24	812.8	24	41.1	692.2	16.7	11.1	1.5	749.3	R77	235.41	342.00
26	876.3	28	44.5	749.3	19.8	12.7	1.5	809.8	R93	274.40	489.00
28	939.8	28	44.5	800.1	19.8	12.7	1.5	860.6	R94	337.90	596.50
30	997.0	28	47.8	857.3	19.8	12.7	1.5	917.4	R95	394.60	699.90
32	1054.1	28	50.8	914.4	23.0	14.3	1.5	984.3	R96	455.90	814.20
34	1104.9	28	50.8	965.2	23.0	14.3	1.5	1035.1	R97	519.40	938.00
36	1168.4	32	53.8	1022.4	23.0	14.3	1.5	1092.2	R98	578.30	1105.00
38	1092.2	32	41.1							315.30	907.70
40	1155.7	32	44.5							381.00	1079.60
42	1206.5	32	44.5							430.90	1219.30
44	1263.7	32	47.8							478.50	1396.60
46	1320.8	28	50.8							560.20	1587.10
48	1371.6	32	50.8							626.00	1767.20
50	1428.8	32	53.8							694.00	2014.90
52	1479.6	32	53.8							753.00	2225.40
54	1549.4	28	60.5							929.90	2578.30
56	1600.2	28	60.5							977.50	2766.10
58	1651.0	32	60.5							1029.70	3025.10
60	1701.8	32	60.5							1120.40	3299.50

(4) Maximum Pressure Rating for raised face flanges is 740 psi(51 BARS) at atmospheric temperature.
(5) Flange dimendions of size 12" (304.8mm) through 24" (609.6mm) flanges except 22 " (558.8mm》 are in accordance with ASME B 16.5.
(6) For sizes 26" (660.4mm) and larger, Diameter of Hub at Bevel(A) are in accordance with ASME Boiler and pressu re vessel code.

CLASS 400 FLANGES

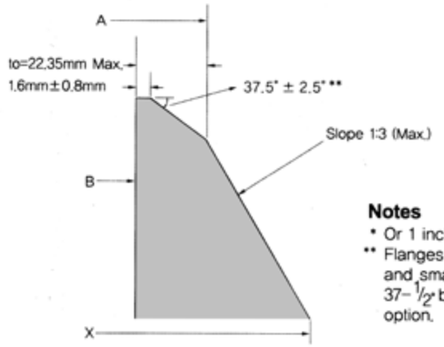
ANSI B16.47 SER.A(MSS SP 44)



Nominal Pipe Size	Outside Diam	O.D. of Raised Face	Diam. at Base of Hub	Thickness		BORE		Length Thru Hub	Diam. of Hub at Bevel	Radius of Fillet
				Welding Neck	Blind	Wall Thickness 9.5mm	Wall Thickness 12.7mm			
	D	G	X	t1	t2	B1		T1	A	r
12	521	381.0	374.7	57.2	57.2	304.8	298.5	136.7	304.8	11.2
14	584	412.8	425.5	60.5	60.5	336.6	330.2	149.4	355.6	11.2
16	648	469.9	482.6	63.5	63.5	387.4	381.0	152.4	406.4	11.2
18	711	533.4	533.4	66.5	66.5	438.2	431.8	165.1	457.2	11.2
20	775	584.2	587.2	69.9	69.9	489.0	482.6	168.1	508.0	11.2
22	838	641.4	641.4	73.2	73.2	539.8	533.4	171.5	558.8	11.2
24	914	692.2	701.5	76.2	76.2	590.6	584.2	174.8	609.6	11.2
26	972	749.3	726.9	88.9	98.6	641.4	635.0	193.5	660.4	11.2
28	1035	800.1	782.6	95.3	104.6	692.2	685.8	206.2	711.2	12.7
30	1092	857.3	836.7	101.6	111.3	743.0	736.6	218.9	762.0	12.7
32	1149	914.4	889.0	108.0	115.8	793.8	787.4	231.6	812.8	12.7
34	1207	965.2	944.6	111.3	122.2	844.6	838.2	241.3	863.6	14.2
36	1270	1022.4	1000.3	114.3	128.5	895.4	889.0	251.0	914.4	14.2
38	1207	1035.1	1003.3	124.0	124.0	946.2	939.8	206.2	965.2	14.2
40	1270	1092.2	1054.1	130.0	130.0	997.0	990.6	215.9	1,016.0	14.2
42	1321	1143.0	1107.9	133.4	133.4	1047.8	1041.4	223.8	1,066.8	14.2
44	1384	1200.2	1158.7	139.7	139.7	1098.6	1092.2	233.4	1,117.6	14.2
46	1441	1257.3	1212.9	146.1	146.1	1149.4	1143.0	244.3	1,168.4	14.2
48	1511	1308.1	1267.0	152.4	152.4	1200.2	1193.8	257.0	1,219.2	14.2
50	1568	1361.9	1320.8	157.2	158.8	1251.0	1244.6	268.2	1,270.0	14.2
52	1619	1412.7	1371.6	162.1	163.6	1301.8	1295.4	276.4	1,320.8	14.2
54	1702	1470.2	1425.4	169.9	171.5	1352.6	1346.2	289.1	1,371.6	14.2
56	1753	1527.0	1479.6	174.8	176.3	1403.4	1397.0	298.5	1,422.4	14.2
58	1803	1577.8	1530.4	177.8	180.8	1454.2	1447.8	306.3	1,473.2	14.2
60	1886	1635.3	1584.5	185.7	189.0	1505.0	1498.6	319.0	1,524.0	14.2

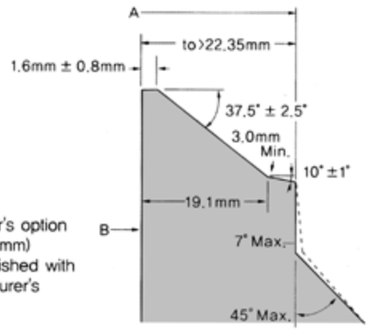
Notes
(1) For the 'Bore'(B1) other than wall thickness 0.375 " (9.5mm) and 0.500" (12.7mm), refer to page 50, 51 .
(2) Class 400 flanges will be furnished with 0.25" (6.4mm) raised face, which is included in'Thickness' (t) and 'Length through Hub' (T1)
(3) Dimensional tolerance are in accordance with ASME 816.5

WELDING-ENDS FOR WELDING-NECK FLANGES



BEVEL FOR WALL THICKNESS(to) 0.88" IN.(22.35mm)* OR LESS.

Notes
* Or 1 inch at manufacturer's option
** Flanges sizes 24" (609.6mm) and smaller may be furnished with 37-1/2° bevel at manufacturer's option.



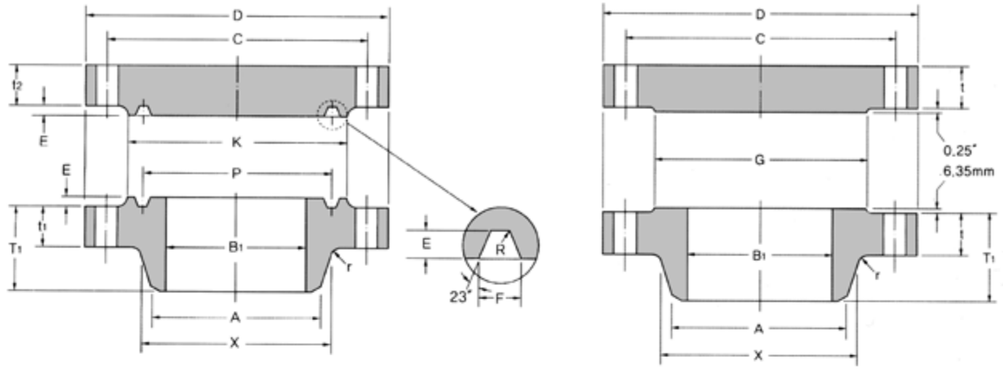
BEVEL FOR WALL THICKNESS(to) GREATER THAN 0.88 IN.(22.35mm)

Nominal Pipe Size	DRILLING			Pitch Diam	GROOVE DIMENSIONS			Diam. of Raised Face	Ring and Groove Number	Approximate Weight(kg)	
	Bolt Circle Diam	Number of Holes	Diam of Holes		Width	Depth	Radius			Weld-neck	Blind
	C			P	F	E	R	K			
12	450.9	16	35.1	381.0	11.9	7.9	0.8	412.8	R57	72.57	98.00
14	514.4	20	35.1	419.1	11.9	7.9	0.8	457.2	R61	105.69	131.66
16	571.5	20	38.1	469.9	11.9	7.9	0.8	508.0	R65	133.30	167.00
18	628.7	24	38.1	533.4	1.9	7.9	0.8	574.5	R69	158.90	206.57
20	685.8	24	41.1	584.2	13.5	9.5	1.5	635.0	R73	193.00	261.00
22	743.0	24	44.5	635.0	15.1	11.1	1.5	685.8	R81	235.00	–
24	812.8	24	47.8	692.2	16.7	11.1	1.5	749.3	R77	281.48	395. 00
26	876.3	28	47.8	749.3	19.8	12.7	1.5	809.8	R93	294.80	572.90
28	939.8	28	50.8	800.1	19.8	12.7	1.5	860.6	R94	356.10	690.40
30	997.0	28	53.8	857.3	19. 8	12.7	1.5	917.4	R95	410.50	817.40
32	1054.1	28	53.8	914.4	23.0	14.3	1.5	984.3	R96	483.10	942.10
34	1104.9	28	53.8	965.2	23.0	14.3	1.5	1035.1	R97	544.30	1095.40
36	1168.4	32	53.8	1022.4	23.0	14.3	1.5	1092.2	R98	607.80	1276.90
38	1117.6	32	47.8							424.10	1111.30
40	1174.8	32	50.8							494.40	1291.90
42	1225.6	32	50.8							539.80	1432.90
44	1282.7	32	53.8							623.70	1648.80
46	1339.9	36	53.8							691.70	1868.80
48	1403.4	28	60.5							811.90	2143.70
50	1460.5	32	60.5							884.50	2405.40
52	1511.3	32	60.5							963.90	2641.30
54	1581.2	28	66.5							1163.50	3058.20
56	1632.0	32	66.5							1229.30	3334.90
58	1682.8	32	66.5							1465.10	3622.40
60	1752.6	32	73.2							1732.80	4139.60

(4) Maximum Pressure Rating for raised face flanges is 985 psi(68BARS) at atmospheric temperature.
(5) Flange dimendions of size 12" (304.8mm) th rough 24" (609.6mm) flanges except 22 " (558.8mm) are in accordance with ASME B 6.5
(6) For sizes 26" (660.4mm) and larger, Diameter of Hub at Bevel(A) are in accordance with ASME Boiler and pressure vessel code.

CLASS 600 FLANGES

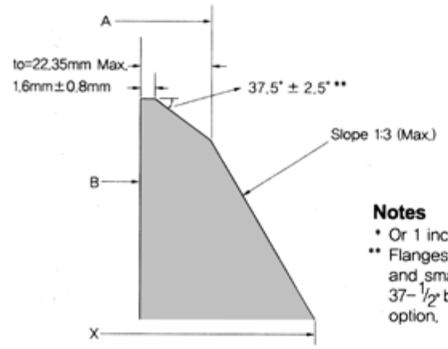
ANSI B16.47 SER.A(MSS SP 44)



Nominal Pipe Size	Outside Diam	O.D. of Raised Face	Diam. at Base of Hub	Thickness		BORE		Length Thru Hub	Diam. of Hub at Bevel	Radius of Fillet
				Welding Neck	Blind	Wall Thickness 9.5mm	Wall Thickness 12.7mm			
	D	G	X	t1	t2	B1		T1	A	r
12	559	400.1	381.0	66.5	66.5	304.8	298.5	155.4	304.8	11.2
14	603	431.8	412.8	69.9	69.9	336.6	330.2	165.1	355.6	11.2
16	686	495.3	469.9	76.2	76.2	387.4	381.0	177.8	406.4	11.2
18	743	546.1	533.4	82.6	82.6	438.2	431.8	184.2	457.2	11.2
20	813	609.6	584.2	88.9	88.9	489.0	482.6	190.5	508.0	11.2
22	870	666.8	641.4	95.3	95.3	539.8	533.4	196.9	558.8	11.2
24	940	717.6	692.2	101.6	101.6	590.6	584.2	203.2	609.6	11.2
26	1016	747.8	749.3	108.0	125.5	641.4	635.0	222.3	660.4	12.7
28	1073	803.1	800.1	111.3	131.8	692.2	685.8	235.0	711.2	12.7
30	1130	862.1	857.3	114.3	139.7	743.0	736.6	247.7	762.0	12.7
32	1194	917.4	914.4	117.3	147.6	793.8	787.4	260.4	812.8	12.7
34	1245	973.1	965.2	120.7	153.9	844.6	838.2	269.7	863.6	14.2
36	1314	1031.7	1022 .4	124.0	162.1	895.4	889.0	282.4	914.4	14.2
38	1270	1022.4	1054.1	152.4	155.4	946.2	939.8	254.0	965.2	14.2
40	1321	1073.2	1111.3	158.8	162.1	997.0	990.6	263.7	1,016.0	14.2
42	1403	1127.3	1168.4	168.1	171.5	1047.8	1041.4	279.4	1,066.8	14.2
44	1454	1181.1	1225.6	173.0	177.8	1098.6	1092.2	289.1	1,117.6	14.2
46	1511	1234.9	1276.4	179.3	185.7	1149.4	1143.0	300.0	1,168.4	14.2
48	1594	1289.1	1333.5	189.0	195.3	1200.2	1193.8	316.0	1,219.2	14.2
50	1670	1343.2	1384.3	196.9	203.2	1251.0	1244.6	328.7	1,270.0	14.2
52	1721	1394.0	1435.1	203.2	209.6	1301.8	1295.4	336.6	1,320.8	14.2
54	1778	1447.8	1492.3	209.6	217.4	1352.6	1346.2	349.3	1,371.6	14.2
56	1854	1501.6	1543.1	217.4	225.6	1403.4	1397.0	362.0	1,422.4	15.7
58	1905	1552.4	1600.2	222.3	231.6	1454.2	1447.8	369.8	1,473.2	15.7
60	1994	1609.9	1657.4	233.4	242.8	1505.0	1498.6	388.9	1,524.0	17.5

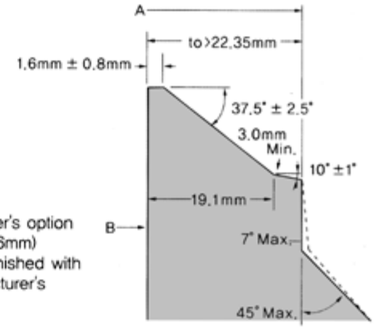
Notes
(1) For the 'Bore'(B1) other than wall thickness 0.375 " (9.5mm) and 0.500" (12.7mm), refer to page 50, 51.
(2) Class 600 flanges will be furnished with 0.25" (6.35mm) raised face, which is included in 'Thickness' (t) and 'Length through Hub' (T1)
(3) Dimensional tolerance are in accordance with ASME 816.5.

WELDING-ENDS FOR WELDING-NECK FLANGES



BEVEL FOR WALL THICKNESS(to) 0.88" IN.(22.35mm)* OR LESS.

Notes
* Or 1 inch at manufacturer's option
** Flanges sizes 24" (609,6mm) and smaller may be furnished with 37–½° bevel at manufacturer's option.



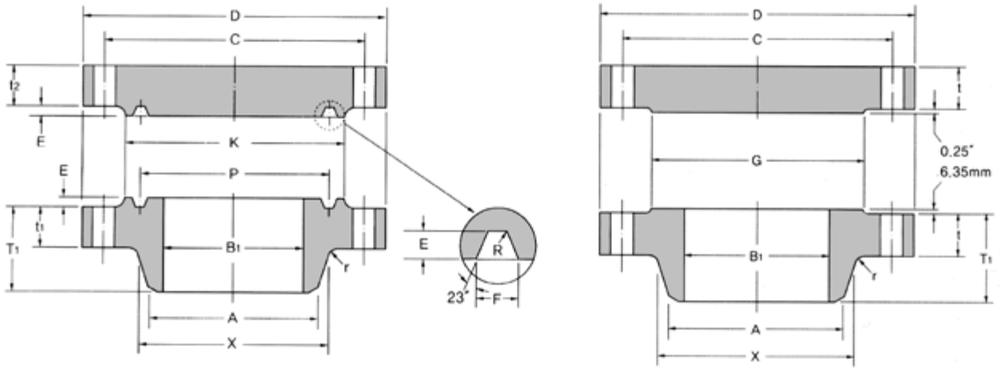
BEVEL FOR WALL THICKNESS(to) GREATER THAN 0.88 IN.(22.35mm)

Nominal Pipe Size	DRILLING			Pitch Diam	GROOVE DIMENSIONS			Diam. of Raised Face	Ring and Groove Number	Approximate Weight(kg)	
	Bolt Circle Diam	Number of Holes	Diam of Holes		Width	Depth	Radius			Weld-neck	Blind
	C			P	F	E	R	K			
12	489.0	20	35.1	381.0	11.9	7.9	0.8	412.8	R57	102.51	132.00
14	527.1	20	38.1	419.1	11.9	7.9	0.8	457.2	R61	121.56	158.00
16	603.3	20	41.1	469.9	11.9	7.9	0.8	508.0	R65	177.06	224.73
18	654.1	20	44.5	533.4	11.9	7.9	0.8	574.5	R69	215.65	285.00
20	723.9	24	44.5	584.2	13.5	9.5	1.5	635.0	R73	267.86	365.00
22	777.7	24	47.8	635.0	15.1	11.1	1.5	685.8	R81	330.00	–
24	838.2	24	50.8	692.2	16.7	11.1	1.5	749.3	R77	372.00	533.45
26	914.4	28	50.8	749.3	19.8	12.7	1.5	809.8	R93	426.40	797.90
28	965.2	28	53.8	800.1	19.8	12.7	1.5	860.6	R94	480.80	934.90
30	1022.4	28	53.8	857.3	19.8	12.7	1.5	917.4	R95	548.90	1099.10
32	1079.5	28	60.5	914.4	23.0	14.3	1.5	984.3	R96	623.70	1295.50
34	1130.3	28	60.5	965.2	23.0	14.3	1.5	1035.1	R97	698.50	1468.30
36	1193.8	28	66.5	1022.4	23.0	14.3	1.5	1092.2	R98	773.40	1724.60
38	1162.1	28	60.5							666.80	1544.10
40	1212.9	32	60.5							739.40	1740.90
42	1282.7	28	66.5							920.80	2079.80
44	1333.5	32	66.5							979.80	2315.60
46	1390.7	32	66.5							1093.20	2611.80
48	1460.5	32	73.2							1295.00	3055.90
50	1524.0	28	79.2							1510.50	3490.50
52	1574.8	32	79.2							1614.80	3822.00
54	1632.0	32	79.2							1778.10	4233.40
56	1695.5	32	85.9							1941.40	4776.00
58	1746.3	32	85.9							2104.70	5177.40
60	1822.5	28	91.9							2268.00	5945.80

(4) Maximum Pressure Rating for raised face flanges is 1480 psi(102.1 BARS) at atmospheric temperature.
(5) Flange dimendions of size 12" (304.8mm) through 24 " (609.6mm) flanges except 22 " (558.8mm) are in accordance with ASME B 16.5.
(6) For sizes 26" (660.4mm) and larger, Diameter of Hub at Bevel(A) are in accordance with ASME Boiler and pressure vessel code

CLASS 900 FLANGES

ANSI B16.47 SER.A(MSS SP 44)



Nominal Pipe Size	Outside Diam	O.D. of Raised Face	Diam. at Base of Hub	Thickness		BORE		Length Thru Hub	Diam. of Hub at Bevel	Radius of Fillet
				Welding Neck	Blind	Wall Thickness 9.5mm	Wall Thickness 12.7mm			
	D	G	X	t1	t2	B1		T1	A	r
12	610	419.1	381.0	79.2	79.2	304.8	298.5	200.2	323.9	11.2
14	641	450.9	412.8	85.9	85.9	336.6	330.2	212.9	355.6	11.2
16	705	508.0	469.9	88.9	88.9	387.4	381.0	215.9	406.4	11.2
18	787	565.2	533.4	101.6	101.6	438.2	431.8	228.6	457.2	11.2
20	857	622.3	584.2	108.0	108.0	489.0	482.6	247.7	508.0	11.2
24	1041	749.3	692.2	139.7	139.7	590.6	584.2	292.1	609.6	11.2
26	1086	774.7	749.3	139.7	160.3	641.4	635.0	285.8	660.4	11.2
28	1168	831.9	800.1	142.7	171.5	692.2	685.8	298.5	711.2	12.7
30	1232	889.0	857.3	149.4	182.4	743.0	736.6	311.2	762.0	12.7
32	1314	946.2	914.4	158.8	193.5	793.8	787.4	330.2	812.8	12.7
34	1397	1006.3	965.2	165.1	204.7	844.6	838.2	349.3	863.6	14.2
36	1461	1063.8	1022.4	171.5	214.4	895.4	889.0	362.0	914.4	14.2
38	1461	1073.2	1098.6	190.5	215.9	946.2	939.8	352.6	965.2	19.1
40	1511	1127.3	1162.1	196.9	223.8	997.0	990.6	363.5	1016.0	20.6
42	1562	1176.3	1212.9	206.2	231.6	1047.8	1041.4	371.3	1066.8	20.6
44	1648	1234.9	1270.0	214.4	242.8	1098.6	1092.2	390.7	1117.6	22.4
46	1734	1292.4	1333.5	225.6	255.5	1149.4	1143.0	411.0	1168.4	22.4
48	1784	1343.2	1384.3	233.4	263.7	1200.2	1193.8	419.1	1219.2	23.9

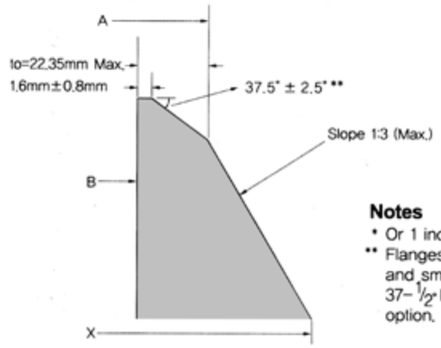
Notes

(1) For the 'Bore'(B1) other than wall thickness 0.375" (9.5mm) and 0.500 " (12.7mm), refer to page 50.51 .

(2) Class 900 flanges will be furnished with 0.25" (6.35mm) raised face, which is included in 'Thickness' (t) and 'Length through Hub' (T1)

(3) Dimensional tolerance are in accordance with ASME B16.5.

WELDING-ENDS FOR WELDING-NECK FLANGES



BEVEL FOR WALL THICKNESS(to) 0.88" IN.(22.35mm)* OR LESS.

Notes

* Or 1 inch at manufacturer's option

** Flanges sizes 24" (609.6mm) and smaller may be furnished with 37–½° bevel at manufacturer's option.

BEVEL FOR WALL THICKNESS(to) GREATER THAN 0.88 IN.(22.35mm)

Nominal Pipe Size	DRILLING			Pitch Diam	GROOVE DIMENSIONS			Diam. of Raised Face	Ring and Groove Number	Approximate Weight(kg)	
	Bolt Circle Diam	Number of Holes	Diam of Holes		Width	Depth	Radius			Weld-neck	Blind
	C			P	F	E	R	K			
12	533.4	20	38.1	381.0	11.9	7.9	0.8	419.1	R57	157.00	187.00
14	558.8	20	41.1	419.1	16.7	11.1	1.5	466.9	R62	181.00	224.07
16	616.0	20	44.5	469.9	16.7	11.1	1.5	523.7	R66	224.73	272.40
18	685.8	20	50.8	533.4	19.8	12.7	1.5	593.9	R70	308.72	385.90
20	749.3	20	53.8	584.2	19.8	12.7	1.5	647.7	R74	376.82	488.00
24	901.7	20	66.5	692.2	27.0	15.9	2.3	771.7	R78	685.00	905.00
26	952.5	20	73.2	749.3	30.2	17.5	2.3	831.9	R100	691.70	1163.90
28	1022.4	20	79.2	800.1	33.3	17.5	2.3	889.0	R101	821.00	1441.50
30	1085.9	20	79.2	857.3	33.3	17.5	2.3	946.2	R102	961.60	1704.60
32	1155.7	20	85.9	914.4	33.3	17.5	2.3	1003.3	R103	1154.40	2059.80
34	1225.6	20	91.9	965.2	36.5	20.6	2.3	1066.8	R104	1347.20	2460.80
36	1289.1	20	91.9	1022.4	36.5	20.6	2.3	1124.0	R105	1540.00	2816.40
38	1289.1	20	91.9							1535.40	2836.40
40	1339.9	24	91.9							1642.00	3148.00
42	1390.7	24	91.9							1796.30	3481.40
44	1463.5	24	98.6							1950.50	4061.50
46	1536.7	24	104.6							2104.70	4729.20
48	1587.5	24	104.6							2258.90	5170.10

(4) Maximum Pressure Rating for raised face flanges is 2220 psi(153.1 BARS) at atmospheric temperatu re.

(5) Flange dimendions of size 12" (304.8mm) through 24" (609.6mm) flanges are in accordance with ASME B 16.5.

(6) For sizes 26" (660.4mm) and larger, Diameter of Hub at Bevel(A) are in accordance with ASME Boiler and pressure vessel code.

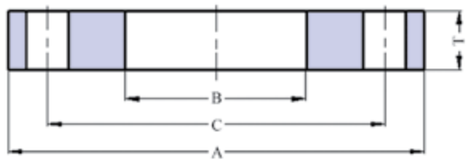


TABLE 2 AWWA standard steel-ring flanges ,class B* (86psi)and class D*(175-150psi)

Nominal Pipe Size in	OD of Flange(A) in	ID of Flange(B) in	Number of Bolts	Diam.of Bolt Circle(c)in	Diam of Bolt in	Thickness of Flange(T)in	
						Class B	Class D
4	9.00	4.57	8	7.50	0.625	0.625	0.625
5	10.00	5.66	8	8.50	0.750	0.625	0.625
6	11.00	6.72	8	9.50	0.750	0.688	0.688
8	13.50	8.72	8	11.75	0.750	0.688	0.688
10	16.00	10.88	12	14.25	0.875	0.688	0.688
12	19.00	12.88	12	17.00	0.875	0.688	0.812
14	21.00	14.19	12	18.75	1.000	0.688	0.938
16	23.50	16.19	16	21.25	1.000	0.688	1.000
18	25.00	18.19	16	22.75	1.125	0.688	1.062
20	27.50	20.19	20	25.00	1.125	0.688	1.125
22	29.50	22.19	20	27.25	1.250	0.750	1.188
24	32.00	24.19	20	29.50	1.250	0.750	1.250
26	34.25	-	24	31.75	1.250	0.812	1.312
28	36.50	-	28	34.00	1.250	0.875	1.312
30	38.75	-	28	36.00	1.250	0.875	1.375
32	41.75	-	28	38.50	1.500	0.938	1.500
34	43.75	-	32	40.50	1.500	0.938	1.500
36	46.00	-	32	42.75	1.500	1.000	1.625
38	48.75	-	32	45.25	1.500	1.000	1.625
40	50.75	-	36	47.25	1.500	1.000	1.625
42	53.00	-	36	49.50	1.500	1.125	1.750
44	55.25	-	40	51.75	1.500	1.125	1.750
46	57.25	-	40	53.75	1.500	1.125	1.750
48	59.50	-	44	56.00	1.500	1.250	1.875
50	61.75	-	44	58.25	1.750	1.250	2.000
52	64.00	-	44	60.50	1.750	1.250	2.000
54	66.25	-	44	62.75	1.750	1.375	2.125
60	73.00	-	52	69.25	1.750	1.500	2.250
66	80.00	-	52	76.00	1.750	1.625	2.500
72	86.50	-	60	82.50	1.750	1.750	2.625
78	93.00	-	64	89.00	2.000	2.000	2.750
84	99.75	-	64	95.50	2.000	2.000	2.875
90	106.50	-	68	102.00	2.250	2.250	3.000
96	113.25	-	68	108.50	2.250	2.250	3.250
102	120.00	-	72	114.50	2.500	2.500	3.250
108	126.75	-	72	120.75	2.500	2.500	3.375
114	133.50	-	76	126.75	2.750	2.750	3.500
120	140.25	-	76	132.75	2.750	2.750	3.500
126	147.00	-	80	139.25	3.000	3.000	3.750
132	153.75	-	80	147.75	3.000	3.000	3.875
138	160.50	-	84	152.00	3.250	3.250	4.000
144	167.25	-	84	158.25	3.250	3.250	4.125

NOTES:1.Ring flanges may be overbored or counterbored to accommodate larger outside-diameter pipe than shown as nominal.
This is done to allow a clear inside diameter after cement-mortar.lining Wrench clearance between the pipe OD and bolt circle must be maintained as well as sufficient gasket aeating area.
2.Metric conversion: nominal pipe size: in.x25 = mm;dimensions:in.x25.4= mm;psix 6.895=kPa
The purchaser shall specify the ID of the flange,dimension B,for nominal pipe sizes 26 in. and larger. The diameter of the flange bore shall not exceed the pipe OD by more than 0.19 in.
Bolt holes shall be drilled 1/8-in. larger in diameter than the nominal diameter of the bolt except as stated in Sec. 4.2.3.

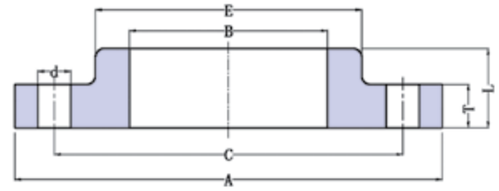


TABLE 3 AWWA standard steel-hub flanges, class D*(175-150psi)

Nominal Pipe Size in	OD of Flange(A) in	ID of Flange(B) in	Number of Bolts	Diam.of Bolt Circle(c)in	Diam of Bolt in	Flange of Dimensions-in		
						(T)	(L)	(E)
4	9.00	4.57	8	7.50	0.625	0.500	0.875	5.312
5	10.00	5.66	8	8.50	0.750	0.562	1.250	6.312
6	11.00	6.72	8	9.50	0.750	0.562	1.250	7.562
8	13.50	8.72	8	11.75	0.750	0.562	1.250	9.688
10	16.00	10.88	12	14.25	0.875	0.688	1.250	12.000
12	19.00	12.88	12	17.00	0.875	0.688	1.250	14.375
14	21.00	14.19	12	18.75	1.000	0.750	1.250	15.750
16	23.50	16.19	16	21.25	1.000	0.750	1.250	18.000
18	25.00	18.19	16	22.75	1.125	0.750	1.250	19.875
20	27.50	20.19	20	25.00	1.125	0.750	1.250	22.000
22	29.50	22.19	20	27.25	1.250	1.000	1.750	24.250
24	32.00	24.19	20	29.50	1.250	1.000	1.750	26.125
26	34.25	26.19	24	31.75	1.250	1.000	1.750	28.500
28	36.50	28.19	28	34.00	1.250	1.000	1.750	30.500
30	38.75	30.19	28	36.00	1.250	1.000	1.750	32.500
32	41.75	32.19	28	38.50	1.500	1.125	1.750	34.750
34	43.75	34.19	32	40.50	1.500	1.125	1.750	36.750
36	46.00	36.19	32	42.75	1.500	1.125	1.750	38.750
38	48.75	38.19	32	45.25	1.500	1.125	1.750	40.750
40	50.75	40.19	36	47.25	1.500	1.125	1.750	43.000
42	53.00	42.19	36	49.50	1.500	1.250	1.750	45.000
44	55.25	44.19	40	51.75	1.500	1.250	2.250	47.000
46	57.25	46.19	40	53.75	1.500	1.250	2.250	49.000
48	59.50	48.19	44	56.00	1.500	1.375	2.500	51.000
50	61.75	50.19	44	58.25	1.750	1.375	2.500	53.000
52	64.00	52.19	44	60.50	1.750	1.375	2.500	55.000
54	66.25	54.19	44	62.75	1.750	1.375	2.500	57.000
60	73.00	60.19	52	69.25	1.750	1.500	2.750	63.000
66	80.00	66.19	52	76.00	1.750	1.500	2.750	69.000
72	86.50	72.19	60	82.50	1.750	1.500	2.750	75.000
78	93.00	78.19	64	89.00	2.000	1.750	3.000	81.250
84	99.75	84.19	64	95.50	2.000	1.750	3.000	87.500
90	106.50	90.19	68	102.00	2.250	2.000	3.250	93.750
96	113.25	96.19	68	108.50	2.250	2.000	3.250	100.000

NOTES: 1. Hub flanges are to be used on pipe that has an OD equal to the nominal pipe size in the first column and shall not be overbored.
2. Metric conversion: nominal pipe size: in.x25=mm;dimensions:in.x25.4=mm; psix 6.895=kPa.
*Pressure rating at atmospheric temperature: sizes 4-12 in. inclusive, 175 psi;sizes larger than 12 in.150 psi These flanges have the diameter and drilling as class 125 cast-iron flanges (ANSI/ASME B16.1) In sizes 24 in. and smaller, they also match ANSI/ASME B 16.5 1500-psi standard for steel flanges.
Bolt holes shall be drilled 1/8-in.larger in diameter than the nominal diameter of the bolt as stated in Sec.4.2.3.

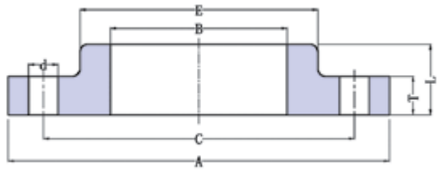


Table 4 AWWA standard steel-hub flanges class E*(275psi)

Nominal Pipe Size in	OD of Flange(A)in	ID of Flange(B) in	Number of Bolts	Diam.of Bolt Circle(c)in	Diam of Bolt in	Flange of Dimensions-in		
						(T)	(L)	(E)
4	9.00	4.57	8	7.50	0.625	0.938	1.312	5.312
5	10.00	5.66	8	8.50	0.750	0.938	1.438	6.438
6	11.00	6.72	8	9.50	0.750	1.000	1.562	7.562
8	13.50	8.72	8	11.75	0.750	1.125	1.750	9.688
10	16.00	10.88	12	14.25	0.875	1.188	1.938	12.000
12	19.00	12.88	12	17.00	0.875	1.250	2.188	14.375
14	21.00	14.19	12	18.75	1.000	1.375	2.250	15.750
16	23.50	16.19	16	21.25	1.000	1.438	2.500	18.000
18	25.00	18.19	16	22.75	1.125	1.562	2.688	19.875
20	27.50	20.19	20	25.00	1.125	1.688	2.875	22.000
22	29.50	22.19	20	27.25	1.250	1.812	3.125	24.000
24	32.00	24.19	20	29.50	1.250	1.875	3.250	26.125
26	34.25	26.19	24	31.75	1.250	2.000	3.375	28.500
28	36.50	28.19	28	34.00	1.250	2.062	3.438	30.750
30	38.75	30.19	28	36.00	1.250	2.125	3.500	32.750
32	41.75	32.19	28	38.50	1.500	2.250	3.625	35.000
34	43.75	34.19	32	40.50	1.500	2.312	3.688	37.000
36	46.00	36.19	32	42.75	1.500	2.375	3.750	39.250
38	48.75	38.19	32	45.25	1.500	2.375	3.750	41.750
40	50.75	40.19	36	47.25	1.500	2.500	3.875	43.750
42	53.00	42.19	36	49.50	1.500	2.625	4.000	46.000
44	55.25	44.19	40	51.75	1.500	2.625	4.000	48.000
46	57.25	46.19	40	53.75	1.500	2.688	4.062	50.000
48	59.50	48.19	44	56.00	1.500	2.750	4.125	52.250
50	61.75	50.19	44	58.25	1.750	2.750	4.125	54.250
52	64.00	52.19	44	60.50	1.750	2.875	4.250	56.500
54	66.25	54.19	44	62.75	1.750	3.000	4.375	58.750
60	73.00	60.19	52	69.25	1.750	3.125	4.500	65.250
66	80.00	66.19	52	76.00	1.750	3.375	4.875	71.500
72	86.50	72.19	60	82.50	1.750	3.500	5.000	78.500
78	93.00	78.19	64	89.00	2.000	3.875	5.375	84.500
84	99.75	84.19	64	95.50	2.000	3.875	5.375	90.500
90	106.50	90.19	68	102.00	2.250	4.250	5.750	96.750
96	113.25	96.19	68	108.50	2.250	4.250	5.750	102.750

Notes.1. Hub flanges are to be used on pipe that has an OD equal to the nominal pipe size in the first column and shall not be overbored.
2. Metric conversion: nominal pipe size: in.x25=mm,dimensions:in.x25.4=mm; psix 6.895=kPa.
*Pressure rating at atmospheric termperature is 275 psi.These flanges have the same diameter and drilling as ANSI Bl6.1, class 125 cast-iron flanges.In sizes 24 in. and smaller.they also match ANSI Bl6.5, 150 psi standard for steel flanges.
Welding neck flanges may be used if desired,at the purchaser's option.
Bolt holes shall be drilled 1/8 in.larger in diameter than the nominal diameter of the bolt as stated in Sec. 4.2.3.
The thickness T of a flange from which the raised face has been removed,shall be no less than Dimension T minus 0.06 in.

Table 5 AWWA standard steel -ring flanges class E* (275psi)

Nominal Pipe size in	OD of flange(A)in	ID of flange(B)in	Number of bolts	Diam of Bolt circle(C)in	Diam of Bolt in	Thickness of Flange (T)in
4	9.00	4.57	8	7.50	0.625	1.125
5	10.00	5.66	8	8.50	0.750	1.188
6	11.00	6.72	8	9.50	0.750	1.313
8	13.50	8.72	8	11.75	0.750	1.500
10	16.00	10.88	12	14.25	0.875	1.563
12	19.00	12.88	12	17.00	0.875	1.750
14	21.00	14.19	12	18.75	1.000	1.875
16	23.50	16.19	16	21.25	1.000	2.000
18	25.00	18.19	16	22.75	1.125	2.125
20	27.50	20.19	20	25.00	1.125	2.375
22	29.50	22.19	20	27.25	1.250	2.500
24	32.00	24.19	20	29.50	1.250	2.625
26	34.25	-	24	31.75	1.250	2.750
28	36.50	-	28	34.00	1.250	2.750
30	38.75	-	28	36.00	1.250	2.875
32	41.75	-	28	38.50	1.500	3.000
34	43.75	-	32	40.50	1.500	3.000
36	46.00	-	32	42.75	1.500	3.125
38	48.75	-	32	45.25	1.500	3.125
40	50.75	-	36	47.25	1.500	3.250
42	53.00	-	36	49.50	1.500	3.375
44	55.25	-	40	51.75	1.500	3.375
46	57.25		40	53.75	1.500	3.438
48	59.50	-	44	56.00	1.500	3.500
50	61.75	-	44	58.25	1.750	3.500
52	64.00	-	44	60.50	1.750	3.625
54	66.25	-	44	62.75	1.750	3.750
60	73.00	-	52	69.25	1.750	3.875
66	80.00	-	52	76.00	1.750	4.250
72	86.50	-	60	82.50	1.750	4.375
78	93.00	-	64	89.00	2.000	4.750
84	99.75	-	64	95.50	2.000	4.750
90	106.50	-	68	102.00	2.250	5.125
96	113.25	-	68	108.50	2.250	5.125
102	120.00	-	72	114.50	2.500	5.500
108	126.75	-	72	120.75	2.500	5.500
114	133.50	-	76	126.75	2.750	5.875
120	140.25	-	76	132.75	2.750	5.875
126	147.00	-	80	139.25	3.000	6.250
132	153.75	-	80	145.75	3.000	6.250
138	160.50	-	84	152.00	3.250	6.750
144	167.25	-	84	158.25	3.250	6.750

Notes:1.Ring flanges may be overbored or counterbored to accommodate larger outside-diameter pipe than shown as nominal. This is done to allow a clear inside diameter after cement-mortar.lining Wrench clearance between the pipe OD and bolt circle must be maintained as well as sufficient gasket aeating area.
2.Metric conversion: nominal pipe size: in.x25 = mm,dimensions:in.x25.4= mm;psix 6.895=kPa
*Pressure rating at atmospheric temperature is 275 psi.These flanges have the same diameter and drilling as ANSI Bl6.1, class 125 cast-iron flanges. In sizes 24 in. and smaller, they also match ANSI Bl6.5, 150 psi standard for steel flanges.
The purchaser shall specify the ID of the flange, dimension B, for nominal pipe sizes 26 in. and larger. It is recommended that this dimension be 3/16 in. larger in diameter than the nominal OD of the pipe.
Bolt holes shall be drilled 1/8 in. larger in diameter than the nominal diameter of the bolt as stated in Sec. 4.2.3.

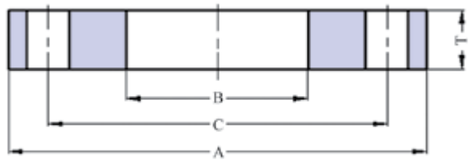


Table 6 AWWA standard steel-ring flanges class F*(300psi)

Nominal Pipe size in	OD of flange(A) in	ID of flange(B)in	Number of bolts	Diam of Bolt circle(C)in	Diam of Bolt in	Thickness of Flange (T)in
4	10.00	4.57	8	7.88	0.750	1.130
5	11.00	5.66	8	9.25	0.750	1.210
6	12.50	6.73	12	10.62	0.750	1.310
8	15.00	8.73	12	13.00	0.875	1.310
10	17.50	10.88	16	15.25	1.000	1.310
12	20.50	12.88	16	17.75	1.125	1.630
14	23.00	14.19	20	20.25	1.125	1.940
16	25.50	16.19	20	22.50	1.250	2.140
18	28.00	18.19	24	24.75	1.250	2.250
20	30.50	20.19	24	27.00	1.250	2.330
22	33.00	22.19	24	29.25	1.250	2.500
24	36.00	24.19	24	32.00	1.500	2.690
26	38.25	26.25	28	34.50	1.750	3.000
28	40.75	28.25	28	37.00	1.750	3.130
30	43.00	30.25	28	39.25	1.750	3.150
32	45.25	32.25	28	41.50	1.750	3.250
34	47.50	34.25	28	43.50	1.750	3.380
36	50.00	36.25	32	46.00	2.000	3.460
38	52.25	38.25	32	48.00	2.000	3.500
40	54.25	40.25	36	50.25	2.000	3.630
42	57.00	42.25	36	52.75	2.000	3.810
44	59.25	44.25	36	55.00	2.000	4.000
46	61.50	46.25	40	57.25	2.000	4.130
48	65.00	48.25	40	60.75	2.000	4.500

NOTES:1.Ring flanges may be overbored or counterbored to accommodate larger outside-diameter pipe than shown as nominal.
This is done to allow a clear inside diameter after cement-mortar.lining Wrench clearance between the pipe OD and bolt circle must be maintained as well as sufficient gasket aeating area.
2.Metric conversion: nominal pipe size: in.x25 = mm;dimensions:in.x25.4= mm;psix 6.895=kPa
The purchaser shall specify the ID of the flange,dimension B,for nominal pipe sizes 26 in. and larger. The diameter of the flange bore shall not exceed the pipe OD by more than 0.19 in.
Bolt holes shall be drilled 1/8-in. larger in diameter than the nominal diameter of the bolt except as stated in Sec. 4.2.3.

Table 7 AWWA blind -flange thickness

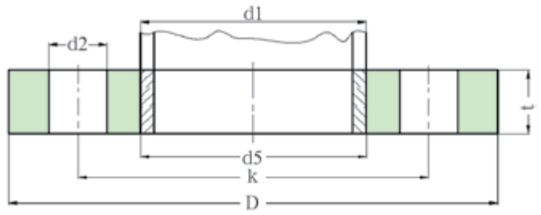
Minimum Thickness*											
Nominal Pipe size		Mating Flange ID		Class B 86psi		Class D		Class E 275 psi		Class F300 psi	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
4	(100)	4.57	116	0.625	(15.88)	0.625	(15.88)	1.125	(28.58)	1.130	(28.7)
5	(125)	5.66	144	0.625	(15.88)	0.650	(16.51)	1.188	(30.18)	1.210	(30.73)
6	(150)	6.72	171	0.688	(17.48)	0.693	(17.59)	1.313	(33.35)	1.310	(33.27)
8	(200)	8.72	221	0.688	(17.48)	0.812	(20.62)	1.500	(38.1)	1.310	(33.27)
10	(250)	10.88	276	0.688	(17.48)	0.953	(24.21)	1.563	(39.7)	1.500	(38.1)
12	(300)	12.88	327	0.719	(18.26)	1.117	(28.37)	1.750	(44.45)	1.630	(41.4)
14	(350)	14.19	360	0.791	(20.1)	1.133	(28.78)	1.875	(47.63)	1.940	(49.28)
16	(400)	16.19	411	0.892	(22.66)	1.265	(32.13)	2.000	(50.8)	2.140	(54.36)
18	(450)	18.19	462	0.950	(24.13)	1.331	(33.81)	2.125	(53.98)	2.250	(57.15)
20	(500)	20.19	513	1.040	(26.42)	1.448	(36.77)	2.375	(60.33)	2.330	(59.18)
22	(550)	22.19	564	1.132	(28.74)	1.568	(39.83)	2.500	(63.5)	2.500	(63.5)
24	(600)	25.50	648	1.216	(30.89)	1.661	(42.18)	2.625	(66.68)	2.690	(68.53)
26	(650)	27.50	699	1.307	(33.2)	1.786	(45.37)	2.750	(69.85)	3.000	(76.2)
28	(700)	29.50	749	1.398	(35.5)	1.906	(48.4)	2.750	(69.85)	3.130	(79.5)
30	(750)	31.50	800	1.477	(37.53)	2.008	(51.00)	2.875	(73.03)	3.166	(80.42)
32	(800)	33.50	851	1.581	(40.16)	2.150	(54.60)	3.000	(76.2)	3.332	(84.62)
34	(850)	35.50	902	1.661	(42.19)	2.252	(57.21)	3.050	(77.46)	3.475	(88.25)
36	(900)	37.63	956	1.751	(44.48)	2.370	(60.2)	3.209	(81.51)	3.671	(93.25)
38	(950)	39.63	1006	1.853	(47.06)	2.506	(63.66)	3.394	(86.2)	3.815	(96.9)
40	(1000)	41.63	1057	1.933	(49.09)	2.609	(66.28)	3.533	(89.74)	3.982	(101.4)
42	(1050)	43.63	1108	2.023	(51.4)	2.729	(69.32)	3.695	(93.86)	4.171	(105.92)
44	(1100)	45.63	1159	2.114	(53.7)	2.849	(72.36)	3.857	(97.97)	4.338	(110.19)
46	(1150)	47.63	1210	2.194	(55.73)	2.952	(74.99)	3.997	(101.53)	4.505	(114.43)
48	(1200)	49.63	1260	2.285	(58.03)	3.072	(78.03)	4.159	(105.65)	4.781	(121.44)
50	(1250)	51.75	1314	2.377	(60.38)	3.196	(81.17)	4.327	(109.9)	-	-
52	(1300)	53.75	1365	2.468	(62.69)	3.315	(84.21)	4.489	(114.02)	-	-
54	(1350)	55.75	1416	2.559	(64.99)	3.435	(87.25)	4.651	(118.14)	-	-
60	(1500)	61.75	1568	2.820	(71.63)	3.779	(95.97)	5.116	(129.95)	-	-
66	(1650)	67.88	1724	3.092	(78.53)	4.136	(105.06)	5.601	(142.26)	-	-
72	(1800)	73.88	1876	3.353	(85.17)	4.480	(113.8)	6.066	(154.08)	-	-

NOTES:1.All flanges are flat faced.
2.ASTM A-36 steel used (allowable stress 16,000 psi).
3.ASTM A-307 Grade B bolts (7,000 psi allowable stressl used for class B and D.
4.ASTM AI93 Grade B7 bolts (25,000 psi allowable stress) used for class E and F.
5.For diameters over 48 in.designers should consider using dished heads welded to a standard flange.
Design Method:ASME Boiler & Pressure Vessel Code,Sec.VIII,Div.1.
Class D flanges are rated at 175 psi (1,207 kPa) for nominal pipe sizes ≤12 in. (600 mm), and 150 psi (1,034 kPa) for nominal pipe sizes >12in(600 mm)

PN6

Slip-on Flanges

DIN 2573

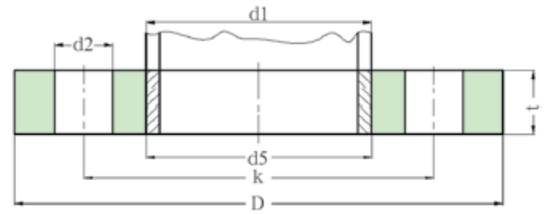


Bore		Common Dimention				Drilling				Approx weight(kg)
Nominal Bore	d1	d5	D	t	K	Number of bolt	Dia.of bolt		d2	
10	17.2	17.7	75	12	50	4	M10	-	11.5	0.36
15	21.3	22	80	12	55	4	M10	-	11.5	0.41
20	26.9	27.6	90	14	65	4	M10	-	11.5	0.60
25	33.7	34.4	100	14	75	4	M10	-	11.5	0.74
32	42.4	43.1	120	16	90	4	M12	(1/2")	14	1.19
40	48.3	49	130	16	100	4	M12	(1/2")	14	1.39
50	60.3	61.1	140	16	110	4	M12	(1/2")	14	1.53
65	76.1	77.1	160	16	130	4	M12	(1/2")	14	1.89
80	88.9	90.3	190	18	150	4	M16	(5/8")	18	2.98
100	114.3	115.9	210	18	170	4	M16	(5/8")	18	3.46
125	139.7	141.6	240	20	200	8	M16	(5/8")	18	4.60
150	168.3	170.5	265	20	225	8	M16	(5/8")	18	5.22
200	219.1	221.8	320	22	280	8	M16	(5/8")	18	7.15
250	323.9	276.2	375	24	335	12	M16	(5/8")	18	9.61
300	355.6	327.6	440	24	395	12	M20	(3/4")	23	12.6
350	406.4	359.7	490	26	445	12	M20	(3/4")	23	15.6
400	457.2	411	540	28	495	16	M20	(3/4")	23	18.4
450	457.2	462.3	595	30	550	16	M20	(3/4")	23	21.4
500	508	513.6	645	30	600	20	M20	(3/4")	23	24.6
600	610	616.5	755	30	705	20	M24	(7/8")	27	32.63
700	711	716	860	30	810	24	M24	(7/8")	27	38.98
800	813	818	975	30	920	24	M27	(1")	30	48.07
900	914	920	1075	32	1020	24	M27	(1")	30	56.75
1000	1016	1022	1175	34	1120	28	M27	(1")	30	65.18
1100	1116	1122	1290	34	1225	32			30	
1200	1220	1226	1405	36	1340	32	M30	(1 1/8")	33	96.79
1300	1320	1326	1530	38	1460	36			36	
1400	1420	1426	1630	40	1560	36	M33	(1 1/4")	36	142.24
1500	1520	1526	1730	40	1660	36			36	
1600	1620	1626	1830	42	1760	40	M33	(1 1/4")	36	169.14
1700	1720	1726	1930	42	1860	44			39	
1800	1820	1826	2045	46	1970	44	M36	(1 3/8")	39	221.45
2000	2020	2026	2265	48	2180	48	M39	(1 1/2")	42	278.44
2200	2220	2226	2475	52	2390	52	M39	(1 1/2")	42	345.87
2400	2420	2426	2685	56	2600	56	M39	(1 1/2")	42	422.93

PN10

Slip-on Flanges

DIN 2576

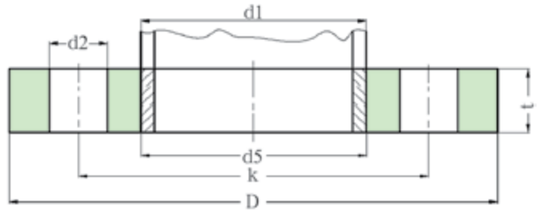


Bore		Common Dimention				Drilling				Approx weight(kg)
Nominal Bore	d1	d5	D	t	K	Number of bolt	Dia.of bolt		d2	
10	17.2	17.7	90	14	60	4	M12	(1/2")	14	0.61
15	21.3	22	95	14	65	4	M12	(1/2")	14	0.67
20	26.9	27.6	105	16	75	4	M12	(1/2")	14	0.94
25	33.7	34.4	115	16	85	4	M12	(1/2")	14	1.11
32	42.4	43.1	140	16	100	4	M16	(5/8")	18	1.62
40	48.3	49	150	16	110	4	M16	(5/8")	18	1.86
50	60.3	61.1	165	18	125	4	M16	(5/8")	18	2.47
65	76.1	77.1	185	18	145	4	M16	(5/8")	18	3.00
80	88.9	90.3	200	20	160	4	M16	(5/8")	18	3.79
100	114.3	115.9	220	20	180	8	M16	(5/8")	18	4.03
125	139.7	141.6	250	22	210	8	M16	(5/8")	18	5.46
150	168.3	170.5	285	22	240	8	M20	(3/4")	23	6.57
200	219.1	221.8	340	24	295	8	M20	(3/4")	23	9.3
250	273	276.2	395	26	350	12	M20	(3/4")	23	11.9
300	323.9	327.6	445	26	400	12	M20	(3/4")	23	13.8
350	355.6	359.7	505	28	460	16	M20	(3/4")	23	20.6
400	406.4	411	565	32	515	16	M24	(7/8")	27	27.9
450	457	462.3	615	38	565	20	M24	(7/8")	27	35.6
500	508	513.6	670	38	620	20	M24	(7/8")	27	41.1
600	610	616.5	780	32	725	20	M27	(1")	30	41.49
700	711	716	895	40	840	24	M27	(1")	30	65.79
800	813	818	1015	44	950	24	M30	(1 1/8")	33	90.87
900	914	920	1115	48	1050	28	M30	(1 1/8")	33	108.41
1000	1016	1022	1230	41	1160	28	M33	(1 1/4")	36	109.23
1100	1116	1122	1340	50	1270	28			36	
1200	1220	1226	1455	54	1380	32	M36	(1 3/8")	39	188.2
1300	1320	1326	1575	54	1490	32	M36	(1 3/8")	39	
1400	1420	1426	1675	60	1590	36	M39	(1 1/2")	42	262.14
1500	1520	1526	1785	60	1700	36			42	293.72
1600	1620	1626	1915	64	1820	40	M45	(1 4/5")	48	367.43
1700	1720	1726	2015	66	1920	40			48	402.41
1800	1820	1826	2115	70	2020	44	M45	(1 4/5")	48	447.79
1900	1920	1926	2215	70	2120	44			48	
2000	2020	2026	2325	76	2230	48	M45	(1 4/5")	48	557.77
2200	2220	2226	2550	82	2440	52	M52	(2")	56	699.88

PN16

Slip-on Flanges

DIN2502

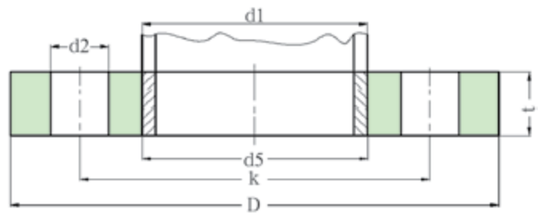


Bore		Common Dimention				Drilling				Approx weight(kg)
Nominal Bore	d1	d5	D	t	K	Number of bolt	Dia.of bolt		d2	
10	17.2	17.7	90	14	60	4	M12	(1/2")	14	0.61
15	21.3	22	95	14	65	4	M12	(1/2")	14	0.67
20	26.9	27.6	105	16	75	4	M12	(1/2")	14	0.94
25	33.7	34.4	115	16	85	4	M12	(1/2")	14	1.11
32	42.4	43.1	140	16	100	4	M16	(5/8")	18	1.62
40	48.3	49	150	16	110	4	M16	(5/8")	18	1.86
50	60.3	61.1	165	18	125	4	M16	(5/8")	18	2.47
65	76.1	77.1	185	18	145	4	M16	(5/8")	18	3
80	88.9	90.3	200	20	160	8	M16	(5/8")	18	3.62
100	114.3	115.9	220	20	180	8	M16	(5/8")	18	4.03
125	139.7	141.6	250	22	210	8	M16	(5/8")	18	5.46
150	168.3	170.5	285	22	240	8	M20	(3/4")	22	6.57
175	193.7	196.1	315	24	270	8	M20	(3/4")	22	8.45
200	219.1	221.8	340	24	295	12	M20	(3/4")	22	8.99
250	273	276.2	405	26	355	12	M24	(7/8")	26	12.79
300	323.9	327.6	460	28	410	12	M24	(7/8")	26	16.64
350	355.6	359.7	520	30	470	16	M24	(7/8")	26	24.14
400	406.4	411	580	32	525	16	M27	(1")	30	30.27
450	457	462.3	640	38	585	20	M27	(1")	30	41.77
500	508	513.6	715	38	650	20	M30	(1 1/8")	33	52.99
600	610	616.5	840	42	770	20	M33	(1 1/4")	36	77.77
700	711	716	910	44	840	24	M33	(1 1/4")	36	77.32
800	813	818	1025	50	950	24	M36	(1 3/8")	39	106.6
900	914	920	1125	54	1050	28	M36	(1 3/8")	39	125.7
1000	1016	1022	1255	60	1170	28	-		42	178.4
1100	1117	1121	1355	60	1270	32	-		42	193.9
1200	1220	1226	1485	68	1390	32	-		48	264.1
1300	1320	1326	1585	68	1490	32	-		48	285.86
1400	1420	1426	1685	74	1590	36	-		48	330.55
1500	1520	1526	1820	78	1710	36	-		56	419.78
1600	1620	1626	1930	84	1820	40	-		56	486.08
1700	1720	1726	2030	84	1920	44	-		56	521.12
1800	1820	1826	2130	88	2020	44	M52	(2")	56	579
2000	2020	2026	2345	94	2230	48	-		56	722.56

PN25

Slip-on Flanges

DIN 2503

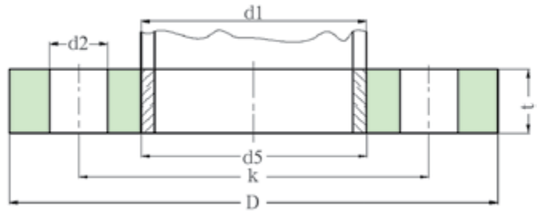


Bore		Common Dimention				Drilling				Approx weight(kg)
Nominal Bore	d1	d5	D	t	K	Number of bolt	Dia.of bolt		d2	
10	17.2	17.7	90	16	60	4	M12	(1/2")	14	0.7
15	21.3	22	95	16	65	4	M12	(1/2")	14	0.771
20	26.9	27.6	105	18	75	4	M12	(1/2")	14	1
25	33.7	34.4	115	18	85	4	M12	(1/2")	14	1.28
32	42.4	43.1	140	18	100	4	M16	(5/8")	18	1.87
40	48.3	49	150	18	110	4	M16	(5/8")	18	2.13
50	60.3	61.1	165	20	125	4	M16	(5/8")	18	2.79
65	76.1	77.1	185	22	145	4	M16	(5/8")	18	3.48
80	88.9	90.3	200	24	160	8	M16	(5/8")	18	4.35
100	114.3	115.9	235	24	190	8	M20	(3/4")	22	5.78
125	139.7	141.6	270	26	220	8	M24	(7/8")	26	7.87
150	168.3	170.5	300	28	250	8	M24	(7/8")	26	10.1
175	193.7	196.1	330	28	280	8	M24	(7/8")	26	11
200	219.1	221.8	360	30	310	12	M24	(7/8")	26	13.6
250	273	276.2	425	32	370	12	M27	(1")	30	19.4
300	323.9	327.6	485	34	430	12	M27	(1")	30	25
350	355.6	359.7	555	38	490	16	M30	(1 1/8")	33	38.2
400	406.4	411	620	40	550	16	M33	(1")	36	48.8
450	457	462.3	670	44	600	20	M33	(1")	36	-
500	508	513.6	730	44	660	20	M33	(1 1/4")	36	67.2
600	610	616.5	845	50	770	20	M36	(1 3/8")	39	93.57
700	711	716	960	44	875	24	M39	(1 1/2")	42	99.45
800	813	818	1085	56	990	24	M45	(1 3/4")	48	156.34
900	914	920	1185	62	1090	28	M45	(1 3/4")	48	188.57
1000	1016	1022	1320	68	1210	28	M52	(2")	56	255.79
1200	1220	1226	1530	60	1420	32	-		56	272.79
1600	-	1626	1975	96	1860	40	-		62	498.24
1800	1820	2185	2185	104	2070	44	M64	(2 1/2")	70	800.15

PN40

Slip-on Flanges

DIN 2503

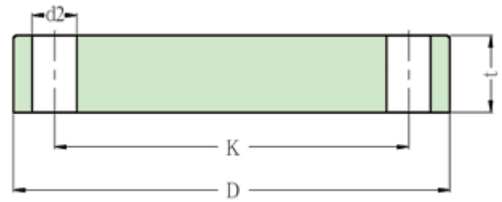


Bore		Common Dimention				Drilling				Approx weight(kg)
Nominal Bore	d1	d5	D	t	K	Number of bolt	Dia.of bolt		d2	
10	17.2	17.7	90	16	60	4	M12	(1/2")	14	0.7
15	21.3	22	95	16	65	4	M12	(1/2")	14	0.77
20	26.9	27.6	105	18	75	4	M12	(1/2")	14	1
25	33.7	34.4	115	18	85	4	M12	(1/2")	14	1.28
32	42.4	43.1	140	18	100	4	M16	(5/8")	18	1.87
40	48.3	49	150	18	110	4	M16	(5/8")	18	2.13
50	60.3	61.1	165	20	125	4	M16	(5/8")	18	2.79
65	76.1	77.1	185	22	145	8	M16	(5/8")	18	3.48
80	88.9	90.3	200	24	160	8	M16	(5/8")	18	4.35
100	114.3	115.9	235	24	190	8	M20	(3/4")	22	5.78
125	139.7	141.6	270	26	220	8	M24	(7/8")	26	7.87
150	168.3	170.5	300	28	250	8	M24	(7/8")	26	10.1
175	193.7	196.1	350	32	295	12	M27	(1")	30	14.8
200	219.1	221.8	375	34	320	12	M27	(1")	30	17.4
250	273	276.2	425	38	370	12	M30	(1 1/8")	33	27.6
300	323.9	327.6	485	42	430	16	M30	(1 1/8")	33	37.8
350	355.6	359.7	555	46	490	16	M33	(1")	36	53.4
400	406.4	411	620	50	550	16	M36	(1 3/8")	39	75.4
450	457	462.3	670	52	600	20	M36	(1 3/8")	39	65.08
500	508	513.6	730	52	660	20	M39	(1 1/2")	42	88.3
600	610	616.5	890	54	795	20	M45	(1 3/4")	48	121.84
700	711	716	995	58	900	24	M45	(1 3/4")	48	150.93
800	813	818	1140	64	1030	24	M52	(2")	56	219.08
900	914	920	1250	70	1140	28	M52	(2")	56	271.16
1000	1016	1022	1360	78	1250	28	M52	(2")	56	344.95
1200	1220	1226	1575	88	1460	32	M56	(2 1/5")	62	463.63
1400	1420	1426	1795	98	1680	36			62	
1600	1620	1626	2025	110	1900	40			70	
1800	1820	1826	2265	120	2120	44			70	

PN6

Blind Flanges

DIN 2527



Bore	Common Dimention			Drilling				weight (kg)
Nominal Bore(in)	D	t	K	Number of bolt	Dia.of bolt		d2	
10	75	12	50	4	M10	-	11.5	0.38
15	80	12	55	4	M10	-	11.5	0.44
20	90	14	65	4	M10	-	11.5	0.65
25	100	14	75	4	M10	-	11.5	0.82
32	120	14	90	4	M12	1/2"	14	1.17
40	130	14	100	4	M12	1/2"	14	1.39
50	140	14	110	4	M12	1/2"	14	1.62
65	160	14	130	4	M12	1/2"	14	2.44
80	190	16	150	4	M16	5/8"	18	3.43
100	210	16	170	4	M16	5/8"	18	4.76
125	240	18	200	8	M16	5/8"	18	6.11
150	265	18	225	8	M16	5/8"	18	7.51
200	320	20	280	8	M16	5/8"	18	-
250	375	22	335	12	M16	5/8"	18	18.3
300	440	22	395	12	M20	3/4"	23	25.3
350	490	22	445	12	M20	3/4"	23	31.6
400	540	22	495	16	M20	3/4"	23	38.4
500	645	24	600	20	M20	3/4"	23	60.4
600	755	28	705	20	M24	7/8"	27	96.07
700	860	30	810	24	M24	7/8"	27	133.8
800	975	32	920	24	M27	1"	30	183.29
900	1075	36	1020	24	M27	1"	30	251.7
1000	1175	42	1120	28	M27	1"	30	350.98
1200								
1400	1630	40	1560	36	M33			

PN10

Blind Flanges

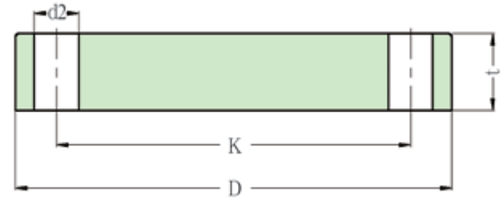
DIN 2527

Bore	Common Dimention			Drilling				weight (kg)
Nominal Bore(in)	D	t	K	Number of bolt	Dia.of bolt		d2	
10	90	14	60	4	M12	1/2"	14	0.63
15	95	14	65	4	M12	1/2"	14	0.72
20	105	16	75	4	M12	1/2"	14	1.01
25	115	16	85	4	M12	1/2"	14	1.23
32	140	16	100	4	M16	5/8"	18	1.8
40	150	16	110	4	M16	5/8"	18	2.09
50	165	18	125	4	M16	5/8"	18	2.88
65	185	18	145	4	M16	5/8"	18	3.66
80	200	20	160	4	M16	5/8"	18	4.77
100	220	20	180	8	M16	5/8"	18	5.65
125	250	22	210	8	M16	5/8"	18	8.42
150	285	22	240	8	M20	3/4"	23	10.4
200	340	24	295	8	M20	3/4"	23	16.5
250	395	26	350	12	M20	3/4"	23	24
300	445	26	400	12	M20	3/4"	23	30.9
350	505	26	460	16	M20	3/4"	23	40.6
400	565	26	515	16	M24	7/8"	27	49.4
500	670	28	620	20	M24	7/8"	27	75
600	780	30	725	20	M27	1"	30	109.2
700	895	32	840	24	M27	1"	30	153.77
800	1015	34	950	24	M30	1 1/8"	33	210.47
900	1115	40	1050	28	M30	1 1/8"	33	299.08
1000	1230	46	1160	28	M33	1 1/4"	36	418.78
1200	1455	54	1380		M36		39	688.58
1400	1455	60	1590		M40		42	
1700	2015	66	1920		M44		48	
1800	2115	70	2020				48	

PN16

Blind Flanges

DIN 2527

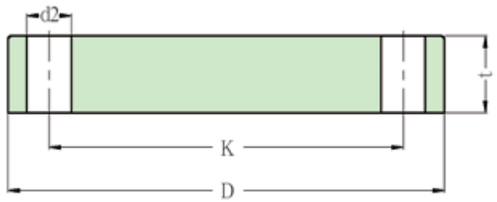


Bore	Common Dimention			Drilling				weight (kg)
Nominal Bore(in)	D	t	K	Number of bolt	Dia.of bolt		d2	
10	90	14	60	4	M12	1/2"	14	0.63
15	95	14	65	4	M12	1/2"	14	0.72
20	105	16	75	4	M12	1/2"	14	1.01
25	115	16	85	4	M12	1/2"	14	1.23
32	140	16	100	4	M16	5/8"	18	1.8
40	150	16	110	4	M16	5/8"	18	2.09
50	165	18	125	4	M16	5/8"	18	2.88
65	185	18	145	4	M16	5/8"	18	3.66
80	200	20	160	8	M16	5/8"	18	4.77
100	220	20	180	8	M16	5/8"	18	5.65
125	250	22	210	8	M16	5/8"	18	8.42
150	285	22	240	8	M20	3/4"	23	10.4
200	340	24	295	12	M20	3/4"	23	16.1
250	405	26	355	12	M24	7/8"	27	24.9
300	460	28	410	12	M24	7/8"	27	35.1
350	520	30	470	16	M24	7/8"	27	47.8
400	580	32	525	16	M27	1"	30	63.5
500	715	34	650	20	M30	1 1/8"	33	102
600	840	-	770	20	M33	1 1/4"	36	150.85
700	910	-	840	24	M33	1 1/4"	36	196.55
800	1025	-	950	24	M36	1 3/8"	39	275.11
900	1125	-	1050	28	M36	1 3/8"	39	361.94
1000	1255	-	1170	28	M39	1 1/2"	42	507.9
1200	1485	-	1390	32	-	-	48	788.44
1400	1685	-	1590	36	-	-	48	
1600	1930	-	1820	40	-	-	56	
1700	2030	-	1920	44	-	-	48	
1800	2130	-	2020	44	M52	-	56	

PN25

Blind Flanges

DIN 2527

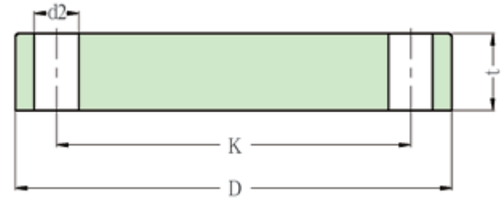


Bore	Common Dimention			Drilling				weight (kg)
Nominal Bore(in)	D	t	K	Numberof bolt	Dia.of bolt		d2	
10	90	16	60	4	M12	1/2"	14	0.72
15	95	16	65	4	M12	1/2"	14	0.81
20	105	18	75	4	M12	1/2"	14	1.14
25	115	18	85	4	M12	1/2"	14	1.38
32	140	18	100	4	M16	5/8"	18	2.04
40	150	18	110	4	M16	5/8"	18	2.36
50	165	20	125	4	M16	5/8"	18	3.20
65	185	22	145	8	M16	5/8"	18	4.30
80	200	24	160	8	M16	5/8"	18	5.55
100	235	24	190	8	M20	3/4"	23	7.56
125	270	26	220	8	M24	7/8"	27	10.78
150	300	28	250	8	M24	7/8"	27	14.56
200	360	30	310	12	M24	7/8"	27	22.41
250	425	32	370	12	M27	1"	30	33.58
300	485	34	430	16	M27	1"	30	46.40
350	555	38	490	16	M30	1 1/8"	33	68.24
400	620	40	550	16	M33	1 1/4"	36	89.90
500	730	44	660	20	M33	1 1/4"	36	137.86
600	845	-	770	20	M36	1 3/8"	39	
700	960	-	875	24	M39	1 1/2"	42	
800	1085	-	990	24	M45	1 3/4"	48	
900	1185	-	1090	28	M45	1 3/4"	48	
1000	1320	-	1210	28	M52	2"	56	

PN40

Blind Flanges

DIN 2527

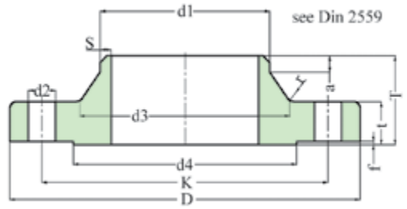


Bore	Common Dimention			Drilling				weight (kg)
Nominal Bore(in)	D	t	K	Numberof bolt	Dia.of bolt		d2	
10	90	16	60	M12	1/2"	14	14	0.72
15	95	16	65	M12	1/2"	14	14	0.81
20	105	18	75	M12	1/2"	14	14	1.24
25	115	18	85	M12	1/2"	14	14	1.38
32	140	18	100	M16	5/8"	18	18	2.03
40	150	18	110	M16	5/8"	18	18	2.35
50	165	20	125	M16	5/8"	18	18	3.2
65	185	22	145	M16	5/8"	18	18	4.29
80	200	24	160	M16	5/8"	18	18	5.88
100	235	24	190	M20	3/4"	23	23	7.54
125	270	26	220	M24	7/8"	27	27	10.8
150	300	28	250	M24	7/8"	27	27	14.5
(175)	350	32	295	M27	1"	30	30	-
200	375	34	320	M27	1"	30	30	27.2
250	450	38	385	M30	1 1/8"	33	33	43.8
300	515	42	450	M30	1 1/8"	33	33	63.3
350	580	46	510	M33	1 1/4"	36	36	-
400	660	50	585	M36	1 3/8"	39	39	-
500	755	56	670	M39	1 1/2"	42	42	172
600	890	54	795	-	-	-	-	248.36
700	995	64	900	-	-	-	-	368.83
800	1140	70	1030	-	-	-	-	528.4

PN6

Welding Neck Flanges

DIN 2631

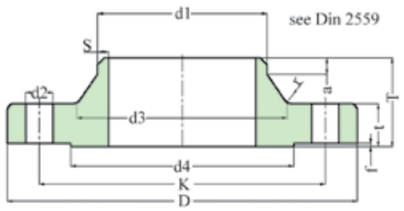


Bore		Common Dimention				Hub				Raised Face		Drilling				weight kg
Nominal Bore	d1	D	t	K	T	d3	S	r	a	d4	f	Numberof bolt	Dia.of bolt		d2	
10	14 17.2*)	75	12	50	28	22 26	1.8	4	6	35	2	4	M10	-	11.5	0.335
15	20 21.3*)	80	12	55	30	28 30	2.0	4	6	40	2	4	M10	-	11.5	0.392
20	25 26.9*)	90	14	65	32	35 38	2.3	4	6	50	2	4	M10	-	11.5	0.592
25	30 33.7*)	100	14	75	35	40 42	2.6	4	6	60	2	4	M10	-	11.5	0.747
32	38 42.4*)	120	14	90	35	50 55	2.6	6	6	70	2	4	M12	(1/2")	14	1.05
40	44.5 48.3*)	130	14	100	38	58 62	2.6	6	7	80	3	4	M12	(1/2")	14	1.18
50	57 60.3*)	140	14	110	38	70 74	2.9	6	8	90	3	4	M12	(1/2")	14	1.34
65	76.1*)	160	14	130	38	88	2.9	6	9	110	3	4	M12	(1/2")	14	1.67
80	88.9*)	190	16	150	42	102	3.2	8	10	128	3	4	M16	(5/8")	18	2.71
100	108 114.3*)	210	16	170	45	122 130	3.6	8	10	148	3	4	M16	(5/8")	18	3.24
125	133 139.7*)	240	18	200	48	148 155	4.0	8	10	178	3	8	M16	(5/8")	18	4.49
150	159 168.3*)	265	18	225	48	172 184	4.5	10	12	202	3	8	M16	(5/8")	18	5.15
200	216 219.1*)	320	20	280	55	230 236	5.9	10	15	258	3	8	M16	(5/8")	18	7.78
250	267 273*)	375	22	335	60	282 290	6.2	12	15	312	3	12	M16	(5/8")	18	10.8
300	318 323.9*)	440	22	395	62	335 342	7.1	12	15	365	4	12	M20	(3/4")	23	14
350	355.6* 368)	490	22	445	62	385	7.1	12	15	415	4	12	M20	(3/4")	23	16.1
400	406.4* 419)	540	22	495	65	438	7.1	12	15	455	4	16	M20	(3/4")	23	18.3
500	508* 521)	645	24	600	68	538	7.1	12	15	570	4	20	M20	(3/4")	23	24.6
600	609.6* 622)	755	24	705	70	640	7.1	12	16	670	5	20	M24	(7/8")	27	
700	711.2* 720)	860	24	810	70	740	7.1	12	16	775	5	24	M24	(7/8")	27	
800	812.8* 820)	975	24	920	70	842	7.1	12	16	880	5	24	M27	(1")	30	
900	914.4* 920)	1075	26	1020	70	942	7.1	12	16	980	5	24	M27	(1")	30	
1000	1016* 1020)	1175	26	1120	70	1045	7.1	16	16	1080	5	28	M27	(1")	30	

PN10

Welding Neck Flanges

DIN 2632

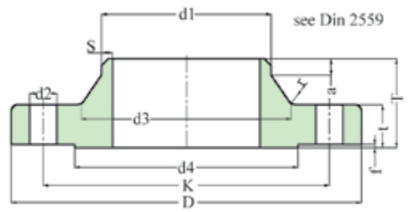


Bore		Common Dimention				Hub				Raised Face		Drilling				weight kg
Nominal Bore	d1	D	t	K	T	d3	S	r	a	d4	f	Numberof bolt	Dia.of bolt		d2	
10	14 17.2*)	90	14	60	35	25 28	1.8	4	6	40	2	4	M12	(1/2")	14	0.58
15	20 21.3*)	95	14	65	35	30 32	2.0	4	6	45	2	4	M12	(1/2")	14	0.648
20	25 26.9*)	105	16	75	38	38 40	2.3	4	6	58	2	4	M12	(1/2")	14	0.952
25	30 33.7*)	115	16	85	38	42 45	2.6	4	6	68	2	4	M12	(1/2")	14	1.14
32	38 42.4*)	140	16	100	40	52 56	2.6	6	6	78	2	4	M16	(5/8")	18	1.69
40	44.5 48.3*)	150	16	110	42	60 64	2.6	6	7	88	3	4	M16	(5/8")	18	1.86
50	57 60.3*)	165	18	125	45	72 75	2.9	6	8	102	3	4	M16	(5/8")	18	2.53
65	76.1*)	185	18	145	45	90	2.9	6	10	122	3	4	M16	(5/8")	18	3.06
80	88.9*)	200	20	160	50	105	3.2	8	10	138	3	4	M16	(5/8")	18	3.7
100	108 114.3*)	220	20	180	52	125 131	3.6	8	12	158	3	8	M16	(5/8")	18	4.62
125	133 139.7*)	250	22	210	55	150 156	4.0	8	12	188	3	8	M16	(5/8")	18	6.3
150	159 168.3*)	285	22	240	55	175 184	4.5	10	12	212	3	8	M20	(3/4")	23	7.75
200	216 219.1*)	340	24	295	62	232 235	5.9	10	16	268	3	8	M20	(3/4")	23	11.3
250	267 273*)	395	26	350	68	285 292	6.3	12	16	320	3	12	M20	(3/4")	23	14.7
300	318 323.9*)	445	26	400	68	335 344	7.1	12	16	370	4	12	M20	(3/4")	23	17.6
350	355.6* 368)	505	26	460	68	385	7.1	12	16	430	4	16	M20	(3/4")	23	21.4
400	406.4* 419)	565	26	515	72	440	7.1	12	16	482	4	16	M24	(7/8")	27	26.1
500	508* 521)	670	28	620	75	542	7.1	12	16	585	4	20	M24	(7/8")	27	34.7
600	609.6* 622)	780	28	725	80	642	7.1	12	18	685	5	20	M27	(1")	30	
700	711.2* 720)	895	30	840	80	745	8.0	12	18	800	5	24	M27	(1")	30	
800	812.8* 820)	1015	32	950	90	850	8.0	12	18	905	5	24	M30	(1 1/8")	33	
900	914.4* 920)	1115	34	1050	95	950	10.0	12	20	1005	5	28	M30	(1 1/8")	33	
1000	1016* 1020)	1230	34	1160	95	1052	10.0	16	20	1110	5	28	M33	(1 1/4")	36	

PN16

Welding Neck Flanges

DIN 2633

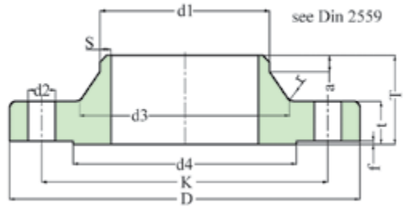


Bore		Common Dimention				Hub				Raised Face		Drilling				weight kg
Nominal Bore	d1	D	t	K	T	d3	S	r	a	d4	f	Numberof bolt	Dia.of bolt		d2	
10	14 17.2*)	90	14	60	35	25 28	1.8	4	6	40	2	4	M12	(1/2")	14	0.580
15	20 21.3*)	95	14	65	35	30 32	2.0	4	6	45	2	4	M12	(1/2")	14	0.648
20	25 26.9*)	105	16	75	38	38 40	2.3	4	6	58	2	4	M12	(1/2")	14	0.952
25	30 33.7*)	115	16	85	38	42 45	2.6	4	6	68	2	4	M12	(1/2")	14	1.14
32	38 42.4*)	140	16	100	40	52 56	2.6	6	6	78	2	4	M16	(5/8")	18	1.69
40	44.5 48.3*)	150	16	110	42	60 64	2.6	6	7	88	3	4	M16	(5/8")	18	1.86
50	57 60.3*)	165	18	125	45	72 75	2.9	6	8	102	3	4	M16	(5/8")	18	2.53
65	76.1*)	185	18	145	45	90	2.9	6	10	122	3	4	M16	(5/8")	18	3.06
80	88.9*)	200	20	160	50	105	3.2	8	10	138	3	8	M16	(5/8")	18	3.70
100	108 114.3*)	220	20	180	52	125 131	3.6	8	12	158	3	8	M16	(5/8")	18	4.62
125	133 139.7*)	250	22	210	55	150 156	4.0	8	12	188	3	8	M16	(5/8")	18	6.30
150	159 168.3*)	285	22	240	55	175 184	4.5	10	12	212	3	8	M20	(3/4")	23	7.75
200	216 219.1*)	340	24	295	62	232 235	5.9	10	16	268	3	12	M20	(3/4")	23	11.0
250	267 273*)	405	26	355	70	285 292	6.3	12	16	320	3	12	M24	(7/8")	27	15.6
300	318 323.9*)	460	28	410	78	338 344	7.1	12	16	378	4	12	M24	(7/8")	27	22.0
350	355.6* 368)	520	30	470	82	390	8.0	12	16	438	4	16	M24	(7/8")	27	28.7
400	406.4* 419)	580	32	525	85	445	8.0	12	16	490	4	16	M27	(1")	30	36.3
500	508* 521)	715	34	650	90	548	8.0	12	16	610	4	20	M30	(1 1/8")	33	59.3
600	609.6* 622)	840	36	770	95	652	8.8	12	18	725	5	20	M33	(1 1/4")	36	
700	711.2* 720)	910	36	840	100	755	8.8	12	18	795	5	24	M33	(1 1/4")	36	
800	812.8* 820)	1025	38	950	105	855	10.0	12	20	900	5	24	M36	(1 3/8")	39	
900	914.4* 920)	1125	40	1050	110	955	10.0	12	20	1000	5	28	M36	(1 3/8")	39	
1000	1016* 1020)	1255	42	1170	120	1058	10.0	16	20	1115	5	28	M39	(1 1/2")	42	

PN25

Welding Neck Flanges

DIN 2634

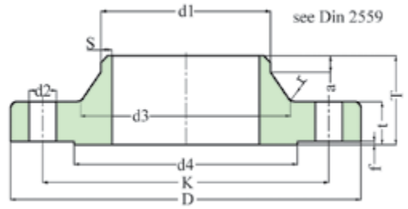


Bore		Common Dimention				Hub				Raised Face		Drilling				weight kg
Nominal Bore	d1	D	t	K	T	d3	S	r	a	d4	f	Numberof bolt	Dia.of bolt		d2	
10	14 17.2*)	90	16	60	35	25 28	1.8	4	6	40	2	4	M12	(1/2")	14	0.661
15	20 21.3*)	95	16	65	38	30 32	2.0	4	6	45	2	4	M12	(1/2")	14	0.746
20	25 26.9*)	105	18	75	40	38 40	2.3	4	6	58	2	4	M12	(1/2")	14	1.06
25	30 33.7*)	115	18	85	40	42 46	2.6	4	6	68	2	4	M12	(1/2")	14	1.29
32	38 42.4*)	140	18	100	42	52 56	2.6	6	6	78	2	4	M16	(5/8")	18	1.88
40	44.5 48.3*)	150	18	110	45	60 64	2.6	6	7	88	3	4	M16	(5/8")	18	2.34
50	57 60.3*)	165	20	125	48	72 75	2.9	6	8	102	3	4	M16	(5/8")	18	2.82
65	76.1*)	185	22	145	52	90	2.9	6	10	122	3	8	M16	(5/8")	18	3.74
80	88.9*)	200	24	160	58	105	3.2	8	12	138	3	8	M16	(5/8")	18	4.75
100	108 114.3*)	235	24	190	65	128 134	3.6	8	12	162	3	8	M20	(3/4")	23	6.52
125	133 139.7*)	270	26	220	68	155 162	4.0	8	12	188	3	8	M24	(7/8")	27	9.07
150	159 168.3*)	300	28	250	75	182 192	4.5	10	12	218	3	8	M24	(7/8")	27	11.8
200	216 219.1*)	360	30	310	80	240 244	6.3	10	16	278	3	12	M24	(7/8")	27	17.0
250	267 273*)	425	32	370	88	292 298	7.1	12	18	335	3	12	M27	(1")	30	24.4
300	318 323.9*)	485	34	430	92	345 352	8.0	12	18	395	4	16	M27	(1")	30	31.2
350	355.6* 368)	555	38	490	100	398	8.0	12	20	450	4	16	M30	(1 1/8")	33	45.0
400	406.4* 419)	620	40	550	110	452	8.8	12	20	505	4	16	M33	(1 1/4")	36	58.7
500	508* 521)	730	44	660	125	558	10.0	12	20	615	4	20	M33	(1 1/4")	36	86.1
600	609.6* 622)	845	46	770	125	660	11.0	12	20	720	5	20	M36	(1 3/8")	39	101.0
700	711.2* 720)	960	46	875	125	760	12.5	12	20	820	5	24	M39	(1 1/2")	42	134.0
800	812.8* 820)	1085	50	990	135	865	14.2	12	22	930	5	24	M45	(1 3/4")	48	183.0
900	914.4* 930)	1185	54	1090	145	968	16.0	12	24	1030	5	28	M45	(1 3/4")	48	232.0
1000	1016* 1020)	1320	58	1210	155	1070	17.5	16	24	1140	5	28	M52	(2")	56	302.0

PN40

Welding Neck Flanges

DIN 2635

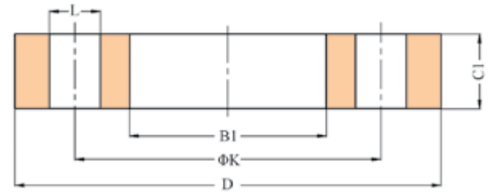


Bore		Common Dimention				Hub				Raised Face		Drilling				weight kg
Nominal Bore	d1	D	t	K	T	d3	S	r	a	d4	f	Number of bolt	Dia.of bolt		d2	
10	14 17.2*)	90	16	60	35	25 28	1.8	4	6	40	2	4	M12	(1/2")	14	0.661
15	20 21.3*)	95	16	65	38	30 32	2.0	4	6	45	2	4	M12	(1/2")	14	0.746
20	25 26.9*)	105	18	75	40	38 40	2.3	4	6	58	2	4	M12	(1/2")	14	1.06
25	30 33.7*)	115	18	85	40	42 46	2.6	4	6	68	2	4	M12	(1/2")	14	1.29
32	38 42.4*)	140	18	100	42	52 56	2.6	6	6	78	2	4	M16	(5/8")	18	1.88
40	44.5 48.3*)	150	18	110	45	60 64	2.6	6	7	88	3	4	M16	(5/8")	18	2.33
50	57 60.3*)	165	20	125	48	72 75	2.9	6	8	102	3	4	M16	(5/8")	18	2.82
65	76.1*)	185	22	145	52	90	2.9	6	10	122	3	8	M16	(5/8")	18	3.74
80	88.9*)	200	24	160	58	105	3.2	8	12	138	3	8	M16	(5/8")	18	4.75
100	108 114.3*)	235	24	190	65	128 134	3.6	8	12	162	3	8	M20	(3/4")	23	6.52
125	133 139.7*)	270	26	220	68	155 162	4.0	8	12	188	3	8	M24	(7/8")	27	9.07
150	159 168.3*)	300	28	250	75	182 192	4.5	10	12	218	3	8	M24	(7/8")	27	11.8
175	(191) 193.7*)	350	32	295	82	215 218	5.6	10	15	260	3	12	M27	(1")	30	18.2
200	216 219.1*)	375	34	320	88	240 244	6.3	10	16	285	3	12	M27	(1")	30	21.5
250	267 273*)	450	38	385	105	298 306	7.1	12	18	345	3	12	M30	(1 1/8")	33	34.9
300	318 323.9*)	515	42	450	115	352 362	8.0	12	18	410	4	16	M30	(1 1/8")	33	49.7
350	355.6*) 368	580	46	510	125	408	8.8	12	20	465	4	16	M33	(1 1/4")	36	68.1
400	406.4*) 419	660	50	585	135	462	11.0	12	20	535	4	16	M36	(1 3/8")	39	96.5
500	508*) 521	755	52	670	140	562	14.2	12	20	615	4	20	M39	(1 1/2")	42	117.0

PN 6

Type 01 Flanges

EN1092-1



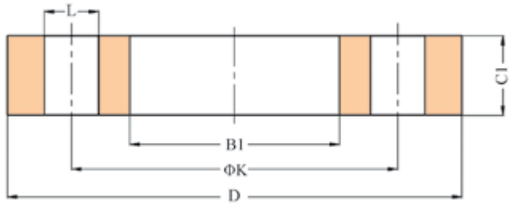
DN	Outside diameter	Diameter of bolt circle	Diameter of bolt hole	Bolting		Bore diameter	Flange thickness	Approx weight
	D	K	L	Number	Size	B1	C1	(Kg)
10	75	50	11	4	M10	18.0	12	0.36
15	80	55	11	4	M10	22.0	12	0.4
20	90	65	11	4	M10	27.5	14	0.59
25	100	75	11	4	M10	34.5	14	0.72
32	120	90	14	4	M12	43.5	16	1.16
40	130	100	14	4	M12	49.5	16	1.35
50	140	110	14	4	M12	61.5	16	1.49
65	160	130	14	4	M12	77.5	16	1.86
80	190	150	18	4	M16	90.5	18	2.96
100	210	170	18	4	M16	116.0	18	3.26
125	240	200	18	8	M16	141.5	20	4.32
150	265	225	18	8	M16	170.5	20	4.77
200	320	280	18	8	M16	221.5	22	6.9
250	375	335	18	12	M16	276.5	24	8.94
300	440	395	22	12	M20	327.5	24	11.95
350	490	445	22	12	M20	359.5	26	16.88
400	540	495	22	16	M20	411.0	28	19.89
450	595	550	22	16	M20	462.0	30	24.63
500	645	600	22	20	M20	513.5	30	26.45
600	755	705	26	20	M24	616.5	32	34.89
700	860	810	26	24	M24	b	40	
800	975	920	30	24	M27		44	
900	1075	1020	30	24	M27		48	
1000	1175	1120	30	28	M27		52	

b To be specified by the purchaser.

PN 10

Type 01 Flanges

EN1092-1



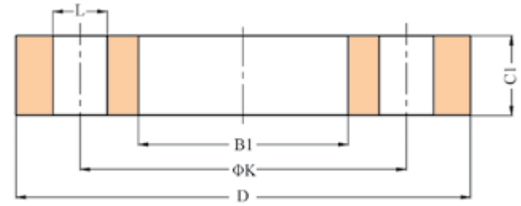
DN	Outside diameter	Diameter of bolt circle	Diameter of bolt hole	Bolting		Bore diameter	Flange thickness	Approx weight
	D	K	L	Number	Size	B1	C1	(Kg)
10	90	60	14	4	M12	18.0	14	0.67
15	95	65	14	4	M12	22.0	14	0.74
20	105	75	14	4	M12	27.5	16	1.02
25	115	85	14	4	M12	34.5	16	1.19
32	140	100	18	4	M16	43.5	18	1.97
40	150	110	18	4	M16	49.5	18	2.23
50	165	125	18	4	M16	61.5	20	2.90
65	185	145	18	8	M16	77.5	20	3.49
80	200	160	18	8	M16	90.5	20	3.93
100	220	180	18	8	M16	116.0	22	4.75
125	250	210	18	8	M16	141.5	22	5.78
150	285	240	22	8	M20	170.5	24	7.74
200	340	295	22	8	M20	221.5	24	9.87
250	395	350	22	12	M20	276.5	26	12.79
300	445	400	22	12	M20	327.5	26	14.58
350	505	460	22	16	M20	359.5	30	23.32
400	565	515	26	16	M24	411.0	32	29.72
450	615	565	26	20	M24	462.0	36	36.66
500	670	620	26	20	M24	513.5	38	43.50
600	780	725	30	20	M27	616.5	42	59.26
700	895	840	30	24	M27	b	50	
800	1015	950	33	24	M30		56	
900	1115	1050	33	28	M30		62	
1000	1230	1160	36	28	M33		70	

b To be specified by the purchaser.

PN 16

Type 01 Flanges

EN1092-1



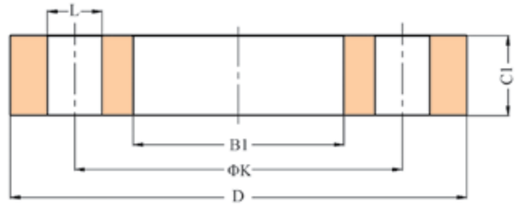
DN	Outside diameter	Diameter of bolt circle	Diameter of bolt hole	Bolting		Bore diameter	Flange thickness	Approx weight
	D	K	L	Number	Size	B1	C1	(Kg)
10	90	60	14	4	M12	18.0	14	0.60
15	95	65	14	4	M12	22.0	14	0.67
20	105	75	14	4	M12	27.5	16	0.94
25	115	85	14	4	M12	34.5	16	1.11
32	140	100	18	4	M16	43.5	18	1.83
40	150	110	18	4	M16	49.5	18	2.09
50	165	125	18	4	M16	61.5	20	2.74
65	185	145	18	8	M16	77.5	20	3.17
80	200	160	18	8	M16	90.5	20	3.61
100	220	180	18	8	M16	116.0	22	4.40
125	250	210	18	8	M16	141.5	22	5.42
150	285	240	22	8	M20	170.5	24	7.16
200	340	295	22	12	M20	221.5	26	9.76
250	405	355	26	12	M24	276.5	29	14.24
300	460	410	26	12	M24	327.5	32	19.03
350	520	470	26	16	M24	359.0	35	28.27
400	580	525	30	16	M27	411.0	38	35.95
450	640	585	30	20	M27	462.0	42	46.24
500	715	650	33	20	M30	513.5	46	64.18
600	840	770	36	20	M33	616.5	55	101.84
700	910	840	36	24	M33	c	63	
800	1025	950	39	24	M36		74	
900	1125	1050	39	28	M36		82	
1000	1255	1170	42	28	M39		90	

c To be specified by purchaser.

PN 25

Type 01 Flanges

EN1092-1



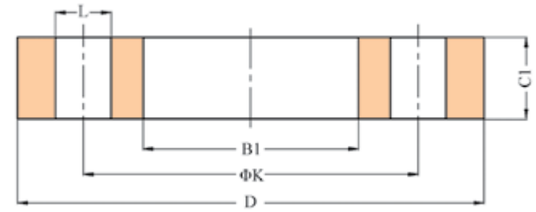
DN	Outside diameter	Diameter of bolt circle	Diameter of bolt hole	Bolting		Bore diameter	Flange thickness	Approx weight
	D	K	L	Number	Size	B1	C1	(Kg)
10	90	60	14	4	M12	18.0	14	0.60
15	95	65	14	4	M12	22.0	14	0.67
20	105	75	14	4	M12	27.5	16	0.94
25	115	85	14	4	M12	34.5	16	1.11
32	140	100	18	4	M16	43.5	18	1.83
40	150	110	18	4	M16	49.5	18	2.09
50	165	125	18	4	M16	61.5	20	2.74
65	185	145	18	8	M16	77.5	22	3.48
80	200	160	18	8	M16	90.5	24	4.33
100	235	190	22	8	M20	116.0	26	6.09
125	270	220	26	8	M24	141.5	28	8.21
150	300	250	26	8	M24	170.5	30	10.29
200	360	310	26	12	M24	221.5	32	14.32
250	425	370	30	12	M27	276.5	35	20.20
300	485	430	30	16	M27	327.5	38	26.67
350	555	490	33	16	M30	359.5	42	41.88
400	620	550	36	16	M33	411.0	48	57.77
450	670	600	36	20	M33	462.0	54	69.93
500	730	660	36	20	M33	513.5	58	87.21
600	845	770	39	20	M36	616.5	68	127.56
700	960	875	42	24	M39	b	85	
800	1085	990	48	24	M45		95	
900	1185	1090	48	28	M45		b	
1000	1320	1210	56	28	M52			

b To be specified by purchaser.

PN 40

Type 01 Flanges

EN1092-1



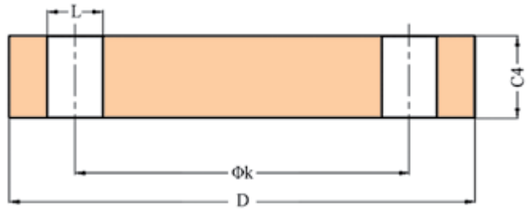
DN	Outside diameter	Diameter of bolt circle	Diameter of bolt hole	Bolting		Bore diameter	Flange thickness	Approx weight
	D	K	L	Number	Size	B1	C1	(Kg)
10	90	60	14	4	M12	18.0	14	0.6
15	95	65	14	4	M12	22.0	14	0.67
20	105	75	14	4	M12	27.5	16	0.94
25	115	85	14	4	M12	34.5	16	1.11
32	140	100	18	4	M16	43.5	18	1.83
40	150	110	18	4	M16	49.5	18	2.09
50	165	125	18	4	M16	61.5	20	2.74
65	185	145	18	8	M16	77.5	22	3.48
80	200	160	18	8	M16	90.5	24	4.33
100	235	190	22	8	M20	116.0	26	6.09
125	270	220	26	8	M24	141.5	28	8.21
150	300	250	26	8	M24	170.5	30	10.29
200	375	320	30	12	M27	221.5	36	17.97
250	450	385	33	12	M30	276.5	42	29.33
300	515	450	33	16	M30	327.5	52	45.17
350	580	510	36	16	M33	359.5	58	66.82
400	660	585	39	16	M36	411.0	65	97.35
450	685	610	39	20	M36	462.0	d	
500	755	670	42	20	M39	513.5		
600	890	795	48	20	M45	616.5		

d To be specified by the purchaser.

PN 6

Type 05 Flanges

EN1092-1

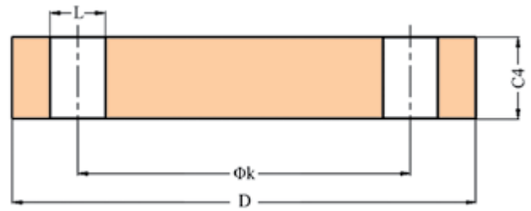


DN	Outside diameter	Diameter of bolt circle	Diameter of bolt hole	Bolting		Flange thickness	Approx weight
	D	K	L	Number	Size	C4	(Kg)
10	75	50	11	4	M10	12	0.38
15	80	55	11	4	M10	12	0.44
20	90	65	11	4	M10	14	0.66
25	100	75	11	4	M10	14	0.82
32	120	90	14	4	M12	14	1.18
40	130	100	14	4	M12	14	1.39
50	140	110	14	4	M12	14	1.63
65	160	130	14	4	M12	14	2.15
80	190	150	18	4	M16	16	3.44
100	210	170	18	4	M16	16	4.23
125	240	200	18	8	M16	18	6.12
150	265	225	18	8	M16	18	7.52
200	320	280	18	8	M16	20	12.34
250	375	335	18	12	M16	22	18.59
300	440	395	22	12	M20	22	25.53
350	490	445	22	12	M20	22	31.85
400	540	495	22	16	M20	22	38.59
450	595	550	22	16	M20	24	51.36
500	645	600	22	20	M20	24	60.27
600	755	705	26	20	M24	30	103.18
700	860	810	26	24	M24	40	178.82
800	975	920	30	24	M27	44	252.62
900	1075	1020	30	24	M27	48	336.40
1000	1175	1120	30	28	M27	52	435.58

PN 10

Type 05 Flanges

EN1092-1

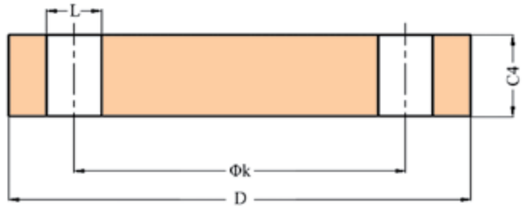


DN	Outside diameter	Diameter of bolt circle	Diameter of bolt hole	Bolting		Flange thickness	Approx weight
	D	K	L	Number	Size	C4	(Kg)
10	90	60	14	4	M12	16	0.72
15	95	65	14	4	M12	16	0.81
20	105	75	14	4	M12	18	1.14
25	115	85	14	4	M12	18	1.38
32	140	100	18	4	M16	18	2.04
40	150	110	18	4	M16	18	2.36
50	165	125	18	4	M16	18	2.88
65	185	145	18	8	M16	18	3.52
80	200	160	18	8	M16	20	4.62
100	220	180	18	8	M16	20	5.66
125	250	210	18	8	M16	22	8.15
150	285	240	22	8	M20	22	10.52
200	340	295	22	8	M20	24	16.57
250	395	350	22	12	M20	26	24.14
300	445	400	22	12	M20	26	30.89
350	505	460	22	16	M20	26	39.73
400	565	515	26	16	M24	26	49.56
450	615	565	26	20	M24	28	63.11
500	670	620	26	20	M24	28	75.34
600	780	725	30	20	M27	34	124.05
700	895	840	30	24	M27	38	183.04
800	1015	950	33	24	M30	48	297.85
900	1115	1050	33	28	M30	50	374.73
1000	1230	1160	36	28	M33	54	492.77

PN 16

Type 05 Flanges

EN1092-1

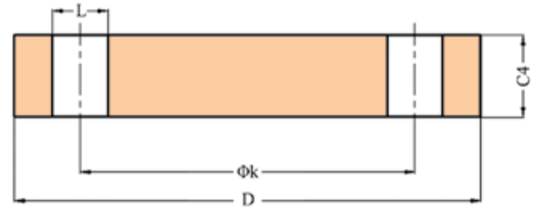


DN	Outside diameter	Diameter of bolt circle	Diameter of bolt hole	Bolting		Flange thickness	Approx weight
	D	K	L	Number	Size	C4	(Kg)
10	90	60	14	4	M12	16	0.72
15	95	65	14	4	M12	16	0.81
20	105	75	14	4	M12	18	1.14
25	115	85	14	4	M12	18	1.38
32	140	100	18	4	M16	18	2.04
40	150	110	18	4	M16	18	2.36
50	165	125	18	4	M16	18	2.88
65	185	145	18	8	M16	18	3.52
80	200	160	18	8	M16	20	4.62
100	220	180	18	8	M16	20	5.66
125	250	210	18	8	M16	22	8.15
150	285	240	22	8	M20	22	10.52
200	340	295	22	12	M20	24	16.28
250	405	355	26	12	M24	26	25.05
300	460	410	26	12	M24	28	35.21
350	520	470	26	16	M24	30	48.13
400	580	525	30	16	M27	32	63.68
450	640	585	30	20	M27	40	96.80
500	715	650	33	20	M30	44	133.09
600	840	770	36	20	M33	54	226.82
700	910	840	36	24	M33	58	
800	1025	950	39	24	M36	62	
900	1125	1050	39	28	M36	64	
1000	1255	1170	42	28	M39	68	

PN 25

Type 05 Flanges

EN1092-1



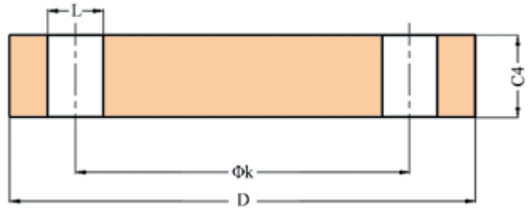
DN	Outside diameter	Diameter of bolt circle	Diameter of bolt hole	Bolting		Flange thickness	Approx weight
	D	K	L	Number	Size	C4	(Kg)
10	90	60	14	4	M12	16	0.72
15	95	65	14	4	M12	16	0.81
20	105	75	14	4	M12	18	1.14
25	115	85	14	4	M12	18	1.38
32	140	100	18	4	M16	18	2.04
40	150	110	18	4	M16	18	2.36
50	165	125	18	4	M16	20	3.20
65	185	145	18	8	M16	22	4.30
80	200	160	18	8	M16	24	5.55
100	235	190	22	8	M20	24	7.62
125	270	220	26	8	M24	26	10.84
150	300	250	26	8	M24	28	14.64
200	360	310	26	12	M24	30	22.52
250	425	370	30	12	M27	32	33.58
300	485	430	30	16	M27	34	46.40
350	555	490	33	16	M30	38	68.24
400	620	550	36	16	M33	40	89.90
450	670	600	36	20	M33	50	130.70
500	730	660	36	20	M33	51	159.79
600	845	770	39	20	M36	66	278.83
700	960	875	42	24	M39	b	
800	1085	990	48	24	M45		
900	1185	1090	48	28	M45		
1000	1320	1210	56	28	M52		

b To be specified by the purchaser.

PN 40

Type 05 Flanges

EN1092-1

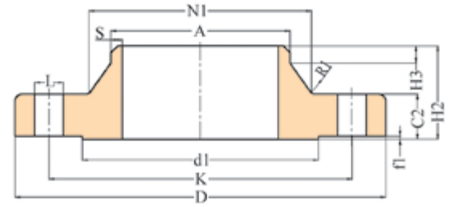


DN	Outside diameter	Diameter of bolt circle	Diameter of bolt hole	Bolting		Flange thickness	Approx weight
	D	K	L	Number	Size	C4	(Kg)
10	90	60	14	4	M12	16	0.72
15	95	65	14	4	M12	16	0.81
20	105	75	14	4	M12	18	1.14
25	115	85	14	4	M12	18	1.38
32	140	100	18	4	M16	18	2.04
40	150	110	18	4	M16	18	2.36
50	165	125	18	4	M16	20	3.20
65	185	145	18	8	M16	22	4.30
80	200	160	18	8	M16	24	5.55
100	235	190	22	8	M20	24	7.62
125	270	220	26	8	M24	26	10.84
150	300	250	26	8	M24	28	14.64
200	375	320	30	12	M27	36	28.88
250	450	385	33	12	M30	38	44.49
300	515	450	33	16	M30	42	64.32
350	580	510	36	16	M33	46	89.74
400	660	585	39	16	M36	50	127.08
450	685	610	39	20	M36	57	154.57
500	755	670	42	20	M39	57	188.37
600	890	795	48	20	M45	72	331.95

PN 6

Type 11 Flanges

EN1092-1

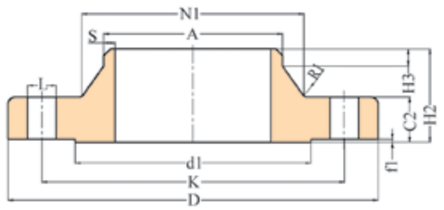


DN	Outside diameter	Diameter of bolt circle	Diameter of bolt hole	Bolting		Outside diameter of neck	Flange thickness	Length		Neck diameters	Corner radii	Wall thickness	Raised face		Approx weight
	D	K	L	Number	Size	A	C2	H2	H3	N1	R1	S	d1	f1	KG
10	75	50	11	4	M10	17.2	12	28	6	26	4	2	35	2	0.40
15	80	55	11	4	M10	21.3	12	30	6	30	4	2	40	2	0.46
20	90	65	11	4	M10	26.9	14	32	6	38	4	2.3	50	2	0.68
25	100	75	11	4	M10	33.7	14	35	6	42	4	2.6	60	2	0.84
32	120	90	14	4	M12	42.4	14	35	6	55	6	2.6	70	2	1.19
40	130	100	14	4	M12	48.3	14	38	7	62	6	2.6	80	3	1.40
50	140	110	14	4	M12	60.3	14	38	8	74	6	2.9	90	3	1.58
65	160	130	14	4	M12	76.1	14	38	9	88	6	2.9	110	3	1.96
80	190	150	18	4	M16	88.9	16	42	10	102	8	3.2	128	3	3.10
100	210	170	18	4	M16	114.3	16	45	10	130	8	3.6	148	3	3.65
125	240	200	18	8	M16	139.7	18	48	10	155	8	4	178	3	4.92
150	265	225	18	8	M16	168.3	18	48	12	184	10	4.5	202	3	5.61
200	320	280	18	8	M16	219.1	20	55	15	236	10	6.3	258	3	8.79
250	375	335	18	12	M16	273	22	60	15	290	12	6.3	312	3	11.73
300	440	395	22	12	M20	323.9	22	62	15	342	12	7.1	365	3	15.77
350	490	445	22	12	M20	355.6	22	62	15	385	12	7.1	415	4	20.34
400	540	495	22	16	M20	406.4	22	65	15	438	12	7.1	465	4	23.24
450	595	550	22	16	M20	457	22	65	15	492	12	7.1	520	4	26.96
500	645	600	22	20	M20	508	24	68	15	538	12	7.1	570	4	31.01
600	755	705	26	20	M24	610	30	70	16	640	12	7.1	670	5	44.59
700	860	810	26	24	M24	711	30	76	16	740	12	8	775	5	55.12
800	975	920	30	24	M27	813	30	76	16	842	12	8	880	5	66.51
900	1075	1020	30	24	M27	914	34	78	16	942	12	8	980	5	81.46
1000	1175	1120	30	28	M27	1016	38	82	16	1045	16	8	1080	5	97.66

PN 10

Type 11 Flanges

EN1092-1

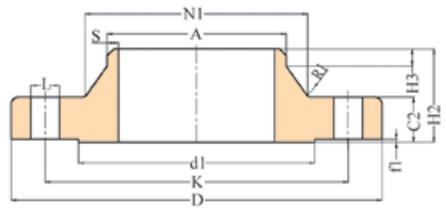


DN	Outside diameter	Diameter of bolt circle	Diameter of bolt hole	Bolting		Outside diameter of neck	Flange thickness	Length		Neck diameters	Corner radii	Wall thickness	Raised face		Approx weight
	D	K	L	Number	Size	A	C2	H2	H3	N1	R1	S	d1	f1	KG
10	90	60	14	4	M12	17.2	16	35	6	28	4	2	40	2	0.74
15	95	65	14	4	M12	21.3	16	38	6	32	4	2	45	2	0.83
20	105	75	14	4	M12	26.9	18	40	6	40	4	2.3	58	2	1.16
25	115	85	14	4	M12	33.7	18	40	6	46	4	2.6	68	2	1.39
32	140	100	18	4	M16	42.4	18	42	6	56	6	2.6	78	2	2.02
40	150	110	18	4	M16	48.3	18	45	7	64	6	2.6	88	3	2.34
50	165	125	18	4	M16	60.3	18	45	8	74	6	2.9	102	3	2.77
65	185	145	18	8	M16	76.1	18	45	10	92	6	2.9	122	3	3.25
80	200	160	18	8	M16	88.9	20	50	10	105	6	3.2	138	3	4.18
100	220	180	18	8	M16	114.3	20	52	12	131	8	3.6	158	3	4.81
125	250	210	18	8	M16	139.7	22	55	12	156	8	4	188	3	6.54
150	285	240	22	8	M20	168.3	22	55	12	184	10	4.5	212	3	8.03
200	340	295	22	8	M20	219.1	24	62	16	234	10	6.3	268	3	11.97
250	395	350	22	12	M20	273	26	68	16	292	12	6.3	320	3	15.85
300	445	400	22	12	M20	323.9	26	68	16	342	12	7.1	370	3	18.78
350	505	460	22	16	M20	355.6	26	68	16	385	12	7.1	430	4	25.32
400	565	515	26	16	M24	406.4	26	72	16	440	12	7.1	482	4	30.70
450	615	565	26	20	M24	457	28	72	16	488	12	7.1	532	4	35.19
500	670	620	26	20	M24	508	28	75	16	542	12	7.1	585	4	40.70
600	780	725	30	20	M27	610	30	82	18	642	12	8	685	5	54.44
700	895	840	30	24	M27	711	35	85	18	746	12	8.8	800	5	77.27
800	1015	950	33	24	M30	813	38	96	18	850	12	8.8	905	5	104.98
900	1115	1050	33	28	M30	914	38	99	20	950	12	12.5	1005	5	124.69
1000	1230	1160	36	28	M33	1016	44	105	20	1052	16	12.5	1110	5	162.82

PN 16

Type 11 Flanges

EN1092-1

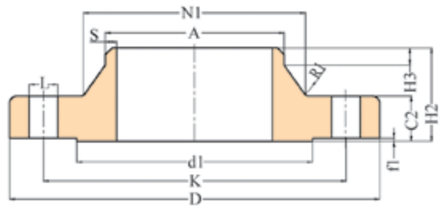


DN	Outside diameter	Diameter of bolt circle	Diameter of bolt hole	Bolting		Outside diameter of neck	Flange thickness	Length		Neck diameters	Corner radii	Wall thickness	Raised face		Approx weight
	D	K	L	Number	Size	A	C2	H2	H3	N1	R1	S	d1	f1	KG
10	90	60	14	4	M12	17.2	16	35	6	28	4	2	40	2	0.74
15	95	65	14	4	M12	21.3	16	38	6	32	4	2	45	2	0.83
20	105	75	14	4	M12	26.9	18	40	6	40	4	2.3	58	2	1.16
25	115	85	14	4	M12	33.7	18	40	6	46	4	2.6	68	2	1.39
32	140	100	18	4	M16	42.4	18	42	6	56	6	2.6	78	2	2.02
40	150	110	18	4	M16	48.3	18	45	7	64	6	2.6	88	3	2.34
50	165	125	18	4	M16	60.3	18	45	8	74	6	2.9	102	3	2.77
65	185	145	18	8	M16	76.1	18	45	10	92	6	2.9	122	3	3.25
80	200	160	18	8	M16	88.9	20	50	10	105	6	3.2	138	3	4.18
100	220	180	18	8	M16	114.3	20	52	12	131	8	3.6	158	3	4.81
125	250	210	18	8	M16	139.7	22	55	12	156	8	4	188	3	6.54
150	285	240	22	8	M20	168.3	22	55	12	184	10	4.5	212	3	8.03
200	340	295	22	12	M20	219.1	24	62	16	235	10	6.3	268	3	11.71
250	405	355	26	12	M24	273	26	70	16	292	12	6.3	320	3	16.91
300	460	410	26	12	M24	323.9	28	78	16	344	12	7.1	378	3	22.81
350	520	470	26	16	M24	355.6	30	82	16	390	12	8	438	4	33.17
400	580	525	30	16	M27	406.4	32	85	16	445	12	8	490	4	41.47
450	640	585	30	20	M27	457	34	83	16	490	12	8	550	4	48.96
500	715	650	33	20	M30	508	36	84	16	548	12	8	610	4	63.96
600	840	770	36	20	M33	610	40	88	18	670	12	10	725	5	96.21
700	910	840	36	24	M33	711	40	104	18	755	12	10	795	5	99.24
800	1025	950	39	24	M36	813	41	108	20	855	12	12.5	900	5	126.37
900	1125	1050	39	28	M36	914	48	118	20	955	12	12.5	1000	5	159.70
1000	1255	1170	42	28	M39	1016	59	137	22	1058	16	12.5	1115	5	237.45

PN 25

Type 11 Flanges

EN1092-1

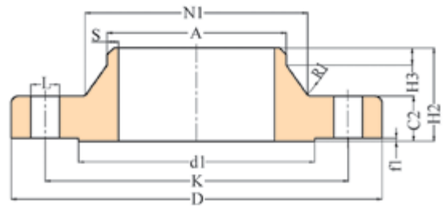


DN	Outside diameter	Diameter of bolt circle	Diameter of bolt hole	Bolting		Outside diameter of neck	Flange thickness	Length		Neck diameters	Corner radii	Wall thickness	Raised face		Approx weight
	D	K	L	Number	Size	A	C2	H2	H3	N1	R1	S	d1	f1	KG
10	90	60	14	4	M12	17.2	16	35	6	28	4	2	40	2	0.74
15	95	65	14	4	M12	21.3	16	38	6	32	4	2	45	2	0.83
20	105	75	14	4	M12	26.9	18	40	6	40	4	2.3	58	2	1.16
25	115	85	14	4	M12	33.7	18	40	6	46	4	2.6	68	2	1.39
32	140	100	18	4	M16	42.4	18	42	6	56	6	2.6	78	2	2.02
40	150	110	18	4	M16	48.3	18	45	7	64	6	2.6	88	3	2.34
50	165	125	18	4	M16	60.3	20	48	8	75	6	2.9	102	3	3.08
65	185	145	18	8	M16	76.1	22	52	10	90	6	2.9	122	3	3.93
80	200	160	18	8	M16	88.9	24	58	12	105	8	3.2	138	3	4.98
100	235	190	22	8	M20	114.3	24	65	12	134	8	3.6	162	3	6.76
125	270	220	26	8	M24	139.7	26	68	12	162	8	4	188	3	9.24
150	300	250	26	8	M24	168.3	28	75	12	192	10	4.5	218	3	12.03
200	360	310	26	12	M24	219.1	30	80	16	244	10	6.3	278	3	17.49
250	425	370	30	12	M27	273	32	88	18	298	12	7.1	335	3	24.63
300	485	430	30	16	M27	323.9	34	92	18	352	12	8	395	3	32.45
350	555	490	33	16	M30	355.6	38	100	20	398	12	8	450	4	49.57
400	620	550	36	16	M33	406.4	40	110	20	452	12	8.8	505	4	64.63
450	670	600	36	20	M33	457	46	110	20	500	12	8.8	555	4	77.19
500	730	660	36	20	M33	508	48	125	20	558	12	10	615	4	98.61
600	845	770	39	20	M36	610	48	125	20	660	12	11	720	5	123.95
700	960	875	42	24	M39	711	50	129	20	760	12	14.2	820	5	160.18
800	1085	990	48	24	M45	813	53	138	22	864	12	16	930	5	211.13
900	1185	1090	48	28	M45	914	57	148	24	968	12	17.5	1030	5	256.09
1000	1320	1210	56	28	M52	1016	63	160	24	1070	16	20	1140	5	346.50

PN 40

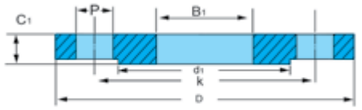
Type 11 Flanges

EN1092-1



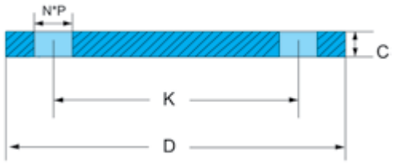
DN	Outside diameter	Diameter of bolt circle	Diameter of bolt hole	Bolting		Flange thickness	Length		Neck diameters	Outside diameter of neck	Corner radii	Wall thickness	Raised face		Approx weight
	D	K	L	Number	Size	C2	H2	H3	N1	A	R1	S	d1	f1	KG
10	90	60	14	4	M12	16	35	6	28	17.2	4	2	40	2	0.74
15	95	65	14	4	M12	16	38	6	32	21.3	4	2	45	2	0.83
20	105	75	14	4	M12	18	40	6	40	26.9	4	2.3	58	2	1.16
25	115	85	14	4	M12	18	40	6	46	33.7	4	2.6	68	2	1.39
32	140	100	18	4	M16	18	42	6	56	42.4	6	2.6	78	2	2.02
40	150	110	18	4	M16	18	45	7	64	48.3	6	2.6	88	3	2.34
50	165	125	18	4	M16	20	48	8	75	60.3	6	2.9	102	3	3.08
65	185	145	18	8	M16	22	52	10	90	76.1	6	2.9	122	3	3.93
80	200	160	18	8	M16	24	58	12	105	88.9	8	3.2	138	3	4.98
100	235	190	22	8	M20	24	65	12	134	114.3	8	3.6	162	3	6.76
125	270	220	26	8	M24	26	68	12	162	139.7	8	4	188	3	9.24
150	300	250	26	8	M24	28	75	12	192	168.3	10	4.5	218	3	12.03
200	375	320	30	12	M27	34	88	16	244	219.1	10	6.3	285	3	21.46
250	450	385	33	12	M30	38	105	18	306	273	12	7.1	345	3	34.78
300	515	450	33	16	M30	42	115	18	362	323.9	12	8	410	3	48.71
350	580	510	36	16	M33	46	125	20	408	355.6	12	8.8	465	4	70.51
400	660	585	39	16	M36	50	135	20	462	406.4	12	11	535	4	100.26
450	685	610	39	20	M36	57	135	20	500	457	12	12.5	560	4	106.92
500	755	670	42	20	M39	57	140	20	562	508	12	14.2	615	4	132.98
600	890	795	48	20	M45	72	150	20	666	610	12	16	735	5	214.43

BS4504 PN16 Type101



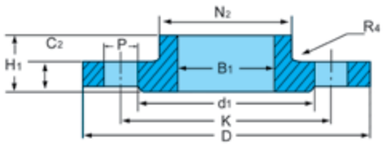
DN	D	B1	C1	k	NO.	p	d1	f	KGS
10	90	18	14	60	4	14	40	2	0.533
15	95	22	14	65	4	14	45	2	0.592
20	105	27.5	16	75	4	14	58	2	0.850
25	115	34.5	16	85	4	14	68	2	1.013
32	140	43.5	18	100	4	18	78	2	1.669
40	150	49.5	18	110	4	18	88	3	1.831
50	165	61.5	20	125	4	18	102	3	2.442
65	185	77.5	20	145	4	18	122	3	2.983
80	200	90.5	20	160	8	18	138	3	3.260
100	220	116	22	180	8	18	158	3	4.023
125	250	141.5	22	210	8	18	188	3	4.951
150	285	170.5	24	240	8	22	212	3	6.539
200	340	221.5	26	295	12	22	268	3	9.025
250	405	276.5	29	355	12	26	320	3	13.206
300	460	327.5	32	410	12	26	378	4	17.476
350	520	359	35	470	16	26	438	4	26.510
400	580	411	38	525	16	30	490	4	33.815
450	640	462	42	585	20	30	550	4	43.897
500	715	513.5	46	650	20	33	610	4	61.081
600	840	616.5	52	770	20	36	725	5	91.225

BS4504 PN16 Type105



DN	D	C	K	N	P	KGS
10	90	12	60	4	14	0.56
15	95	14	65	4	14	0.63
20	105	16	75	4	14	0.92
25	115	16	85	4	14	1.13
32	140	16	100	4	18	1.88
40	150	16	110	4	18	2.1
50	165	18	125	4	18	2.91
65	185	18	145	4	18	3.72
80	200	20	160	8	18	4.61
100	220	20	180	8	18	5.85
125	250	22	210	8	18	7.66
150	285	22	240	8	22	10.84
200	340	23	295	12	22	16.88
250	405	26	355	12	26	26.86
300	460	28	410	12	26	38.62
350	520	31	470	16	26	54.3
400	580	34	525	16	30	73.36
450	640	38	585	20	30	99.12
500	715	42	650	20	33	135.8
600	840	47	770	20	36	212.97

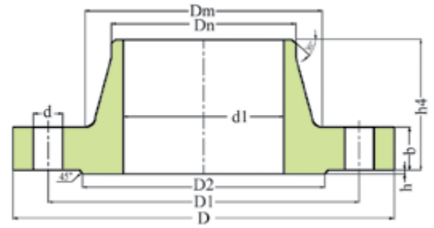
BS4504 PN16 Type112



DN	D	B1	d1	f	NO.	p	K	C2	H1	N2	KGS
10	90	18	40	2	4	14	60	14	20	30	0.554
15	95	22	45	2	4	14	65	14	20	35	0.620
20	105	27.5	58	2	4	14	75	14	24	45	0.811
25	115	34.5	68	2	4	14	85	16	24	52	1.087
32	140	43.5	78	2	4	18	100	16	26	60	1.572
40	150	49.5	88	3	4	18	110	16	26	70	1.751
50	165	61.5	102	3	4	18	125	18	28	84	2.370
65	185	77.5	122	3	4	18	145	18	32	104	3.067
80	200	90.5	138	3	8	18	160	20	34	118	3.755
100	220	116	158	3	8	18	180	20	40	140	4.381
125	250	141.5	188	3	8	18	210	22	44	168	6.063
150	285	170.5	212	3	8	22	240	22	44	195	7.158
200	340	221.5	268	3	12	22	295	24	44	246	9.688
250	405	276.5	320	3	12	26	355	26	46	298	13.259
300	460	327.5	378	4	12	26	410	28	46	350	16.795
350	520	359	438	4	16	26	470	30	57	400	27.661
400	580	411	490	4	16	30	525	32	63	456	35.607
450	640	462	550	4	20	30	585	34	68	502	43.194
500	715	513.5	610	4	20	33	650	34	73	559	56.116
600	840	616.5	725	5	20	36	770	36	83	658	77.009

PN6 Flanges

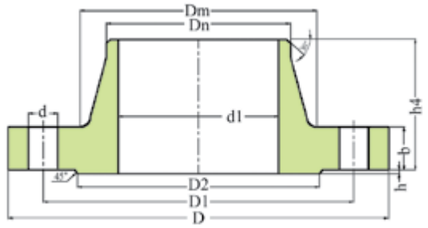
GOST 12821-80



DN	D	D1	D2	Dm	Dn	d1	b	h4	h	d	Number of holes	Weight kg
10	75	50	35	22	15	8	10	27	4	11	4	0.34
15	80	55	40	28	19	12	10	28	4	11	4	0.40
20	90	65	50	36	26	18	10	30	4	11	4	0.53
25	100	75	60	42	33	25	12	30	4	11	4	0.76
32	120	90	70	50	39	31	12	33	4	14	4	1.10
40	130	100	80	60	46	38	12	35	4	14	4	1.36
50	140	110	90	70	58	49	12	35	4	14	4	1.53
65	160	130	105	88	77	66	12	35	4	14	4	1.97
80	185	150	128	102	90	78	13	37	4	18	4	2.76
100	205	170	148	122	110	96	13	38	4	18	4	3.35
125	235	200	178	148	135	121	15	40	4	18	8	4.66
150	260	225	202	172	161	146	15	43	4	18	8	5.37
200	315	280	258	235	222	202	17	50	4	18	8	8.37
250	370	335	312	288	278	254	18	50	4	18	12	10.99
300	435	395	365	340	330	303	18	50	4	22	12	14.82
350	485	445	415	390	382	351	18	50	4	22	12	17.69
400	535	495	465	440	432	398	18	50	4	22	16	20.55
500	640	600	570	545	535	501	19	50	4	22	16	26.63
600	755	705	670	650	636	602	19	55	5	26	20	35.79
700	860	810	775	740	726	692	19	55	5	26	24	44.31
800	975	920	880	884	826	792	19	60	5	30	24	56.17
900	1075	1020									28	103.02
1000	1175	1120									28	119.19
1200	1375	1320									32	179.91

PN10 Flanges

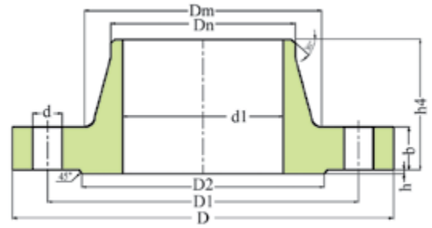
GOST 12821-80



DN	D	D1	D2	Dm	Dn	d1	b	h4	h	d	Number of holes	Weight kg
10	90	60	42	25	15	8	10	33	4	14	4	0.50
15	95	65	47	30	19	12	10	33	4	14	4	0.58
20	105	75	58	38	26	18	12	36	4	14	4	0.87
25	115	85	68	45	33	25	12	38	4	14	4	1.05
32	135	100	78	55	39	31	13	40	4	18	4	1.54
40	145	110	88	62	46	38	13	42	4	18	4	1.83
50	160	125	102	76	58	49	13	42	4	18	4	2.26
65	180	145	122	94	77	66	15	45	4	18	4	3.17
80	195	160	133	105	90	78	15	47	4	18	4	3.67
100	215	180	158	128	110	96	17	48	4	18	8	4.70
125	245	210	184	156	135	121	19	57	4	18	8	6.71
150	280	240	212	180	161	146	19	57	4	22	8	8.17
200	335	295	268	240	222	202	19	58	4	22	8	11.35
250	390	350	320	290	278	254	21	60	4	22	12	14.64
300	440	400	370	345	330	303	22	60	4	22	12	18.66
350	500	460	430	400	382	351	22	60	4	22	16	24
400	565	515	482	445	432	398	22	60	4	26	16	30
500	670	620	585	550	535	501	24	65	4	26	20	39.2
600	780	725	685	650	636	602	24	65	5	30	24	48.8
700	895	840	800	744	726	692	25	65	5	30	24	65.26
800	1010	950	905	850	826	792	27	75	5	33	24	87.24
900	1110	1050	1005	950	926	892	29	80	5	33	28	103.02
1000	1220	1160	1110	1050	1028	992	29	80	5	33	28	119.19
1200	1455	1380	1330	1256	1228	1192	33	90	5	39	32	179.91

PN16 Flanges

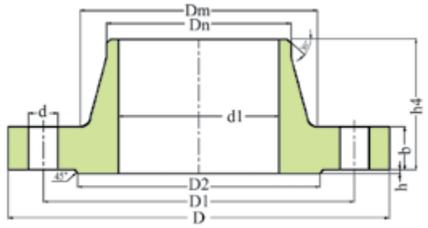
GOST 12821-80



DN	D	D1	D2	Dm	Dn	d1	b	h4	h	d	Number of holes	Weight kg
10	90	60	42	26	15	8	12	33	4	14	4	0.59
15	95	65	47	30	19	12	12	33	4	14	4	0.68
20	105	75	58	38	26	18	12	36	4	14	4	0.87
25	115	85	68	45	33	25	12	38	4	14	4	1.05
32	135	100	78	55	39	31	13	40	4	18	4	1.54
40	145	110	88	64	46	38	13	42	4	18	4	1.85
50	160	125	102	76	58	49	13	45	4	18	4	2.28
65	180	145	122	94	77	66	15	47	4	18	4	3.19
80	195	160	133	110	90	78	17	50	4	18	4	4.21
100	215	180	158	130	110	96	17	50	4	18	8	4.90
125	245	210	184	156	135	121	19	57	4	18	8	6.75
150	280	240	212	180	161	146	19	57	4	22	8	8.30
200	335	295	268	240	222	202	21	58	4	22	12	11.79
250	405	355	320	292	278	254	23	65	4	26	12	17.36
300	460	410	370	346	330	303	24	66	4	26	12	22.76
350	520	470	430	400	382	351	28	70	4	26	16	32.04
400	580	525	482	450	432	398	32	75	4	30	16	43
500	710	650	585	559	535	501	38	90	4	33	20	70.97
600	840	770	685	660	636	602	41	90	5	39	20	99.3
700	910	840	800	750	726	692	43	95	5	39	24	105.9
800	1020	950	905	850	826	792	45	95	5	39	24	130.57
900	1120	1050	1005	958	926	892	47	110	5	39	28	157.83
1000	1255	1170	1110	1060	1028	992	49	110	5	45	28	203.39
1200	1485	1390	1330	1268	1228	1192	51	125	5	52	32	284.94

PN25 Flanges

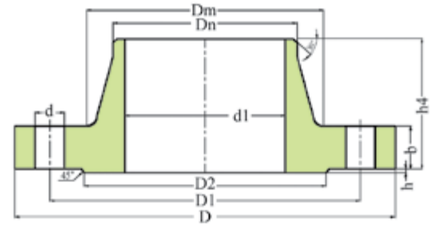
GOST 12821-80



DN	D	D1	D2	Dm	Dn	d1	b	h4	h	d	Number of holes	Weight kg
10	90	60	42	26	15	8	14	33	4	14	4	0.68
15	95	65	47	30	19	12	14	33	4	14	4	0.79
20	105	75	58	38	26	18	14	34	4	14	4	0.97
25	115	85	68	45	33	25	14	36	4	14	4	1.18
32	135	100	78	56	39	31	16	43	4	16	4	1.83
40	145	110	88	64	46	38	16	45	4	16	4	2.19
50	160	125	102	76	58	49	17	45	4	16	4	2.78
65	180	145	122	96	77	66	19	50	4	16	8	3.71
80	195	160	133	110	90	78	19	52	4	16	8	4.44
100	230	190	158	132	110	96	21	58	4	20	8	6.51
125	270	220	184	160	135	121	23	65	4	24	8	9.41
150	300	250	212	186	161	146	25	68	4	24	8	12.52
200	360	310	278	245	222	202	27	75	4	27	12	17.44
250	425	370	335	300	278	254	29	75	4	27	12	24.4
300	485	430	390	352	330	303	32	80	5	27	16	33.29
350	550	490	450	406	382	351	36	85	5	30	16	46.57
400	610	550	505	464	432	398	40	100	5	30	16	64.81
500	730	660	615	570	535	500	44	100	5	36	20	88.91
600	840	770	720	670	636	600	49	115	6	36	20	123.7
700	960	875	820	766	726	690	53	125	6	42	24	166.81
800	1075	990	930	874	826	790	55	135	6	42	24	213.9

PN63 Flanges

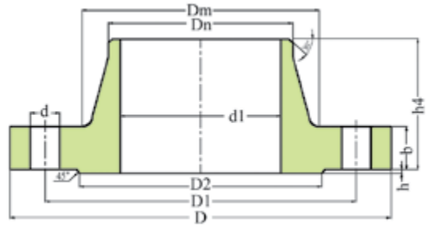
GOST 12821-80



DN	D	D1	D2	Dm	Dn	d1	b	h4	h	d	Number of holes	Weight kg
10	90	60	42	26	15	8	14	33	4	14	4	0.68
15	95	65	47	30	19	12	14	33	4	14	4	0.79
20	105	75	58	38	26	18	14	34	4	14	4	0.97
25	115	85	68	45	33	25	14	36	4	14	4	1.18
32	135	100	78	56	39	31	16	43	4	18	4	1.83
40	145	110	88	64	46	38	16	45	4	18	4	2.19
50	160	125	102	76	58	48	17	45	4	18	4	2.81
65	180	145	122	96	77	66	19	50	4	18	8	3.71
80	195	160	133	112	90	78	21	55	4	18	8	4.80
100	230	190	158	138	110	96	23	65	4	22	8	7.40
125	270	220	184	160	135	120	25	65	4	26	8	10.00
150	300	250	212	186	161	145	27	68	4	26	8	13.03
200	375	320	285	250	222	200	35	85	4	30	12	24.44
250	445	385	345	310	278	252	39	98	4	33	12	37.59
300	510	450	410	368	330	301	42	112	4	33	16	57.1
350	570	510	465	418	382	351	48	116	4	33	16	70.34
400	655	585	535	480	432	398	54	135	4	39	16	106.76
500	755	670	615	580	535	495	58	140	4	45	20	132.33
600	890	795	735	686	636	595	58	140	5	52	24	180.95
700	995	900	840	790	726	695	63	160	5	52	24	228.25
800	1135	1030	960	908	826	795	71	190	5	56	24	343.69
900	1250	1140	1070	1024	926	895	74	215	5	56	28	436.54
1000	1360	1250	1180	1140	1028	995	77	235	5	56	28	540.75
1200	1575	1460	1380	1350	1228	1195	80	250	5	62	32	690.59

PN63 Flanges

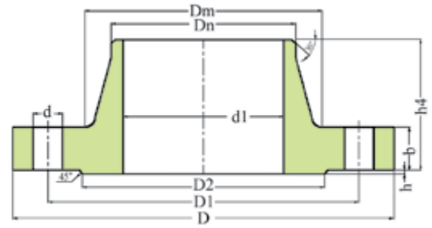
GOST 12821-80



DN	D	D1	D2	Dm	Dn	d1	b	h4	h	d	Number of holes	Weight kg
10	100	70	50	34	15	8	16	46	4	14	4	1.03
15	105	75	55	38	19	12	16	46	4	14	4	1.15
20	125	90	58	48	26	18	18	54	4	18	4	1.80
25	135	100	68	52	33	25	20	56	4	18	4	2.30
32	150	110	78	64	39	31	21	60	4	22	4	2.94
40	165	125	88	74	46	37	21	65	4	22	4	3.75
50	175	135	102	86	58	47	23	67	4	22	4	4.63
65	200	160	132	106	77	64	25	72	4	22	8	6.29
80	210	170	133	120	90	77	27	72	4	22	8	7.22
100	250	200	170	140	110	94	29	77	4	26	8	10.71
125	295	240	205	172	135	118	33	95	4	30	8	17.13
150	340	280	240	206	161	142	35	105	4	33	8	24.60
200	405	345	285	264	222	198	41	110	4	33	12	36.60
250	470	400	345	316	278	246	45	115	4	39	12	50.89
300	530	460	410	370	330	294	50	120	4	39	16	68.15
350	595	525	465	430	382	342	56	140	4	39	16	98.68
400	670	585	535	484	432	386	62	155	4	45	16	135.8
500	800	705	615	594	535	485	66	165	4	52	20	192.74
600	925	820	735	704	636	585	71	180	5	56	20	269.27
700	1045	925	840	820	726	685	76	225	5	56	24	300.86
800	1165	1050	960	920	826	785	85	225	5	62	24	463.87
900	1285	1170	1070	1050	926	885	88	265	5	62	28	954.41
1000	1415	1290	1180	1160	1028	985	92	280	5	70	28	980.6
1200	1665	1530	1380	1386	1228	1185	95	315	5	78	32	1263.72

PN100 Flanges

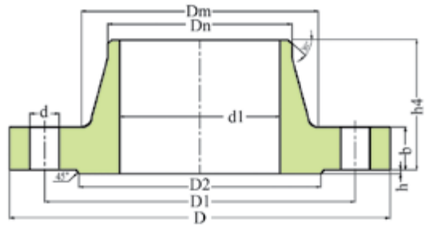
GOST 12821-80



DN	D	D1	D2	Dm	Dn	d1	b	h4	h	d	Number of holes	Weight kg
10	100	70	50	34	15	8	16	43	4	14	4	1.02
15	105	75	55	38	19	12	18	46	4	14	4	1.26
20	125	90	58	48	26	18	20	51	4	18	4	1.98
25	135	100	68	52	33	25	22	56	4	18	4	2.48
32	150	110	78	64	39	31	22	60	4	22	4	3.05
40	165	125	88	76	46	37	23	67	4	22	4	4.06
50	195	145	102	86	58	45	25	68	4	26	4	6.03
65	220	170	140	110	77	62	29	80	4	26	8	8.52
80	230	180	150	124	90	75	31	87	4	26	8	9.91
100	265	210	175	146	110	92	35	97	4	30	8	14.65
125	310	250	210	180	135	112	39	112	4	33	8	23.32
150	350	290	250	214	161	136	43	125	4	33	12	32.87
200	430	360	285	276	222	190	51	140	4	39	12	54.25
250	500	430	345	340	278	236	57	160	4	39	12	85.24
300	585	500	410	400	330	284	66	180	4	45	16	127.73
350	655	560	465	460	382	332	72	195	4	52	16	170
400	715	620	535	510	432	376	76	200	4	52	16	216.44

PN160 Flanges

GOST 12821-80



DN	D	D1	D2	Dm	Dn	d1	b	h4	h	d	Number of holes	Weight kg
10	100	70	50	34	15	8	16	43	4	14	4	1.02
15	105	75	55	38	19	12	18	50	4	14	4	1.27
20	125	90	58	48	26	18	20	56	4	18	4	1.98
25	135	100	68	52	33	25	22	56	4	18	4	2.48
32	150	110	78	64	39	31	22	65	4	22	4	3.07
40	165	125	88	76	46	37	25	72	4	22	4	4.01
50	195	145	115	86	58	45	27	75	4	26	4	6.43
65	220	170	140	110	77	62	31	85	4	26	8	9.38
80	230	180	150	124	90	75	33	90	4	26	8	10.40
100	265	210	175	146	110	92	37	100	4	30	8	15.40
125	310	250	210	180	135	112	41	115	4	33	8	24.87
150	350	290	250	214	161	136	47	130	4	33	12	35.04
200	430	360	315	276	222	190	57	145	4	39	12	60.10
250	500	430	380	340	278	236	65	165	4	39	12	94.4
300	585	500	410	400	330	284	74	185	4	45	16	141

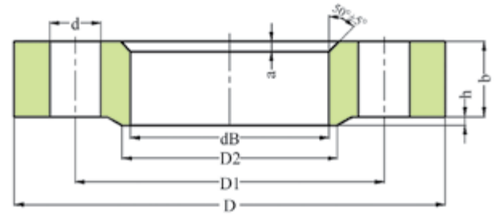
PN200 Flanges

GOST 12821-80

DN	D	D1	D2	Dm	Dn	d1	b	h4	h	d	Number of holes	Weight kg
15	120	82	47	40	23	14	24	52	2	22	4	1.92
20	130	90	58	46	29	19	26	55	2	22	4	2.54
25	150	102	68	54	36	25	28	60	2	26	4	3.53
32	160	115	78	64	43	31	30	65	2	26	4	4.42
40	170	124	88	74	49	36	31	72	3	26	4	5.32
50	210	160	102	105	61	46	37	95	3	26	8	11.11
65	260	203	122	138	90	68	45	118	3	30	8	19.01
80	290	230	133	162	110	80	51	132	3	33	8	27.30
100	360	292	158	208	135	102	63	175	3	39	8	53.22
125	385	318	184	234	170	130	73	175	3	39	12	73.15
150	440	360	212	266	196	150	79	190	3	45	12	90.10

PN6 Flanges

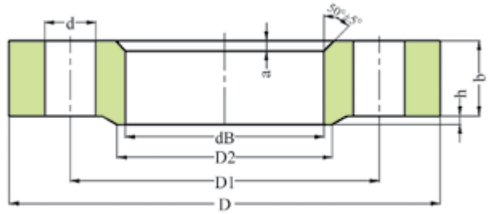
GOST 12820-80



DN	dB	D	D1	D2	h	b	d	Number of holes	a	Weight kg
15	19	80	55	40	2	10	11	4	2	0.33
20	26	90	65	50	2	12	11	4	2	0.53
25	33	100	75	60	2	12	11	4	2	0.64
32	39	120	90	70	2	13	14	4	2	1.01
40	46	130	100	80	3	13	14	4	3	1.21
50	59	140	110	90	3	13	14	4	3	1.33
65	78	160	130	105	3	15	14	4	3	1.63
80	91	185	150	128	3	15	18	4	3	2.44
100	110	205	170	148	3	15	18	4	3	2.85
125	135	235	200	178	3	17	18	8	3	3.88
150	161	260	225	202	3	17	18	8	3	4.39
200	222	315	280	258	3	19	18	8	3	5.89
250	273	370	335	312	3	20	18	12	3	7.67
300	325	435	395	365	4	20	22	12	4	10.28
350	377	485	445	415	4	22	22	12	4	12.58
400	426	535	495	465	4	24	22	16	4	15.2
500	530	640	600	570	4	25	22	20	4	19.72
600	630	755	705	670	5	25	26	20	5	26.24
700	720	860	810	775	5	27	26	24	5	36.68
800	820	975	920	880	5	27	30	24	5	46.14
900	920	1075	1020	980	5	29	30	24	5	55.1
1000	1020	1175	1120	1080	5	31	30	28	5	64.36
1200	1220	1400	1340	1295	5	34	33	32	5	99.03
1400	1420	1620	1560	1510	5	43	33	36	5	161.45
1600	1620	1820	1760	1710	5	48	33	40	5	203.05

PN10 Flanges

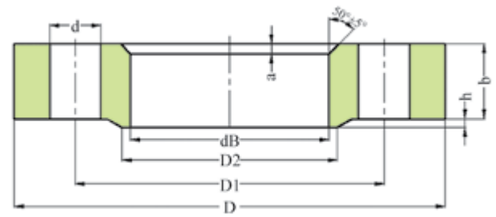
GOST 12820-80



DN	dB	D	D1	D2	h	b	d	Number of holes	a	Weight kg
15	19	95	65	47	2	10	14	4	2	0.51
20	26	105	75	58	2	12	14	4	2	0.74
25	33	115	85	68	2	12	14	4	2	0.89
32	39	135	100	78	2	14	18	4	2	1.4
40	46	145	110	88	3	15	18	4	3	1.71
50	59	160	125	102	3	15	18	4	3	2.06
65	78	180	145	122	3	17	18	4	3	2.8
80	91	195	160	133	3	17	18	4	3	3.19
100	110	215	180	158	3	19	18	8	3	3.96
125	135	245	210	184	3	21	18	8	3	5.4
150	161	280	240	212	3	21	22	8	3	6.62
200	222	335	295	268	3	21	22	8	3	8.05
250	273	390	350	320	3	23	22	12	3	10.65
300	325	440	400	370	4	24	22	12	4	12.9
350	377	500	460	430	4	24	22	16	4	15.85
400	426	565	515	482	4	26	26	16	4	21.56
500	530	670	620	585	4	28	26	20	4	27.7
600	630	780	725	685	5	31	30	24	5	39.4
700	720	895	840	800	5	34	30	24	5	59.46
800	820	1010	950	905	5	37	33	24	5	79.16
900	920	1110	1050	1005	5	40	33	28	5	94.13
1000	1020	1220	1160	1110	5	43	33	28	5	118.43
1200	1222	1455	1380	1330	5	51	39	32	5	197.44
1400	1420	1675	1590	1530	5	60	45	36	5	278.92
1600	1620	1915	1820	1750	5	70	52	40	5	422.65

PN16 Flanges

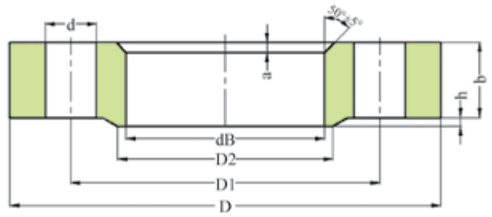
GOST 12820-80



DN	dB	D	D1	D2	h	b	d	Number of holes	a	Weight kg
15	19	95	65	47	2	12	14	4	2	0.61
20	26	105	75	58	2	14	14	4	2	0.86
25	33	115	85	68	2	16	14	4	2	1.17
32	39	135	100	78	2	16	18	4	2	1.58
40	46	145	110	88	3	17	18	4	3	1.96
50	59	160	125	102	3	19	18	4	3	2.58
65	78	180	145	122	3	21	18	4	3	3.42
80	91	195	160	133	3	21	18	4	3	3.71
100	110	215	180	158	3	23	18	8	3	4.73
125	135	245	210	184	3	25	18	8	3	6.38
150	161	280	240	212	3	25	22	8	3	7.81
200	222	335	295	268	3	27	22	12	3	10.1
250	273	405	355	320	3	28	26	12	3	14.49
300	325	460	410	370	4	28	26	12	4	17.78
350	377	520	470	430	4	30	26	16	4	22.88
400	426	580	525	482	4	34	30	16	4	31
500	530	710	650	585	4	44	33	20	4	57.01
600	630	840	770	685	5	45	39	20	5	80.03
700	720	910	840	800	5	47	39	24	5	84.21
800	820	1020	950	905	5	48	39	24	5	104.41
900	920	1120	1050	1005	5	54	39	28	5	128.6
1000	1020	1255	1170	1110	5	58	45	28	5	179.37
1200	1220	1485	1380	1330	5	71	52	32	5	297.78

PN25 Flanges

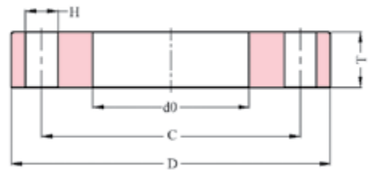
GOST 12820-80



DN	dB	D	D1	D2	h	b	d	Number of holes	a	Weight kg
15	19	95	65	47	2	14	14	4	2	0.7
20	26	105	75	58	2	16	14	4	2	0.98
25	33	115	85	68	2	16	14	4	2	1.17
32	39	135	100	78	2	18	18	4	2	1.77
40	46	145	110	88	3	19	18	4	3	2.18
50	59	160	125	102	3	21	18	4	3	2.71
65	78	180	145	122	3	21	18	8	3	3.22
80	91	195	160	133	3	23	18	8	3	4.06
100	110	230	190	158	3	25	22	8	3	5.92
125	135	270	220	184	3	27	26	8	3	8.26
150	161	300	250	212	3	27	26	8	3	10.12
200	222	360	310	278	3	29	26	12	3	13.34
250	273	425	370	335	3	31	30	12	3	18.9
300	325	485	430	390	4	32	30	16	4	23.95
350	377	550	490	450	4	38	33	16	4	34.35
400	426	610	550	505	4	40	33	16	4	44.62
500	530	730	660	615	4	48	39	20	4	67.3
600	630	840	770	720	5	49	39	20	5	90.87
700	720	960	875	820	5	55	45	24	5	126.82
800	820	1075	990	930	5	63	45	24	5	181.43

10T/D Flanges

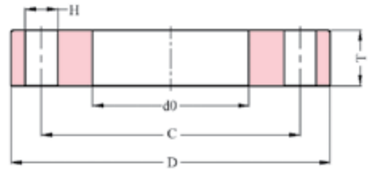
BS10:1962



Nominal Pipe size	Outside Diam	BORE	Thickness	Bolt circle diam	Diam of Bolt	Number of holes	Weight
T/D	D	do	T	C	H	N	kg
15MM	95.3	23	4.8	66.7	14.3	4	0.23
20MM	101.6	29	4.8	73	14.3	4	0.26
25MM	114.3	35	4.8	82.6	14.3	4	0.33
32MM	120.7	44	6.3	87.3	14.3	4	0.46
40MM	133.4	50	6.3	98.4	14.3	4	0.56
50MM	152.4	62	7.9	114.3	17.5	4	0.89
65MM	165.1	78	7.9	127	17.5	4	0.97
80MM	184.1	91	9.5	146	17.5	4	1.43
100MM	215.9	116	9.5	177.8	17.5	4	1.87
125MM	254	141	12.7	209.6	17.5	8	3.31
150MM	279.4	168	12.7	235	17.5	8	3.72
200MM	336.6	221	12.7	292.1	17.5	8	4.87
250MM	406.4	275	15.9	355.6	22.2	8	8.41
300MM	457.2	326	19	406.4	22.2	12	11.37
350MM	527.1	358	22.2	469.9	25.4	12	19.47
400MM	577.9	408	22.2	520.7	25.4	12	21.92
450MM	641.4	459	25.4	584.2	25.4	12	30.29
500MM	704.9	510	28.6	641.4	16-25.4	16	40.03
600MM	825.5	613	31.8	755.7	16-28.6	16	57.5

10T/E Flanges

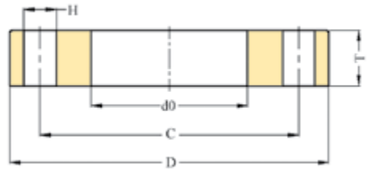
BS10:1962



Nominal Pipe size	Outside Diam	BORE	Thickness	Bolt circle diam	Diam of Bolt	Number of holes	Weight
T/E	D	do	T	C	H	N	kg
15MM	95.3	23	6.3	66.7	14.3	4	0.3
20MM	101.6	29	6.3	73	14.3	4	0.34
25MM	114.3	35	7.1	82.6	14.3	4	0.48
32MM	120.7	44	7.9	87.3	14.3	4	0.58
40MM	133.4	50	8.7	98.4	14.3	4	0.78
50MM	152.4	62	9.5	114.3	17.5	4	1.07
65MM	165.1	78	10.3	127	17.5	4	1.27
80MM	184.1	91	11.1	146	17.5	4	1.67
100MM	215.9	116	13.7	177.8	17.5	8	2.6
125MM	254	141	14.3	209.6	17.5	8	3.73
150MM	279.4	168	17.5	235	22.2	8	4.96
200MM	336.6	221	19	292.1	22.2	8	7.11
250MM	406.4	275	22.2	355.6	22.2	12	11.47
300MM	457.2	326	25.4	406.4	25.4	12	14.91
350MM	527.1	358	28.6	469.9	25.4	12	25.09
400MM	577.9	408	31.8	520.7	25.4	12	31.4
450MM	641.4	459	34.9	584.2	25.4	16	41.06
500MM	704.9	510	38.1	641.4	16-25.4	16	53.32
600MM	825.5	613	47.6	755.7	16-31.8	16	85.16

600/3 Flanges

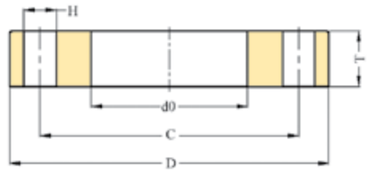
SABS 1123:1977



Nominal Pipe size	Outside Diam	BORE	Thickness	Bolt circle diam	Diam of Bolt	Number of holes	Weight
600/3	D	do	T	C	H	N	kg
15MM	80	23	10	55	11	4	0.33
20MM	90	29	10	65	11	4	0.42
25MM	100	35	10	75	11	4	0.51
32MM	120	44	10	90	14	4	0.72
40MM	130	50	10	100	14	4	0.84
50MM	140	62	10	110	14	4	0.93
65MM	160	78	10	130	14	4	1.16
80MM	190	91	10	150	18	4	1.64
100MM	210	116	10	170	18	4	1.81
125MM	240	141	12	200	18	8	2.61
150MM	265	168	12	225	18	8	2.92
200MM	320	221	14	280	18	8	4.41
250MM	375	275	16	335	18	12	6.04
300MM	440	326	20	395	22	12	10.08
350MM	490	358	22	445	22	12	14.43
400MM	540	408	22	495	22	16	15.96
450MM	595	459	25	550	22	16	20.95
500MM	645	510	25	600	22	20	22.59
600MM	755	613	30	705	26	20	33.51

1000/3 Flanges

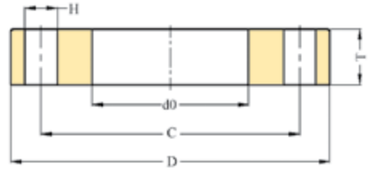
SABS 1123:1977



Nominal Pipe size	Outside Diam	BORE	Thickness	Bolt circle diam	Diam of Bolt	Number of holes	Weight
1000/3	D	do	T	C	H	N	kg
15MM	95	23	10	65	14	4	0.48
20MM	105	29	10	75	14	4	0.58
25MM	115	35	10	85	14	4	0.69
32MM	140	44	10	100	18	4	1.01
40MM	150	50	10	110	18	4	1.16
50MM	165	62	10	125	18	4	1.36
65MM	185	78	12	145	18	4	1.99
80MM	200	91	12	160	18	8	2.16
100MM	220	116	12	180	18	8	2.4
125MM	250	141	14	210	18	8	3.46
150MM	285	168	16	240	22	8	4.86
200MM	340	221	18	295	22	8	7
250MM	395	275	20	350	22	12	9.22
300MM	445	326	22	400	22	12	11.68
350MM	505	358	25	460	22	16	18.4
400MM	565	408	25	515	26	16	21.93
450MM	615	459	30	565	26	20	28.56
500MM	670	510	32	620	26	20	34.66
600MM	780	613	38	725	26	20	51.46

1600/3 Flanges

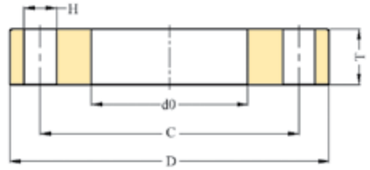
SABS 1123:1977



Nominal Pipe size	Outside Diam	BORE	Thickness	Bolt circle diam	Diam of Bolt	Number of holes	Weight
1600/3	D	do	T	C	H	N	kg
15MM	95	23	10	65	14	4	0.48
20MM	105	29	10	75	14	4	0.58
25MM	115	35	10	85	14	4	0.69
32MM	140	44	10	100	18	4	1.01
40MM	150	50	10	110	18	4	1.16
50MM	165	62	12	125	18	4	1.64
65MM	185	78	12	145	18	4	1.99
80MM	200	91	14	160	18	8	2.52
100MM	220	116	14	180	18	8	2.8
125MM	250	141	16	210	18	8	3.96
150MM	285	168	18	240	22	8	5.47
200MM	340	221	22	295	22	12	8.29
250MM	405	275	25	355	26	12	12.4
300MM	460	326	28	410	26	12	16.82
350MM	520	358	30	470	26	16	24.37
400MM	580	408	35	525	26	16	34.42
450MM	640	459	40	585	26	20	45.83
500MM	715	510	40	650	33	20	56.69
600MM	840	613	50	770	33	20	95.19

2500/3 Flanges

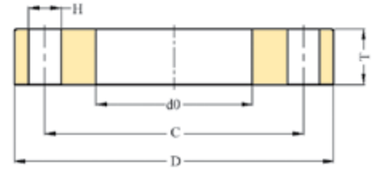
SABS 1123:1977



Nominal Pipe size	Outside Diam	BORE	Thickness	Bolt circle diam	Diam of Bolt	Number of holes	Weight
2500/3	D	do	T	C	H	N	kg
15MM	95	23	14	65	14	4	0.67
20MM	105	29	14	75	14	4	0.81
25MM	115	35	16	85	14	4	1.11
32MM	140	44	18	100	18	4	1.82
40MM	150	50	20	110	18	4	2.31
50MM	165	62	20	125	18	4	2.73
65MM	185	78	22	145	18	8	3.47
80MM	200	91	22	160	18	8	3.96
100MM	235	116	25	190	22	8	5.86
125MM	270	141	28	220	26	8	8.24
150MM	300	168	30	250	26	8	10.45
200MM	360	221	28	310	26	12	12.57
250MM	425	275	30	370	26	12	17.96
300MM	485	326	32	430	26	16	23.36
350MM	555	358	35	490	33	16	35.14
400MM	620	408	40	550	33	16	49.57
450MM	670	459	45	600	33	20	60.19
500MM	730	510	50	660	33	20	77.57
600MM	845	613	60	770	39	20	114.15

4000/3 Flanges

SABS 1123:1977



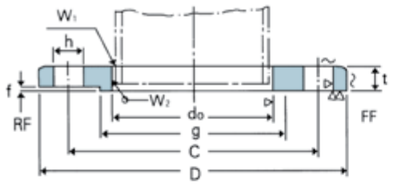
Nominal Pipe size	Outside Diam	BORE	Thickness	Bolt circle diam	Diam of Bolt	Number of holes	Weight
4000/3	D	do	T	C	H	N	kg
15MM	95	23	14	65	14	4	0.67
20MM	105	29	14	75	14	4	0.81
25MM	115	35	16	85	14	4	1.11
32MM	140	44	18	100	18	4	1.82
40MM	150	50	20	110	18	4	2.31
50MM	165	62	20	125	18	4	2.73
65MM	185	78	22	145	18	8	3.47
80MM	200	91	22	160	18	8	3.96
100MM	235	116	25	190	22	8	5.86
125MM	270	141	28	220	26	8	8.24
150MM	300	168	30	250	26	8	10.45
200MM	375	221	32	320	26	12	16.55
250MM	450	275	38	385	33	12	26.73
300MM	515	326	40	450	33	16	34.98
350MM	580	358	45	510	33	16	53.06
400MM	660	408	50	585	39	16	75.64
450MM	685	459	60	610	39	20	84.59
500MM	755	510	70	670	39	20	120.91

5Kg/Cm²

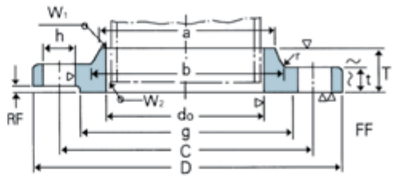
JIS B2220-1984(KSB 1503-1985)

5Kg/Cm² SLIP-ON WELDING STEEL PIPE FLANGES

SOP TYPE
NOMINAL SIZE 10–1000mm



SOH TYPE
NOMINAL SIZE 450–1000mm



Unit:mm

Nominal Bore of Flange	Outside Diam.of Applicable Pipe	Inside Diam.of Flange do	Outside Diam.of Flange D	Sectional Dimensions of Flange t	T	Diam.of Hub a	Diam.of Hub b	Radius r	Raised Face f	Diam.of Raised face g	Dia.of Bolt Diam. of Bolt Circle C	Number of Bolt Holes	Hole Diam. h	Nominal Bolt Size	Weight(kg) SOP	BL	SOH
(10)	17.3	17.8	75	9	-	-	-	-	1	39	55	4	12	M10	0.27	0.3	-
15	21.7	22.2	80	9	-	-	-	-	1	44	60	4	12	M10	0.30	0.4	-
(20)	27.2	27.7	85	10	-	-	-	-	1	49	65	4	12	M10	0.37	0.5	-
25	34.0	34.5	95	10	-	-	-	-	1	59	75	4	12	M10	0.45	0.6	-
(32)	42.7	43.2	115	12	-	-	-	-	2	70	90	4	15	M12	0.78	0.9	-
40	48.6	49.1	120	12	-	-	-	-	2	75	95	4	15	M12	0.83	1.0	-
50	60.5	61.1	130	14	-	-	-	-	2	85	105	4	15	M12	1.07	1.4	-
65	76.3	77.1	155	14	-	-	-	-	2	110	130	4	15	M12	1.49	2.0	-
80	89.1	90.0	180	14	-	-	-	-	2	121	145	4	19	M16	1.99	2.7	-
(90)	101.6	102.6	190	14	-	-	-	-	2	131	155	4	19	M16	2.09	3.0	-
100	114.3	115.4	200	16	-	-	-	-	2	141	165	8	19	M16	2.39	3.7	-
125	139.8	141.2	235	16	-	-	-	-	2	176	200	8	19	M16	3.23	5.2	-
150	165.2	166.6	265	18	-	-	-	-	2	206	230	8	19	M16	4.41	7.5	-
(175)	190.7	192.1	300	18	-	-	-	-	2	232	260	8	23	M20	5.51	9.5	-
200	216.3	218.0	320	20	-	-	-	-	2	252	280	8	23	M20	6.33	12.2	-
(225)	241.8	243.7	345	20	-	-	-	-	2	277	305	12	23	M20	6.64	14.0	-
250	267.4	269.5	385	22	-	-	-	-	2	317	345	12	23	M20	9.45	19.3	-
300	318.5	321.0	430	22	-	-	-	-	3	360	390	12	23	M20	10.3	24.3	-
350	355.6	358.1	480	24	-	-	-	-	3	403	435	12	25	M22	14.0	33.2	-
400	406.4	409.0	540	24	-	-	-	-	3	463	495	16	25	M22	16.9	41.9	-
450	457.2	460.0	605	24	40	495	500	5	3	523	555	16	25	M22	21.6	53.0	24.8
500	508.0	511.0	655	24	40	546	552	5	3	573	605	20	25	M22	23.1	61.9	26.9
550	558.8	562.0	720	26	42	597	603	5	3	630	665	20	27	M24	30.3	81.2	34.1
600	609.6	613.0	770	26	44	648	654	5	3	680	715	20	27	M24	32.7	93.2	37.5
650	660.4	664.0	825	26	48	702	708	5	3	735	770	24	27	M24	35.9	106.9	42.8
700	711.2	715.0	875	26	48	751	758	5	3	785	820	24	27	M24	38.2	120.6	45.4
750	762.0	766.0	945	28	52	802	810	5	3	840	880	24	33	M30	48.7	150.5	57.4
800	812.8	817.0	995	28	52	854	862	5	3	890	930	24	33	M30	51.2	167.4	60.8
(850)	863.6	868.0	1045	28	54	904	912	5	3	940	980	24	33	M30	54.4	185.1	63.5
900	914.4	919.0	1095	30	56	956	964	5	3	990	1030	24	33	M30	61.1	218.1	75.3
1000	1016.0	1021.0	1195	32	60	1058	1066	5	3	1090	1130	28	33	M30	70.5	277.3	88.5
*(1100)	1117.6	1123	1305	32	-	-	-	-	3	1200	1240	28	33	M30	81.7	331.9	-
*1200	1219.2	1225	1420	34	-	-	-	-	3	1305	1350	32	33	M30	102.0	417.8	-
*1350	1371.6	-	1575	34	-	-	-	-	3	1460	1505	32	33	M30	115.9	515.6	-
*1500	1524.0	-	1730	36	-	-	-	-	3	1615	1660	36	33	M30	157.4	659.2	-

1.Flanges of parenthesized nominal diameter had letter not be used.

2.The facing of flanges shall conform to KS B1509(JIS B2202)1984.

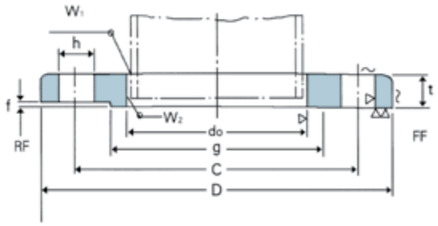
3.Nominal diameter over 1000 is manufacturer's standard(*)

10Kg/Cm²

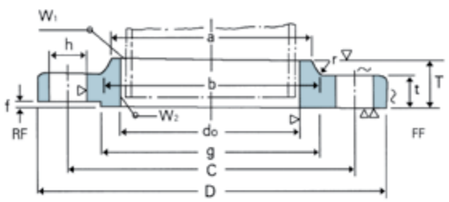
JIS B2220-1984(KSB 1503-1985)

10Kg/Cm² SLIP-ON WELDING STEEL PIPE FLANGES

SOP TYPE
NOMINAL SIZE 10–800mm



SOH TYPE
NOMINAL SIZE 250–1000mm



NORMAL THICKNESS FLANGE

Unit:mm

Nominal Diam. of Flange	Outside Diam.of Steel Pipe	Inside Diam.of Flange do	Outside Diam.of Flange D	Sectional Dimensions of Flange t	T	Diam.of Hub a	Diam.of Hub b	Radius r	Raised Face f	Diam.of Raised face g	Dia.of Bolt Bolt Circle Diam. C	Number of Bolt Holes	Hole Dia. h	Nominal Bolt Size	Weight(kg) SOP	BL	SOH
10	17.3	17.8	90	12	-	-	-	-	1	46	65	4	15	M12	0.52	0.54	
15	21.7	22.2	95	12	-	-	-	-	1	51	70	4	15	M12	0.57	0.61	
20	27.2	27.7	100	14	-	-	-	-	1	56	75	4	15	M12	0.73	0.79	
25	34.0	34.5	125	14	-	-	-	-	1	67	90	4	19	M16	1.13	1.24	
32	42.7	43.2	135	16	-	-	-	-	2	76	100	4	19	M16	1.48	1.66	
40	48.6	49.1	140	16	-	-	-	-	2	81	105	4	19	M16	1.56	1.81	
50	60.5	61.1	155	16	-	-	-	-	2	96	120	4	19	M16	1.88	2.23	
65	76.3	77.1	175	18	-	-	-	-	2	116	140	4	19	M16	2.60	3.3	
80	89.1	90	185	18	-	-	-	-	2	126	150	8	19	M16	2.61	3.5	
(90)	101.6	102.6	195	18	-	-	-	-	2	136	160	8	19	M16	2.76	4.0	
100	114.3	115.4	210	18	-	-	-	-	2	151	175	8	19	M16	3.14	4.6	
125	139.8	141.2	250	20	-	-	-	-	2	182	210	8	23	M20	4.77	7.3	
150	165.2	166.6	280	22	-	-	-	-	2	212	240	8	23	M20	6.34	10.1	
(175)	190.7	192.1	305	22	-	-	-	-	2	237	265	12	23	M20	6.82	11.8	
200	216.3	218	330	22	-	-	-	-	2	262	290	12	23	M20	7.53	14.0	
(225)	241.8	243.7	350	22	-	-	-	-	2	282	310	12	23	M20	7.74	15.8	-
250	267.4	269.5	400	24	36	288	292	6	2	324	355	12	25	M22	11.8	22.7	12.7
300	318.5	321	445	24	38	340	346	6	3	368	400	16	25	M22	12.7	27.8	13.8
350	355.6	358.1	490	26	42	380	386	6	3	413	445	16	25	M22	16.4	37.1	18.2
400	406.4	409	560	28	44	436	442	6	3	475	510	16	27	M24	23.0	52.5	25.2
450	457.2	460	620	30	48	496	502	6	3	530	565	20	27	M24	29.5	68.8	33.0
500	508	511	675	30	48	548	554	6	3	585	620	20	27	M24	33.5	82.1	37.6
(550)	558.8	562	745	32	52	604	610	6	3	640	680	20	33	M30	43.1	105.8	49.7
600	609.6	613	795	32	52	656	662	6	3	690	730	24	33	M30	45.7	120.2	52.6
(650)	660.4	664	845	34	56	706	712	6	3	740	780	24	33	M30	52.1	145.0	60.6
700	711.2	715	905	34	58	762	770	6	3	800	840	24	33	M30	59.5	167.2	70.6
(750)	762	766	970	36	62	816	824	6	3	855	900	24	33	M30	73.2	204.2	85.8
800	812.8	817	1020	36	64	868	876	6	3	905	950	28	33	M30	76.4	225.4	91.2
(850)	863.6	868	1070	36	66	920	928	6	3	955	1000	28	33	M30	80.7	248.8	98.6
900	914.4	919	1120	38	70	971	979	6	3	1005	1050	28	33	M30	89.4	288.4	109.0
1000	1016	1021	1235	40	74	1073	1081	6	3	1110	1160	28	39	M36	109.2	367.7	133.0
*(1100)	1117.6	1123	1345	42	76	-	-	-	3	1220	1270	28	39	M36	131.6	460.0	-
*1200	1219.2	1225	1465	44	78	-	-	-	3	1325	1380	32	39	M36	163.5	572.2	-
*1350	1371.6	-	1630	48	82	-	-	-	3	1480	1540	36	45	M42	204.7	769.0	-
*1500	1524.0	-	1795	50	90	-	-	-	3	1635	1700	40	45	M42	250.2	974.9	-

1.Flanges of parenthesized nominal diameter had letter not be used.

2.The facing of flanges shall conform to KS B1509(JIS B2202)1984.

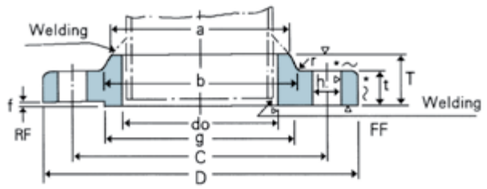
3.Nominal diameter over 1000 is manufacturer's standard(*)

16Kg/Cm²

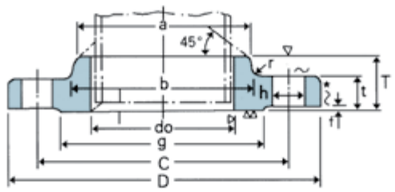
JIS B2220-1984(KSB 1503-1985)

16Kg/Cm² SLIP-ON WELDING STEEL PIPE FLANGES

NOMINAL SIZE 10–600mm



NOMINAL SIZE 650–1200mm



★ The surface finish(~)is in the case of die forging

Unit:mm

Nominal Diameter of Flange	Outside Diameter of Steel Pipe	Inside Diameter of Flange do	Outside Diameter of Flange D	Sectional Dimensions of Flange							Bolt Holt			Nominal Bolt Size	Weight(kg)		
				t	T	Diam.of Hub a	Diam.of Hub b	Radius r	f	g	Bolt Circle Diameter C	Number of Bolt Holes	Hole Diameter h		SOP	BL	SOH
10	17.3	17.8	90	12	16	26	28	4	1	46	65	4	15	M12	0.52	0.54	0.52
15	21.7	22.2	95	12	16	30	32	4	1	51	70	4	15	M12	0.57	0.61	0.58
20	27.2	27.7	100	14	20	38	42	4	1	56	75	4	15	M12	0.73	0.79	0.75
25	34.0	34.5	125	14	20	46	50	4	1	67	90	4	19	M16	1.13	1.24	1.16
32	42.7	43.2	135	16	22	56	60	5	2	76	100	4	19	M16	1.48	1.66	1.53
40	48.6	49.1	140	16	24	62	66	5	2	81	105	4	19	M16	1.56	1.81	1.64
50	60.5	61.1	155	16	24	76	80	5	2	96	120	8	19	M16	1.8	2.3	1.83
65	76.3	77.1	175	18	26	94	98	5	2	116	140	8	19	M16	2.5	3.1	2.58
80	89.1	90.0	200	20	28	108	112	6	2	132	160	8	23	M20	3.5	4.5	3.66
(90)	101.6	102.6	210	20	30	120	124	6	2	145	170	8	23	M20	3.7	5.0	3.95
100	114.3	115.4	225	22	34	134	138	6	2	160	185	8	23	M20	4.5	6.3	4.94
125	139.8	141.2	270	22	34	164	170	6	2	195	225	8	25	M22	6.5	9.2	7.0
150	165.2	166.6	305	24	38	196	202	6	2	230	260	12	25	M22	8.7	12.8	9.62
200	216.3	218.0	350	26	40	244	252	6	2	275	305	12	25	M22	10.9	18.6	12.1
250	267.4	269.5	430	28	44	304	312	6	2	345	380	12	27	M24	18.0	30.6	20.0
300	318.5	321.0	480	30	48	354	364	8	3	395	430	16	27	M24	21.5	40.7	24.4
350	355.6	358.1	540	34	52	398	408	8	3	440	480	16	33	M30 × 3	30.8	57.8	35.0
400	406.4	409.0	605	38	60	446	456	10	3	495	540	16	33	M30 × 3	42.8	82.2	46.2
450	457.2	460.0	675	40	64	504	514	10	3	560	605	20	33	M30 × 3	55.1	107.6	61.9
500	508.0	511.0	730	42	68	558	568	10	3	615	660	20	33	M30 × 3	65.1	133.1	73.25
(550)	558.8	562.0	795	44	70	612	622	10	3	670	720	20	39	M36 × 3	77.9	164.1	88.1
600	609.6	613.0	845	46	74	666	676	10	3	720	770	24	39	M36 × 3	86.0	193.2	98.8
(650)	660.4	664	895	48	77	704	726	10	5	770	820	24	39	M36 × 3	96.3	227.5	101.0
700	711.2	715	960	50	80	754	776	10	5	820	875	24	42	M39 × 3	114.1	272.6	120.0
(750)	762.0	766	1020	52	83	806	832	10	5	880	935	24	42	M39 × 3	132.7	321.9	141.0
800	812.8	817	1085	54	86	865	885	10	5	930	990	24	48	M45 × 3	152.1	375.6	161.0
(850)	863.6	868	1135	56	89	916	936	10	5	980	1040	24	48	M45 × 3	166.5	428.1	177.0
900	914.4	919	1185	58	93	968	986	10	5	1030	1090	28	48	M45 × 3	178.1	481.8	191.0
1000	1016.0	1021	1320	62	99	1070	1098	12	5	1140	1210	28	56	M52 × 3	235.3	636.0	230.0
1100	1117.6	1123	1420	66	105	1180	1200	12	5	1240	1310	32	56	M52 × 3	267.9	784.0	289.0
1200	1219.2	1225	1530	70	112	1282	1302	12	5	1350	1420	32	56	M52 × 3	321.1	972.4	348.0
1300	1320.8	1326.0	1645	74	-	-	-	-	5	1450	1530	32	62		378.6	1185.2	-
1350	1371.6	1377.0	1700	76	-	-	-	-	5	1510	1590	32	62		410.0	1303.8	-
1400	1422.4	1428.0	1755	78	-	-	-	-	5	1560	1640	36	62		436.0	1422.5	-
1500	1524.0	1529.0	1865	80	-	-	-	-	5	1670	1750	36	62		496.4	1656.6	-

REMARKS: 1.Flanges of parenthesized nominal diameter had better not be used.

2.For dimensional tolerance,refer to JIS B2203.

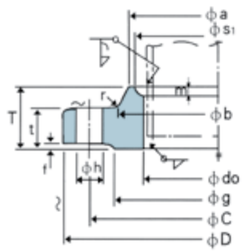
3.In principle material shall be SS400 specified in JIS G3101,SF390A(or SF440A) specified in JIS G3201,or S20C(or S25C)specified in JIS G4051,and shall be fit for welding.

20Kg/Cm²

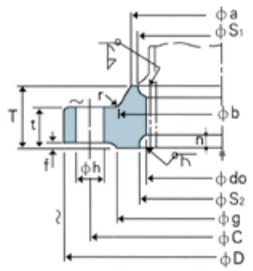
JIS B2220-1984(KSB 1503-1985)

20Kg/Cm² SLIP-ON WELDING STEEL PIPE FLANGES

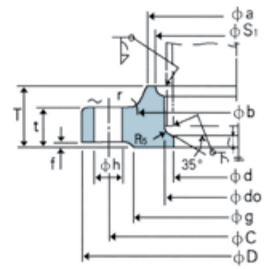
A–TYPE
NOMINAL SIZE 10–600mm



B–TYPE
NOMINAL SIZE 10–50mm



C–TYPE
NOMINAL SIZE 65–600mm



★ The surface finish(~)is in the case of die forging

Unit:mm

Nominal Diameter of Flange	Outside Diameter of Steel Pipe	Inside Diameter of Flange do	Outside Diameter of Flange D	Sectional Dimensions of Flange								Bolt Hole				Reference					Weight(kg)		
				t	T	Diameter of Hub a	Diameter of Hub b	Radius r	f	g	d	Bolt Circle Diameter C	Number of Bolt Holes	Hole Diameter h	Nominal Bolt Size	S_1	m	S_2	n	l	SOP	BL	SOH
10	17.3	17.8	90	14	20	30	32	4	1	46	-	65	4	15	M12	27	4	27	4	-	0.6	0.6	0.59
15	21.7	22.2	95	14	20	34	36	4	1	51	-	70	4	15	M12	31	4	31	4	-	0.7	0.7	0.65
20	27.2	27.7	100	16	22	40	42	4	1	56	-	75	4	15	M12	37	4	37	4	-	0.8	0.9	0.81
25	34.0	34.5	125	16	24	48	50	4	1	67	-	90	4	19	M16	44	4	44	4.5	-	1.3	1.5	1.29
32	42.7	43.2	135	18	26	56	60	5	2	76	-	100	4	19	M16	52	4	53	5	-	1.6	1.8	1.6
40	48.6	49.1	140	18	26	62	66	5	2	81	-	105	4	19	M16	58	4	59	5.5	-	1.7	2.0	1.69
50	60.5	61.1	155	18	26	76	80	5	2	96	-	120	8	19	M16	70	4	72	5.5	-	1.9	2.4	1.89
65	76.3	77.1	175	20	30	100	104	5	2	116	65.9	140	8	19	M16	94	6	85	6	6	2.6	3.4	2.6
80	89.1	90.0	200	22	34	113	117	6	2	132	78.1	160	8	23	M20	107	6	-	-	6	3.8	4.9	3.93
(90)	101.6	102.6	210	24	36	126	130	6	2	145	90.2	170	8	23	M20	120	6	-	-	6	4.4	6.0	4.56
100	114.3	115.4	225	24	36	138	142	6	2	160	102.3	185	8	23	M20	132	6	-	-	6	4.9	6.9	5.13
125	139.8	141.2	270	26	40	166	172	6	2	195	126.6	225	8	25	M22	160	7	-	-	6	7.8	11.0	8.3
150	165.2	166.6	305	28	42	196	202	6	2	230	151.0	260	12	25	M22	186	8	-	-	6	10.1	14.9	10.6
200	216.3	218.0	350	30	46	244	252	6	2	275	199.9	305	12	25	M22	237	9	-	-	6	12.6	21.4	13.3
250	267.4	269.5	430	34	52	304	312	6	2	345	248.8	380	12	27	M24	290	10	-	-	6	21.9	37.2	23.4
300	318.5	321.0	480	36	56	354	364	8	3	395	297.9	430	16	27	M24	345	11	-	-	6	25.8	48.8	27.7
350	355.6	358.1	540	40	62	398	408	8	3	440	333.4	480	16	33	M30 × 3	384	12	-	-	6	36.2	68.0	39.2
400	406.4	409.0	605	46	70	446	456	10	3	495	381.0	540	16	33	M30 × 3	437	13	-	-	7	51.7	99.4	54.2
450	457.2	460.0	675	48	78	504	514	10	3	560	431.8	605	20	33	M30 × 3	490	15	-	-	7	66.1	129.1	71.7
500	508.0	511.0	730	50	84	558	568	10	3	615	482.6	660	20	33	M30 × 3	544	16	-	-	7	77.4	158.4	86.2
(550)	558.8	562.0	795	52	90	612	622	10	3	670	533.4	720	20	39	M36 × 3	595	16	-	-	7	92.2	194.0	105
600	609.6	613.0	845	54	96	666	676	10	3	720	584.2	770	24	39	M36 × 3	646	18	-	-	7	101.1	226.9	119
(650)	660.4	664.0	945	60	-	-	-	-	5	790	-	850	24	48	M45 × 3						147.6	311.6	-
700	711.2	715.0	995	64	-	-	-	-	5	840	-										168.0	370.9	-
(750)	762.0	766.0	1080	68	-	-	-	-	5	900	-	970	24	56	M52 × 3						212.7	460.1	-
800	812.8	817.0	1140	72	-	-	-	-	5	960	-	1030	24	56	M52 × 3						248.5	546.5	-
(850)	863.6	868.0	1200	74	-	-	-	-	5	1020	-	1090	24	56	M52 × 3						280.5	626.2	-
900	914.6	919.0	1250	76	-	-	-	-	5	1070	-	1140	28	56	M52 × 3						296.9	694.9	-

REMARKS: 1.Flanges of parenthesized nominal diameters had better not be used.

2.The Flange gasket surface is based on large raised facing specified in JIS B2202.

3.Size d is an example of pipe thickness for schedule 40 of JIS G3454.and JIS G3456.But customers can order for other size as occasion demand.

4.For dimensional tolerance,refer to JIS B2203.

5.In principle,material shall be SS400 specified in JIS G3101,SF390A(or SF440A)specified in JIS G3201 or S20C(or S25C)specified in JIS G4501.Material shall be fit for welding.

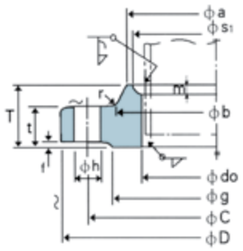
*The surface finish is the case of forging(▽:in other cases)

30Kg/Cm²

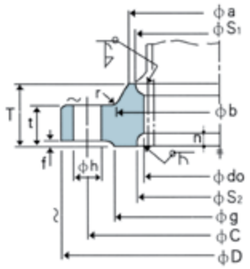
JIS B2220-1984(KSB 1503-1985)

30Kg/Cm² SLIP-ON WELDING STEEL PIPE FLANGES

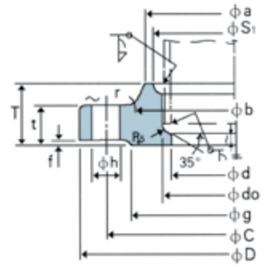
A–TYPE
NOMINAL SIZE 10–600mm



B–TYPE
NOMINAL SIZE 10–50mm



C–TYPE
NOMINAL SIZE 65–600mm



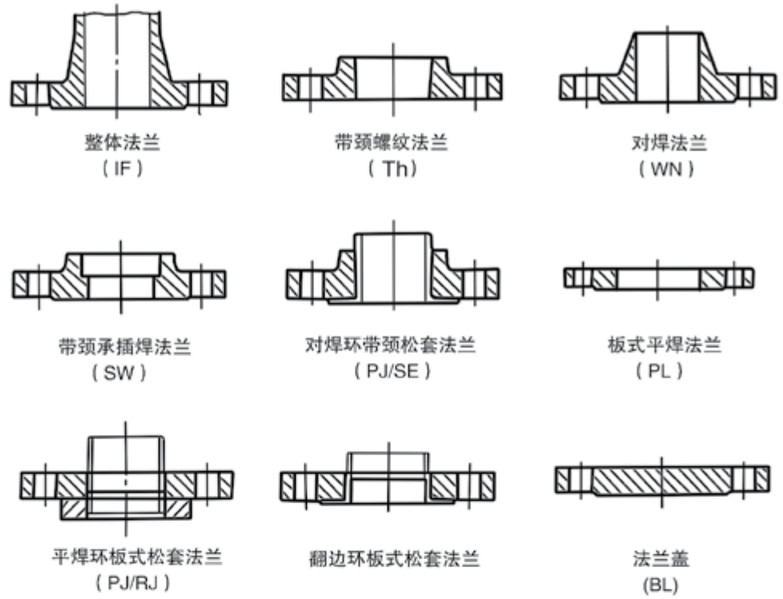
★The surface finish(~)is in the case of die forging

Unit:mm

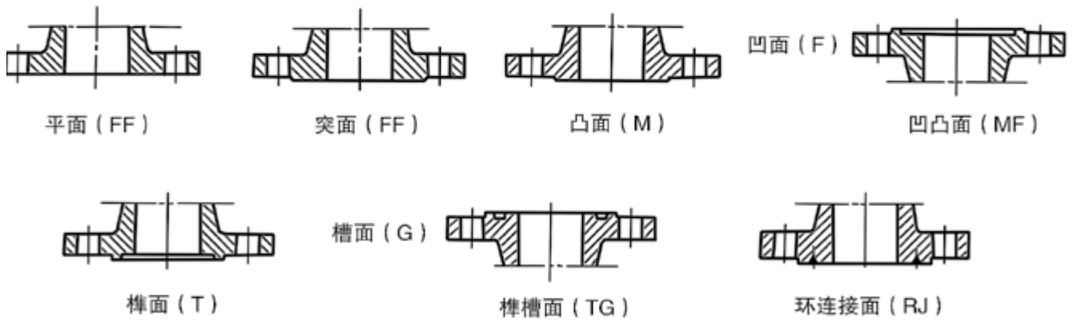
Nominal Diameter of Flange	Outside Diameter of Steel Pipe	Inside Diameter of Flange do	Outside Diameter of Flange D	Sectional Dimensions of Flange t	T	Diameter of Hub a	Diameter of Hub b	Radius r	f	g	d	Bolt Hole Bolt Circle Diameter C	Number of Bolt Holes	Hole Diameter h	Nominal Bolt Size	Reference S_1	m	S_2	n	l	Approx Weight(kg) SOH	BL
10	17.3	17.8	110	16	24	30	34	4	1	52	-	75	4	19	M16	-	-	-	-	-	0.99	1.00
15	21.7	22.2	115	18	26	36	40	5	1	55	-	80	4	19	M16	31	4	40	5	-	1.23	1.25
20	27.2	27.7	120	18	28	42	46	5	1	60	-	85	4	19	M16	37	5	44	5	-	1.34	1.38
25	34.0	34.5	130	20	30	50	54	5	1	70	-	95	4	19	M16	44	6	52	5	-	1.76	1.84
32	42.7	43.2	140	22	32	60	64	6	2	80	-	105	4	19	M16	52	6	60	5	-	2.15	2.32
40	48.6	49.1	160	22	34	66	70	6	2	90	-	120	4	23	M20	58	6	66	5	-	2.82	3.00
50	60.5	61.1	165	22	36	82	86	6	2	105	-	130	8	19	M16	70	6.5	78	5	-	2.89	3.14
65	76.3	77.1	200	26	40	102	106	8	2	130	65.9	160	8	23	M20	96	9.5	94	5	6	4.70	5.50
80	89.1	90.0	210	28	44	115	121	8	2	140	78.1	170	8	23	M20	109	9.5	-	-	6	5.36	6.63
(90)	101.6	102.6	230	30	46	128	134	8	2	150	90.2	185	8	25	M22	122	9.5	-	-	6	6.85	8.55
100	114.3	115.4	240	32	48	141	147	8	2	160	102.3	195	8	25	M22	135	9.5	-	-	6	7.89	10.0
125	139.8	141.2	275	36	54	166	172	8	2	195	126.6	230	8	25	M22	160	9.5	-	-	6	11.4	15.3
150	165.2	166.6	325	38	58	196	204	8	2	235	151.0	275	12	27	M24	186	9.5	-	-	6	16.7	22.2
200	216.3	218.0	370	42	64	248	256	8	2	280	199.9	320	12	27	M24	237	9.5	-	-	6	20.6	32.6
250	267.4	269.5	450	48	72	306	314	10	2	345	248.8	390	12	33	M30 × 3	290	10	-	-	6	36.1	55.2
300	318.5	321.0	515	52	78	360	370	10	3	405	297.9	450	16	33	M30 × 3	345	12	-	-	6	49.9	77.9
350	355.6	358.1	560	54	84	402	412	12	3	450	333.4	495	16	33	M30 × 3	383	13	-	-	6	61.2	96.9
400	406.4	409.0	630	60	92	456	468	15	3	510	381.0	560	16	39	M36 × 3	435	14	-	-	7	85.2	136

REMARKS: 1.As far as possible,nominal diameter in parenthesis should be avoid from use.
2.The diamensional tolerance shall confirm to JIS B2203.
3.The flange gasket surface is based on large raised facing specified in JIS B2202.But, if necessary, facings other than the large raised facing specified in JIS B2201 can be designated by customers.
4.Size d is an example of pipe thickness for schedule 40 of JIS G3454 and JIS B3456.When other size is necessary, customers can order it at will.
5.Material
Carbon Steel:S25C specified in JIS G4501, or SF440A specified in JIS G3201.
Molybdeum Steel:1/2Mo Steel specified in tables 1 and 2 of JIS B2215.
Chromium-Molybdenum Steel:1 1/4 Cr 1/2 Mo Steel specified in tables 1 and 2 of JIS B2215.
*The surface finish is in the case of forging (△ :in other cases)

法兰类型』Flange Type



密封面型式及代号』Face Type



密封面型式		代 号	
平面		FF	
突面		RF	
凹凸面	凸面	MF	M
	凹面		F
榫槽面	榫面	TG	T
	槽面		G
环连接面		RJ	