CREATIVE
PIPING SOLUTIONS PVT. LTD.

An ISO 9001:2015 & 14001:2015 Certified Company

INDUSTRIAL FLANGE

INNOVATIVE TECHNIQUE FOR CUSTOMISED SOLUTION

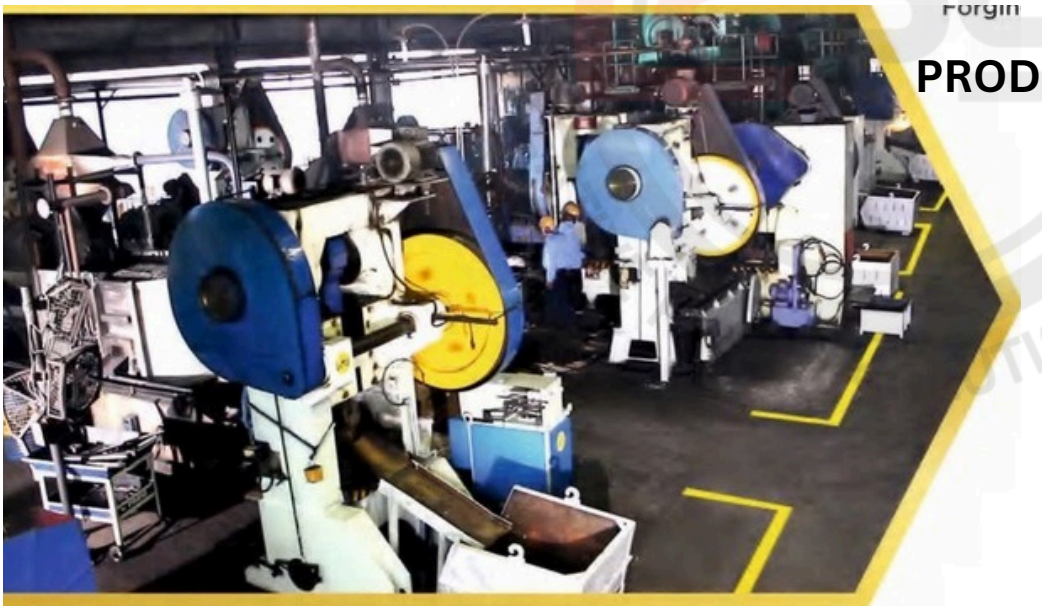
Our Production Facilities Match International Standards.

We at Creative piping solutions pvt. ltd continuously aim in giving Customised Solution as far as Manufacturing and delivery is Concerned. Building upon our humble beginning, we have, with time changed our production facilities and added State of Art Machinery, in die making, machining, Leak-testing and Packaging.

We have Incorporated Quality Standards on the Shop Floor aiming at a durable Product.

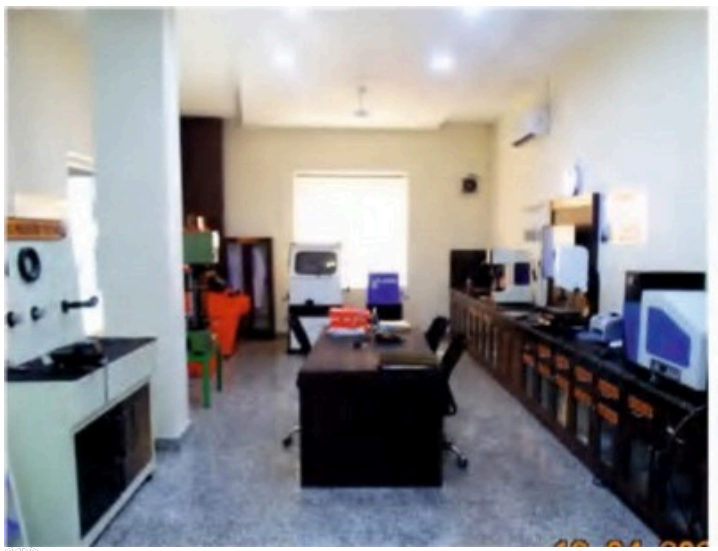
Systematizing the working environment and Improving the very lives of our working team benefiting one and all.

C.N.C. Die Making Machine



PRODUCTION FACILITIES

- FORGING
- TESTING
- DIE MAKING
- MACHINING
- PACKAGING
- Forging Section



Testing Lab

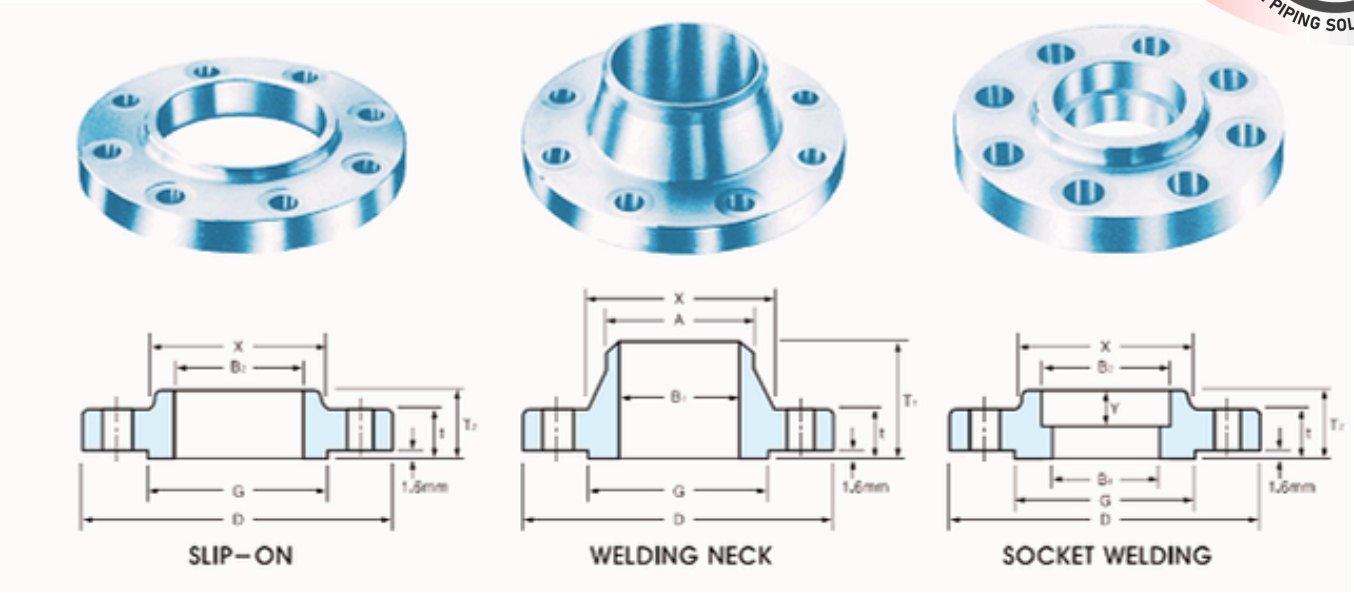
Forging Section

ANSI FLANGES

- Class 150 Flanges
- Class 300 Flanges
- Class 400 Flanges
- Class 600 Flanges
- Class 900 Flanges
- Class 1500 Flanges
- Class 2500 Flanges

CPS
CREATIVE PIPING SOLUTIONS PVT. LTD.

ANSI B16.5 Class 150 Flanges



CREATIVE PIPING SOLUTIONS PRIVATE LIMITED	(www.creativeforged.com)	Unit : mm

Nominal Pipe Size	Outside Diam.	Diam of Base of Hub	O.D of Raised Face	Thickness	BORE			LENGTH THRU HUB			Diam of Base of Bevel	Radius Of Fillet	Thread Length
					Welding Neck Socket Welding	Slip-On Socket Welding	Lap Joint	Welding Neck	Slip-On Threaded Socket Welding	Lap Joint			
	D	X	G	T	B1	B2	B3	T1	T2	T3	A	R	Q
1/2	89	30.2	35.1	11.2	15.7	22.4	22.9	47.8	15.7	15.7	21.3	3.0	15.7
3/4	99	38.1	42.9	12.7	20.8	27.7	28.2	52.3	15.7	15.7	26.7	3.0	15.7
1	108	49.3	50.8	14.2	26.7	34.5	35.1	55.6	17.5	17.5	33.5	3.0	17.5
1-1/4	117	58.7	63.5	15.7	35.1	43.2	43.7	57.2	20.6	20.6	42.2	4.8	20.6
1-1/2	127	65.0	73.2	17.5	40.9	49.5	50.0	62.0	22.4	22.4	48.3	6.4	22.4
2	152	77.7	91.9	19.1	52.6	62.0	62.5	63.5	25.4	25.4	60.5	7.9	25.4
2-1/2	178	90.4	104.6	22.4	62.7	74.7	75.4	69.9	28.4	28.4	73.2	7.9	28.4
3	191	108.0	127.0	23.9	78.0	90.7	91.4	69.9	30.2	30.2	88.9	9.7	30.2
3-1/2	216	122.2	139.7	23.9	90.2	103.4	104.1	71.4	31.8	31.8	101.6	9.7	31.8
4	229	134.9	157.2	23.9	102.4	116.1	116.8	76.2	33.3	33.3	114.3	11.2	33.3
5	254	163.6	185.7	23.9	128.3	143.8	144.5	88.9	36.6	36.6	141.2	11.2	36.6
6	279	192.0	215.9	25.4	154.2	170.7	171.5	88.9	39.6	39.6	168.4	12.7	39.6
8	343	246.1	269.7	28.4	202.7	221.5	222.3	101.6	44.5	44.5	219.2	12.7	44.5
10	406	304.8	323.9	30.2	254.5	276.4	277.4	101.6	49.3	49.3	273.1	12.7	49.3
12	483	365.3	381.0	31.8	304.8	327.2	328.2	114.3	55.6	55.6	323.9	12.7	55.6
14	533	400.1	412.8	35.1	336.4	359.2	360.2	127.0	57.2	79.2	355.9	12.7	57.2
16	597	457.2	469.9	36.6	387.4	410.5	411.2	127.0	63.5	87.4	406.6	12.7	63.5
18	635	505.0	533.4	39.6	438.2	461.8	462.3	139.7	68.3	96.8	457.9	12.7	68.3
20	699	558.8	584.2	42.9	489.0	531.1	514.4	144.5	73.2	103.1	508.0	12.7	73.2
24	813	663.4	692.2	47.8	590.6	616.0	616.0	152.4	82.6	111.3	609.6	12.7	82.6

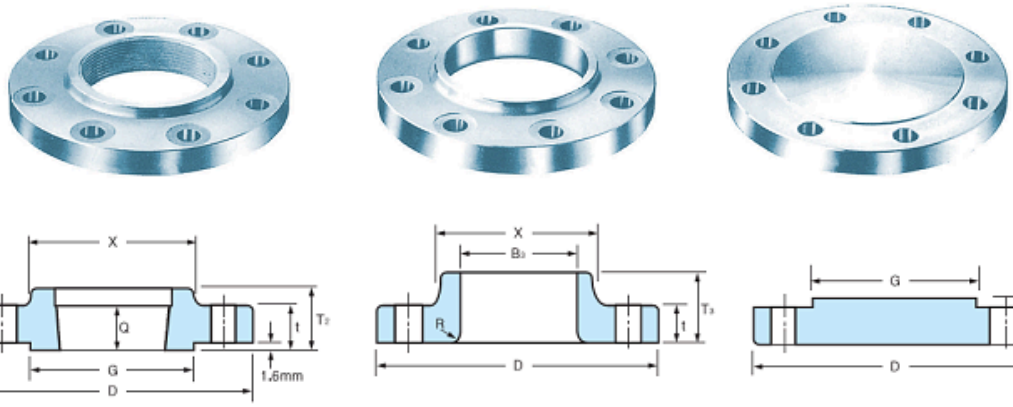
Notes:

(1) For the 'Bore'(B1) other than Standard Wall Thickness, refer to page 52.

(2) Class 150 flanges except Lap Joint will be furnished with 0.06"(1.6mm) raised face, which is included in 'Thickness'(t) and 'Length through Hub'(T1),(T2).

(3) For Slip-on, Threaded, Socket Welding and Lap Joint Flanges, the hubs can be shaped either vertical from base to top or tapered within the limits of 7 degrees.

ANSI B16.5 Class 150 Flanges



THREADED LAP JOINT BLIND

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED (www.creativeforged.com) **Unit : mm**

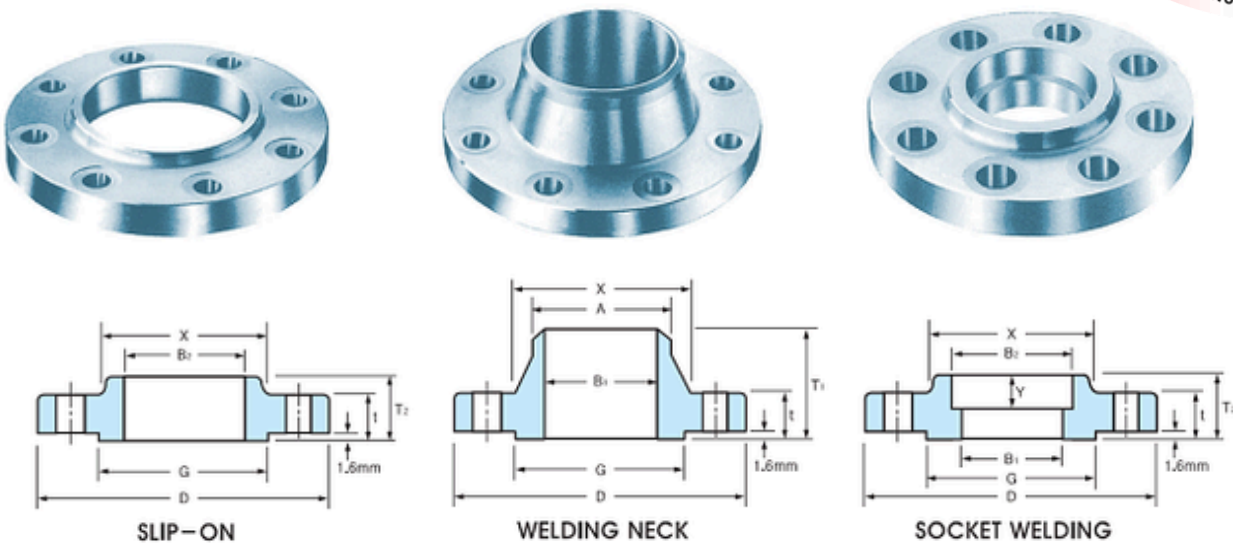
Nominal Pipe Size	Depth of Socket	DRILLING				BOLTING			APPROXIMATE WEIGHT									
		Bolt Circle Diam	Number of Holes	Diam of Holes	Diam of Bolts (inch)	Machine Bolt Length	Stud Bolt Length		Welding Neck		Slip-on and Threaded		Lap Joint		Blind		Socket Welding	
	Y					Raised Face	Raised Face	Ring Joint	Kg	lb	Kg	lb	Kg	lb	Kg	lb	Kg	lb
1/2	9.7	60.5	4	15.7	1/2	50.8	57.2	-	0.51	1.10	0.47	1.00	0.51	1.00	0.47	1.00	0.47	1.00
3/4	11.2	69.9	4	15.7	1/2	50.8	63.5	-	0.73	1.60	0.58	1.30	0.64	1.40	0.63	1.40	0.59	1.30
1	12.7	79.2	4	15.7	1/2	57.2	63.5	76.2	1.07	2.40	0.86	1.90	0.93	1.80	0.94	2.10	0.87	1.90
1-1/4	14.2	88.9	4	15.7	1/2	57.2	69.9	82.6	1.40	3.10	1.08	2.40	1.16	2.00	1.23	2.70	1.11	2.40
1-1/2	15.7	98.6	4	15.7	1/2	63.5	69.9	82.6	1.81	4.00	1.41	3.10	1.51	3.30	1.62	3.60	1.45	3.20
2	17.5	120.7	4	19.1	5/8	69.9	82.6	95.3	2.59	5.70	2.26	5.00	2.38	5.20	2.64	5.80	2.33	5.00
2-1/2	19.1	139.7	4	19.1	5/8	76.2	88.9	101.6	4.28	9.40	3.43	7.60	3.60	7.90	4.06	9.00	3.55	7.80
3	20.6	152.4	4	19.1	5/8	76.2	88.9	101.6	5.18	11.40	3.87	8.50	4.04	8.90	4.90	10.80	4.02	8.90
3-1/2	22.4	177.8	8	19.1	5/8	76.2	88.9	101.6	5.45	12.00	4.99	11.00	4.99	11.00	5.90	13.00	4.99	11.00
4	23.9	190.5	8	19.1	5/8	76.2	88.9	101.6	7.32	16.10	5.75	12.70	5.96	13.00	7.41	16.30	5.99	13.20
5	23.9	215.9	8	22.4	3/4	82.6	95.3	108.0	8.91	19.60	6.22	13.70	6.44	14.00	8.76	19.30	6.68	14.70
6	26.9	241.3	8	22.4	3/4	82.6	101.6	114.3	11.26	24.80	7.38	16.30	7.59	16.70	11.31	24.90	7.99	17.60
8	31.8	298.5	8	22.4	3/4	88.9	108.0	120.7	17.68	39.00	12.36	27.30	12.66	27.90	19.92	43.90	13.29	29.30
10	33.3	362.0	12	25.4	7/8	101.6	114.3	127.0	24.79	54.70	17.10	37.70	16.78	37.00	29.39	64.80	19.50	43.00
12	39.6	431.8	12	25.4	7/8	101.6	120.7	133.4	38.98	85.90	27.68	61.00	28.30	62.40	43.70	96.30	29.03	64.00
14	41.4	476.3	12	28.4	1	114.3	133.4	146.1	51.71	114.00	35.20	77.60	41.50	91.50	59.42	140.00	38.56	85.00
16	44.5	539.8	16	28.4	1	114.3	133.4	146.1	64.41	142.00	42.18	93.00	52.98	116.80	77.11	170.00	44.49	98.00
18	49.3	577.9	16	31.8	1-1/8	127.0	146.1	158.8	74.84	165.00	49.71	109.60	59.00	130.00	94.80	209.00	54.43	120.00
20	54.1	635.0	20	31.8	1-1/8	139.7	158.8	171.5	89.36	197.00	65.50	140.00	72.12	159.00	123.38	272.00	70.31	155.00
24	63.5	749.3	20	35.1	1-1/4	152.4	171.5	184.2	119.66	263.80	90.50	199.50	99.02	218.30	188.24	415.00	95.25	210.00

(4) Blind Flanges may be made with the same hub as that used for Slip-on Flanges or without hub.

(5) The gasket surface and backside (bearing surface for bolting) are made parallel within 1 degree. To accomplish parallelism, spot facing is carried out according to MSS SP-9, without reducing thickness (t).

(6) Depth of Socket (Y) is covered by ANSI B16.5 only sizes through 3 inch, over 3 inch is at the manufacturer's option

ANSI B16.5 Class 300 Flanges



CREATIVE PIPING SOLUTIONS PRIVATE LIMITED	(www.creativeforged.com)	Unit : mm

Nominal Pipe Size	Outside Diam.	Diam of Base of Hub	O.D of Raised Face	Thickness	BORE				LENGTH THRU HUB			Diam. of Base of Bevel	Radius Of Fillet	Thread Length
					Welding Neck Socket Welding	Slip-On Socket Welding	Lap Joint	Counter Bore Min. Threaded Min.	Welding Neck	Slip-On Threaded Socket Welding	Lap Joint			
	D	X	G	T	B1	B2	B3	B	T1	T2	T3	A	R	Q
1/2	95	38.1	35.1	14.2	15.7	22.4	22.9	23.6	52.3	22.4	22.4	21.3	3.0	15.7
3/4	117	47.8	42.9	15.7	20.8	27.7	28.2	29.0	57.2	25.4	25.4	26.7	3.0	15.7
1	124	53.8	50.8	17.5	26.7	34.5	35.1	35.8	62.0	26.9	26.9	33.5	3.0	17.5
1-1/4	133	63.5	63.5	19.1	35.1	43.2	43.7	44.5	65.0	26.9	26.9	42.2	4.8	20.6
1-1/2	155	69.9	73.2	20.6	40.9	49.5	50.0	50.5	68.3	30.2	30.2	48.3	6.4	22.4
2	165	84.1	91.9	22.4	52.6	62.0	62.5	63.5	69.9	33.3	33.3	60.5	7.9	28.4
2-1/2	191	100.1	104.6	25.4	62.7	74.7	75.4	76.2	76.2	38.1	38.1	73.2	7.9	31.8
3	210	117.3	127.0	28.4	78.0	90.7	91.4	92.2	79.2	42.9	42.9	88.9	9.7	31.8
3-1/2	229	133.4	139.7	30.2	90.2	103.4	104.1	104.9	81.0	44.5	44.5	101.6	9.7	36.6
4	254	146.1	157.2	31.8	102.4	116.1	116.8	117.6	85.9	47.8	47.8	114.3	11.2	36.6
5	279	177.8	185.7	35.1	128.3	143.8	144.5	144.5	98.6	50.8	50.8	141.2	11.2	42.9
6	318	206.2	215.9	36.6	154.2	170.7	171.5	171.5	98.6	52.3	52.3	168.4	12.7	46.0
8	381	260.4	269.7	41.1	202.7	221.5	222.3	222.3	111.3	62.0	62.0	219.2	12.7	50.8
10	445	320.5	323.9	47.8	254.5	276.4	277.4	276.4	117.3	66.5	95.3	273.1	12.7	55.6
12	521	374.7	381.0	50.8	304.8	327.2	328.2	328.7	130.0	73.2	101.6	323.9	12.7	60.5
14	584	425.5	412.8	53.8	336.6	359.2	360.2	360.4	142.7	76.2	111.3	355.6	12.7	63.5
16	648	482.6	469.9	57.2	387.4	410.5	411.2	411.2	146.1	82.6	120.7	406.4	12.7	68.3
18	711	533.4	533.4	60.5	438.2	461.8	462.3	462.0	158.8	88.9	130.0	457.2	12.7	69.3
20	775	587.2	584.2	63.5	489.0	513.1	514.4	512.8	162.1	95.3	139.7	508.0	12.7	73.2
24	914	701.5	692.2	69.9	590.6	616.0	616.0	614.4	168.1	106.4	152.4	606.6	12.7	82.6

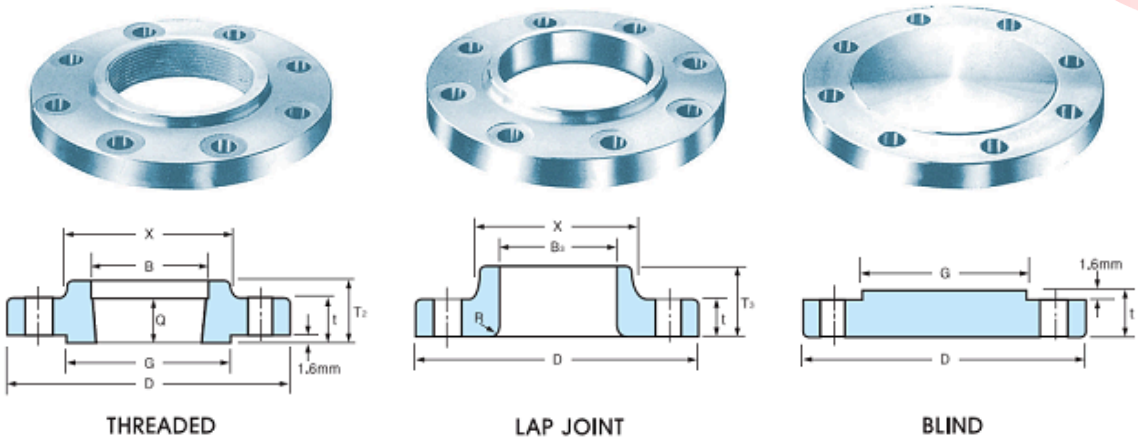
Notes:

(1) For the 'Bore'(B1) other than Standard Wall Thickness, refer to page 52.

(2) Class 300 flanges except Lap Joint will be furnished with 0.06″(1.6mm) raised face, which is included in 'Thickness'(t) and 'Length through Hub'(T1),(T2).

(3) For Slip-on, Threaded, Socket Welding and Lap Joint Flanges, the hubs can be shaped either vertical from base to or tapered within the limits of 7 degrees.

ANSI B16.5 Class 300 Flanges

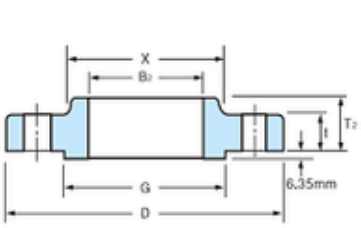


CREATIVE PIPING SOLUTIONS PRIVATE LIMITED	(www.creativeforged.com)	Unit : mm

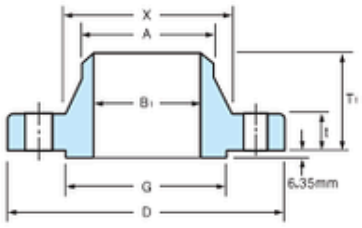
Nominal Pipe Size	Depth of Socket	DRILLING				BOLTING			APPROXIMATE WEIGHT									
		Bolt Circle Diam	Number of Holes	Diam of Holes	Diam of Bolts (inch)	Machine Bolt Length	Stud Bolt Length		Welding Neck		Slip-on and Threaded		Lap Joint		Blind		Socket Welding	
	Y					Raised Face	Raised Face	Ring Joint	Kg	lb	Kg	lb	Kg	lb	Kg	lb	Kg	lb
1/2	9.7	66.5	4	15.7	1/2	57.2	63.5	76.2	0.78	1.70	0.62	1.40	0.61	1.30	0.62	1.40	0.62	1.40
3/4	11.2	82.6	4	19.1	5/8	63.5	76.2	88.9	1.34	3.00	1.15	2.50	1.15	2.50	1.16	2.50	1.19	2.60
1	12.7	88.9	4	19.1	5/8	63.5	76.2	88.9	1.64	3.60	1.39	3.10	1.38	3.00	1.42	3.00	1.44	3.20
1-1/4	14.2	98.6	4	19.1	5/8	69.9	82.6	95.3	2.06	4.50	1.67	3.70	1.66	3.70	1.79	3.90	1.73	3.80
1-1/2	15.7	114.3	4	22.4	3/4	76.2	88.9	101.6	3.06	6.70	2.53	5.60	2.52	5.60	2.68	5.90	2.62	5.80
2	17.5	127.0	8	19.1	5/8	76.2	88.9	101.6	3.40	7.50	2.80	6.20	2.79	6.20	3.09	6.80	2.94	6.50
2-1/2	19.1	149.4	8	22.4	3/4	82.6	101.6	114.3	5.31	11.70	4.25	9.40	4.22	9.30	4.75	10.50	4.49	9.90
3	20.6	168.1	8	22.4	3/4	88.9	108.0	120.7	7.32	16.10	5.81	12.80	5.78	12.70	6.79	14.90	6.20	13.70
3-1/2	22.4	184.2	8	22.4	3/4	95.3	108.0	127.0	8.17	18.00	7.72	17.00	7.72	17.00	9.53	21.00		
4	23.9	200.2	8	22.4	3/4	95.3	114.3	127.0	11.30	24.90	10.13	22.30	10.07	22.20	12.00	26.50		
5	23.9	235.0	8	22.4	3/4	108.0	120.7	133.4	15.12	33.30	12.58	27.70	12.52	27.60	15.96	35.20		
6	26.9	269.7	12	22.4	3/4	108.0	120.7	139.7	19.68	43.40	16.04	35.40	15.95	35.20	21.20	46.70		
8	31.8	330.2	12	25.4	7/8	120.7	139.7	152.4	30.48	67.20	24.50	54.00	24.37	53.70	34.60	76.30		
10	33.3	387.4	16	28.4	1	139.7	158.8	171.5	43.74	96.40	34.16	75.30	39.92	88.00	55.34	122.00		
12	39.6	450.9	16	31.8	1-1/8	146.1	171.5	184.2	64.41	142.00	51.26	113.00	58.70	129.40	78.90	174.00		
14	41.4	514.4	20	31.8	1-1/8	158.8	177.8	190.5	88.30	194.70	72.12	159.00	83.46	184.00	107.05	236.00		
16	44.5	571.5	20	35.1	1-1/4	165.1	190.5	203.2	112.94	249.00	90.40	199.30	106.14	234.00	139.25	307.00		
18	49.3	628.7	24	35.1	1-1/4	171.5	196.9	209.6	138.34	305.00	109.00	240.30	133.95	295.30	176.90	396.00		
20	54.1	685.8	24	35.	1-1/4	184.2	203.2	222.3	167.37	369.00	136.00	300.00	157.65	347.60	223.17	492.00		
24	63.5	812.8	24	41.1	1-1/2	203.2	228.6	254.0	234.41	519.00	204.00	449.70	240.40	530.00	342.00	754.00		

(4) Blind Flanges may be made with the same hub as that used for Slip-on Flanges or without hub.
(5) The gasket surface and backside (bearing surface for bolting) are made parallel within 1 degree. To accomplish parallelism, spot facing is carried out according to MSS SP-9, without reducing thickness (t).
(6) Depth of Socket (Y) is covered by ANSI B16.5 only is sizes through 3 inch, over 3 inch is at the manufacturer's option.

ANSI B16.5 Class 400 Flanges



SLIP–ON



WELDING NECK

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED					(www.creativeforged.com)							Unit : mm
Nominal Pipe Size	Outside Diam.	Diam of Base of Hub	O.D of Raised Face	Thick-ness	BORE				LENGTH THRU HUB			Diam. of Hub at Bevel
					Welding Neck	Slip-On	Lap Joint	Counter Bore Min.	Welding Neck	Slip-On And Threaded	Lap Joint	
	D	X	G	T	B1	B2	B3	B	T1	T2	T3	A
1/2	95	38.1	35.1	14.2	See Note(1) To be specified by purchaser.	22.4	22.9	23.6	52.3	22.4	22.4	21.3
3/4	117	47.8	42.9	15.7		27.7	28.2	29.0	57.2	25.4	25.4	26.7
1	124	53.8	50.8	17.5		34.5	35.1	35.8	62.0	26.9	26.9	33.5
1-1/4	133	63.5	63.5	20.6		43.2	43.7	44.5	66.5	28.4	28.4	42.2
1-1/2	155	69.9	73.2	22.4		49.5	50.0	50.5	69.9	31.8	31.8	48.3
2	165	84.1	91.9	25.4		62.0	62.5	63.5	73.2	36.6	36.6	60.5
2-1/2	191	100.1	104.6	28.4		74.7	75.4	76.2	79.2	41.1	41.1	73.2
3	210	117.3	127.0	31.8		90.7	91.4	92.2	82.6	46.0	46.0	88.9
3-1/2	229	133.4	139.7	35.1		103.4	104.1	104.9	85.9	49.3	49.3	101.6
4	254	146.1	157.2	35.1		116.1	116.8	117.6	88.9	50.8	50.8	114.3
5	279	177.8	185.7	38.1		143.8	144.5	144.5	101.6	53.8	53.8	141.2
6	318	206.2	215.9	41.1		170.7	171.5	171.5	103.1	57.2	57.2	168.4
8	381	260.4	269.7	47.8		221.5	222.3	222.3	117.3	68.3	68.3	219.2
10	445	320.5	323.9	53.8		276.4	277.4	276.4	124.0	73.2	101.6	273.1
12	521	374.7	381.0	57.2		327.2	328.2	328.7	136.7	79.2	108.0	323.9
14	584	425.5	412.8	60.5		359.2	360.2	360.4	149.4	84.1	117.3	355.6
16	648	482.6	469.9	63.5		410.5	411.2	411.2	152.4	93.7	127.0	406.4
18	711	533.4	533.4	66.5		461.8	462.3	462.0	165.1	98.6	136.7	457.2
20	775	587.2	584.2	69.9		513.1	514.4	512.8	168.1	101.6	146.1	508.0
24	914	701.5	692.2	76.2		616.0	616.0	614.4	174.8	114.3	158.8	606.6

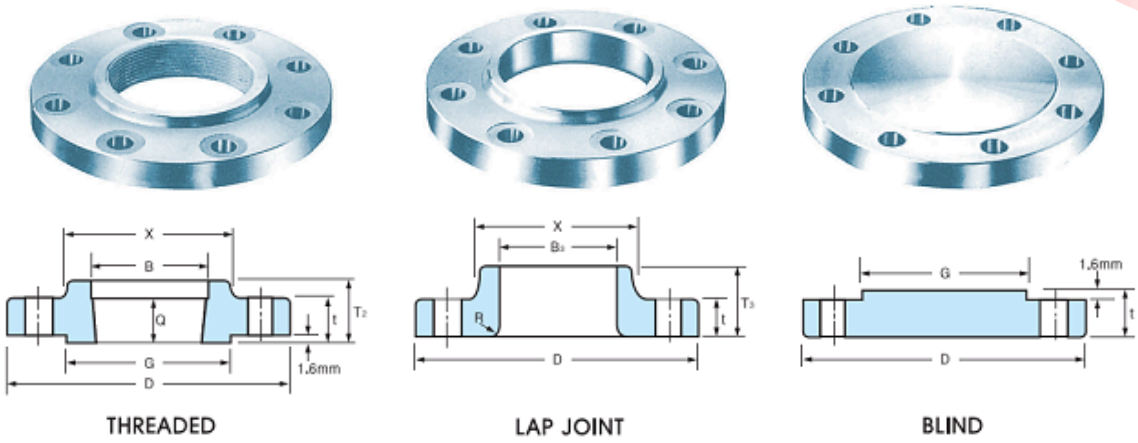
Notes:

(1) For the inside diameter of pipes (corresponding to 'Bore'(B1) of Welding Neck Flanges), refer to page 52.

(2) Class 400 flanges except Lap Joint will be furnished with 0.25″(6.35mm) raised face, which is not included in 'Thickness'(t) and 'Length through Hub'(T1),(T2).

(3) For Slip-on, Threaded and Lap Joint Flanges, the hubs can be shaped either vertical from base to top or tapered within the limits of 7 degrees.

ANSI B16.5 Class 400 Flanges

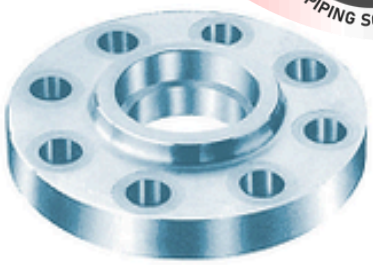


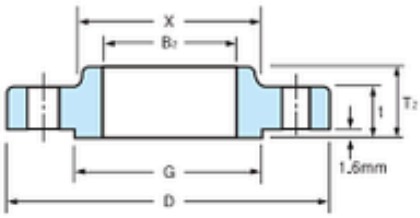
CREATIVE PIPING SOLUTIONS PRIVATE LIMITED (www.creativeforged.com) Unit : mm

Nominal Pipe Size	Radius of Fillet	Thread Length	DRILLING			BOLTING				APPROXIMATE WEIGHT							
							Stud Bolt Length			Welding Neck		Slip-on and Threaded		Lap Joint		Blind	
	R	Q	Bolt Circle Diam	Number of Holes	Diam of Holes	Diam of Bolts INCHES	0.25" Raised Face	Male Female TongueGroove	Ring Joint	Kg	lb	Kg	lb	Kg	lb	Kg	lb
1/2	3.0	15.7	66.5	4	15.7	1/2	76.2	69.9	76.2	1.36	3.00	0.91	2.00	0.80	1.80	0.91	2.00
3/4	3.0	15.7	82.6	4	19.1	5/8	88.9	82.6	88.9	1.59	3.50	1.36	3.00	1.36	3.00	1.40	3.00
1	3.0	17.5	88.9	4	19.1	5/8	88.9	82.6	88.9	1.81	4.00	1.59	3.50	1.59	3.50	1.70	3.80
1-1/4	4.8	20.6	98.6	4	19.1	5/8	95.3	88.9	95.3	2.50	5.50	2.10	4.60	2.04	4.50	2.27	5.00
1-1/2	6.4	22.4	114.3	4	22.4	3/4	108.0	101.6	108.0	3.63	8.00	3.10	6.80	2.95	6.50	3.40	7.50
2	7.9	28.4	127.0	8	19.1	5/8	108.0	101.6	108.0	4.54	10.00	3.63	8.00	3.63	8.00	4.40	9.70
2-1/2	7.9	31.8	149.4	8	22.4	3/4	120.7	114.3	120.7	6.35	14.00	5.44	12.00	4.99	11.00	6.80	15.00
3	9.7	35.1	168.1	8	22.4	3/4	127.0	120.7	127.0	8.17	18.00	7.26	16.00	6.35	14.00	8.90	19.60
3-1/2	9.7	39.6	184.2	8	25.4	7/8	139.7	127.0	139.7	11.80	26.00	9.53	21.00	9.08	20.00	13.17	29.00
4	11.2	36.6	200.2	8	25.4	7/8	139.7	139.7	139.7	13.61	30.00	10.89	24.00	9.98	22.00	14.40	31.70
5	11.2	42.9	235.0	8	25.4	7/8	146.1	139.7	146.1	17.69	39.00	14.07	31.00	13.15	29.00	19.50	43.00
6	12.7	46.0	269.7	12	25.4	7/8	152.4	146.1	152.4	22.23	49.00	19.98	44.00	16.78	37.00	27.67	61.00
8	12.7	50.8	330.2	12	28.4	1	171.5	165.1	171.5	35.38	78.00	30.40	67.00	26.16	59.00	45.36	100.00
10	12.7	55.6	387.4	16	31.8	1-1/8	190.5	184.2	190.5	49.89	110.00	41.28	91.00	43.09	95.00	68.00	150.00
12	12.7	60.5	450.9	16	35.1	1-1/4	203.2	196.9	203.2	72.57	160.00	59.02	130.00	68.95	152.00	98.00	216.00
14	12.7	63.5	514.4	20	35.1	1-1/4	209.6	203.2	209.6	105.69	233.00	81.72	180.00	95.25	210.00	131.66	290.00
16	12.7	68.3	571.5	20	38.1	1-3/8	222.3	215.9	222.3	133.30	294.00	106.69	235.00	127.00	280.00	167.00	368.00
18	12.7	69.9	628.7	24	38.4	1-3/8	228.6	222.3	228.6	158.90	350.30	129.39	285.30	156.49	345.00	206.57	455.40
20	12.7	73.2	685.8	24	41.1	1-1/2	241.3	235.0	247.7	193.00	425.50	152.00	335.00	190.51	420.00	261.00	575.40
24	12.7	82.6	812.8	24	47.8	1-3/4	266.7	260.4	279.4	281.48	620.50	231.54	510.50	278.96	615.00	395.00	870.8

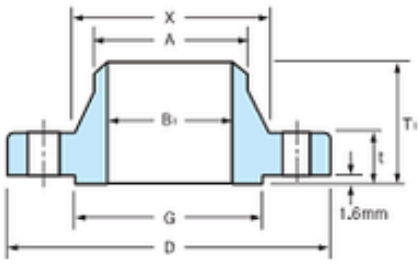
(4) Blind Flanges may be made with the same hub as that used for Slip-on Flanges or without hub.
(5) The gasket surface and backside (bearing surface for bolting) are made parallel within 1 degree. To accomplish parallelism, spot facing is carried out according to MSS SP-9, without reducing thickness (t).
(6) Dimensions of sizes 1/2″through 3-1/2″are the same as for Class 600 Flanges

ANSI B16.5 Class 600 Flanges

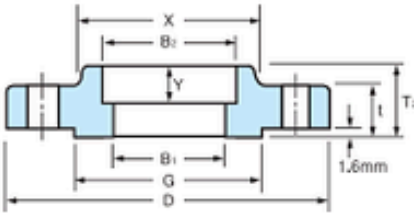




SLIP–ON



WELDING NECK



SOCKET WELDING

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED (www.creativeforged.com) **Unit : mm**

Nominal Pipe Size	Outside Diam.	Diam of Base of Hub	O.D of Raised Face	Thick-ness	BORE				LENGTH THRU HUB			Diam. of Hub at Bevel	Radius of Fillet	Thread Length
					Welding Neck Socket Welding	Slip-on Socket Welding	Lap Joint	Counter Bore Min.	Welding Neck	Slip-on Threaded Socket Welding	Lap Joint			
	D	X	G	T	B1	B2	B3	B	T1	T2	T3	A	R	Q
1/2	95	38.1	35.1	14.2	See Note(1) To be specified by purchaser.	22.4	22.9	23.6	52.3	22.4	22.4	21.3	3.0	15.7
3/4	117	47.8	42.9	15.7		27.7	28.2	29.0	57.2	25.4	25.4	26.7	3.0	15.7
1	124	53.8	50.8	17.5		34.5	35.1	35.8	62.0	26.9	26.9	33.5	3.0	17.5
1-1/4	133	63.5	63.5	20.6		43.2	43.7	44.5	66.5	28.4	28.4	42.2	4.8	20.6
1-1/2	155	69.9	73.2	22.4		49.5	50.0	50.5	69.9	31.8	31.8	48.3	6.4	22.4
2	165	84.1	91.9	25.4		62.0	62.5	63.5	73.2	36.6	36.6	60.5	7.9	28.4
2-1/2	191	100.1	104.6	28.4		74.7	75.4	76.2	79.2	41.1	41.1	73.2	7.9	31.8
3	210	117.3	127.0	31.8		90.7	91.4	92.2	82.6	46.0	46.0	88.9	9.7	35.1
3-1/2	229	133.4	139.7	35.1		103.4	104.1	104.9	85.9	49.3	49.3	101.6	9.7	39.6
4	273	152.4	157.2	38.1		116.1	116.8	117.6	101.6	53.8	53.8	114.3	11.2	41.1
5	330	189.0	185.7	44.5		143.8	144.5	144.5	114.3	60.5	60.5	141.2	11.2	47.8
6	356	222.3	215.9	47.8		170.7	171.5	171.5	117.3	66.5	66.5	168.4	12.7	50.8
8	419	273.1	269.7	55.6		221.5	222.3	222.3	133.4	76.2	76.2	219.2	12.7	57.2
10	508	342.9	323.9	63.5		276.4	277.4	276.4	152.2	85.9	111.3	273.1	12.7	65.0
12	559	400.1	381.0	66.5		327.2	328.2	328.7	155.4	91.9	117.3	323.9	12.7	69.9
14	603	431.8	412.8	69.9		359.2	360.2	360.4	165.1	93.7	127.0	355.6	12.7	73.2
16	686	495.3	469.9	76.2		410.5	411.2	411.2	177.8	106.4	139.7	406.4	12.7	77.7
18	743	546.1	533.4	82.6		461.8	462.3	462.0	184.2	117.3	152.4	457.2	12.7	79.2
20	813	609.6	584.2	88.9		513.1	514.4	512.8	190.5	127.0	165.1	508.0	12.7	82.6
24	940	717.6	692.2	101.6		616.0	616.0	614.4	203.2	139.7	184.2	609.6	12.7	91.9

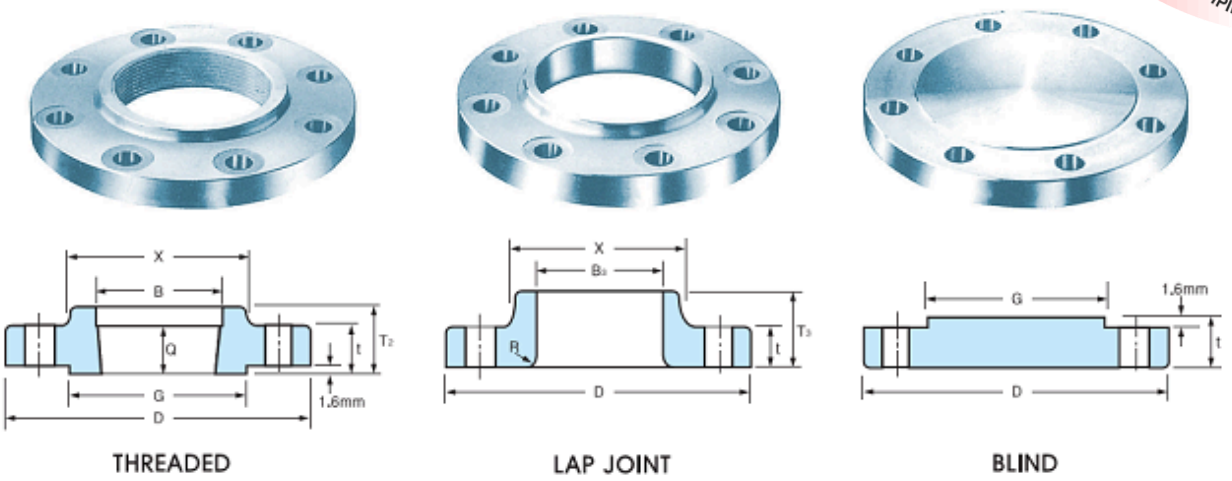
Notes:

(1) For the inside diameter of pipes (corresponding to 'Bore'(B1) of Welding Neck Flanges), refer to page 52.

(2) Class 600 flanges except Lap Joint will be furnished with 0.25″(6.35mm) raised face, which is not included in 'Thickness'(t) and 'Length through Hub'(T1),(T2).

(3) For Slip-on, Threaded, Lap Joint and Socket Welding Flanges, the hubs can be shaped either vertical from base to top or tapered within the limits of 7 degrees.

ANSI B16.5 Class 600 Flanges



THREADED LAP JOINT BLIND

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED								(www.creativeforged.com)								Unit : mm	
Nominal Pipe Size	Depth of Socket	DRILLING			BOLTING			APPROXIMATE WEIGHT									
						Stud Bolt Length		Welding Neck		Slip-on and Threaded		Lap Joint		Blind		Socket Welding	
	Y	Bolt Circle Diam	Number of Holes	Diam of Holes	Diam of Bolts INCHES	0.25" Raised Face	Male Female Tongue Groove	Ring Joint	Kg	lb	Kg	lb	Kg	lb	Kg	lb	Kg	lb
1/2	9.7	66.5	4	15.7	1/2	76.2	69.9	76.2	0.90	2.00	0.91	2.00	0.80	1.80	0.91	2.00	0.91	2.00
3/4	11.2	82.6	4	19.1	5/8	88.9	82.6	88.9	1.59	3.50	1.40	3.00	1.36	3.00	1.40	3.00	1.36	3.00
1	12.7	88.9	4	19.1	5/8	88.9	82.6	88.9	1.90	4.00	1.70	3.70	1.59	3.50	1.81	4.00	1.81	4.00
1-1/4	14.2	98.6	4	19.1	5/8	95.3	88.9	95.3	2.49	5.50	2.27	5.00	2.04	4.50	2.40	5.30	2.60	5.70
1-1/2	15.7	114.3	4	22.4	3/4	108.0	101.6	108.0	3.63	8.00	3.10	6.80	2.95	6.50	3.40	7.50	3.18	7.00
2	17.5	127.0	8	19.1	5/8	108.0	101.6	108.0	4.54	10.00	3.63	8.00	3.63	8.00	4.40	9.70	3.90	8.60
2-1/2	19.1	149.4	8	22.4	3/4	120.7	114.3	120.7	6.35	14.00	5.44	12.00	4.99	11.00	6.80	15.00	5.90	13.00
3	20.6	168.1	8	22.4	3/4	127.0	120.7	127.0	8.16	18.00	7.26	16.00	6.35	14.00	8.90	19.60	7.40	16.30
3-1/2	22.4	184.2	8	25.4	7/8	139.7	133.4	139.7	11.80	26.00	9.53	21.00	9.08	20.00	13.17	29.00	-	-
4	23.9	215.9	8	25.4	7/8	146.1	139.7	146.1	16.78	37.00	14.97	33.00	14.06	31.00	18.60	41.00	-	-
5	23.9	266.7	8	28.4	1	165.1	158.8	165.1	30.87	68.00	28.50	62.80	27.50	60.60	30.84	68.00	-	-
6	26.9	292.1	12	28.4	1	171.5	165.1	171.5	36.77	80.00	36.32	80.00	35.38	78.00	38.00	83.80	-	-
8	31.8	349.3	12	31.8	1-1/8	190.5	184.2	196.9	50.80	112.00	44.00	97.00	50.80	112.00	62.20	137.00	-	-
10	33.3	431.8	16	35.1	1-1/4	215.9	209.6	215.9	86.26	190.00	76.20	168.00	74.00	163.00	102.00	224.90	-	-
12	39.6	489.0	20	35.1	1-1/4	222.3	215.9	222.3	102.54	226.00	97.52	215.00	108.86	240.00	132.00	291.00	-	-
14	41.4	527.1	20	38.1	1-3/8	235.0	228.6	235.0	121.56	268.00	102.00	224.80	111.00	244.70	158.00	384.30	-	-
16	44.5	603.3	20	41.1	1-1/2	254.0	247.7	254.0	177.06	290.00	147.82	330.30	165.71	365.30	224.73	495.40	-	-
18	49.3	645.1	20	44.5	1-5/8	273.1	266.7	273.1	215.65	475.40	180.10	412.30	194.00	427.70	285.00	628.30	-	-
20	54.1	723.9	24	44.5	1-5/8	285.8	279.4	292.1	267.86	590.50	231.54	510.50	258.78	570.50	365.00	804.70	-	-
24	63.5	838.2	24	50.8	1-7/8	330.2	323.9	336.6	372.00	820.00	330.00	725.50	362.00	798.00	533.45	1176.0	-	-

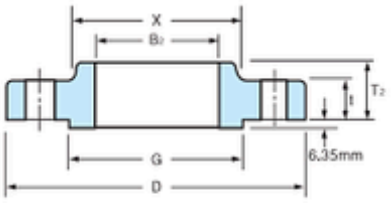
(4) Blind Flanges may be made with the same hub as that used for Slip-on Flanges or without hub.

(5) The gasket surface and backside (bearing surface for bolting) are made parallel within 1 degree. To accomplish parallelism, spot facing is carried out according to MSS SP-9, without reducing thickness (t).

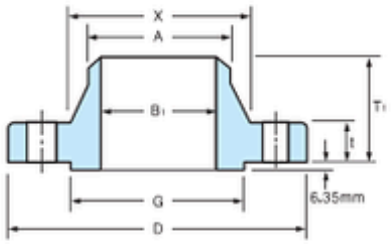
(6) Dimensions of sizes 1/2"through 3-1/2"are the same as for Class 400 Flanges

(7) Depth of Socket (Y) is covered by ANSI B16.5 only in sizes through 3 inch, over 3 inch is at the manufacturer's option.

ANSI B16.5 Class 900 Flanges



SLIP–ON



WELDING NECK

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED (www.creativeforged.com) **Unit : mm**

Nominal Pipe Size	Outside Diam.	Diam of Base of Hub	O.D of Raised Face	Thick-ness	BORE				LENGTH THRU HUB			Diam. of Hub at Bevel
					Welding Neck	Slip-On	Lap Joint	Counter Bore Min.	Welding Neck	Slip-On And Threaded	Lap Joint	
	D	X	G	T	B1	B2	B3	B	T1	T2	T3	A
1/2	121	38.1	35.1	22.4	See Note(1) To be specified by purchaser.	22.4	22.9	23.6	60.5	31.8	31.8	21.3
3/4	130	44.5	42.9	25.4		27.7	28.2	29.0	69.9	35.1	35.1	26.7
1	149	52.3	50.8	28.4		34.5	35.1	35.8	73.2	41.1	41.1	33.5
1-1/4	159	63.5	63.5	28.4		43.2	43.7	44.5	73.2	41.1	41.1	42.2
1-1/2	178	69.9	73.2	31.8		49.5	50.0	50.5	82.6	44.5	44.5	48.3
2	216	104.6	91.9	38.1		62.0	62.5	63.5	101.6	57.2	57.2	60.5
2-1/2	244	124.0	104.6	41.1		74.7	75.4	76.2	104.6	63.5	63.5	73.2
3	241	127.0	127.0	38.1		90.7	91.4	92.2	101.6	53.8	53.8	88.9
4	292	158.8	157.2	44.5		116.1	116.8	117.6	114.3	69.9	69.9	114.3
5	349	190.5	185.7	50.8		143.8	144.5	144.5	127.0	79.2	79.2	141.2
6	381	235.0	215.9	55.6		170.7	171.5	171.5	139.7	85.9	85.9	168.4
8	470	298.5	269.7	63.5		221.5	222.3	222.3	162.1	101.6	114.3	219.2
10	546	368.3	323.9	69.9		276.4	277.4	276.4	184.2	108.0	127.0	273.1
12	610	419.1	381.0	79.2		327.2	328.2	328.7	200.2	117.3	142.7	323.9
14	641	450.9	412.8	85.9		359.2	360.2	360.4	212.9	130.0	155.4	355.6
16	705	508.0	469.9	88.9		410.5	411.2	411.2	215.9	133.4	165.1	406.4
18	787	565.2	533.4	101.6		461.8	462.3	462.0	228.6	152.4	190.5	457.2
20	857	622.3	584.2	108.0		513.1	514.4	512.8	247.7	158.8	209.6	508.0
24	1041	749.3	692.2	139.7		616.0	616.0	614.4	292.1	203.2	266.7	606.6

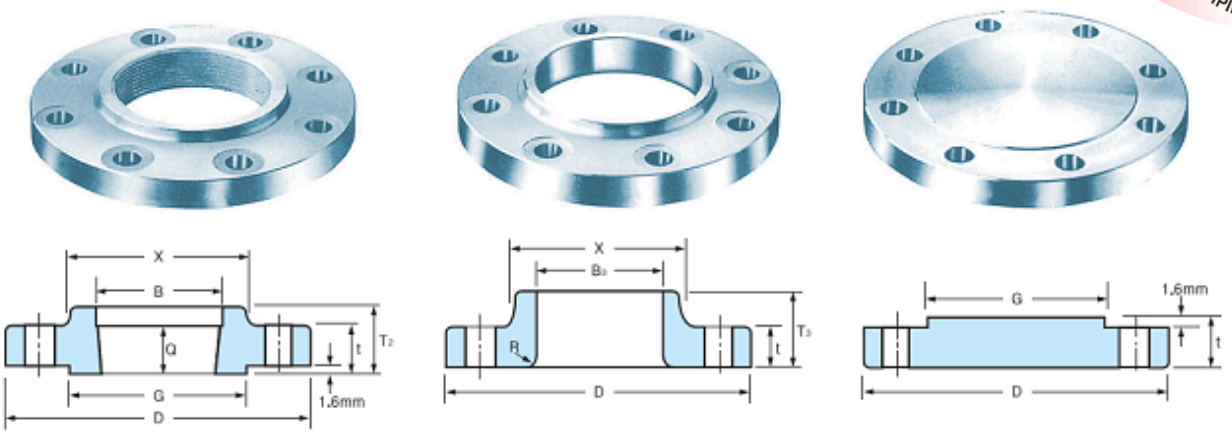
Notes:

(1) For the inside diameter of pipes (corresponding to 'Bore'(B1) of Welding Neck Flanges), refer to page 52.

(2) Class 900 flanges except Lap Joint will be furnished with 0.25"(6.35mm) raised face, which is not included in 'Thickness'(t) and 'Length through Hub'(T1),(T2).

(3) For Slip-on, Threaded and Lap Joint Flanges, the hubs can be shaped either vertical from base to top or tapered within the limits of 7 degrees.

ANSI B16.5 Class 900 Flanges



THREADED LAP JOINT BLIND

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED (www.creativeforged.com) **Unit : mm**

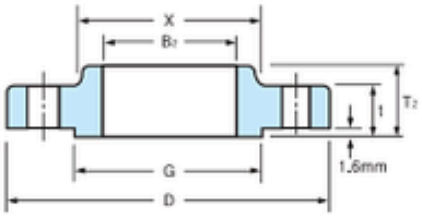
Nominal Pipe Size	Radius of Fillet	Thread Length	DRILLING			BOLTING				APPROXIMATE WEIGHT							
							Stud Bolt Length			Welding Neck		Slip-on and Threaded		Lap Joint		Blind	
	R	Q	Bolt Circle Diam	Number of Holes	Diam of Holes	Diam of Bolts INCHES	0.25" Raised Face	Male Female TongueGroove	Ring Joint	Kg	lb	Kg	lb	Kg	lb	Kg	lb
1/2	3.0	22.4	82.6	4	22.4	3/4	108.0	101.6	108.0	2.10	4.60	1.81	4.00	1.81	4.00	1.90	4.20
3/4	3.0	25.4	88.9	4	22.4	3/4	114.3	108.0	114.3	2.72	6.00	2.40	5.30	2.30	5.00	2.70	6.00
1	3.0	28.4	101.6	4	25.4	7/8	127.0	120.7	127.0	3.86	8.50	3.41	7.50	3.40	7.50	4.09	9.00
1-1/4	4.8	30.2	111.3	4	25.4	7/8	127.0	120.7	127.0	4.54	10.00	4.10	9.00	4.09	9.00	4.54	10.00
1-1/2	6.4	31.8	124.0	4	28.4	1	139.7	133.4	139.7	5.90	13.00	5.45	12.00	5.40	11.90	5.90	13.00
2	7.9	38.1	165.1	8	25.4	7/8	146.1	139.7	146.1	10.89	24.00	9.98	22.00	9.53	21.00	11.34	25.00
2-1/2	7.9	47.8	190.5	8	28.4	1	158.8	165.1	158.8	16.33	36.00	15.80	34.80	13.15	29.00	16.00	35.30
3	9.7	41.1	190.5	8	25.4	7/8	146.1	120.7	146.1	15.00	33.00	11.80	26.00	11.34	25.00	13.17	29.00
4	11.2	47.8	235.0	8	31.8	1-1/8	171.5	139.7	171.5	23.13	51.00	23.20	51.00	22.60	48.50	24.50	54.00
5	11.2	53.8	279.4	8	35.1	1-1/4	190.5	139.7	190.5	38.50	84.90	37.65	83.00	36.74	81.00	39.46	87.00
6	12.7	57.2	317.5	12	31.8	1-1/8	190.5	146.1	196.9	49.89	110.00	48.30	106.50	47.50	104.70	51.50	113.50
8	12.7	63.5	393.7	12	38.1	1-3/8	222.3	165.1	222.3	79.45	175.00	75.00	166.30	86.00	189.60	89.00	106.20
10	12.7	71.4	469.9	16	38.1	1-3/8	235.0	184.2	235.0	118.04	260.00	111.13	245.00	125.64	277.00	131.54	290.00
12	12.7	76.2	533.4	20	38.1	1-3/8	254.0	196.9	254.0	157.00	346.00	146.00	321.80	167.00	368.00	187.00	412.30
14	12.7	82.6	558.8	20	41.1	1-1/2	273.1	203.2	292.1	181.60	400.40	172.36	380.00	180.07	397.00	224.07	494.00
16	12.7	85.9	616.0	20	44.5	1-5/8	285.8	215.9	298.5	224.73	495.50	192.95	425.40	211.11	465.40	272.40	600.50
18	12.7	88.9	685.8	20	50.8	1-7/8	323.9	222.3	333.6	308.72	680.60	272.40	600.50	295.10	650.60	385.90	850.50
20	12.7	91.9	749.3	20	53.8	2	349.3	235.0	362.0	376.82	830.70	331.42	730.60	367.74	810.70	488.00	1076.00
24	12.7	101.6	901.7	20	66.5	2-1/2	438.2	260.4	457.2	685.00	1510.00	632.00	1393.30	700.00	1543.00	905.00	1995.00

(4) Blind Flanges may be made with the same hub as that used for Slip-on Flanges or without hub.

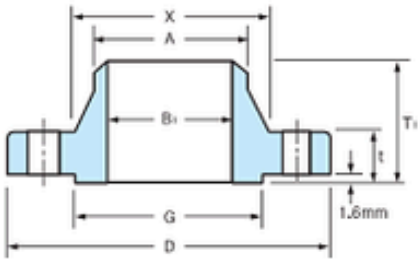
(5) The gasket surface and backside (bearing surface for bolting) are made parallel within 1 degree. To accomplish parallelism, spot facing is carried out according to MSS SP-9, without reducing thickness (t).

(6) Dimensions of sizes 1/2"through 21/2"are the same as for Class 1500 Flanges

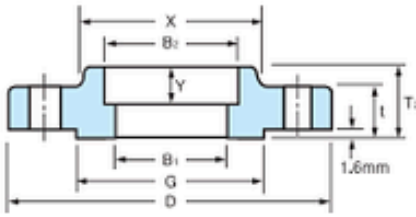
ANSI B16.5 Class 1500 Flanges



SLIP–ON



WELDING NECK



SOCKET WELDING

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED *(www.creativeforged.com)* **Unit : mm**

Nominal Pipe Size	Outside Diam.	Diam of Base of Hub	O.D of Raised Face	Thick-ness	BORE				LENGTH THRU HUB			Diam. of Hub at Bevel	Radius of Fillet	Thread Length
					Welding Neck Socket Welding	Slip-on Socket Welding	Lap Joint	Counter Bore Min.	Welding Neck	Slip-on Threaded Socket Welding	Lap Joint			
	D	X	G	T	B1	B2	B3	B	T1	T2	T3	A	R	Q
1/2	121	38.1	35.1	22.4	See Note(1) To be specified by purchaser.	22.4	22.9	23.6	60.5	31.8	31.8	21.3	3.0	22.4
3/4	130	44.5	42.9	25.4		27.7	28.2	29.0	69.9	35.1	35.1	26.7	3.0	25.4
1	149	52.3	50.8	28.4		34.5	35.1	35.8	73.2	41.1	41.1	33.5	3.0	28.4
1-1/4	159	63.5	63.5	28.4		43.2	43.7	44.5	73.2	41.1	41.1	42.2	4.8	30.2
1-1/2	178	69.9	73.2	31.8		49.5	50.0	50.5	82.6	44.5	44.5	48.3	6.4	31.8
2	216	104.6	91.9	38.1		62.0	62.5	63.5	101.6	57.2	57.2	60.5	7.9	38.1
2-1/2	244	124.0	104.6	41.1		74.7	75.4	76.2	104.6	63.5	63.5	73.2	7.9	47.8
3	267	133.4	127.0	47.8		90.7	91.4	92.2	117.3	73.2	73.2	88.9	9.7	50.8
4	311	162.1	157.2	53.8		116.1	116.8	117.6	124.0	90.4	90.4	114.3	11.2	57.2
5	375	196.9	185.7	73.2		143.8	144.5	144.5	155.4	104.6	104.6	141.2	11.2	63.5
6	394	228.6	215.9	82.6		170.7	171.5	171.5	171.5	119.1	119.1	168.4	12.7	69.9
8	483	292.1	269.7	91.9		221.5	222.3	222.3	212.9	142.7	142.7	219.2	12.7	76.2
10	584	368.3	323.9	108.0		276.4	277.4	276.4	254.0	158.8	177.8	273.1	12.7	84.1
12	673	450.9	381.0	124.0		327.2	328.2	328.7	282.4	180.8	218.9	323.9	12.7	91.9
14	749	495.3	412.8	133.4		359.2	360.2	360.4	298.5	-	241.3	355.6	12.7	-
16	826	552.3	469.9	146.1		410.5	411.2	411.2	311.2	-	260.4	406.4	12.7	-
18	914	596.9	533.4	162.1		461.8	462.3	462.0	327.2	-	276.4	457.2	12.7	-
20	984	641.4	584.2	177.8		513.1	514.4	512.8	355.6	-	292.1	508.0	12.7	-
24	1168	762.0	692.2	203.2		616.0	616.0	614.4	406.4	-	330.2	609.6	12.7	-

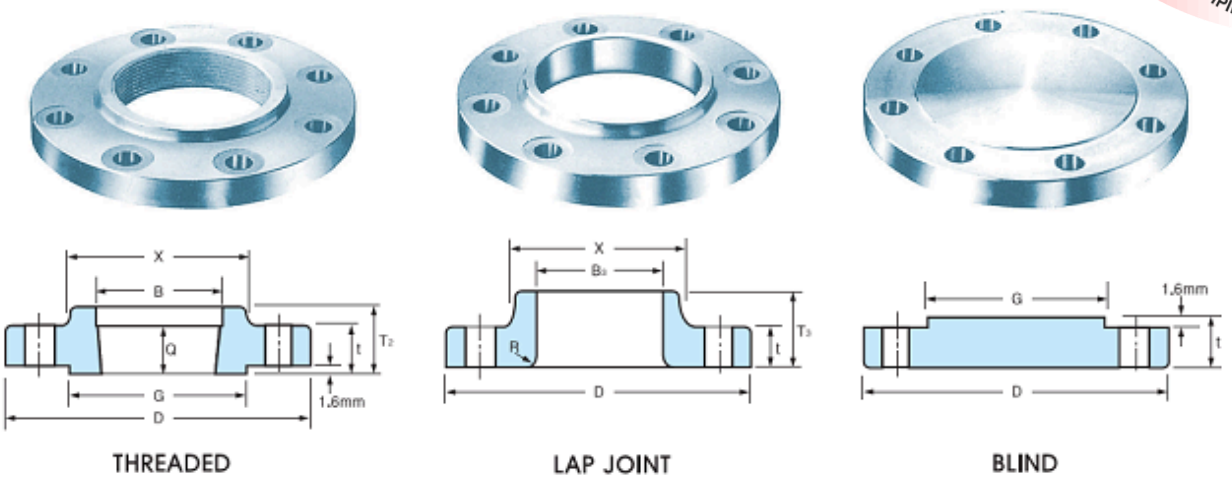
Notes:

(1) For the inside diameter of pipes (corresponding to 'Bore'(B1) of Welding Neck Flanges), refer to page 52.

(2) Class 1500 flanges except Lap Joint will be furnished with 0.25"(6.35mm) raised face, which is not included in 'Thickness'(t) and 'Length through Hub'(T1),(T2).

(3) For Slip-on, Threaded, Lap Joint and Socket Welding Flanges, the hubs can be shaped either vertical from base to top or tapered within the limits of 7 degrees.

ANSI B16.5 Class 1500 Flanges



CREATIVE PIPING SOLUTIONS PRIVATE LIMITED									(www.creativeforged.com)									Unit : mm
Nominal Pipe Size	Depth of Socket	DRILLING			BOLTING				APPROXIMATE WEIGHT									
						Stud Bolt Length			Welding Neck		Slip-on and Threaded		Lap Joint		Blind		Socket Welding	
	Y	Bolt Circle Diam	Number of Holes	Diam of Holes	Diam of Bolts INCHES	0.25" Raised Face	Male Female TongueGroove	Ring Joint	Kg	lb	Kg	lb	Kg	lb	Kg	lb	Kg	lb
1/2	9.7	82.6	4	22.4	3/4	108.0	101.6	108.0	2.10	4.60	1.80	4.00	1.80	4.00	1.90	4.00	1.81	4.00
3/4	11.2	88.9	4	22.4	3/4	114.3	108.0	114.3	2.72	6.00	2.27	5.00	2.27	5.00	2.72	6.00	2.81	6.20
1	12.7	101.6	4	25.4	7/8	127.0	120.7	127.0	3.86	8.50	3.40	7.50	3.40	7.50	4.08	9.00	3.61	8.0
1-1/4	14.2	111.3	4	25.4	7/8	127.0	120.7	127.0	4.54	10.00	4.10	9.00	4.09	10.80	4.30	9.50	4.99	11.00
1-1/2	15.7	124.0	4	28.4	1	139.7	133.4	139.7	5.90	13.00	5.45	12.00	5.40	11.90	5.90	13.00	6.76	14.90
2	17.5	165.1	8	25.4	7/8	146.1	139.7	146.1	10.89	24.00	10.50	23.00	9.53	21.00	11.30	25.00	10.89	24.00
2-1/2	19.1	190.5	8	28.4	1	158.8	152.4	158.8	16.34	36.00	15.80	34.80	13.15	29.00	16.00	35.30	16.34	36.00
3	20.6	203.2	8	31.8	1-1/8	177.8	171.5	177.8	21.79	48.00	21.77	48.00	17.24	38.00	21.79	48.00	-	-
4	23.9	241.3	8	35.1	1-1/4	196.9	190.5	196.9	31.30	69.00	31.00	68.40	29.00	63.90	33.11	73.00	-	-
5	23.9	292.1	8	41.1	1-1/2	247.7	241.3	247.7	59.02	130.00	58.80	129.60	54.00	119.00	60.00	132.30	-	-
6	26.9	317.5	12	38.1	1-3/8	260.4	254.0	266.7	74.91	165.00	74.00	163.00	62.00	136.70	75.00	165.30	-	-
8	31.8	393.7	12	44.5	1-5/8	292.1	285.8	323.9	123.83	273.00	117.73	258.00	129.73	236.00	136.98	302.0	-	-
10	33.3	482.6	12	50.8	1-7/8	336.6	330.2	342.9	205.93	454.00	197.49	435.40	220.19	485.40	229.97	507.00	-	-
12	39.6	471.5	16	53.8	2	374.7	368.3	387.4	306.00	674.60	264.00	582.00	286.02	630.60	316.00	696.70	-	-
14	41.4	635.0	16	60.5	2-1/4	406.4	400.1	425.5	416.00	917.00	-	-	404.06	890.80	421.00	928.00	-	-
16	44.5	704.9	16	66.5	2-1/2	444.5	438.2	469.9	567.50	1250.00	-	-	522.10	1151.0	559.00	1232.70	-	-
18	49.3	774.7	16	73.2	2-3/4	495.3	489.0	527.1	736.00	1622.60	-	-	669.65	1476.3	761.00	1677.70	-	-
20	54.1	831.9	16	79.2	3	539.8	533.4	565.2	929.00	2448.0	-	-	805.85	1776.6	976.00	2131.80	-	-
24	63.5	990.6	16	91.9	3-1/2	616.0	609.6	647.7	1504.0	3315.7	-	-	1285.55	2834.0	1568.0	3456.8	-	-

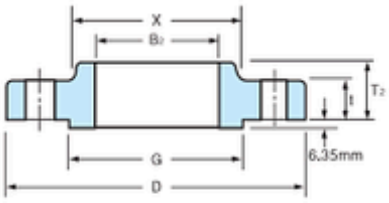
(4) Blind Flanges may be made with the same hub as that used for Slip-on Flanges or without hub.

(5) The gasket surface and backside (bearing surface for bolting) are made parallel within 1 degree. To accomplish parallelism, spot facing is carried out according to MSS SP-9, without reducing thickness (t).

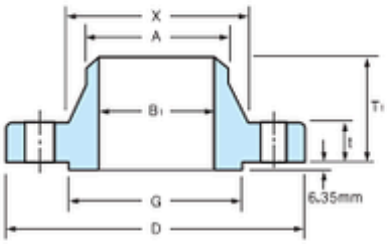
(6) Dimensions of sizes 1/2"through 21/2"are the same as for Class 900 Flanges

(7) Depth of Socket (Y) is covered by ANSI B16.5 only in sizes through 21/2 inch, over 21/2 inch is at the manufacturer's option.

ANSI B16.5 Class 2500 Flanges



SLIP–ON



WELDING NECK

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED	(www.creativeforged.com)	Unit : mm

Nominal Pipe Size	Outside Diam.	Diam of Base of Hub	O.D of Raised Face	Thickness	BORE				LENGTH THRU HUB			Diam. of Hub at Bevel	Radius of Fillet	Thread Length
					Welding Neck	Slip-on	Lap Joint	Counter Bore Min.	Welding Neck	Slip-on And Threaded	Lap Joint			
	D	X	G	T	B1	B2	B3	B	T1	T2	T3	A	R	Q
1/2	133	42.9	35.1	30.2	See Note(1) To be specified by purchaser.	22.4	22.9	23.6	73.2	39.6	39.6	21.3	3.0	28.4
3/4	140	50.8	42.9	31.8		27.7	28.2	29.0	79.2	42.9	42.9	26.7	3.0	31.8
1	159	57.2	50.8	35.1		34.5	35.1	35.8	88.9	47.8	47.8	33.5	3.0	35.1
1-1/4	184	73.2	63.5	38.1		43.2	43.7	44.5	95.3	52.3	52.3	42.2	4.8	38.1
1-1/2	203	79.2	73.2	44.5		49.5	50.0	50.5	111.3	60.5	60.5	48.3	6.4	44.5
2	235	95.3	91.9	50.8		62.0	62.5	63.5	127.0	69.9	69.9	60.5	7.9	50.8
2-1/2	267	114.3	104.6	57.2		74.7	75.4	76.2	142.7	79.2	79.2	73.2	7.9	57.2
3	305	133.4	127.0	66.5		90.7	91.4	92.2	168.1	91.9	91.9	88.9	9.7	63.5
4	356	165.1	157.2	76.2		116.1	116.8	117.6	190.5	108.0	108.0	114.3	11.2	69.9
5	419	203.2	185.7	91.9		143.8	144.5	144.5	228.6	130.0	130.0	141.2	11.2	76.2
6	483	235.0	215.9	108.80		170.7	171.5	171.5	273.1	152.4	152.4	168.4	12.7	82.6
8	552	304.8	269.7	127.0		221.5	222.3	222.3	317.5	177.8	177.8	219.2	12.7	95.3
10	673	374.7	323.9	165.1		276.4	277.4	276.4	419.1	228.6	228.6	273.1	12.7	108.0
12	762	441.5	381.0	184.2		327.2	328.2	328.7	463.6	254.0	254.0	323.9	12.7	120.7

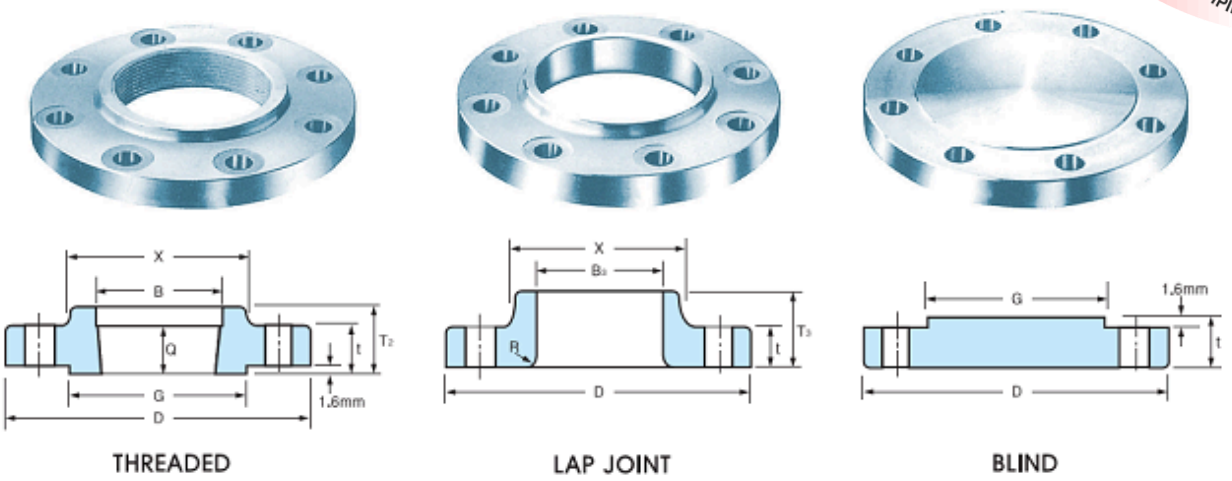
Notes:

(1) For the inside diameter of pipes (corresponding to 'Bore'(B1) of Welding Neck Flanges), refer to page 52.

(2) Class 2500 flanges except Lap Joint will be furnished with 0.25"(6.35mm) raised face, which is not included in 'Thickness'(t) and 'Length through Hub'(T1),(T2).

(3) For Slip-on, Threaded and Lap Joint Flanges, the hubs can be shaped either vertical from base to top or tapered within the limits of 7 degrees.

ANSI B16.5 Class 1500 Flanges



CREATIVE PIPING SOLUTIONS PRIVATE LIMITED								(www.creativeforged.com)						Unit : mm	
Nominal Pipe Size	DRILLING			BOLTING				APPROXIMATE WEIGHT							
	Bolt Circle Diam	Number of Holes	Diam of Holes	Diam of Bolts INCHES	Stud Bolt Length			Welding Neck		Slip-on and Threaded		Lap Joint		Blind	
					0.25" Raised Face	Male Female Tongue-Groove	Ring Joint	Kg	lb	Kg	lb	Kg	lb	Kg	lb
1/2	88.9	4	22.4	3/4	120.7	114.3	120.7	3.18	7.00	3.18	7.00	3.00	6.60	3.18	7.00
3/4	95.3	4	22.5	3/4	127.0	120.7	127.0	4.08	9.00	4.08	9.00	3.63	8.00	4.08	10.00
1	108.0	4	25.4	7/8	139.7	133.4	139.7	5.45	12.00	5.44	12.00	4.99	11.00	5.44	12.00
1-1/4	130.0	4	28.4	1	152.4	146.1	152.4	9.07	20.00	8.16	18.00	7.26	16.00	8.16	18.00
1-1/2	146.1	4	31.8	1-1/8	171.5	165.1	171.5	11.35	25.00	11.00	24.00	9.99	22.00	10.44	23.00
2	171.5	8	28.4	1	177.8	171.5	177.8	19.07	42.00	17.25	38.00	16.80	37.00	17.71	39.00
2-1/2	196.9	8	31.8	1-1/8	196.9	190.5	203.2	23.61	52.00	24.97	55.00	24.06	53.00	25.42	56.00
3	228.6	8	35.1	1-1/4	222.3	215.9	228.6	42.68	94.00	37.68	83.00	36.32	80.00	39.04	86.00
4	273.1	8	41.1	1-1/2	254.0	247.7	260.4	64.00	141.00	58.00	127.90	54.48	120.00	60.38	133.00
5	323.9	8	47.8	1-3/4	298.5	292.1	311.2	110.68	244.00	95.25	210.00	92.53	204.00	101.15	223.00
6	368.2	8	53.8	2	342.9	336.6	355.6	176.46	378.00	146.51	323.00	143.01	315.30	156.63	345.30
8	438.2	12	53.8	2	381.0	347.7	393.7	261.27	576.00	219.99	485.00	213.38	470.40	240.62	530.50
10	539.8	12	66.5	2-1/2	489.0	482.6	508.0	484.43	1068.00	419.57	925.00	408.60	900.80	465.36	1026.00
12	619.3	12	73.2	2-3/4	539.8	533.4	558.8	692.35	1526.30	590.20	1301.00	572.95	1263.00	664.06	1464.00

(4) Blind Flanges may be made with the same hub as that used for Slip-on Flanges or without hub.

(5) The gasket surface and backside (bearing surface for bolting) are made parallel within 1 degree. To accomplish parallelism, spot facing is carried out according to MSS SP-9, without reducing thickness (t).

(6) Class 2500 Slip-on Flanges are not covered by ANSI B16.5, slip-on flanges are at the manufacturer's option.

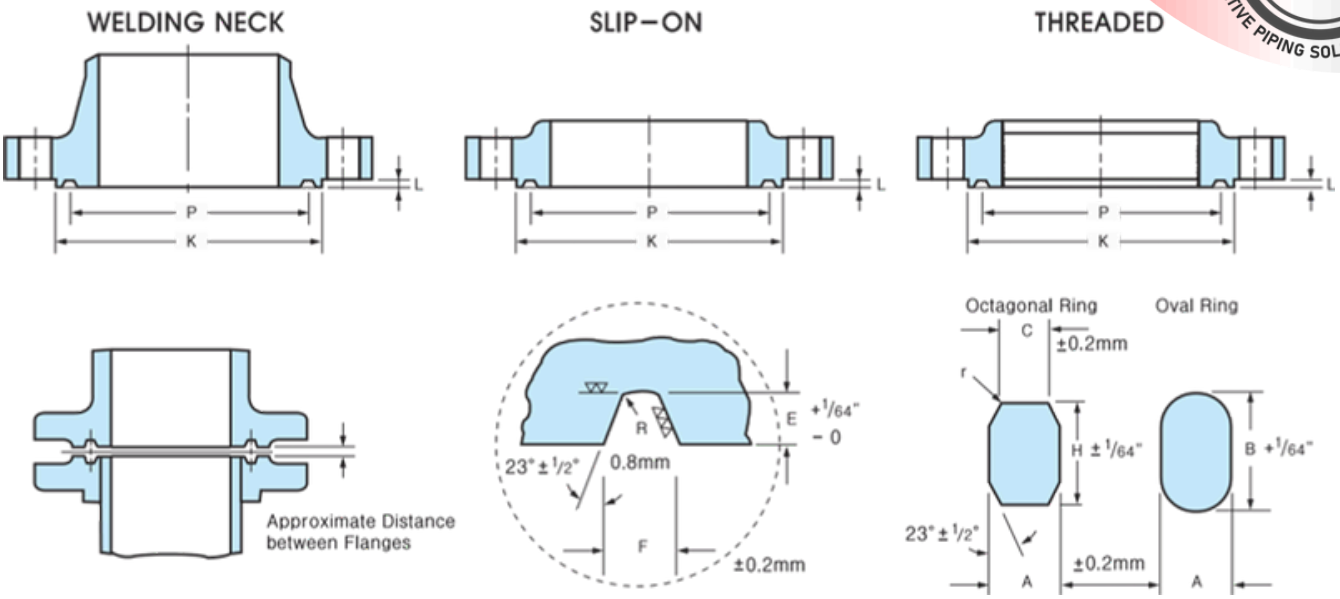
ANSI B16.5 FORGED FLANGES

RING JOINT FLANGES

- Class 150 Flanges
- Class 300, 400, 600 Flanges
- Class 900 Flanges
- Class 1500 Flanges
- Class 2500 Flanges

CPS
CREATIVE PIPING SOLUTIONS PVT. LTD.

ANSI B16.5 Class 150 Flanges



CREATIVE PIPING SOLUTIONS PRIVATE LIMITED (www.creativeforged.com) **Unit : mm**

Nominal Pipe Size	Pitch Diam. of Ring and Groove	Width of Ring	HEIGHT OF RING		Width of Flat on Octagonal Rings	Width of Groove	Depth of Groove	Diameter of Raised Face for Ring Joint or Lapped	Ring Number	Approximate Distance Between Flanges of Ring Joints When Ring is Compressed
			Oval	Octagonal						
	P	A	B	H	C	F	E (L*)	K (Min)		A
1	47.6	8.0	14.3	12.7	5.2	8.7	6.4	63.5	R15	4.1
1-1/4	57.2	8.0	14.3	12.7	5.2	8.7	6.4	73.2	R17	4.1
1-1/2	65.1	8.0	14.3	12.7	5.2	8.7	6.4	82.6	R19	4.1
2	82.6	8.0	14.3	12.7	5.2	8.7	6.4	101.6	R22	4.1
2-1/2	101.6	8.0	14.3	12.7	5.2	8.7	6.4	120.7	R25	4.1
3	114.3	8.0	14.3	12.7	5.2	8.7	6.4	133.4	R29	4.1
3-1/2	131.8	8.0	14.3	12.7	5.2	8.7	6.4	153.9	R33	4.1
4	149.2	8.0	14.3	12.7	5.2	8.7	6.4	171.5	R36	4.1
5	171.5	8.0	14.3	12.7	5.2	8.7	6.4	193.5	R40	4.1
6	193.7	8.0	14.3	12.7	5.2	8.7	6.4	218.9	R43	4.1
8	247.7	8.0	14.3	12.7	5.2	8.7	6.4	273.1	R48	4.1
10	304.8	8.0	14.3	12.7	5.2	8.7	6.4	330.2	R52	4.1
12	381.0	8.0	14.3	12.7	5.2	8.7	6.4	406.4	R56	4.1
14	396.9	8.0	14.3	12.7	5.2	8.7	6.4	425.5	R59	3.0
16	454.0	8.0	14.3	12.7	5.2	8.7	6.4	482.6	R64	3.0
18	517.5	8.0	14.3	12.7	5.2	8.7	6.4	546.1	R68	3.0
20	558.8	8.0	14.3	12.7	5.2	8.7	6.4	596.9	R72	3.0
24	673.1	8.0	14.3	12.7	5.2	8.7	6.4	711.2	R76	3.0

Notes:

Unless otherwise specified by the customer, Ring Type Joint Flanges will be furnished in accordance with these details.

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

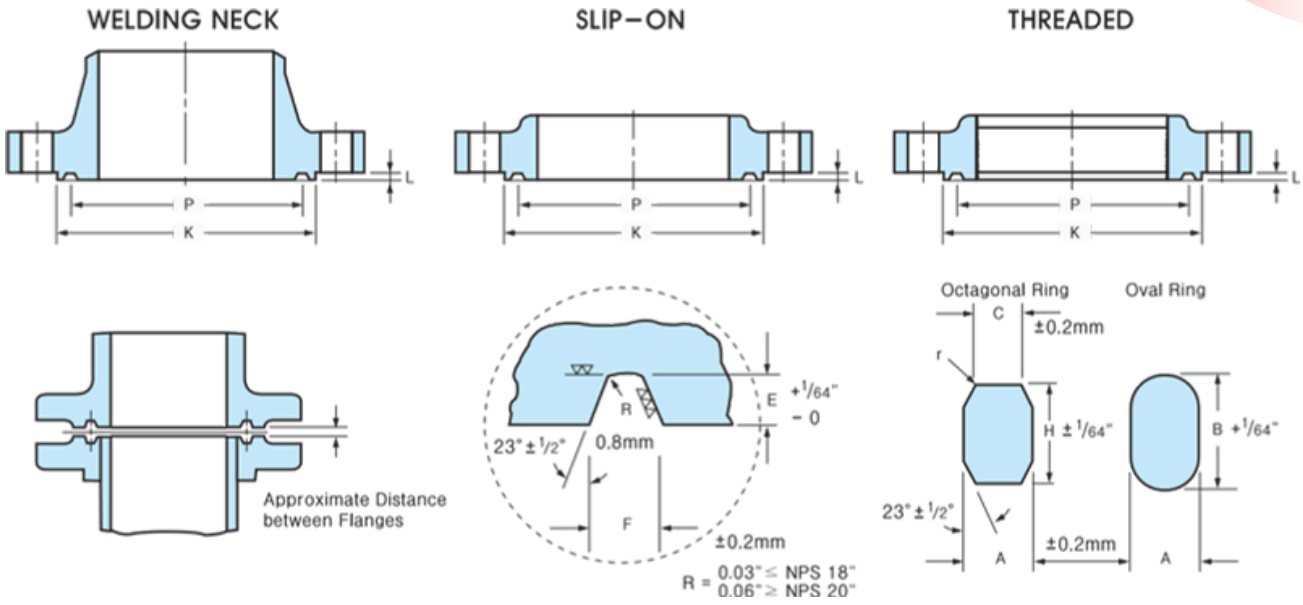
* Raised face “L”is equal to groove dimension “E”but is not subject to tolerances for “E”.

* A plus tolerance of 3/64 in, for heights B and H is permitted providing the variation in the height of any given ring does not exceed 1/64 in, throughout its entire circumference.

Dimension “R”is max.

Radius “r”is 1/16”for ring widths 7/8”and less and 3/32”for ring widths 1”(25.4mm) and over.

ANSI B16.5 Class 300-400-600 Flanges



RING JOINT FLANGES FACING DIMENSIONS

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED (www.creativeforged.com) **Unit : mm**

Nominal Pipe Size	Pitch Diam. of Ring and Groove	Width of Ring	HEIGHT OF RING		Width of Flat on Octagonal Rings	Width of Groove	Depth of Groove	Diameter of Raised Face for Ring Joint or Lapped	Ring Number	Approximate Distance Between Flanges of Ring Joints When Ring is Compressed		
			Oval	Octagonal								
	P	A	B	H	C	F	E (L*)	K (Min)		300#	400#	600#
1/2	34.1	6.4	11.1	9.5	4.3	7.1	5.6	50.8	R11	3.0	-	3.0
3/4	42.9	8.0	14.3	12.7	5.2	8.7	6.4	63.5	R13	4.1	-	4.1
1	50.8	8.0	14.3	12.7	5.2	8.7	6.4	69.9	R16	4.1	-	4.1
1-1/4	60.3	8.0	14.3	12.7	5.2	8.7	6.4	79.5	R18	4.1	-	4.1
1-1/2	68.3	8.0	14.3	12.7	5.2	8.7	6.4	90.4	R20	4.1	-	4.1
2	82.6	11.1	17.5	15.9	7.7	11.9	7.9	108.0	R23	5.6	-	4.8
2-1/2	101.6	11.1	17.5	15.9	7.7	11.9	7.9	127.0	R26	5.6	-	4.8
3	123.8	11.1	17.5	15.9	7.7	11.9	7.9	146.1	R31	5.6	-	4.8
3-1/2	131.8	11.1	17.5	15.9	7.7	11.9	7.9	158.8	R34	5.6	-	4.8
4	149.2	11.1	17.5	15.9	7.7	11.9	7.9	174.8	R37	5.6	5.6	4.8
5	181.0	11.1	17.5	15.9	7.7	11.9	7.9	209.6	R41	5.6	5.6	4.8
6	211.2	11.1	17.5	15.9	7.7	11.9	7.9	241.3	R45	5.6	5.6	4.8
8	269.9	11.1	17.5	15.9	7.7	11.9	7.9	301.8	R49	5.6	5.6	4.8
10	323.9	11.1	17.5	15.9	7.7	11.9	7.9	355.6	R53	5.6	5.6	4.8
12	381.0	11.1	17.5	15.9	7.7	11.9	7.9	412.8	R57	5.6	5.6	4.8
14	419.1	11.1	17.5	15.9	7.7	11.9	7.9	457.2	R61	5.6	5.6	4.8
16	4669.9	11.1	17.5	15.9	7.7	11.9	7.9	508.0	R65	5.6	5.6	4.8
18	533.4	11.1	17.5	15.9	7.7	11.9	7.9	574.8	R69	5.6	5.6	4.8
20	584.2	12.7	19.1	17.5	8.7	13.5	9.5	635.0	R73	5.6	5.6	4.8
24	692.2	15.9	22.2	20.7	10.5	16.7	11.1	49.3	R77	6.4	6.4	5.6

Notes:

Unless otherwise specified by the customer, Ring Type Joint Flanges will be furnished in accordance with these details.

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

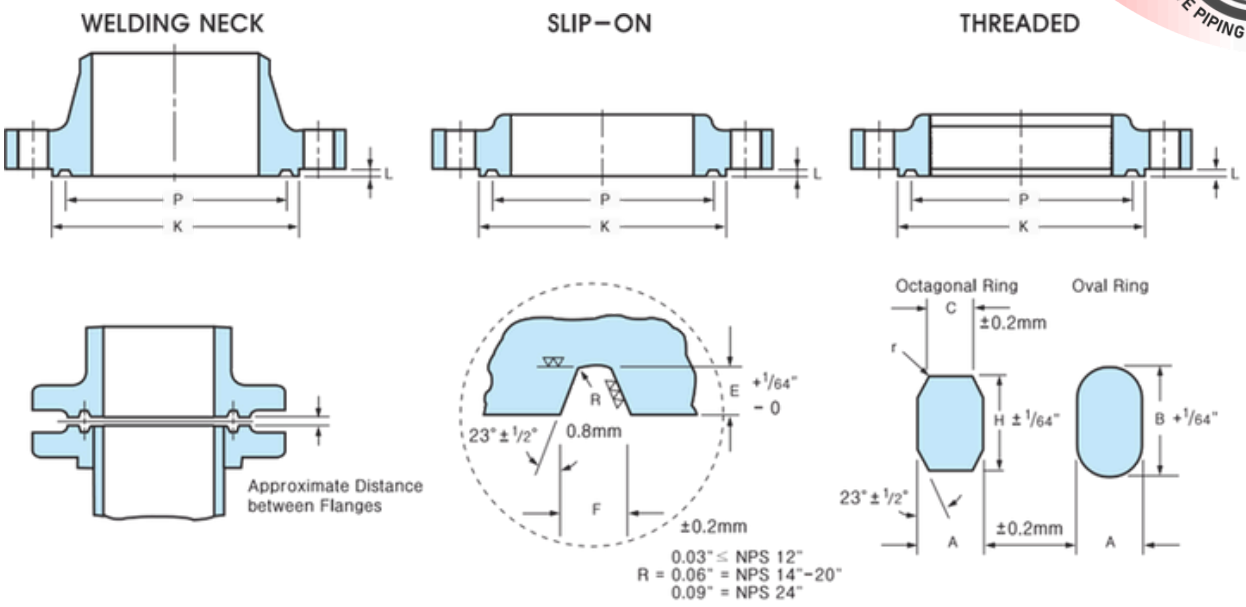
* Raised face “L”is equal to groove dimension “E”but is not subject to tolerances for “E”.

* A plus tolerance of 3/64 in, for heights B and H is permitted providing the variation in the height of any given ring does not exceed 1/64 in, throughout its entire circumference.

Dimension “R”is max.

Radius “r”is 1/16″for ring widths 7/8″and less and 3/32″for ring widths 1″(25.4mm) and over.

ANSI B16.5 Class 900 Flanges



RING JOINT FLANGES FACING DIMENSIONS

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED *(www.creativeforged.com)* **Unit : mm**

Nominal Pipe Size	Pitch Diam. of Ring and Groove	Width of Ring	HEIGHT OF RING		Width of Flat on Octagonal Rings	Width of Groove	Depth of Groove	Diameter of Raised Face for Ring Joint or Lapped	Ring Number	Approximate Distance Between Flanges of Ring Joints When Ring is Compressed
			Oval	Octagonal						
	P	A	B	H	C	F	E (L*)	K (Min)		
For size 2 1/2 and smaller, use Class 1500 Ring Joint Flanges										
3	123.8	11.1	17.5	15.9	7.7	11.9	7.9	155.4	R31	4.1
4	149.2	11.1	17.5	15.9	7.7	11.9	7.9	180.8	R37	4.1
5	181.0	11.1	17.5	15.9	7.7	11.9	7.9	215.9	R41	4.1
6	211.2	11.1	17.5	15.9	7.7	11.9	7.9	241.3	R45	4.1
8	269.9	11.1	17.5	15.9	7.7	11.9	7.9	307.8	R49	4.1
10	323.9	11.1	17.5	15.9	7.7	11.9	7.9	362.0	R53	4.1
12	381.0	11.1	17.5	15.9	7.7	11.9	7.9	419.1	R57	4.1
14	419.1	15.9	22.2	20.7	10.5	16.7	11.1	466.9	R62	4.1
16	4669.9	15.9	22.2	20.7	10.5	16.7	11.1	523.7	R66	4.1
18	533.4	19.1	25.4	23.8	11.1	19.8	12.7	593.9	R70	4.8
20	584.2	19.1	25.4	23.8	12.3	19.8	12.7	647.7	R74	4.8
24	692.2	25.4	33.4	31.8	17.3	27.0	15.9	771.7	R78	5.6

Notes:
Unless otherwise specified by the customer, Ring Type Joint Flanges will be furnished in accordance with these details.
The depth of groove is added to the minimum flange thickness.
* Raised face“ L”is equal to groove dimension“ E”but is not subject to tolerances for“ E”.
* A plus tolerance of 3/64 in, for heights B and H is permitted providing the variation in the height of any given ring does not exceed 1/64 in, throughout its entire circumference.
Dimension“ R”is max.
Radius“ r”is 1/16″for ring widths 7/8″and less and 3/32″for ring widths 1″(25.4mm) and over.
For size 2 1/2 and smaller, use Class 1500 Ring Joint Flanges
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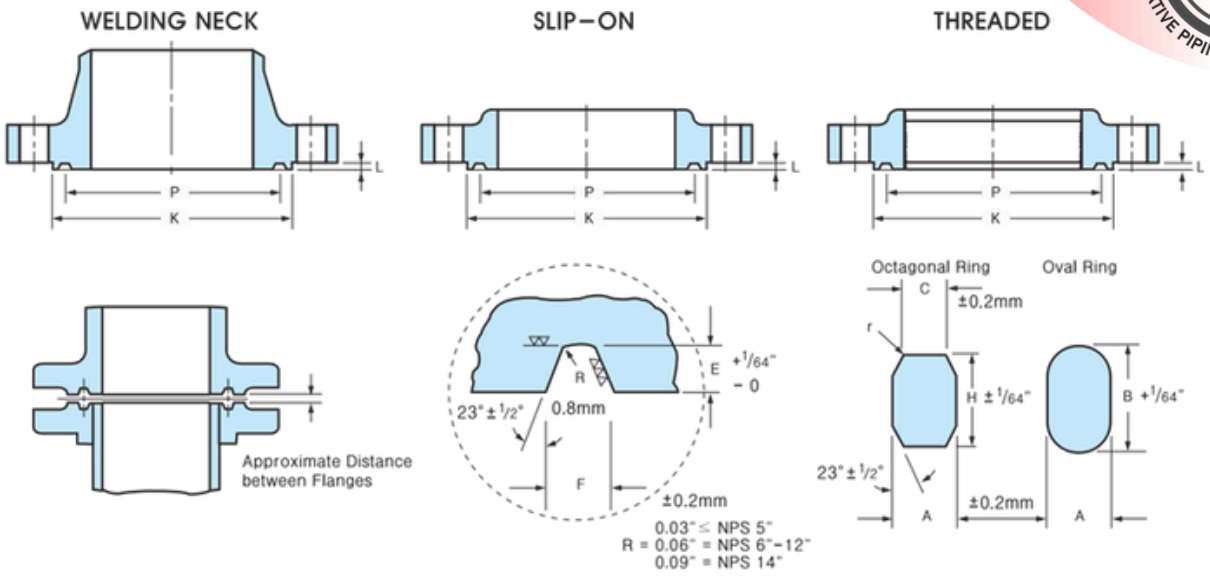
CREATIVE PIPING INDIA PRIVATE LIMITED

ANSI B16.5 Class 1500 Flanges



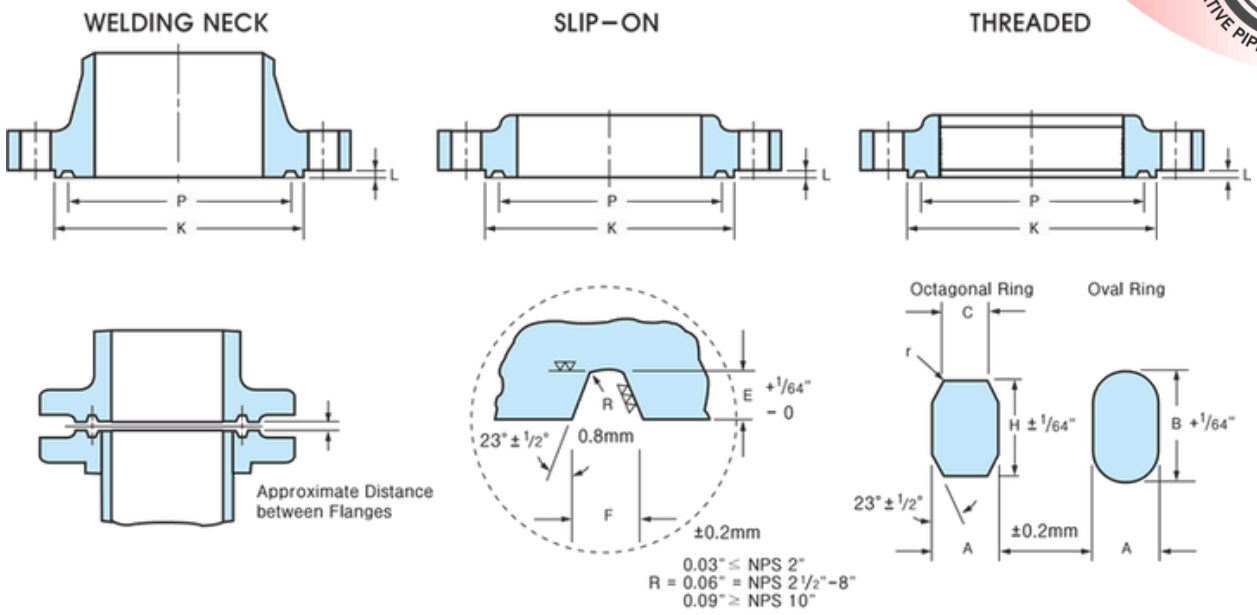
RING JOINT FLANGES FACING DIMENSIONS

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED (www.creativeforged.com) Unit : mm

Nominal Pipe Size	Pitch Diam. of Ring and Groove	Width of Ring	HEIGHT OF RING		Width of Flat on Octagonal Rings	Width of Groove	Depth of Groove	Diameter of Raised Face for Ring Joint or Lapped	Ring Number	Approximate Distance Between Flanges of Ring Joints When Ring is Compressed
			Oval	Octagonal						
	P	A	B	H	C	F	E (L*)	K (Min)		
1/2	39.7	8.0	14.3	12.7	5.2	8.7	6.4	60.5	R12	4.1
3/4	44.5	8.0	14.3	12.7	5.2	8.7	6.4	66.8	R14	4.1
1	50.8	8.0	14.3	12.7	5.2	8.7	6.4	71.4	R16	4.1
1-1/4	60.3	8.0	14.3	12.7	5.2	8.7	6.4	81.0	R18	4.1
1-1/2	68.3	8.0	14.3	12.7	5.2	8.7	6.4	92.2	R20	4.1
2	95.3	11.1	17.5	15.9	7.7	11.9	7.9	124.0	R24	3.0
2-1/2	108.0	11.1	17.5	15.9	7.7	11.9	7.9	136.7	R27	3.0
3	136.5	11.1	17.5	15.9	7.7	11.9	7.9	168.4	R35	3.0
4	161.9	11.1	17.5	15.9	7.7	11.9	7.9	193.8	R39	3.0
5	193.7	11.1	17.5	15.9	7.7	11.9	7.9	228.6	R44	3.0
6	211.2	12.7	19.1	17.5	8.7	13.5	9.5	247.7	R46	3.0
8	269.9	15.9	22.2	20.7	10.5	16.7	11.1	317.5	R50	4.1
10	323.9	15.9	22.2	20.7	10.5	16.7	11.1	371.6	R54	4.1
12	381.0	22.2	28.6	27.0	14.8	23.0	14.3	438.2	R58	4.8
14	419.1	25.4	33.4	31.8	17.3	27.0	15.9	489.0	R63	5.6
16	469.9	28.6	36.5	34.9	19.8	30.2	17.5	546.1	R67	7.9
18	533.4	28.6	36.5	34.9	19.8	30.2	17.5	612.9	R71	7.9
20	584.2	31.8	39.7	38.1	22.3	33.4	17.5	673.1	R75	9.7
24	692.2	34.9	44.5	41.3	24.8	36.5	20.6	793.8	R79	11.2

Notes:

Unless otherwise specified by the customer, Ring Type Joint Flanges will be furnished in accordance with these details.
The depth of groove is added to the minimum flange thickness.
* Raised face“ L”is equal to groove dimension“ E”but is not subject to tolerances for“ E”.
* A plus tolerance of 3/64 in, for heights B and H is permitted providing the variation in the height of any given ring does not exceed 1/64 in, throughout its entire circumference.
Dimension“ R”is max.
Radius“ r”is 1/16″for ring widths 7/8″and less and 3/32″for ring widths 1″(25.4mm) and over.



RING JOINT FLANGES FACING DIMENSIONS

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED *(www.creativeforged.com)* **Unit : mm**

Nominal Pipe Size	Pitch Diam. of Ring and Groove	Width of Ring	HEIGHT OF RING		Width of Flat on Octagonal Rings	Width of Groove	Depth of Groove	Diameter of Raised Face for Ring Joint or Lapped	Ring Number	Approximate Distance Between Flanges of Ring Joints When Ring is Compressed
			Oval	Octagonal						
	P	A	B	H	C	F	E (L*)	K (Min)		
1/2	42.9	8.0	14.3	12.7	5.2	8.7	6.4	65.0	R13	4.1
3/4	50.8	8.0	14.3	12.7	5.2	8.7	6.4	73.2	R16	4.1
1	60.3	8.0	14.3	12.7	5.2	8.7	6.4	82.6	R18	4.1
1-1/4	72.2	11.1	17.5	15.9	7.7	11.9	7.9	101.6	R21	3.0
1-1/2	82.6	11.1	17.5	15.9	7.7	11.9	7.9	114.3	R23	3.0
2	101.6	11.1	17.5	15.9	7.7	11.9	7.9	133.4	R26	3.0
2-1/2	111.1	12.7	19.1	17.5	8.7	13.5	9.5	149.4	R28	3.0
3	127.0	12.7	19.1	17.5	8.7	13.5	9.5	168.4	R32	3.0
4	157.2	15.9	22.2	20.7	10.5	16.7	11.1	203.2	R38	4.1
5	190.5	19.1	25.4	23.8	12.3	19.8	12.7	241.3	R42	4.1
6	228.6	19.1	25.4	23.8	12.3	19.8	12.7	279.4	R47	4.1
8	279.4	22.2	28.6	27.0	14.8	23.0	14.3	339.9	R51	4.8
10	342.9	28.6	36.5	34.9	19.8	30.2	17.5	425.5	R55	6.4
12	406.4	31.8	39.7	38.1	22.3	33.4	17.5	495.3	R60	7.9

Notes:

Unless otherwise specified by the customer, Ring Type Joint Flanges will be furnished in accordance with these details.

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

* Raised face“ L”is equal to groove dimension“ E”but is not subject to tolerances for“ E”.

* A plus tolerance of 3/64 in, for heights B and H is permitted providing the variation in the height of any given ring does not exceed 1/64 in, throughout its entire circumference.

Dimension“ R”is max.

Radius“ r”is 1/16″for ring widths 7/8″and less and 3/32″for ring widths 1″(25.4mm) and over.

REDUCING FLANGES

THREADED AND SLIP-ON TYPES

HUB - For hub diameter (X) and height of hub above the back of the flange (N) refer to the list of standard flange specification of the same type and pressure and use the dimensions of a flange **one nominal pipe size smaller** than the nominal pipe size from which the reduction is being made.

FLANGE O.D., DRILLING TEMPLATE AND THICKNESS - Outside diameter, drilling template and flange thickness Q(see note on FACINGS) agree with the dimensions of a standard flange of the nominal pipe size from which the reduction is being made.

FACING - Facing dimensions also agree with the dimensions of a standard flange of the nominal pipe size from which the reduction is being made.
150 lb. and 300 lb. forged steel Threaded, Slip-On, Welding Neck and Blind flanges are furnished with American Standard 1/16”raised face, which is included in flange thickness. Q. 400 lb., 600 lb., 900 lb., 1500 lb. and 2500 lb. flanges are supplied with American Standard 1/4”raised face which is not included in flange thickness (Q)

BORE OR TAPPING - The bore or tapping is machined to accept a pipe of the nominal pipe size to which the reduction is being made. For reduction to sizes smaller than shown, BLIND FLANGES are tapped or bored to specified nominal pipe size.

EXAMPLE :
A 300 lb. threaded flange used in reducing from a 6″(152.4mm) to 3″(76.2mm) nominal pipe size should be specified as a 3″(76.2mm)×121/2″-300 lb. Threaded Reducing Flange. It would have the following dimensional characteristics:

Diameter of Hub (X) - 7″(177.8mm).
Height of Hub (N) - 5/8″

Hub dimensions are those of a 5″(127.0mm), 300 lb. Standard flange.
Outside Diameter - 12 1/2″
Thickness (Q) - 17/16″
Raised face - 1/16″

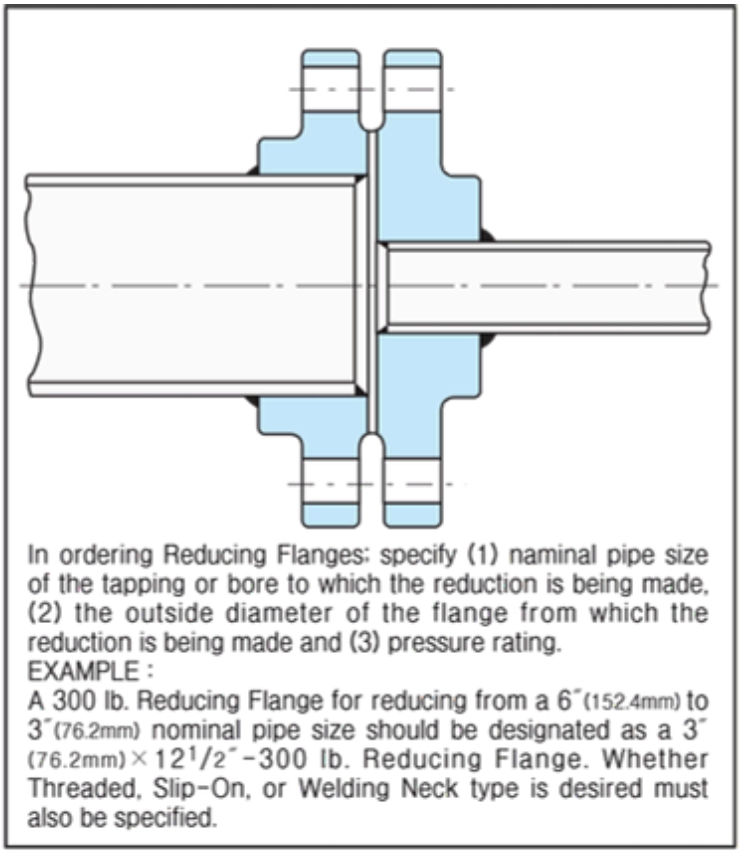
O.D., Flange Thickness Q., Raised Face and Drilling Template are those of a 6″(152.4mm), 300 lb. Standard flange.Tapping - 3″(76.2mm) I. P. S.

Flange is tapped to the nominal pipe size to which reduction is being made.

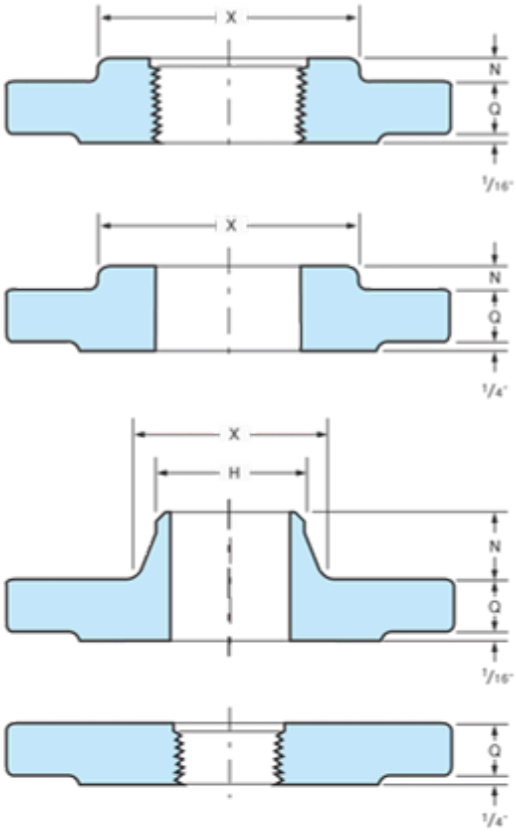
WELDING NECK TYPES
On Reducing Welding Neck Flanges, which are made only on special order, the hub dimensions agree with the hub dimensions of standard flanges of the size to which reduction is being made. Other flange dimensions, including the drilling template, agree with the standard dimensions of the size from which the reduction is being made.

REDUCING FLANGES

THREADED - SLIP-ON - WELDING NECK



In ordering Reducing Flanges: specify (1) naminal pipe size of the tapping or bore to which the reduction is being made, (2) the outside diameter of the flange from which the reduction is being made and (3) pressure rating.
EXAMPLE :
A 300 lb. Reducing Flange for reducing from a 6″(152.4mm) to 3″(76.2mm) nominal pipe size should be designated as a 3″ (76.2mm) × 12 1/2″ -300 lb. Reducing Flange. Whether Threaded, Slip-On, or Welding Neck type is desired must also be specified.



ANSI B16.5 FORGED FLANGES

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED (www.creativeforged.com) **Unit : mm**

Nominal Pipe Size to Which Reduction is to be Made to be Specified by Purchaser	Nominal Flange	OUTSIDE DIAMETER OF FLANGE FROM WHICH REDUCTION IS BEING MADE							Smallest Size Bore or Tapping Requiring Hub Flange
		150 LB Standard	300 LB Standard	400 LB Standard	600 LB Standard	900 LB Standard	1500 LB Standard	2500 LB Standard	
	3/4	98.4	117.5	117.5	117.5	130.2	130.2	139.7	12.7
	1	108.0	123.8	123.8	123.8	149.2	149.2	158.8	12.7
	1-1/4	117.5	133.4	133.4	133.4	158.8	158.8	184.2	12.7
	1-1/2	127.0	155.6	155.6	155.6	177.5	177.5	203.2	12.7
	2	152.4	165.1	165.1	165.1	215.9	215.9	235.0	25.4
	2-1/2	177.8	190.5	190.5	190.5	244.5	244.5	266.7	31.8
	3	190.5	209.6	209.6	209.6	241.3	266.7	304.8	31.8
	3-1/2	215.9	228.6	228.6	228.6	-	-	-	38.1
	4	228.6	254.0	254.0	273.1	292.1	311.2	355.6	38.1
	5	254.0	279.0	279.4	330.2	349.3	374.7	419.1	38.1
	6	279.4	317.5	317.5	355.6	381.0	393.7	482.6	63.5
	8	342.9	381.0	381.0	419.1	469.9	482.6	552.5	76.2
	10	406.4	444.5	444.5	508.0	546.1	584.2	673.1	88.9
	12	482.6	520.7	520.7	558.8	609.6	673.1	762.1	88.9
	14	533.4	584.2	584.2	603.3	641.4	-	-	88.9
	16	596.9	647.7	647.7	685.8	704.9	-	-	101.6
	18	635.0	711.2	711.2	743.0	787.4	-	-	108.0
	20	698.5	774.7	774.7	812.8	857.3	-	-	101.6
	24	812.8	914.4	914.4	939.8	1041.1	-	-	101.6

Notes:
For reductions to sizes smaller than shown, blind flanges are tapped or bored for specified nominal pipe size.

ANSI B16.5 FORGED FLANGES

ORIFICE FLANGES

- ANSI ORIFICE FLANGES
- Class 300 Flanges
- Class 400 Flanges
- Class 600 Flanges
- Class 900,1500 Orifice Flanges
- Class 2500 Orifice Flanges

CREATIVE PIPING SOLUTIONS PVT. LTD.

ANSI ORIFICE FLANGE

(ANSI B16.36) FORGED FLANGES)

ORIFICE FLANGES are widely used in conjunction with orifice meters for measuring the rate of flow of liquids and gases. They are basically the same as standard welding neck, slip-on and screwed flanges except for the provision of radial, tapped holes in the flange ring for meter connections and additional bolts to act as jack screws to facilitate separating the flanges for inspection or replacement of the orifice plate.

NOTES:

1. JACK SCREW PROVISION

- (1) Each flange shall have a machine bolt mounted in a hole drilled on the flange centerline at 90 deg. from the pressure taps, for use as a jackscrew. Machine bolt shall be regular, with one heavy hex. nut.
- (2) A slot shall be provided in the flange 0.06 in. (1.6mm) wider than the width across flats of the nut. The depth of the slot shall admit the nut so that there is no interference with the joining of the flanges when bolted together without orifice plate.

2. PRESSURE TAPS

- (1) Each orifice flange is provided with two pressure tap holes extending radially from the outside diameter of the flange to the inside diameter of the flange. Corner taps may be used on NPS 11/2 and smaller if space permits. Each pressure tap hole shall be equipped with a pipe plug.
- (2) The 0.94 in (23.8mm) locating dimension for raised face and 0.75 in. (19.1mm) for ring joint shall be measured at the bore.
- (3) Each pressure tap hole shall be equipped with a pipe plug.

3. FACING

The finish of Contact Faces Shall Conform To The Requirements Of ASME / ANSI B16.5

4. FLANGE THREADS

- (1) Threaded flanges shall have an American National Standard taper pipe thread conforming to ANSI B2.1.
- (2) The thread shall be concentric with the axis of the flange and variations in alignment shall not exceed 0.06(1.6mm) in. per foot.
- (3) The flanges are made with counterbores at the back of the flange and the threads shall be chamfered to the diameter of the counterbore at an angle of approximately 45 degrees with the axis of the thread to afford easy entrance in making a joint. The chamfer shall be concentric with the thread.
- (4) In order to permit the pipe to be inserted to the face of the flange, the threads should have full root diameters through to the face of the flange, or shall have a counterbore at face of the flange.
- (5) The gaging notch of the working gage shall come flush with the bottom of the chamfer in all threaded flanges and shall be considered as being the intersection of the chamfer cone and the pitch cone of the thread. This depth of chamfer is approximately equal to 1/2 of the pitch of the thread.
- (6) The maximum allowable thread variation is one turn large or small from the gaging notch.

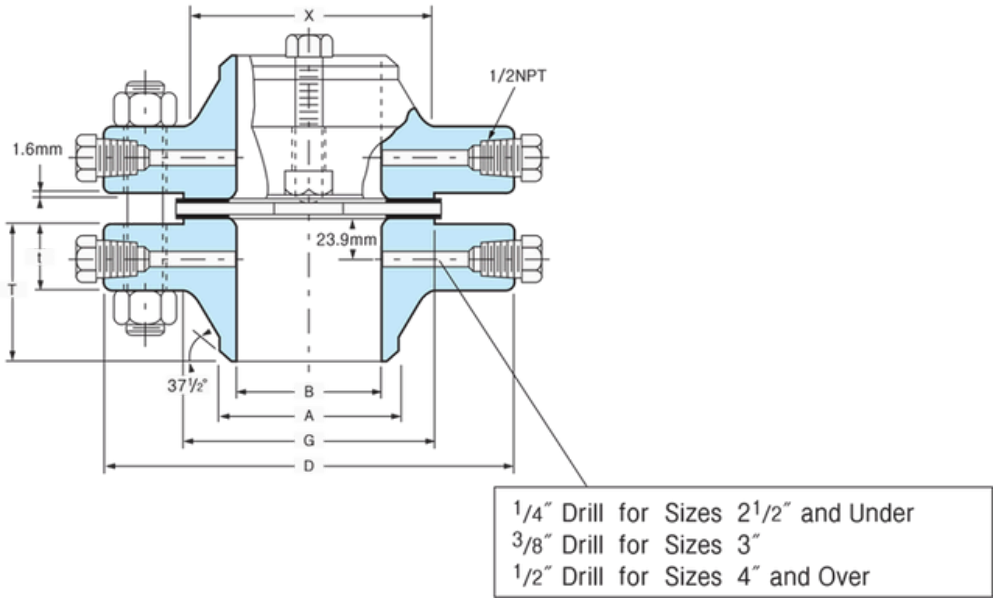
5. TOLERANCES

Tolerances on all dimensions shall be as shown in ANSI B16.5 except for those shown below.

- (1) Tolerance on location of center of pressure tap hole from flange face shall be: a. Flanges smaller than nominal size 4±0.02 in (0.5mm) b. Flanges nominal size 4 and larger ±0.03 in. (0.8mm)
- (2) Bore diameter tolerance (welding neck flanges only) is ±0.5% of naminal value.

CLASS 300 ORIFICE FLANGES

WELDING NECK (RAISED FACE)



ANSI B16.36 FORGED FLANGES

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED *(www.creativeforged.com)* **Unit : mm**

Nominal Pipe Size	Outside Diam. of flange	THICKNESS OF FLANGE (t)	Diam. of Hub at Base	Diam. of Raised Face	Diam. of Hub at Bevel	LENGTH THRU HUB (T)		BORE (B)	
						Welding Neck	Slip-on & Threaded	Welding Neck	Slip-on
	D	Raised Face	X	G	A	Raised Face	Raised Face		
1	124	38.1	53.8	50.8	33.5	82.6	47.8	26.7	34.5
1-1/4	133	38.1	63.5	63.5	42.2	84.1	46.0	35.1	43.2
1-1/2	155	38.1	69.9	73.2	48.3	85.9	47.8	40.9	49.5
2	165	38.1	84.1	91.9	60.5	85.9	49.3	52.6	62.0
2-1/2	191	38.1	100.1	104.6	73.2	88.9	50.8	62.7	74.7
3	210	38.1	117.3	127.0	88.9	88.9	52.3	78.0	90.7
4	254	38.1	146.1	157.2	114.3	91.9	53.8	102.4	116.1
5	279	38.1	177.8	185.7	141.2	101.6	53.8	128.3	143.8
6	318	38.1	206.4	215.9	168.4	100.1	53.8	154.2	170.7
8	381	41.1	260.4	269.7	219.2	111.3	62.0	202.7	221.5
10	445	47.8	320.5	323.9	273.1	117.3	66.5	254.5	276.4
12	521	50.8	374.7	381.0	323.9	130.0	73.2	304.8	327.2
14	584	53.8	425.5	412.8	355.6	142.7	76.2	336.6	359.2
16	648	57.2	482.6	469.9	406.4	146.1	82.6	387.4	410.5
18	711	60.5	533.4	533.4	457.2	158.8	88.9	438.2	461.8
20	775	63.5	587.2	584.2	508.0	162.1	95.3	489.0	513.1
24	914	69.9	701.5	692.2	609.6	168.1	106.4	590.6	616.0

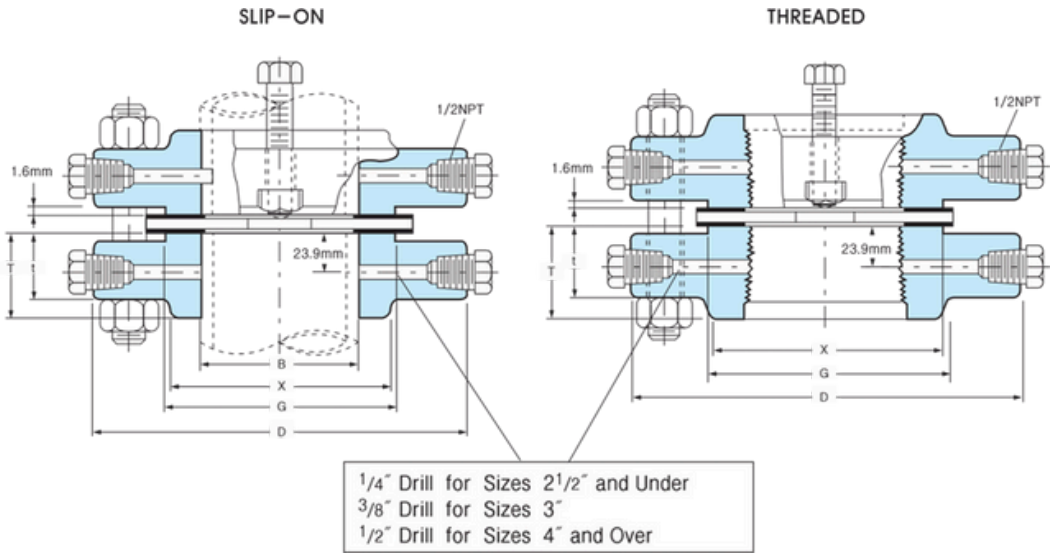
Notes:

(1) For the 'Bore'(B) of Welding Neck Flanges othrt than Standard wall Thickness, refer to page 52.

(2) Class 300 Welding Neck Flanges of sizes 24"(609.6mm) and smaller will be bored to match Standard Wall Pipe unless otherwise specified.

(3) Class 300 Orifice flanges will be furnished with 0.06"(1.6mm) raised face, which is included in 'Thickness'(t) and 'Length through Hub'(T).

CLASS 300 ORIFICE FLANGES



ANSI B16.36 FORGED FLANGES

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED | *(www.creativeforged.com)* | **Unit : mm**

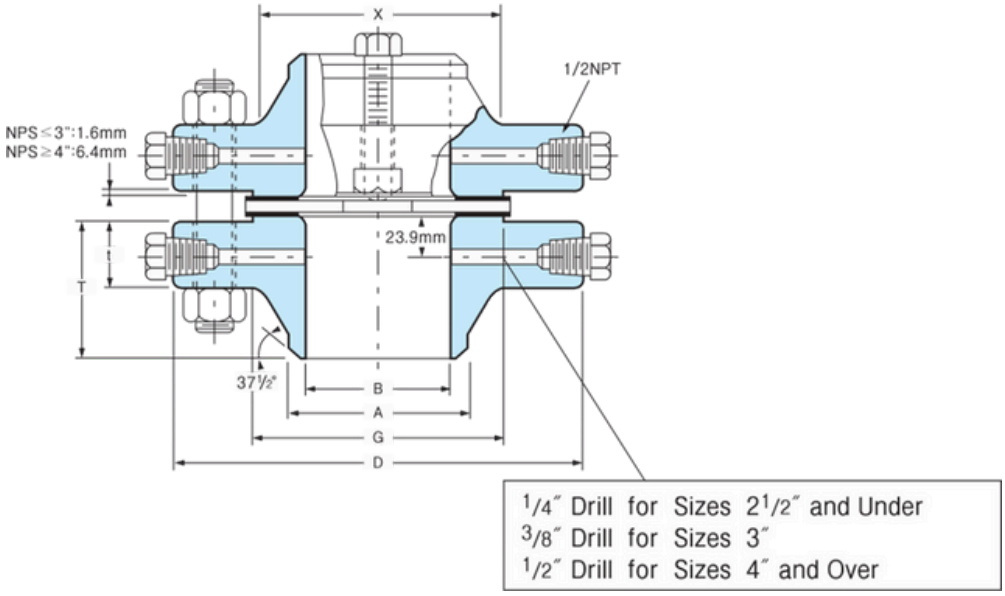
Nominal Pipe Size	Pitch Diam. of Ring and Groove D	Ring Number	DEPTH OF JACK SCREW SLOT Raised Face	JACK SCREW SIZE Raised Face	DRILLING TEMPLATE Diam. of Bolt Circle	Number of Bolts	Diam. of Stud Bolts P (inch)	Diam. of Bolt Holes	Length of Stud Bolts Raised Face
1	50.8	R16	9.7	Jack screw size for 1"thru 24"are those shown for length and diameter of bolts.	88.9	4	5/8	17.5	139.7
1-1/4	60.3	R18	9.7		98.6	4	5/8	17.5	152.4
1-1/2	68.3	R20	12.7		114.3	4	3/4	20.6	152.4
2	82.6	R23	9.7		127.0	8	5/8	17.5	152.4
2-1/2	101.6	R26	12.7		149.4	8	3/4	20.6	152.4
3	123.8	R31	12.7		168.1	8	3/4	20.6	152.4
4	149.2	R37	12.7		200.2	8	3/4	20.6	152.4
5	181.0	R41	12.7		235.0	8	3/4	224.	152.4
6	211.1	R45	12.7		269.7	12	3/4	22.4	152.4
8	269.9	R49	15.7		330.2	12	7/8	25.4	158.8
10	323.9	R53	19.1		387.4	16	1	28.4	165.1
12	381.0	R57	22.4		450.9	16	1-1/8	31.8	177.8
14	419.1	R61	22.4		514.4	20	1-1/8	31.8	184.2
16	469.9	R65	25.4		571.5	20	1-1/4	35.1	196.9
18	533.4	R69	25.4		628.7	24	1-1/4	35.1	203.2
20	584.2	R73	25.4		685.8	24	1-1/4	35.1	215.9
24	692.2	R77	31.8		812.8	24	1-1/2	41.1	241.3

(4) Bolt lengths for raised face flanges include allowance for orifice and gasket thickness of 0.25″(6.4mm) for NPS 1-12 and 0.38″(9.7mm) for sizes 14-24.

(5) Unless otherwise specified, unions of 1″(25.4mm) thru 24″(609.6mm) furnished with carbon steel regular square headed bolts with semifinished American Standard heavy series hex nuts.

CLASS 400 ORIFICE FLANGES

WELDING NECK (RAISED FACE)



ANSI B16.36 FORGED FLANGES

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED | *(www.creativeforged.com)* | *Unit : mm*

Nominal Pipe Size	Outside Diam. of flange	THICKNESS OF FLANGE (t)		Diam. of Hub at Base	Diam. of Raised Face	Diam. of Hub at Bevel	LENGTH THRU HUB (T)				BORE (B)	
							Welding Neck		Slip-on & Threaded		Welding Neck	Slip-on
	D	Raised Face	Ring Joint	X	G	A	Raised Face	Ring Joint	Raised Face	Ring Joint		
1	124	38.1	31.8	53.8	50.8	33.5	82.6	76.2	47.8	41.1	26.7	34.5
1-1/4	133	38.1	31.8	63.5	63.5	42.2	84.1	77.7	46.0	39.6	35.1	43.2
1-1/2	155	38.1	31.8	69.9	73.2	48.3	85.9	79.2	47.8	41.1	40.9	49.5
2	165	38.1	31.8	84.1	91.9	60.5	85.9	79.2	49.3	42.9	52.6	62.0
2-1/2	191	38.1	31.8	100.1	104.6	73.2	88.9	82.6	50.8	44.5	62.7	74.7
3	210	38.1	31.8	117.3	127.0	88.9	88.9	82.6	52.3	46.0	78.0	90.7
4	254	35.1	35.1	146.1	157.2	114.3	88.9	88.9	50.8	50.8	102.4	116.1
5	279	38.1	38.1	177.8	185.7	141.2	101.6	101.6	53.8	53.8	128.3	143.8
6	318	41.1	41.1	206.4	215.9	168.4	103.1	103.1	57.2	57.2	154.2	170.7
8	381	47.8	47.8	260.4	269.7	219.2	117.3	117.3	68.3	68.3	202.7	221.5
10	445	53.8	53.8	320.5	323.9	273.1	124.0	124.0	73.2	73.2	254.5	276.4
12	521	57.2	57.2	374.7	381.0	323.9	136.7	136.7	79.2	79.1	304.8	327.2
14	584	60.7	60.7	425.5	412.8	355.6	149.4	149.4			336.6	359.2
16	648	63.5	63.5	482.6	469.9	406.4	152.4	152.4			387.4	410.5
18	711	66.5	66.5	533.4	533.4	457.2	165.1	165.1			438.2	461.8
20	775	69.9	69.9	587.2	584.2	508.0	168.1	168.1			489.0	513.1
24	914	76.2	76.2	701.5	692.2	609.6	174.8	174.8			590.6	616.0

Notes:

(1) For the inside diameter of pipes (corresponding to 'Bore'(B1) of Welding Neck Flanges), refer to page 52.

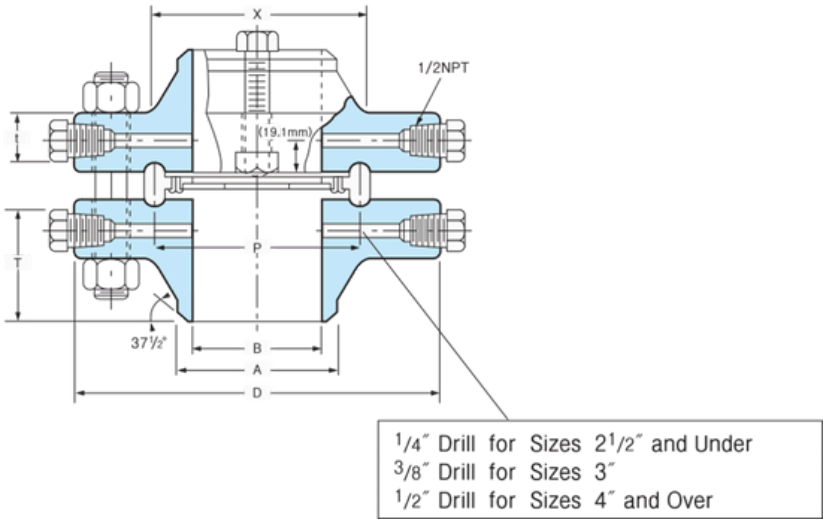
(2) Class 400 flanges of sizes 3″and smaller will be furnished with 0.06″(1.6mm) raised face, which is not included in 'Thickness'(t) and 'Length through Hub'(T)

The 0.25″(6.35mm) raised face for sizes 4″and larger is not included in (t) and (T)

(3) Each union includes two carbon steel jack screw bolts with hex nuts.

CLASS 400 ORIFICE FLANGES

WELDING NECK (RING–TYPE JOINT)



ANSI B16.36 FORGED FLANGES

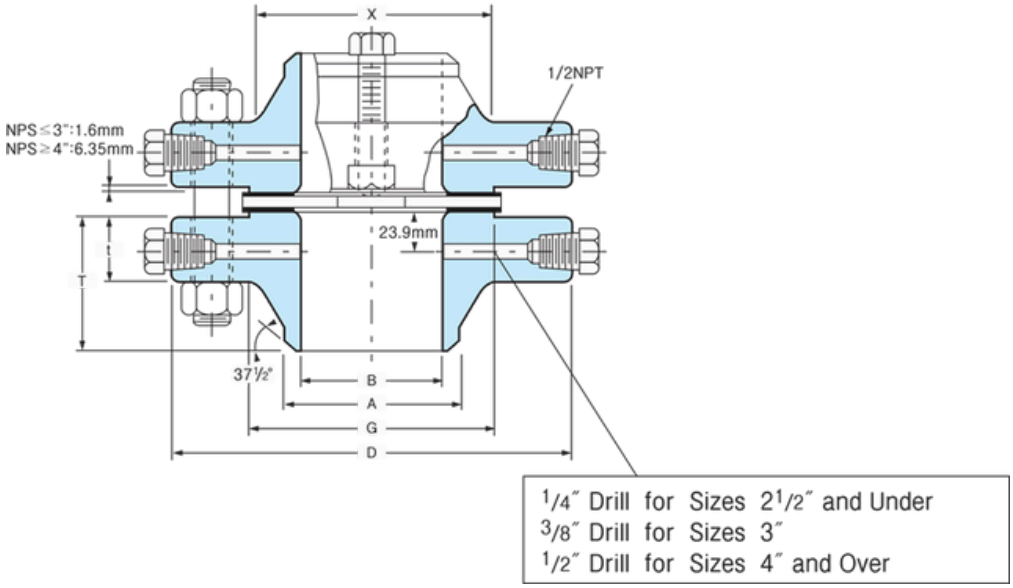
CREATIVE PIPING SOLUTIONS PRIVATE LIMITED (www.creativeforged.com) Unit : mm

Nominal Pipe Size	Pitch Diam. of Ring and Groove P	Ring Number	DEPTH OF JACK SCREW SLOT		JACK SCREW SIZE		DRILLING TEMPLATE					
			Raised Face	Ring Joint	Raised Face (inch)	Ring Joint (inch)	Diam. of Bolt Circle	Number of Bolts	Diam. of Stud Bolts (inch)	Diam. of Bolt Holes	Length of Stud Bolts	
											Raised Face	Ring Joint
1	50.8	R16	9.7	6.4	5/8 X 4.00	5/8 X 4.75	88.9	4	5/8	17.5	1270.	146.1
1-1/4	60.3	R18	9.7	6.4	5/8 X 4.00	5/8 X 4.75	98.6	4	5/8	17.5	127.0	120.7
1-1/2	68.3	R20	12.7	6.4	3/4 X 4.25	3/4 X 5.00	114.3	4	3/4	20.6	133.4	152.4
2	82.6	R23	9.7	6.4	5/8 X 4.00	5/8 X 4.75	127.0	8	5/8	17.5	127.0	152.4
2-1/2	101.6	R26	12.7	6.4	3/4 X 4.25	3/4 X 5.00	149.4	8	3/4	20.6	133.4	158.8
3	123.8	R31	12.7	6.4	3/4 X 4.25	3/4 X 5.00	168.1	8	3/4	20.6	133.4	158.8
4	149.2	R37	6.4	15.7	3/4 X 3.00	3/4 X 4.00	200.2	8	7/8	25.4	139.7	152.4
5	181.0	R41	6.4	15.7	3/4 X 3.00	3/4 X 4.00	235.0	8	7/8	25.4	146.1	158.8
6	211.1	R45	12.7	22.4	1 X 3.50	1 X 4.00	269.7	12	7/8	25.4	158.8	165.1
8	269.9	R49	12.7	22.4	1 X 3.50	1 X 4.50	330.2	12	1	28.4	171.5	184.2
10	323.9	R53	12.7	22.4	1 X 4.00	1 X 4.50	387.4	16	1-1/8	31.8	190.5	203.2
12	381.0	R57	12.7	22.4	1 X 4.00	1 X 5.00	450.9	16	1-1/4	35.1	203.2	215.9
14	419.1	R61	12.7	22.4	1 X 4.25	1 X 5.00	514.4	20	1-1/4	35.1	209.6	228.6
16	469.9	R65	12.7	22.4	1 X 4.25	1 X 5.00	571.5	20	1-3/8	38.1	222.3	235.0
18	533.4	R69	12.7	22.4	1 X 4.50	1 X 5.00	628.7	24	1-3/8	38.1	235.0	241.3
20	584.2	R73	12.7	22.4	1 X 4.75	1 X 5.50	685.8	24	1-1/2	41.1	247.7	260.4
24	692.2	R77	12.7	22.4	1 X 5.00	1 X 6.00	812.8	24	1-3/4	47.8	279.4	285.8

(4) Unless otherwise specified, raised face unions are furnished with alloy bolt studs per ASTM A193 Grade B7 with American Standard heavy series hex nuts ASTM A194 Class 2H.
(5) On ring joint flanges having a groove depth 0.375″(9.5mm) and less, the distance from the center line of the tap hole to the flange face is 0.750″(19.1mm) When the depth of groove is 0.438″(11.1mm) or greater, changes in drill size or method of drilling are necessary.
(6) Bolt lengths for raised face flanges include allowance for orifice and gasket thickness of 0.25″(6.4mm) for sizes 4-12 and 0.38″(9.7mm) for sizes 14-24 Bolt lengths for ring type joint flanges include allowance of 0.62″(15.7mm) for sizes 4-10, 0.75″(19.1mm) for sizes 12-18 and 0.88″(22.4mm) for size 20.

CLASS 600 ORIFICE FLANGES

WELDING NECK (RAISED FACE)



ANSI B16.36 FORGED FLANGES

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED (www.creativeforged.com) **Unit : mm**

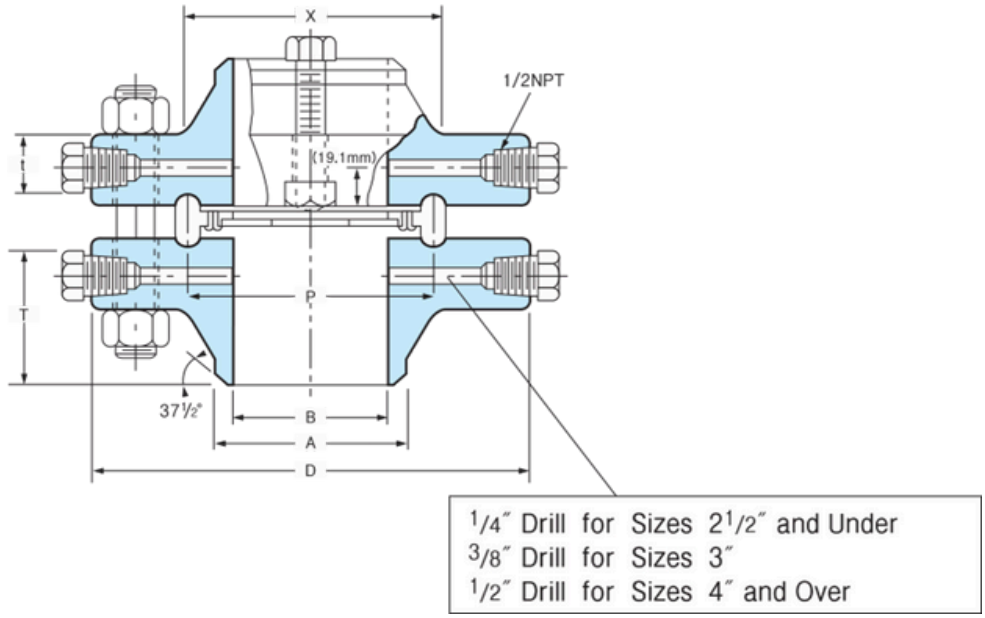
Nominal Pipe Size	Outside Diam. of flange	THICKNESS OF FLANGE (t)		Diam. of Hub at Base	Diam. of Raised Face	Diam. of Hub at Bevel	LENGTH THRU HUB (T)				BORE (B)	
							Welding Neck		Slip-on & Threaded		Welding Neck	Slip-on
	D	Raised Face	Ring Joint	X	G	A	Raised Face	Ring Joint	Raised Face	Ring Joint		
1	124	38.1	31.8	53.8	50.8	33.5	82.6	76.2	47.8	41.1	See Note(1) To be specified by purchaser	34.5
1-1/4	133	38.1	31.8	63.5	63.5	42.2	84.1	77.7	46.0	39.6		43.2
1-1/2	155	38.1	31.8	69.9	73.2	48.3	85.9	79.2	47.8	41.1		49.5
2	165	38.1	31.8	84.1	91.9	60.5	85.9	79.2	49.3	42.9		62.0
2-1/2	191	38.1	31.8	100.1	104.6	73.2	88.9	82.6	50.8	44.5		74.7
3	210	38.1	31.8	117.3	127.0	88.9	88.9	82.6	52.3	46.0		90.7
4	273	38.1	38.1	152.4	157.2	114.3	101.6	101.6	53.8	53.8		116.1
5	330	44.5	44.5	189.0	185.7	141.2	114.3	114.3	60.5	60.5		143.8
6	356	47.8	47.8	222.3	215.9	168.4	117.3	117.3	66.5	66.2		170.7
8	419	55.6	55.6	273.1	269.7	219.2	133.4	133.4	76.2	76.2		221.5
10	508	63.5	63.5	342.9	323.9	273.1	152.4	152.4	85.9	85.9		276.4
12	559	66.5	66.5	400.1	381.0	323.9	155.4	155.4	91.9	91.9		327.2
14	603	69.9	69.9	431.8	412.8	355.6	165.1	165.1				
16	686	76.2	76.2	495.3	469.9	406.4	177.8	177.8				
18	743	82.6	82.6	546.1	533.4	457.2	184.2	184.2				
20	813	88.9	88.9	609.6	584.2	508.0	190.5	190.5				
24	940	101.6	101.6	717.6	692.2	609.6	203.2	203.2				

Notes:

- (1) For the inside diameter of pipes (corresponding to 'Bore'(B1) of Welding Neck Flanges), refer to page 52.
- (2) Class 600 flanges of sizes 3″and smaller will be furnished with 0.06″(1.6mm) raised face, which is included in 'Thickness'(t) and 'Length through Hub'(T)
- The 0.25″(6.4mm) raised face for sizes 4″and larger is not included in (t) and (T)
- (3) Each union includes two carbon steel jack screw bolts with hex nuts.

CLASS 600 ORIFICE FLANGES

WELDING NECK (RING–TYPE JOINT)



ANSI B16.36 FORGED FLANGES

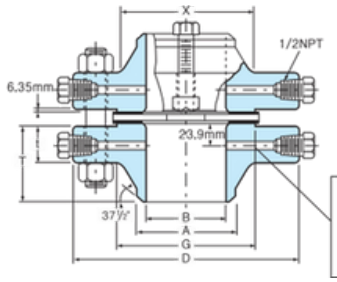
CREATIVE PIPING SOLUTIONS PRIVATE LIMITED | *(www.creativeforged.com)* | **Unit : mm**

Nominal Pipe Size	Pitch Diam. of Ring and Groove	Ring Number	DEPTH OF JACK SCREW SLOT		JACK SCREW SIZE		DRILLING TEMPLATE						
							Diam. of Bolt Circle	Number of Bolts	Diam. of Stud Bolts (inch)	Diam. of Bolt Holes		Length of Stud Bolts	
	P		Raised Face	Ring Joint	Raised Face (inch)	Ring Joint (inch)				RF	RTJ	Raised Face	Ring Joint
1	50.8	R16	9.7	6.4	5/8 X 4.00	5/8 X 4.75	88.9	4	5/8	17.5	19.1	127.0	146.1
1-1/4	60.3	R18	9.7	6.4	5/8 X 4.00	5/8 X 4.75	98.6	4	5/8	17.5	-	127.0	146.1
1-1/2	68.3	R20	12.7	6.4	3/4 X 4.25	3/4 X 5.00	114.3	4	3/4	21.0	22.4	133.4	152.4
2	82.6	R23	9.7	6.4	5/8 X 4.00	5/8 X 4.75	127.0	8	5/8	17.5	19.7	127.0	152.4
2-1/2	101.6	R26	12.7	6.4	3/4 X 4.25	3/4 X 5.00	149.4	8	3/4	20.6	22.4	133.4	158.8
3	123.8	R31	12.7	6.4	3/4 X 4.25	3/4 X 5.00	168.1	8	3/4	20.6	22.4	133.4	158.8
4	149.2	R37	6.4	15.7	3/4 X 3.00	3/4 X 4.00	215.9	8	7/8	25.4	25.4	152.4	165.1
5	181.0	R41	6.4	15.7	3/4 X 3.00	3/4 X 4.00	266.7	8	1	28.4	28.4	139.7	177.8
6	211.1	R45	12.7	22.4	1 X 3.50	1 X 4.00	292.1	12	1	28.4	28.4	177.8	190.5
8	269.9	R49	12.7	22.4	1 X 3.50	1 X 4.50	349.3	12	1-1/8	31.8	31.8	196.9	209.6
10	323.9	R53	12.7	22.4	1 X 4.00	1 X 4.50	431.0	16	1-1/4	35.1	35.1	222.3	235.0
12	381.0	R57	12.7	22.4	1 X 4.00	1 X 5.00	489.0	16	1-1/4	35.1	35.1	228.6	241.3
14	419.1	R61	12.7	22.4	1 X 4.25	1 X 5.00	527.1	20	1-3/8	38.1	38.1	241.3	254.0
16	469.9	R65	12.7	22.4	1 X 4.25	1 X 5.00	603.3	20	1-1/2	41.1	41.1	260.4	273.1
18	533.4	R69	12.7	22.4	1 X 4.50	1 X 5.00	654.1	24	1-5/8	44.5	44.5	279.4	292.1
20	584.2	R73	12.7	22.4	1 X 4.75	1 X 5.50	723.9	24	1-5/8	44.5	44.5	298.5	317.5
24	692.2	R77	12.7	22.4	1 X 5.00	1 X 6.00	838.2	24	1-7/8	50.8	50.8	336.6	342.9

- (4) Bolt lengths for raised face flanges include allowance for orifice and gasket thickness of 0.25″(6.4mm) for sizes 1-12 and 0.38″(9.7mm) for sizes 14-24 Bolt lengths for ring type joint flanges include allowance of 0.62″(15.7mm) for sizes 1-10, 0.75″(19.1mm) for sizes 12-18 and 0.88″(22.4mm) for size 20.
- (5) Unless otherwise specified, raised face unions are furnished with alloy bolt studs per ASTM A193 Grade B7 with American Standard heavy series hex nuts ASTM A194 Class 2H.
- (6) On ring joint flanges having a groove depth 0.375″(9.5mm) and less, the distance from the center line of the tap hole to the flange face is 0.750″(19.1mm) When the depth of groove is 0.438″(11.1mm) or greater, changes in drill size or method of drilling are necessary.

CLASS 900-1500 ORIFICE FLANGES

WELDING NECK
(RAISED FACE)



1/4" Drill for Sizes 2 1/2" and Under
3/8" Drill for Sizes 3"
1/2" Drill for Sizes 4" and Over

ANSI B16.36 FORGED FLANGES

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED (www.creativeforged.com) **Unit : mm**

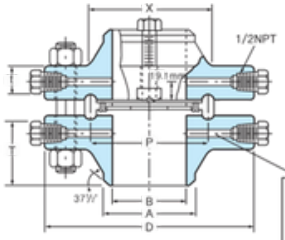
Nominal Pipe Size	Outside Diam. of flange	THICKNESS OF FLANGE (t)		Diam. of Hub at Base	Diam. of Raised Face	Diam. of Hub at Bevel	LENGTH THRU HUB (T)				BORE (B)	
							Welding Neck		Slip-on & Threaded		Welding Neck	Slip-on
	D	Raised Face	Ring Joint	X	G	A	Raised Face	Ring Joint	Raised Face	Ring Joint		
CLASS 900												
3	241	38.1	38.1	127.0	127.0	88.9	101.6	101.6	53.8	53.8	To be specified by purchaser	90.7
4	292	44.5	44.5	158.8	157.2	114.3	114.3	114.3	69.9	69.9		116.1
5	349	50.8	50.8	190.5	185.7	141.2	127.0	127.0	79.2	79.2		143.8
6	381	55.6	55.6	235.0	215.9	168.4	139.7	139.7	85.9	85.9		170.7
8	470	63.5	63.5	298.5	269.7	219.2	162.1	162.1	101.6	101.6		221.5
10	546	69.9	69.9	368.3	323.9	273.1	184.2	184.2	108.0	108.0		276.4
12	610	79.2	79.2	419.1	381.0	323.9	200.2	200.2	117.3	117.3		327.2
14	641	85.9		450.9	412.8	355.6	212.9					
16	705	88.9		508.0	469.9	406.4	215.9					
18	787	101.6		565.2	533.4	457.2	228.6					
20	857	108.0		622.3	584.2	508.0	247.7					
24	1041	139.7		749.3	692.20	609.6	292.1					
CLASS 1500												
1	149	38.1	38.1	52.3	50.8	33.5	82.6	82.6	47.8	44.5	To be specified by purchaser	34.5
1-1/4	159	35.1	35.1	63.5	63.5	42.2	73.2	73.2	47.8	44.5		43.2
1-1/2	178	38.1	38.1	69.9	73.2	48.3	88.9	88.9	47.8	44.5		49.5
2	216	38.1	38.1	104.6	91.9	60.5	101.6	101.6	57.72	57.2		62.0
2-1/2	244	41.1	41.1	124.0	104.6	73.2	104.6	104.6	63.5	63.5		74.7
3	267	47.8	47.8	133.4	127.0	88.9	117.3	117.3	73.2	73.2		90.7
4	311	53.8	53.8	162.1	157.2	114.3	124.0	124.0	90.4	90.4		116.1
5	375	73.2	73.2	196.9	185.7	141.2	155.4	155.4	104.6	104.6		143.8
6	394	82.6	82.6	228.6	215.9	168.4	171.5	171.5	119.1	119.1		170.7
8	483	92.0	92.0	292.1	269.7	219.2	212.9	212.9	142.7	142.7		221.5
10	584	108.0	108.0	368.3	323.9	273.1	254.0	254.0	158.8	158.8		276.4
12	673	124.0	124.0	450.9	381.0	323.9	282.4	282.4	180.8	180.8		327.2
14	749	133.4		495.3	412.8	355.6	298.5					
16	826	146.1		552.5	469.9	406.4	311.2					
18	914	162.1		596.9	533.4	457.2	327.2					
20	981	177.8		641.4	584.2	508.00	355.6					
24	1168	203.2		762.0	692.2	609.6	406.4					

Notes:

(1) For the inside diameter of pipes (corresponding to 'Bore'(B1) of Welding Neck Flanges), refer to page 52.
(2) Class 900 dimensions of sizes 1″(25.4mm) through 21/2″are the same as for Class 1500.
(3) Class 900 and 1500 is not included in 'thickness'(t) and 'Length through Hub'(T).
(4) Each union includes two carbon steel jack screw bolts with hex nuts.

CLASS 900-1500 ORIFICE FLANGES

WELDING NECK
(RING–TYPE JOINT)



1/4″ Drill for Sizes 2 1/2″ and Under
3/8″ Drill for Sizes 3″
1/2″ Drill for Sizes 4″ and Over

ANSI B16.36 FORGED FLANGES

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED (www.creativeforged.com) **Unit : mm**

Nominal Pipe Size	Pitch Diam. of Ring and Groove	Ring Number Raised Face	DEPTH OF JACK SCREW SLOT		JACK SCREW SIZE		DRILLING TEMPLATE					
							Diam. of Bolt Circle	Number of Bolts	Diam. of Stud Bolts (inch)	Diam. of Bolt Holes	Length of Stud Bolts	
	P		Raised Face	Ring Joint	Raised Face (inch)	Ring Joint (inch)					Raised Face	Ring Joint
CLASS 900												
3	123.8	R31	9.7	15.7	3/4 X 3.50	3/4 X 4.00	190.5	8	7/8	25.4	152.4	165.1
4	149.2	R37	9.7	15.7	3/4 X 3.50	3/4 X 4.50	235.0	8	1-1/8	31.8	177.8	190.5
5	181.0	R41	9.7	15.7	3/4 X 3.50	3/4 X 4.50	279.4	8	1-1/4	35.1	190.5	203.2
6	211.1	R45	15.7	22.4	1 X 4.50	1 X 4.75	317.5	12	1-1/8	31.8	196.9	209.6
8	269.9	R49	15.7	22.4	1 X 4.50	1 X 5.00	393.7	12	1-3/8	38.1	228.6	241.3
10	323.9	R53	15.7	22.4	1 X 4.50	1 X 5.25	469.9	16	1-3/8	38.1	241.3	254.0
12	381.0	R57	15.7	22.4	1 X 4.50	1 X 5.50	533.4	20	1-3/8	38.1	260.4	273.1
14							558.8	20	1-1/2	41.1	279.4	
16							616.0	20	1-5/8	44.5	292.1	
18							685.8	20	1-7/8	50.8	330.2	
20							749.3	20	2	53.8	355.6	
24							901.7	20	2-1/2	66.5	444.5	
CLASS 1500												
1	50.8	R16	6.4	12.7	5/8 X 3.00	5/8 X 3.50	101.6	4	7/8	25.4	152.4	158.8
1-1/4	60.3	R18	6.4	12.7	5/8 X 3.00	5/8 X 3.50	111.3	4	7/8	25.4	139.7	146.1
1-1/2	68.3	R20	6.4	12.7	5/8 X 3.00	5/8 X 3.50	124.0	4	1	28.4	158.8	165.1
2	95.3	R24	6.4	12.7	5/8 X 3.00	5/8 X 4.00	165.1	8	7/8	25.4	152.4	165.1
2-1/2	108.0	R27	6.4	12.7	5/8 X 3.00	5/8 X 4.00	190.5	8	1	28.4	165.1	177.8
3	136.5	R35	9.7	15.7	5/8 X 3.50	3/4 X 4.50	203.2	8	1-1/8	31.8	184.2	196.9
4	161.9	R39	9.7	15.7	3/4 X 3.50	3/4 X 4.50	241.3	8	1-1/4	35.1	203.2	215.9
5	193.7	R44	9.7	15.7	3/4 X 3.50	3/4 X 4.50	292.1	8	1-1/2	41.1	247.7	260.4
6	211.1	R46	15.8	22.4	1 X 6.00	1 X 6.50	317.5	12	1-3/8	38.1	266.7	279.4
8	269.9	R50	15.7	22.4	1 X 6.50	1 X 6.50	393.7	12	1-5/8	44.5	298.5	317.5
10	323.9	R54	15.7	22.4	1 X 6.50	1 X 7.00	482.6	12	1-7/8	50.8	342.9	362.0
12	381.0	R58	15.7	22.4	1 X 6.50	1 X 8.00	571.5	16	2	53.8	381.0	406.4
14							635.0	16	2-1/4	60.5	412.8	
16							704.9	16	2-1/2	66.5	450.9	
18							774.7	16	2-3/4	73.2	501.7	
20							831.9	16	3	79.2	546.1	
24							990.6	16	3-1/2	91.9	622.3	

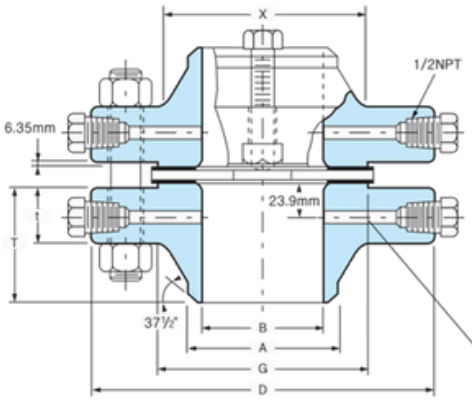
(5) Unless otherwise specified, raised face unions are furnished with alloy bolt studs per ASTM A193 Grade B7 with American Standard heavy series hex nuts ASTM A194 Class 2H.

(6) On ring joint flanges having a groove depth 0.375″(9.5mm) and less, the distance from the center line of the tap hole to the flange face is 0.750″(19.1mm) When the depth of groove is 0.438″(11.1mm) or greater, changes in drill size or method of drilling are necessary.

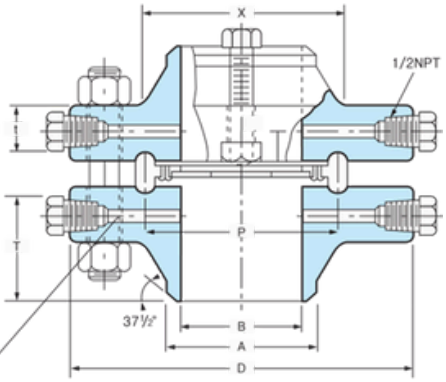
(7) Bolt lengths for raised face flanges include allowance for orifice and gasket thickness of 0.25″(6.4mm) for sizes 3-12 and 0.38″(9.7mm) for sizes 14-24. Bolt lengths for ring type joint flanges include allowance of 0.62″(15.7mm) for sizes 3-10, And 0.75″(19.1mm) for sizes 12.

CLASS 2500 ORIFICE FLANGES

WELDING NECK (RAISED FACE)



WELDING NECK (RING–TYPE JOINT)



1/4″ Drill for Sizes 2 1/2″ and Under
3/8″ Drill for Sizes 3″
1/2″ Drill for Sizes 4″ and Over

ANSI B16.36 FORGED FLANGES

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED | *(www.creativeforged.com)* | **Unit : mm**

Nominal Pipe Size	O.D. of Flange Face	O.D. of Raised Flange	THK'S of Hub Min	Length Thru	Length Thru	Diam of Hub at Bevel	Bore	Ring Type Joint	Ring Number	DRILLING TEMPLATE				LENGTH OF STUD BOLTS	
								Pitch Diam.		Diam. Bolt Circle	Number of Holes RF	Diam. of Holes	Diam. of Bolt (inch) RTJ	Raised Face	Ring Joint
	D	G	t	T	X	A	B	P							
1	159	50.8	38.1	91.9	57.2	33.5	See Note(1) To be specified by purchaser	60.3	R18	108.0	4	25.4	7/8	152.4	158.8
1-1/2	203	73.2	44.5	111.3	79.2	48.3		82.6	R23	146.1	4	31.8	1-1/8	177.8	190.5
2	235	91.9	50.8	127.0	95.3	60.5		101.6	R26	171.5	8	28.4	1	184.2	196.9
2-1/2	267	104.6	57.2	142.7	114.3	73.2		111.1	R28	196.9	8	31.8	1-1/8	203.2	215.9
3	305	127.0	66.5	168.1	133.4	88.9		127.0	R32	228.6	8	35.1	1-1/4	228.6	241.3
4	356	157.2	76.2	190.5	165.1	114.3				273.1	8	41.1	1-1/2	260.4	
6	483	215.9	108.0	273.1	235.0	168.4				368.3	8	53.8	2	349.3	
8	552	269.7	127.0	317.5	304.8	219.2				438.2	12	53.8	2	387.4	
10	673	323.9	165.1	419.1	374.7	273.1				539.8	12	66.5	2-1/2	489.0	
12	762	381.0	184.2	463.6	441.5	323.9				619.3	12	73.2	2-3/4	539.8	

Notes:

(1) For the inside diameter of pipes (corresponding to 'Bore'(B1) of Welding Neck Flanges), refer to page 52.

2) Class 2500 flanges will be furnished with 0.25″(6.4mm) raised face, which is not included in 'Thickness'(t) and 'Length through Hub'(T)

(3) Each union includes two carbon steel jack screw bolts with hex nuts.

(4) Unless otherwise specified, raised face unions are furnished with alloy bolt studs per ASTM A193 Grade B7 with American Standard heavy series hex nuts ASTM A194 Class 2H.

(5) On ring joint flanges having a groove depth 0.375″(9.5mm) and less, the distance from the center line of the tap hole to the flange face is 0.750″(19.1mm) When the depth of groove is 0.438″(11.1mm) or greater, changes in drill size or method of drilling are necessary.

(6) Class 2500 Slip-on flanges are not covered by B16.5.

(7) Bolt lengths for raised face flanges include allowance for orifice and gasket thickness of 0.25″(6.4mm) for sizes 1-12 and 0.38″(9.7mm) for sizes 14-24. Bolt lengths for ring type joint flanges include allowance of 0.62″(15.7mm) for sizes 1-6.

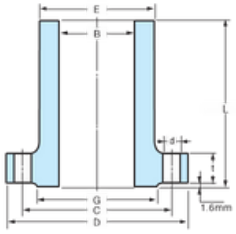
ANSI B16.5 FORGED FLANGES

LONG WELDING NECKS FLANGES

- Class 150 Flanges
- Class 300 Flanges
- Class 400 Flanges
- Class 600 Flanges
- Class 900 Flanges
- Class 1500 Flanges
- Class 2500 Flanges

CPS
CREATIVE PIPING SOLUTIONS PVT. LTD.

CLASS 150-300 LONG WELDING NECK FLANGES



CLASS 150 LONG WELDING NECK FLANGES

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED | *(www.creativeforged.com)* | *Unit : mm*

Nominal Pipe Size	Out side Diameter	Hub Diameter at Bevel	O. D. of Raised Face	Diameter of Bore	Thickness of Flange Min	Length Through Hub	DRILLING TEMPLATE		
							Diameter of Bolt Circle	Number of Holes	Diameter of Holes
	D	E	G	B	t	L	C		d
1/2	89	30.2	35.1	12.7	11.2	228.6	60.5	4	15.7
3/4	99	38.1	42.9	19.1	12.7	228.6	69.9	4	15.7
1	108	50.8	50.8	25.4	14.2	228.6	79.2	4	15.7
1-1/4	117	60.5	63.5	31.8	15.7	228.6	88.9	4	15.7
1-1/2	127	66.5	73.2	38.1	17.5	228.6	98.6	4	15.7
2	152	82.6	91.9	50.8	19.1	228.6	120.7	4	19.1
2-1/2	178	95.3	104.6	63.5	22.4	228.6	139.7	4	19.1
3	191	108.0	127.0	76.2	23.9	228.6	152.4	4	19.1
3-1/2	216	124.0	139.7	88.9	23.9	228.6	177.8	8	19.1
4	229	139.7	157.2	101.6	23.9	304.8	190.5	8	19.1
5	254	165.1	185.7	127.0	23.9	304.8	215.9	8	22.4
6	279	196.9	215.9	152.4	25.4	304.8	241.3	8	22.4
8	343	247.7	269.7	203.2	28.4	304.8	298.5	8	22.4
10	406	304.8	323.9	254.0	30.2	304.8	362.0	12	25.4
12	483	365.3	381.0	304.8	31.8	304.8	431.8	12	25.4
14	533	406.4	412.8	355.6	35.1	304.8	476.3	12	28.4
16	597	457.2	469.9	406.4	36.6	304.8	539.8	16	28.4
18	635	508.0	533.4	457.2	39.6	304.8	577.9	16	31.8
20	699	558.8	584.2	508.0	42.9	304.8	635.0	20	31.8
24	813	666.8	692.2	609.6	47.8	304.8	749.3	20	35.1

CLASS 300 LONG WELDING NECK FLANGES

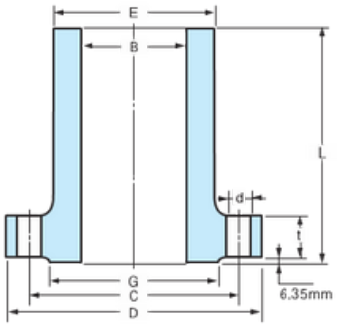
1/2	95	38.1	35.1	14.2	12.7	228.6	66.5	4	15.7
3/4	117	47.8	42.9	15.7	19.1	228.6	82.6	4	19.1
1	124	53.8	50.8	17.5	25.4	228.6	88.9	4	19.1
1-1/4	133	63.5	63.5	19.1	31.8	228.6	98.6	4	19.1
1-1/2	155	69.9	73.2	20.6	38.1	228.6	114.3	4	22.4
2	165	84.1	91.9	22.4	50.8	228.6	127.0	8	19.1
2-1/2	191	100.1	104.6	25.4	63.5	228.6	149.4	8	22.4
3	210	117.3	127.0	28.4	76.2	228.6	168.1	8	22.4
3-1/2	229	133.4	139.7	30.2	88.9	228.6	184.2	8	22.4
4	254	146.1	157.2	31.8	101.6	304.8	200.2	8	22.4
5	279	177.8	185.7	35.1	127.0	304.8	235.0	8	22.4
6	318	206.2	215.9	36.6	152.4	304.8	269.7	12	22.4
8	381	260.4	269.7	41.1	203.2	304.8	330.2	12	25.4
10	445	320.5	323.9	47.8	254.0	304.8	387.4	16	28.4
12	521	374.7	381.0	50.8	304.8	304.8	450.9	16	31.8
14	584	425.5	412.8	53.8	355.6	304.8	514.4	20	31.8
16	648	482.6	469.9	57.2	406.4	304.8	571.5	20	35.1
18	711	533.4	533.4	60.5	457.2	304.8	628.7	24	35.1
20	775	587.2	584.2	63.5	508.0	304.8	685.8	24	35.1
24	914	701.5	692.2	69.9	609.6	304.8	812.8	24	41.1

Notes:

(1) Bore (B) is the same as nominal pipe size.

(2) Welding necks longer than listed are available in all sizes on special order.

CLASS 400-600 LONG WELDING NECK FLANGES



CLASS 400 LONG WELDING NECK FLANGES

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED | *(www.creativeforged.com)* | **Unit : mm**

Nominal Pipe Size	Out side Diameter	Hub Diameter at Bevel	O. D. of Raised Face	Diameter of Bore	Thickness of Flange Min	Length Through Hub	DRILLING TEMPLATE		
							Diameter of Bolt Circle	Number of Holes	Diameter of Holes
	D	E	G	B	t	L	C		d
1	Use Class 600 dimensions in these sizes.								
1-1/4									
1-1/2									
2									
2-1/2									
3									
3-1/2									
4	254	146.1	157.2	101.6	35.1	304.8	200.2	8	25.4
5	279	177.8	185.7	127.0	38.1	304.8	235.0	2	25.4
6	318	206.2	215.9	152.4	41.1	304.8	269.7	12	25.4
8	381	260.4	269.7	203.2	47.8	304.8	330.2	12	28.4
10	445	320.5	323.9	254.0	53.8	304.8	387.4	16	31.8
12	521	374.7	381.0	304.8	57.2	304.8	450.9	16	35.1
14	584	425.5	412.8	355.6	60.5	304.8	514.4	20	35.1
16	648	482.6	469.9	406.4	63.5	304.8	571.5	24	38.1
18	711	533.4	533.4	457.2	66.5	304.8	628.7	24	38.1
20	775	587.2	584.2	508.0	69.9	304.8	685.8	24	41.1
24	914	701.5	692.2	609.6	76.2	304.8	812.8	24	47.8

CLASS 600 LONG WELDING NECK FLANGES

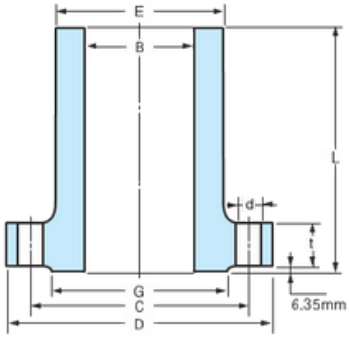
1	124	53.8	50.8	25.4	17.5	228.6	88.9	4	19.1
1-1/4	133	63.5	63.5	31.8	20.6	228.6	98.6	4	19.1
1-1/2	155	69.9	73.2	38.1	22.4	228.6	114.3	4	22.4
2	165	84.1	91.9	50.8	25.4	228.6	127.0	8	19.1
2-1/2	191	100.1	104.6	63.5	28.4	228.6	149.4	8	22.4
3	210	117.3	127.0	76.2	31.8	228.6	168.1	8	22.4
3-1/2	229	133.4	139.7	88.9	35.1	228.6	184.2	8	25.4
4	273	152.4	157.2	101.6	38.1	304.8	215.9	8	25.4
5	330	190.5	185.7	127.0	44.5	304.8	266.7	8	28.4
6	356	222.3	215.9	152.4	47.8	304.8	292.1	12	28.4
8	419	273.1	269.7	203.2	55.6	304.8	349.3	12	31.8
10	508	342.9	323.9	254.0	63.5	304.8	431.8	16	35.1
12	559	400.1	381.0	304.8	66.5	304.8	489.0	20	35.1
14	603	431.8	412.8	355.6	69.9	304.8	527.1	20	38.1
16	686	495.3	469.9	406.4	76.2	304.8	603.3	20	41.1
18	743	546.1	533.4	457.2	82.6	304.8	654.1	20	44.5
20	813	609.6	584.2	508.0	88.9	304.8	723.9	24	44.5
24	940	717.6	692.2	609.6	101.6	304.8	838.2	24	50.8

Notes:

(1) Bore (B) is the same as nominal pipe size.

(2) Welding necks longer than listed are available in all sizes on special order.

CLASS 900 - 1500 LONG WELDING NECK FLANGES



CLASS 900 LONG WELDING NECK FLANGES

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED | *(www.creativeforged.com)* | Unit : mm

Nominal Pipe Size	Out side Diameter	Hub Diameter at Bevel	O. D. of Raised Face	Diameter of Bore	Thickness of Flange Min	Length Through Hub	DRILLING TEMPLATE		
							Diameter of Bolt Circle	Number of Holes	Diameter of Holes
	D	E	G	B	t	L	C		d
1	Use Class 600 dimensions in these sizes.								
1-1/4									
1-1/2									
2									
2-1/2									
3	241	127.0	127.0	76.2	38.1	304.8	190.5	8	25.4
4	292	158.8	157.2	101.6	44.5	304.8	235.0	8	31.8
5	349	190.5	185.7	127.0	50.8	304.8	279.4	8	35.1
6	381	235.0	215.9	152.4	55.6	304.8	317.5	12	31.8
8	470	298.5	269.7	203.2	63.5	304.8	393.7	12	38.1
10	546	368.3	323.9	254.0	69.9	406.4	469.9	16	38.1
12	610	419.1	381.0	304.8	79.2	406.4	533.4	20	38.1
14	641	450.9	412.8	355.6	85.9	To be Specified by Purchaser.	558.8	20	41.1
16	705	508.0	469.9	406.4	88.9		616.0	20	44.5
18	787	565.2	533.4	457.2	101.6		685.8	20	50.8
20	857	622.3	584.2	508.0	108.0		749.3	20	53.8
24	1041	749.3	692.2	609.6	139.7		901.7	20	66.5

CLASS 1500 LONG WELDING NECK FLANGES

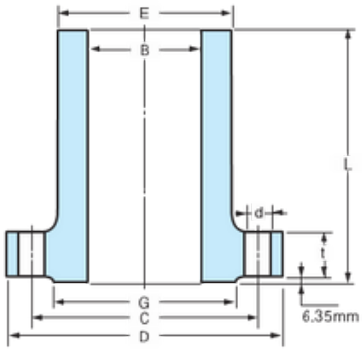
1	149	52.3	50.8	25.4	28.4	228.6	101.6	4	25.4
1-1/4	159	63.5	63.5	31.8	28.4	228.6	111.3	4	25.4
1-1/2	178	69.9	73.2	38.1	31.8	228.6	124.0	4	28.4
2	216	104.6	91.9	50.8	38.1	228.6	165.1	8	25.4
2-1/2	244	124.0	104.6	63.5	41.1	304.8	190.5	8	28.4
3	267	133.0	127.0	76.2	47.8	304.8	203.2	8	31.8
4	311	162.1	157.2	101.6	53.8	304.8	241.3	8	35.1
5	375	196.9	185.7	127.0	73.2	304.8	292.1	8	41.1
6	394	228.6	215.9	152.4	82.6	304.8	317.5	12	38.1
8	483	292.1	269.7	203.2	91.9	304.8	393.7	12	44.5
10	584	368.3	323.9	254.0	108.0	406.4	482.6	12	50.8
12	673	450.9	381.0	304.8	124.0	406.4	571.5	16	53.8
14	749	495.3	412.8	355.6	133.4	To be Specified by Purchaser.	635.0	16	60.5
16	826	552.5	469.9	406.4	146.1		704.9	16	66.5
18	914	596.9	533.4	457.2	162.1		774.9	16	73.2
20	984	641.4	584.2	508.0	177.8		831.9	16	79.2
24	1168	762.0	692.2	609.6	203.2		990.6	16	91.9

Notes:

(1) Bore (B) is the same as nominal pipe size.

(2) Welding necks longer than listed are available in all sizes on special order.

CLASS 2500 LONG WELDING NECK FLANGES



CLASS 2500 LONG WELDING NECK FLANGES — **Unit : mm**

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED — *(www.creativeforged.com)*

Nominal Pipe Size	Out side Diameter	Hub Diameter at Bevel	O. D. of Raised Face	Diameter of Bore	Thickness of Flange Min	Length Through Hub	DRILLING TEMPLATE		
							Diameter of Bolt Circle	Number of Holes	Diameter of Holes
	D	E	G	B	t	L	C		d
1	159	57.2	50.8	25.4	35.1	228.6	108.0	4	25.4
1-1/4	184	73.2	63.5	31.8	38.1	228.6	130.0	4	28.4
1-1/2	203	79.2	73.2	38.1	44.5	228.6	146.1	4	31.8
2	235	95.3	91.9	50.8	50.8	228.6	171.5	8	28.4
2-1/2	267	114.3	104.6	63.5	57.2	304.8	196.9	8	31.8
3	305	133.4	127.0	76.2	66.5	304.8	228.6	8	35.1
4	356	165.1	157.2	101.6	76.2	304.8	273.1	8	41.1
5	419	203.2	185.7	127.0	91.9	304.8	323.9	8	47.8
6	483	235.0	215.9	152.4	108.0	304.8	368.3	8	53.8
8	552	304.8	269.7	203.2	127.0	304.8	438.2	12	53.8
10	673	374.7	323.9	254.0	165.1	406.4	539.8	12	66.5
12	762	441.5	381.0	304.8	184.2	406.4	619.3	16	73.2

GUIDE TO MATERIAL LAYOUT & SPECIFICATIONS

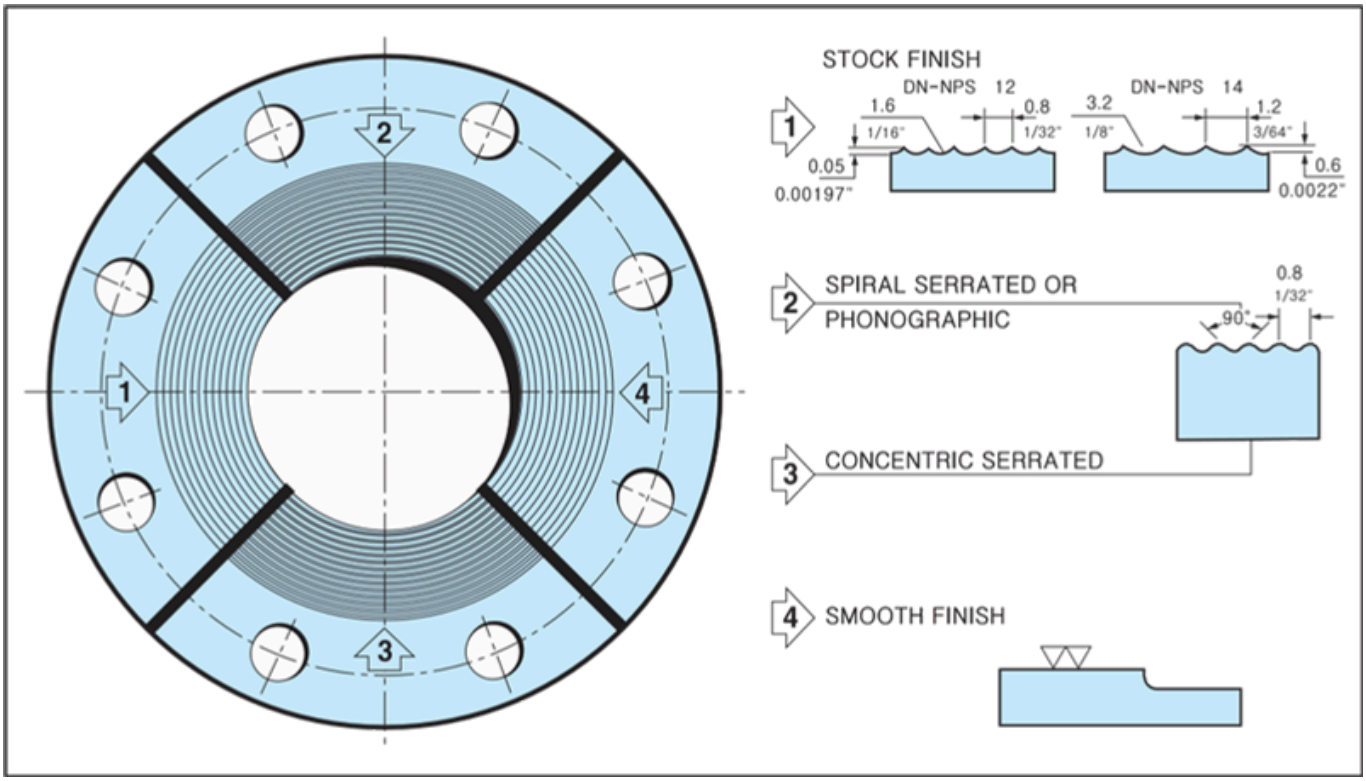
Pipe	Weld Fittings	Screwed & Socket Fittings	Flanges	Valves
A 53	A 234 WPB	A 105, A 181 Gr. 60 or 70	A 105, A 181 Gr. 60 or 70	A 105, A 216 WCB
A 106B	A 234 WPB	A 105, A 181 Gr. 60 or 70	A 105, A 181 Gr. 60 or 70	A 105, A 216 WCB
A 312 T304	A 403 WP-304	A 182 F 304	A 182 F 304	A 182 F 304 CMO
A 312 T316	A 403 WP-316	A 182 F 316	A 182 F 316	A 182 F 316 CM 8MO
A 333 Gr.1or6	A 420 WPL1&6	A 350 LF 1	A 350 LF 1	A 350 LF 1, A 352 LCB
A 333 Gr.3	A 420 WPL-3	A 350 LF 3	A 350 LF 3	A 350 LF 3, A 352 LC3
A 335 P-1	A 234 WP-1	A 182 F 1	A 182 F 1	A 217 WC 6
A 335 P-11	A 234 WP-11	A 182 F 11	A 182 F 11	A 182 F 11, A 217 WC 6
A 335 P-12	A 234 WP-12	A 182 F 12	A 182 F 12	A 217 WC 6
A 335 P-22	A 234 WP-22	A 182 F 22	A 182 F 22	A 182 F 22, A 217 WC 9
A 335 P-5	A 234 WP-5	A 182 F 5	A 182 F 5	A 182 F 5, A 216 WC 5
A 335 P-7	A 234 WP-7	A 182 F 7	A 182 F 7	A 182 F 7, A 217 WC 12
A 335 P-9	A 234 WP-9	A 182 F 9	A 182 F 9	A 182 F 9, A 217 WC 12

Notes:

(1) Bore (B) is the same as nominal pipe size.

(2) Welding necks longer than listed are available in all sizes on special order.

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



STOCK FINISH : The most widely 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″ roundnosed 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.

SPIRAL SERRATED OR PHONOGRAPHIC : This finish is produced by using a 90。round-nosed tool.

CONCENTRIC SERRATED : This finish is 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 125µinch to 250µinch (ANSI B16.5 para 6.4, 4.1)

1. RAISED FACE, AND LARGE MALE AND FEMALE

Either a serrated-concentric or serrated-spiral finish having from 45 to 55 grooves per inch is used. The cutting tool employed has an approximate 0.06 in radius. The resultant surface finish shall have a 125µinch (3.2µ) to 250µinch (6.4µm) approximate roughness.

2. TONGUE AND GROOVE, AND SMALL MALE AND FEMALE

The gasket contact surface does not exceed 125µin (3.2µm) roughness.

3. RING JOINT

The inside wall surface of gasket groove does not exceed 63µin (1.6µm) roughness.

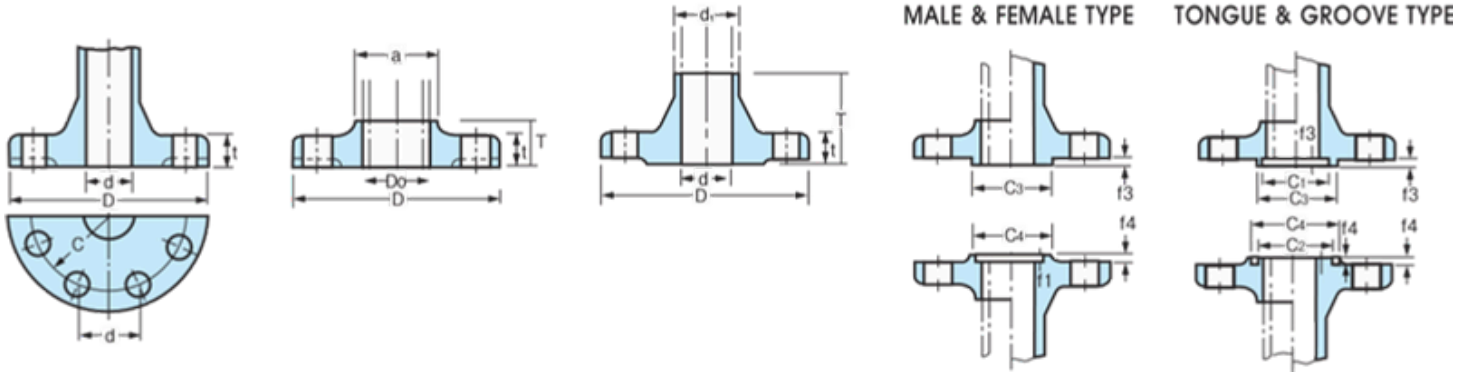
4. BLIND

Blind flanges need not be faced in the center if when this center part is raised its diameter is at least 1 in. smaller 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 derpressed center is not required.

TOLERANCE

ANSI B16.5 FORGED FLANGES

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



THREAD, SOCKET-WELDING, SLIP-ON, LAP JOINT AND BLIND.

Outside Diameter	When O.D. is 24”or less	±1/16”(1.6mm)★
	When O.D. is Over 24”	±1/8”(3.2mm)★
Inside Diameter	Threaded	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 Circle	±1/16”(1.6mm)
	Bolt Hole Spacing	±1/32”(0.8mm)
	Eccentricity of Bolt Circle with Respect to Facing	2 1/2”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)

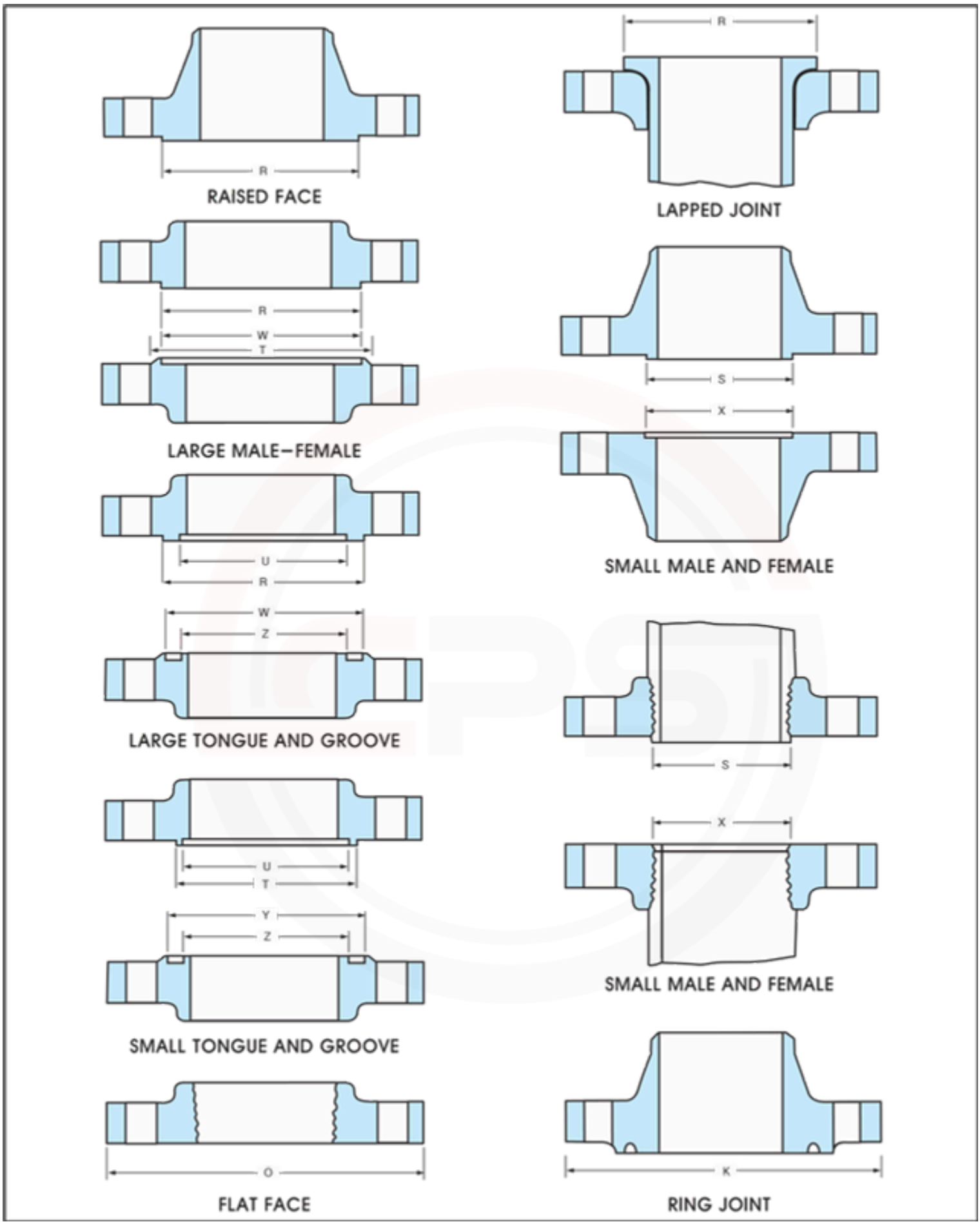
WELDING NECK

Outside Diameter	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 Tongue & 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 Base is Over 24”	±1/8”(3.2mm)★
Diameter of Hub at Point of Welding	5”and Smaller	+3/32”(2.4mm) -1/32”(0.8mm)
	6”and Larger	+5/32”(4.0mm) 1/32”(0.8mm)
Drilling	Bolt Circle	±1/16”(1.6mm)
	Bolt Hole Spacing	±1/32”(0.8mm)
	Eccentricity of Bolt Circle with Respect to Facing	2 1/2”& 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)

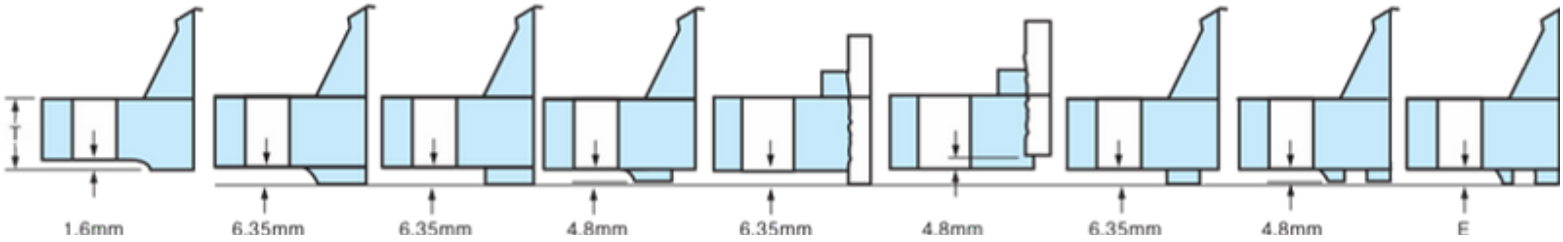
Note: ★This tolerance is not covered in ANSI B16.5, but maker’s option.

FLANGES FACINGS

DIMENSIONS OF FLANGE FACINGS



CLASS 150 & 300RF | CLASS 400 & UPWARD RF | MALE | FEMALE | THREADED MALE | THREADED FEMALE | TONGUE | GROOVE | RING JOINT



ANSI B16.5 FORGED FLANGES

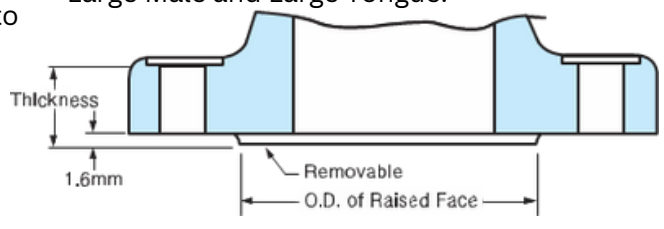
CREATIVE PIPING SOLUTIONS PRIVATE LIMITED (www.creativeforged.com) **Unit : mm**

Nominal Pipe Size	OUTSIDE DIAMETER			I.D. of Lager and Small Tongue	OUTSIDE DIAMETER				I.D. of Large and Groove	HEIGHT		Depth of Groove or Female
	Raised Face, Lapped Large Male and Large Tongue	Small Male	Small Tongue		Large Female and Large Groove		Small Female	Small Groove		Raised Face, and 300 ST'DS	Raised Face, Large and Small Male and Tongue Classes 400 2500 ST'DS	
	R	S	T	U	W	L	X	Y	Z			
1/2	35.1	18.3	35.1	25.4	36.6	46.0	19.8	36.6	23.9	1.5	6.4	4.8
3/4	42.9	23.9	42.9	33.3	44.5	53.8	25.4	44.5	31.8	1.5	6.4	4.8
1	50.8	30.2	47.8	38.1	52.3	62.0	31.8	49.3	36.6	1.5	6.4	4.8
1-1/4	63.5	38.1	57.2	47.8	65.0	74.7	39.6	58.7	46.0	1.5	6.4	4.8
1-1/2	73.2	44.5	63.5	53.8	74.7	84.1	46.0	65.0	52.3	1.5	6.4	4.8
2	91.9	57.2	82.6	73.2	93.7	103.1	58.7	84.1	71.4	1.5	6.4	4.8
2-1/2	104.6	68.3	95.3	85.9	106.4	115.8	69.9	96.8	84.1	1.5	6.4	4.8
3	127.0	84.1	117.3	108.0	128.5	138.2	85.9	119.1	106.4	1.5	6.4	4.8
3-1/2	139.7	96.8	130.0	120.7	141.2	150.9	98.6	131.8	119.1	1.5	6.4	4.8
4	157.2	109.5	144.5	131.8	158.8	168.1	111.3	146.1	130.0	1.5	6.4	4.8
5	185.7	136.7	173.0	160.3	187.5	196.9	138.2	174.8	158.8	1.5	6.4	4.8
6	215.9	162.1	203.2	190.5	217.4	227.1	163.9	204.7	189.0	1.5	6.4	4.8
8	269.7	212.9	254.0	238.3	271.5	280.9	214.4	255.5	236.5	1.5	6.4	4.8
10	323.9	266.7	304.8	285.8	325.4	335.0	268.2	306.3	284.2	1.5	6.4	4.8
12	381.0	317.5	362.0	342.9	382.5	392.2	319.0	363.5	341.4	1.5	6.4	4.8
14	412.8	349.3	393.7	374.7	414.3	423.9	350.8	395.2	373.1	1.5	6.4	4.8
16	469.9	400.1	447.5	425.5	471.4	481.1	401.6	449.3	423.9	1.5	6.4	4.8
18	533.4	450.9	511.0	489.0	534.9	544.6	452.4	512.8	487.4	1.5	6.4	4.8
20	584.2	501.7	558.8	533.4	585.7	595.4	503.2	560.3	531.9	1.5	6.4	4.8
24	692.2	603.3	666.8	641.4	693.7	703.3	604.8	668.3	639.8	1.5	6.4	4.8

Notes:

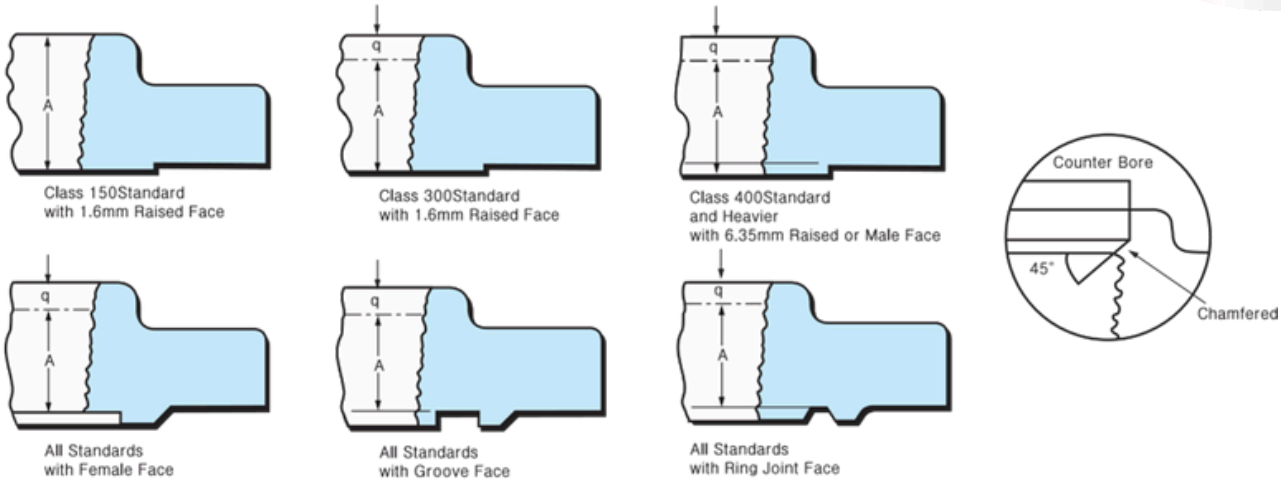
(1) Small male and female faces are not applicable to Slip-on Flange.
(2) Large male and female faces are not applicable to Class 150 Flanges.
(3) For flanges of Class 150 and 300 where they are to be bolted to ANSI Class 125 and 250 Cast-Iron Flanges or required with flat face, flat face can be made by removing raised face.

- Tolerances are ±0.03″(+0.8mm) for 0.06″(1.6mm) RF and ±0.02″(+0.5mm) for 0.25″(6.35mm) RF Large Male and Large Tongue.



THREAD

THREAD AND STANDARDS FOR ANSI FLANGES (ANSI B2.1)



ANSI B16.5 FORGED FLANGES

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED | *www.creativeforged.com* | **Unit : mm**

Nominal Pipe Size	A-THREAD LENGTHS						
	Class 150	Class 300	Class 400	Class 600	Class 900	Class 1500	Class 2500
1/2	15.9	15.9	15.9	15.9	22.2	22.2	28.6
3/4	15.9	15.9	15.9	15.9	25.4	25.4	31.8
1	17.5	17.5	17.5	17.5	28.6	28.6	34.9
1-1/4	20.7	20.7	20.7	20.7	30.2	30.2	38.1
1-1/2	22.2	22.2	22.2	22.2	31.8	31.8	44.5
2	25.4	28.6	28.6	28.6	38.1	38.1	50.8
2-1/2	28.6	31.8	31.8	31.8	47.6	47.6	57.2
3	30.1	31.8	34.9	34.9	41.3	50.8	63.5
3-1/2	31.8	36.5	39.7	39.7	-	-	-
4	33.4	36.5	36.5	41.3	47.6	57.2	69.9
5	36.5	42.9	42.9	47.6	54.0	63.5	76.2
6	39.7	46.1	46.1	50.8	57.2	69.9	82.6
8	44.5	50.8	50.8	60.3	63.5	76.2	95.3
10	49.2	55.6	55.6	65.1	71.5	84.2	108.0
12	55.6	60.3	60.3	69.9	76.2	92.1	120.7
14	57.2	63.5	63.5	73.0	82.6		
16	63.5	68.3	68.3	77.8	85.7		
18	68.3	69.9	69.9	78.4	88.9		
20	69.9	73.0	73.0	82.6	92.1		
24	82.6	82.6	82.6	92.1	101.6		

Notes:

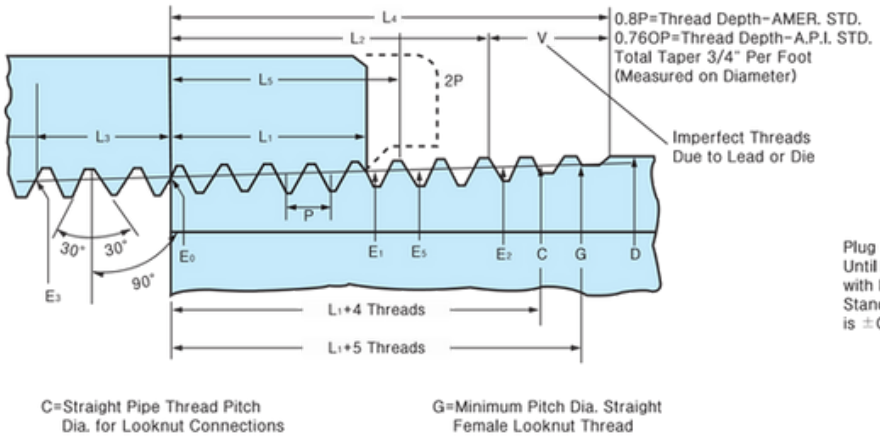
(1) Except flanges with Small Male/Female Face (on pipe end), threaded flanges, have an American National Standard taper pipe thread conforming to ANSI B2.1.

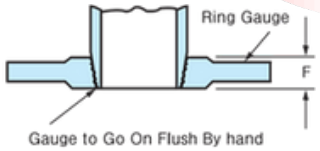
(2) The thread is concentric with the axis of the flange and variations in alignment do not exceed 0.06(1.6mm) in. per foot (0.5 percent)

(3) Class 150 flanges are made without counterbore. The threads are chamfered approximately to the major diameter of the thread at the back of the flange at an angle of approximately 45 degrees with the axis of thread. The chamfer is concentric with the thread and included in the measurement of the thread length.

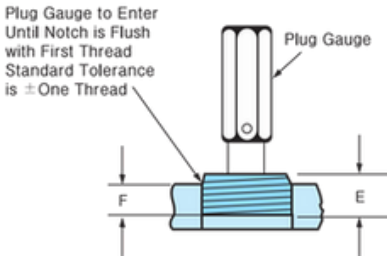
(4) Class 300 and higher pressure flanges are made with a counterbore at the back of the flange. The threads are chamfered to the diameter of the counterbore at an angle of approximately 45 degrees with the axis of the thread. The counterbore and chamfer are concentric with the thread.

(5) The minimum length of effective thread in reducing flanges is at least equal to dimension Q of the corresponding class of threaded flange as shown in the above tables. Threads do not necessarily extend to the face to the flange.





F=Thickness of Working Ring Gauge



ANSI B16.36 FORGED FLANGES

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED | *(www.creativeforged.com)* | *Unit : mm*

Nominal Pipe Size	Outside Diameter of Pipe	Threads Per inch	Pitch of Thread	Pitch Diameter Beginning of Extemal Threads	Handtight Engagement		Effective Thread Extemal		Wrench Make-up Length for Intemal Threaded		Over all Length Extemal Thread
					Length	Pitch Diameter	Length	Pitch Diameter	Length	Pitch Diameter	
	D	N	P	E0	L1	E1	L2	E2	L3	E3	L
1/2	21	14	1.8	19.3	8.1	19.8	13.6	20.1	5.4	18.9	19.9
3/4	27	14	1.8	24.6	8.6	25.1	13.9	25.4	5.4	24.2	20.2
1	33	111/2	2.2	30.8	10.2	31.5	17.3	31.9	6.6	30.4	25.0
1-1/4	42	111/2	2.2	39.6	10.7	40.2	18.0	40.7	6.6	39.1	25.6
1-1/2	48	111/2	2.2	45.6	10.7	46.3	18.4	46.8	6.6	45.2	26.0
2	60	111/2	2.2	57.6	11.1	58.3	19.2	58.8	6.6	57.2	26.9
2-1/2	73	8	3.2	69.1	17.3	70.2	28.9	70.9	6.4	68.7	39.9
3	89	8	3.2	84.9	19.5	86.1	30.5	86.8	6.4	84.5	41.5
3-1/2	102	8	3.2	97.5	20.9	98.8	31.8	99.5	6.4	97.1	42.8
4	114	8	3.2	110.1	21.4	111.4	33.0	112.2	6.4	109.7	44.0
4-1/2	127	8	3.2	122.7	22.2	124.1	34.3	123.0	-	-	-
5	141	8	3.2	136.9	23.8	138.4	35.7	139.2	6.4	136.5	46.7
6	168	8	3.2	163.7	24.3	165.3	38.4	166.1	6.4	163.3	49.4
7	194	8	3.2	189.0	25.4	190.6	41.0	189.3	-	-	-
8	219	8	3.2	214.2	27.0	215.9	43.5	216.9	6.4	213.8	54.5
9	244	8	3.2	239.5	28.7	241.2	46.0	239.8	-	-	-
10	273	8	3.2	267.9	30.7	269.8	48.9	270.9	6.4	267.5	59.9
11	298	8	3.2	293.1	32.6	295.1	51.4	293.5	-	-	-
12	324	8	3.2	318.3	34.5	320.5	54.0	321.7	6.4	317.9	65.0
14	356	8	3.2	349.9	39.7	352.4	57.2	353.5	6.4	349.5	68.2
15	381	8	3.2	375.1	42.8	377.8	59.7	375.6	-	-	-
16	406	8	3.2	400.4	46.0	403.2	62.2	404.3	6.4	400.0	73.2
17	432	8	3.2	425.6	48.3	428.6	64.8	426.1	-	-	-
18	457	8	3.2	450.9	50.8	454.0	67.3	455.1	6.4	450.5	78.3
20	508	8	3.2	501.3	54.0	504.7	72.4	505.9	6.4	500.9	83.4
24	610	8	3.2	602.3	60.3	606.1	82.6	607.5	6.4	601.9	93.6

WELDED AND SEAMLESS
PIPE CARBON AND ALLOY STEELS

ANSI B36.10 | **CREATIVE PIPING SOLUTIONS PRIVATE LIMITED** | **Unit : mm**

Nominal Pipe Size		Outside Diam	I.D Wall	Nominal Inside diameter and Wall thickness													
Inch (B)	mm (DN)			Sch. 5	Sch. 10	Sch. 20	Sch. 30	Sch. STD	Sch. 40	Sch. 60	Sch. XS	Sch. 80	Sch. 100	Sch. 120	Sch. 140	Sch. 160	Sch. XXS
1/8	6	10.3	I.D		7.8		7.4	6.8	6.8		5.5	5.5					
			Wall		1.2		1.5	1.7	1.7		2.4	2.4					
1/4	8	13.7	I.D		10.4		10.0	9.2	9.2		7.7	7.7					
			Wall		1.7		1.9	2.2	2.2		3.0	3.0					
3/8	10	17.1	I.D		13.8		13.4	12.5	12.5		10.7	10.7					
			Wall		1.7		1.9	2.3	2.3		3.2	3.2					
1/2	15	21.3	I.D	18.0	17.1		16.5	15.8	15.8		13.8	13.8				11.7	6.4
			Wall	1.7	2.1		2.4	2.8	2.8		3.7	3.7				4.8	7.5
3/4	20	26.7	I.D	23.4	22.5		21.9	21.0	21.0		18.9	18.9				15.6	11.1
			Wall	1.7	2.1		2.4	2.9	2.9		3.9	3.9				5.6	7.8
1	25	33.4	I.D	30.1	27.9		27.6	26.6	26.6		24.3	24.3				20.7	15.2
			Wall	1.7	2.8		2.9	3.4	3.4		4.6	4.6				6.4	9.1
1-1/4	32	42.2	I.D	38.9	36.7		36.3	35.1	35.1		32.5	32.5				29.5	22.8
			Wall	1.7	2.8		3.0	3.6	3.6		4.9	4.9				6.4	9.7
1-1/2	40	48.3	I.D	45.0	42.8		41.9	40.9	40.9		38.1	38.1				34.0	28.0
			Wall	1.7	2.8		3.2	3.7	3.7		5.1	5.1				7.1	10.2
2	50	60.3	I.D	57.0	54.8		53.9	52.5	52.5		49.2	49.2				42.8	38.2
			Wall	1.7	2.8		3.2	3.9	3.9		5.5	5.5				8.7	11.1
2-1/2	65	73.0	I.D	68.8	66.9		63.4	62.7	62.7		59.0	59.0				53.9	45.0
			Wall	2.1	3.1		4.8	5.2	5.2		7.0	7.0				9.5	14.0
3	80	88.9	I.D	84.7	108.2		79.3	77.9	77.9		73.7	73.7				66.6	58.4
			Wall	2.1	3.1		4.8	5.5	5.5		7.6	7.6				11.1	15.2
3-1/2	90	101.6	I.D	97.4	134.5		92.0	90.1	90.1		85.4	85.4					
			Wall	2.1	3.4		4.8	5.7	5.7		8.1	8.1					
4	100	114.3	I.D	110.1	161.5		104.7	102.3	102.3		97.2	97.2		92.0		87.3	80.1
			Wall	2.1	3.4		4.8	6.0	6.0		8.6	8.6		11.1		13.5	17.1
5	125	141.3	I.D	135.8	134.5			128.2	128.2		122.2	122.2		115.9		109.5	103.2
			Wall	2.8	3.4			6.6	6.6		9.5	9.5		12.7		15.9	19.1
6	150	168.3	I.D	162.8	161.5			154.1	154.1		146.4	146.4		139.8		131.8	124.4
			Wall	2.8	3.4			7.1	7.1		11.0	11.0		14.3		18.3	22.0
8	200	219.1	I.D	213.6	211.6	206.4	205.0	202.7	202.7	198.5	193.7	193.7	188.9	182.6	177.9	173.1	174.6
			Wall	2.8	3.8	6.4	7.0	8.2	8.2	10.3	12.7	12.7	15.1	18.3	20.6	23.0	22.2
10	250	273.0	I.D	266.2	264.6	260.3	257.4	254.5	254.5	247.6	247.6	242.8	236.5	230.1	222.2	215.8	222.2
			Wall	3.4	4.2	6.4	7.8	9.3	9.3	12.7	12.7	15.1	18.3	21.4	25.4	28.6	25.4
12	300	323.8	I.D	315.9	314.7	311.1	307.0	304.7	303.2	295.3	298.4	288.8	280.9	273.0	266.6	257.2	273.0
			Wall	4.0	4.6	6.4	8.4	9.5	10.3	14.3	12.7	17.5	21.4	25.4	28.6	33.3	25.4
14	350	355.6	I.D	347.7	342.9	339.8	336.5	336.5	333.3	325.4	330.2	317.5	307.9	300.0	292.1	284.2	
			Wall	4.0	6.4	7.9	9.5	9.5	11.1	15.1	12.7	19.1	23.8	27.8	31.8	35.7	
16	400	406.4	I.D	398.0	393.7	390.6	387.3	387.3	381.0	373.1	381.0	363.5	354.0	344.5	333.3	325.4	
			Wall	4.2	6.4	7.9	9.5	9.5	12.7	16.7	12.7	21.4	26.2	31.0	36.5	40.5	
18	450	457.0	I.D	448.6	444.3	441.2	434.7	437.9	428.5	418.9	431.6	409.3	398.3	387.1	377.7	366.5	
			Wall	4.2	6.4	7.9	11.1	9.5	14.3	19.1	12.7	23.8	29.4	34.9	39.7	45.2	
20	500	508.0	I.D	498.4	495.3	488.9	482.6	488.9	477.8	466.8	482.6	455.6	442.9	431.8	419.1	408.0	
			Wall	4.8	6.4	9.5	12.7	9.5	15.1	20.6	12.7	26.2	32.5	38.1	44.5	50.0	
22	550	559.0	I.D	549.4	546.3	539.9	533.6	539.9		514.5	533.6	501.8	489.1	476.4	463.7	451.0	
			Wall	4.8	6.4	9.5	12.7	9.5		22.2	12.7	28.6	34.9	41.3	47.6	54.0	
24	600	610.0	I.D	598.9	597.3	590.9	581.5	590.9	575.0	560.8	584.6	548.1	532.2	518.0	505.3	490.9	
			Wall	5.5	6.4	9.5	14.3	9.5	17.5	24.6	12.7	31.0	38.9	46.0	52.4	59.5	

▶ **Not included B36.10**

The wall thickness shown represent nominal wall dimensions which are subject to a-12 1/2% mill tolerance.

Note that schedule 40 in, size 12″(304.8mm) and larger and that schedule 80 in, size 10″(254mm) and larger do not agree with schedules 40S and 80S of ANSI B36. 19 nor with standard weight and extra strong respectively.

WELDED AND SEAMLESS PIPE STAINLESS STEELS

ANSI B36.19	CREATIVE PIPING SOLUTIONS PRIVATE LIMITED					Unit : mm
Nominal Pipe Size		Outside Diam	I.D Wall	Nominal Inside diameter and Wall thickness			
Inch (B)	mm (DN)			Sch. 5	Sch. 10	Sch. 40	Sch. 80
1/8	6	10.3	I.D		7.8	6.8	5.5
			Wall		1.2	1.7	2.4
1/4	8	13.7	I.D		10.4	9.2	7.7
			Wall		1.7	2.2	3.0
3/8	10	17.1	I.D		13.8	12.5	10.7
			Wall		1.7	2.3	3.2
1/2	15	21.3	I.D	18.0	17.1	15.8	13.8
			Wall	1.7	2.1	2.8	3.7
3/4	20	26.7	I.D	23.4	22.5	21.0	18.9
			Wall	1.7	2.1	2.9	3.9
1	25	33.4	I.D	30.1	27.9	26.6	24.3
			Wall	1.7	2.8	3.4	4.6
1-1/4	32	42.2	I.D	38.9	36.7	35.1	32.5
			Wall	1.7	2.8	3.6	4.9
1-1/2	40	48.3	I.D	45.0	42.8	40.9	38.1
			Wall	1.7	2.8	3.7	5.1
2	50	60.3	I.D	57.0	54.8	52.5	49.2
			Wall	1.7	2.8	3.9	5.5
2-1/2	65	73.0	I.D	68.8	66.9	62.7	59.0
			Wall	2.1	3.1	5.2	7.0
3	80	88.9	I.D	84.7	108.2	77.9	73.7
			Wall	2.1	3.1	5.5	7.6
3-1/2	90	101.6	I.D	97.4	134.5	90.1	85.4
			Wall	2.1	3.4	5.7	8.1
4	100	114.3	I.D	110.1	161.5	102.3	97.2
			Wall	2.1	3.4	6.0	8.6
5	125	141.3	I.D	135.8	134.5	128.2	122.2
			Wall	2.8	3.4	6.6	9.5
6	150	168.3	I.D	162.8	161.5	154.1	146.4
			Wall	2.8	3.4	7.1	11.0
8	200	219.1	I.D	213.6	211.6	202.7	193.7
			Wall	2.8	3.8	8.2	12.7
10	250	273.0	I.D	266.2	264.6	254.6	247.7
			Wall	3.4	4.2	9.3	12.7
12	300	323.8	I.D	315.9	317.8	304.8	298.5
			Wall	4.0	4.6	9.5	12.7
14	350	355.6	I.D	347.7	346.0		
			Wall	4.0	4.8		
16	400	406.4	I.D	398.0	396.8		
			Wall	4.2	4.8		
18	450	457.0	I.D	448.6	447.4		
			Wall	4.2	4.8		
20	500	508.0	I.D	498.4	496.9		
			Wall	4.8	5.5		
22	550	559.0	I.D	549.4	547.9		
			Wall	4.8	5.5		
24	600	610.0	I.D	598.9	597.3		
			Wall	5.5	6.35		

The wall thickness shown represent nominal or average wall dimensions which are subject to a-12 1/2% mill tolerance.
Sizes 14″(355.6mm) through 30″(762.0mm) are not at publication date covered in B36.19, and dimensions listed are thosecommonly used in the industry.
*Schedules 5S and 10S wall thicknesses do not permit threading in accordance with ANSI B2.1.
*Note that schedule 40S and schedule 80S in these size do not agree with schedule 40 and schedule 80 of ANSI B36.10.
and that they are identical to standard weight and extra strong respectively of ANSI B36.10.

MATERIAL GRADE

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED www.creativeforged.com

COMPOSITION											UNS NO.	DIN	Tensile Strength	Yield Strength	Brinell
GRADE	C	Mn	P	S	Si	Ni	Cr	Mo	N	V			Min, ksi(MPa)	Min, ksi(MPa)	Hardness
LOW ALLOY STEELS															
F1	0.28	0.06-0.90	0.045	0.045	0.15-0.35			0.44-0.65			K12822	15Mo3	70(485)	40(275)	143-192
F5	0.15	0.30-0.60	0.03	0.03	0.5	0.5	4.0-6.0	0.44-0.65			K41545	12CrMo19-5	70(485)	40(275)	143-217
F9	0.15	0.30-0.60	0.03	0.03	0.50-1.10		8.0-10.0	0.90-1.10			K90941	12-CrMo9-1	85(585)	55(380)	179-217
F91	0.08-0.12	0.30-0.60	0.02	0.01	0.20-0.50	0.4	8.0-9.5	0.85-1.05			K90901	X10CrMoN69-1	85(585)	60(415)	248max
F92	0.07-0.13	0.30-0.60	0.02	0.01	0.5	0.4	8.50-9.50	0.30-0.60					90(620)	64(440)	269max
F11	0.05-0.15	0.30-0.60	0.03	0.03	0.50-1.00		1.00-1.50	0.44-0.65			K11597	13CrMo44	60(615)	30(205)	121-174
F12	0.05-0.15	0.30-0.60	0.045	0.045	0.50		0.80-1.25	0.44-0.65			K11562	16CrMo44	60(415)	32(220)	121-174
F22	0.05-0.15	0.30-0.60	0.04	0.04	0.5		2.00-2.50	0.87-1.13			K21590	10CrMo9-10	60(415)	30(205)	170max
F23	0.04-0.10	0.10-0.60	0.03	0.01	0.5		1.92-2.60	0.05-0.30			K41650		74(510)	58(400)	220max
SCM440	0.38-0.43	0.60-0.90	0.03	0.03	0.15-0.35		0.90-1.20	0.15-0.30				42CrMo4			
SNCM439	0.38-0.43	0.60-0.90	0.03	0.03	0.15-0.35		0.60-1.00	0.15-0.30				36CrNiMo4			
STAINLESS STEELS (MARTENSITEC)															
F6	0.15	1	0.04	0.03	1	0.5	11.5-13.5				S41000	X12Cr13	70(485)	40(275)	143-207
STAINLESS STEELS (FERRITIC)															
F429	0.12	1	0.04	0.03	0.75	0.5	14.0-16.0				S42900		60(415)	35(240)	190max
F430	0.12	1	0.04	0.03	0.75	0.5	16.0-18.0				S43000		60(415)	35(240)	190max
STAINLESS STEELS(AUSTENITIC)															
F304L	0.03	2	0.045	0.03	1	8.0-13.0	18.0-20.0				S30403	X2CrNi19-11	70(485)	25(170)	
F310	0.25	2	0.045	0.03	1	19.0-22.0	24.0-26.0				S31000	X12CrNi25-20	75(515)	30(205)	
F316L	0.03	2	0.045	0.03	1	10.0-15.0	16.0-18.0	2.0-3.0			S31603	X2CrNiMo18-14-3	70(485)	25(170)	
F317L	0.03	2	0.045	0.03	1	11.0-15.0	18.0-20.0	3.0-4.0			S31703		70(485)	25(170)	
F321	0.08	2	0.045	0.03	1	9.0-12.0	17.0-19.0				S32100	X6CrNiTi18-10	75(515)	30(205)	
F347	0.08	2	0.045	0.03	1	9.0-13.0	17.0-20.0				S34700	X6CrNiNb18-10	75(515)	30(205)	
F44	0.02	1	0.03	0.01	0.8	17.5-18.5	19.5-20.5				S31254		94(650)	44(300)	
STAINLESS STEELS (DUPLEX)															
F51	0.03	2	0.03	0.02	1	4.5-6.5	21.0-23.0	2.5-3.5			S31803	X2CrNiMoN22-5-3	90(620)	65(450)	
F53	0.03	1.2	0.035	0.02	0.8	6.8-8.0	24.0-26.0	3.0-5.0			S32750	X2CrNiMoCuWN25-7-4	116(800)	80(550)	310max
F904L	0.02	2	0.04	0.03	1	23.0-28.0	19-.0-23.0	4.0-5.0			NO8904		71(490)	31(215)	
SUSF329J3L	0.03	2.0	0.04	0.030	1.00	4.50-6.50	21.0-24.0	2.50-3.50	0.08-0.20						
F60											S32205				
CARBON STEELS															
A105	0.35	0.60-1.05	0.035	0.04	0.10-0.35	0.4	0.3	0.12				CK25	70(485)	36(250)	187
A350LF2	0.3	0.60-1.35	0.035	0.04	0.15-0.30	0.4	0.3	0.12					70-95 (485-655)	36(250)	197
A350LF3	0.2	0.9	0.035	0.04	0.20-0.35	3.3-3.7	0.3	0.12					70-95 (485-655)	37.5(260)	
A694/F65	0.26	1.4	0.025	0.025	0.15-0.35								77(530)	65(450)	
S45C	0.42-0.48	0.60-0.90	0.30	0.35	0.15-0.35							CK25			
ALLOY STEELS															
ALLOY20	0.07	2	0.45	0.35	1	32-38	19-21	2.0-3.0			NO8020				
ALLOY625	0.1	0.5	0.015	0.015	0.5	58	20-23	8.0-10.0			NO6625				
ALLOY800	0.1	1.5		0.015	1	30-35	19-23				NO8800				
A800H/HT	0.05-0.10	1.5		0.015	1	30-35	19-23				NO8810/11				
ALLOY825	0.05	1		0.03	0.5		19.5-23.5	2.50-3.50			NO8825				
MOLD STEELS															
SKT	0.50-0.60	0.60-0.90	0.03	0.02	0.10-0.40	1.50-1.80	0.80-1.20	0.35-0.55		0.05-0.15					
STD61	0.32-0.42	0.50	0.03	0.03			4.50-5.50	1.00-1.50		0.80-1.20					

MATERIAL SPECIFICATIONS
APPLICABLE ASTM SPECIFICATIONS

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED

GROUP 1 MATERLALS				PRODUCT FORMS			
Meterial Group No.	Nomal Designation Steel	Forgings		Castings		Forgings	
		Spec. -Gr.	Notes	Spec. -Gr.	Notes	Spec. -Gr.	Notes
1.1	Carbon	A105	(1)(3)	A216-WCB	(1)	A515-70	(1)
		A350-LF2				A516-70	(1)
	C-Mn-Si					A537-C1.1	
1.2	Carbon			A216-WCC	(1)		
				A352-LCC			
	2-1 2 Ni			A352-LC2		A203-B	
	3-1 2 Ni	A350-LF3		A352-LC3		A302-E	
1.3	Carbon			A352-LCB	(1)	A203-A	
						A203-D	
						A515-65	
						A516-65	
1.4	Carbon					A515-60	(1)
		A350-LF1				A516-60	
1.5	C-1 2 Mo	A182-F1	(2)	A217-WC1	(2)(4)	A204-A	(2)
				A352-LC1		A204-B	(2)
1.7	C-1 2 Mo						
	1 2 Cr-1 2 Mo	A182-F2					
	Ni-Cr-1 2 Mo			A217-WC4	(4)		
	Ni-Cr-1 Mo			A217-WC5	(4)		
1.9	1 Cr-1 2 Mo	A182-F12	(4)			A387-11 C1.2	
	1-1 4 Cr-1 2 Mo	A182-F11	(4)	A217-WC6	(4)	A387-22 C1.2	
1.10	2-1 4 Cr-1 Mo	A182-F22		A217-WC9	(4)	A387-22 C1.2	
1.13	5 Cr-1 2 Mo	A181-F5		A217-C5	(4)		
		A182-F5a					
1.14	9 Cr-1 Mo	A182-F9		A217-C12	(4)		

GROUP 2 MATERIALS				PRODUCT FORMS			
2.1	18 Cr-8 Ni	A182-F304	(5)	A351-CF3		A240-304	(5)(6)
	18 Cr-8 Ni	A182-F304H		A351-CF8	(5)	A240-304H	
2.2	16 Cr-12 Ni-2 Mo	A182-F316	(5)			A240-316	(5)(6)
		A182-F316H				A240-316H	
	18 Cr-13 Ni-3 Mo			A351-CF3M		A240-317	(5)(6)
	18 Cr-9 Ni-2 Mo			A351-CF8M		A302-E	
				A351-CF8M	(5)		
2.3	18 Cr-8 Ni	A182-F304L				A240-304L	
	16 Cr-12 Ni-2 Mo	A182-F316L				A240-316L	
2.4	18 Cr-10-Ni-Ti	A182-F321	(5)			A240-321	(5)(6)
		A182-F321H				A240-321H	
2.5	18 Cr-10 Ni-Cb	A182-F347	(5)	A351-CF8C	(5)	A240-347	(5)(6)
		A182-F347H				A240-347H	
		A182-F348				A240-348	(5)(6)
		A182-F348H				A240-348H	
2.6	25 Cr-12 Ni			A351-CH8	(5)		
				A351-CH20	(5)		
	23 Cr-12 Ni					A240-309S	(5)(6)
2.7	25 Cr-20 Ni	A182-F310	(5)(7)	A351-CK20	(5)	A240-310S	(5)(6)(7)

General Notes:

(a) For temperature limitations see footnotes in ANSI B16.5 TABLES. (PRESSURE-TEMPERATURE RATINGS)

(b) Plate meterials are listed only for use as blind flanges (see 5.1). Additional plate materials listed in ANSI B16.34 may also be used, with corresponding B16.34 Standard Class ratings.

(c) Material Groups not listed in Table 1A are intended for use in valves. See ANSI B16.34.

Notes:

(1) Upon prolonged exposure to temperatures above about 800。F(425。C), the carbide phase of carbon steel may be converted to garphite.

(2) Upon prolonged exposure to temperatures above about 875。F(470。C), the carbide phase of carbon-molybdenum steel may be converted to garphite.

(3) Only killed steel shall be used above 850。F (455。C).

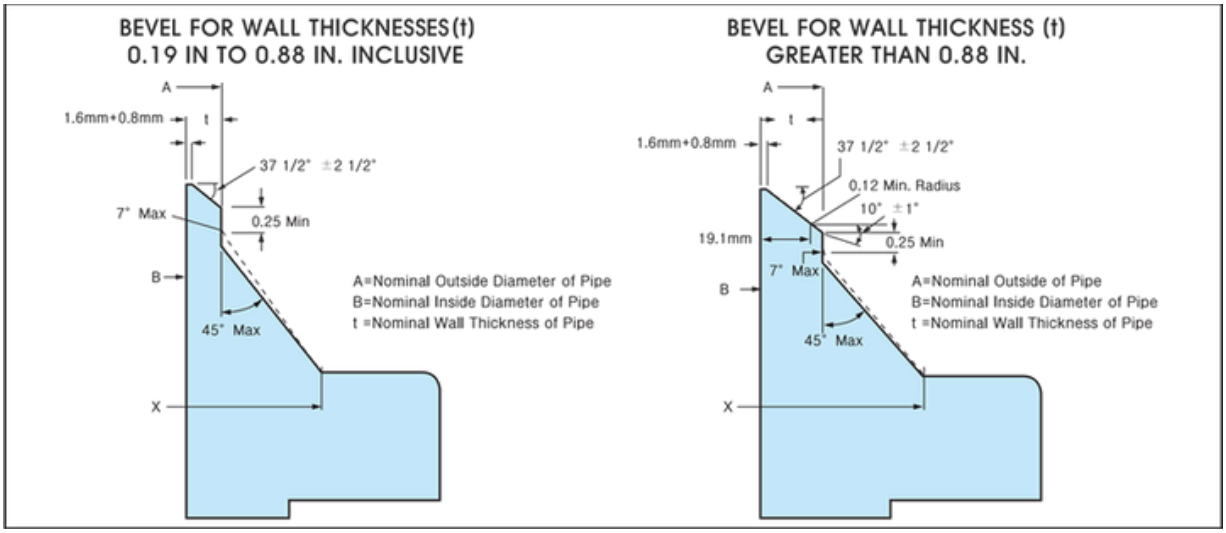
(4) Use normalized and tempered material only.

(5) At temperatures over 1000。F (540。C), use only when the carbon content is 0.04 percent or higher.

(6) For temperatures above 1000。F (540。C), use only if the material is heat treated by heating it to a temperature of at least1900。F (1040。C) and quenching in water or rapidly cooling by other means.

(7) Service temperatures of 1050。F (565。C) and above should be used only when assurance is provided that grain size is not finer than ASTM No.6.

WELDING ENDS
ANSI B16.5 FORGED FLANGES

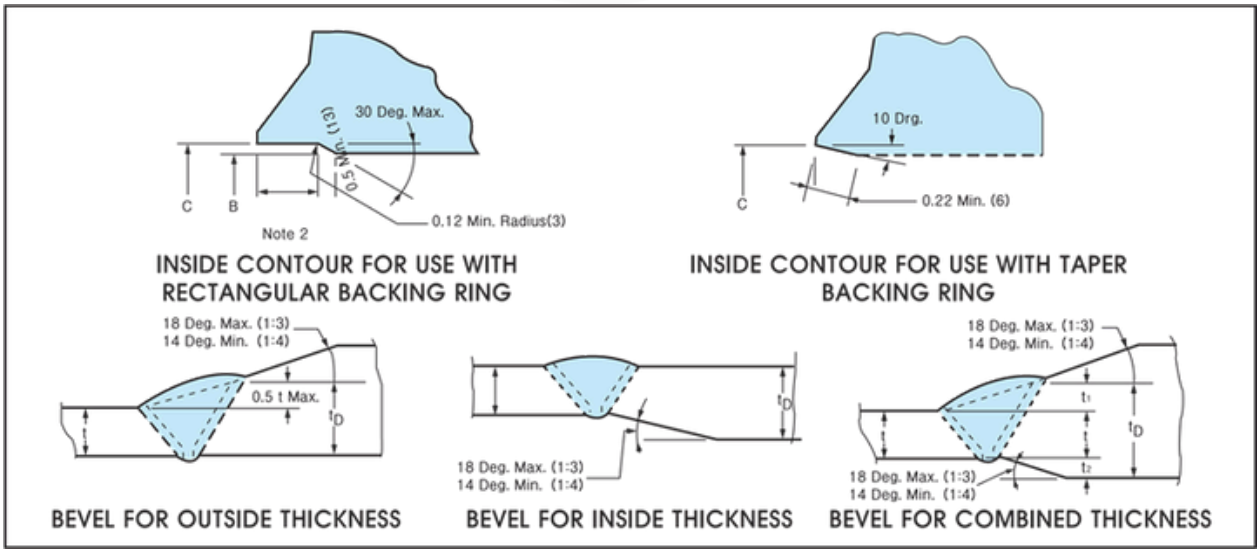


Notes:

When the thickness of the hub at the bevel is greater than that of the pipe to which the flange is joined and the additional thickness is provided on the outside diameter, a taper weld having a slop not exceeding 1 to 3 may be employed or, alternatively, the greater outside diameter may be tapered, at the same maximum slope or less, from a point on the welding bevel equal to the OD at the mating pipe. Similarly, when the greater thickness is provided on the inside of the flange, it shall be taper-bored from the welding end at a slope not exceeding 1 to 3.

When flanges covered by this standard are intended for services with light wall, higher strength pipe, the thickness of the hub at the bevel may be greater than that of the pipe to which the flange is joined. Under these conditions a single taper hub may be provided and the outside diameter of the hub at the base (Dimension X) may also be modified.

The additional thickness may be provided on either inside or outside or partially on each side, but the total additional thickness shall not exceed one-half times the nominal wall thickness of intened mating pipe.



Notes:

(1) When the materials joined have equal minimum specified yield strength, there shall be no restriction on the minimum slope.

(2) Neither t1, t2, nor their sum (t1+t2) shall exceed 0.5t.

(3) When the minimum specified yield strength of the sections to be joined are unequal, the valus of tD shall at least equal t time

the ratio of minimum specified yield strength of the pipe to minimum specified yield strength of the flange.

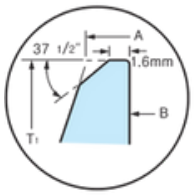
ANSI/ASME B16.47 SERIES B

FLANGES (API 605)

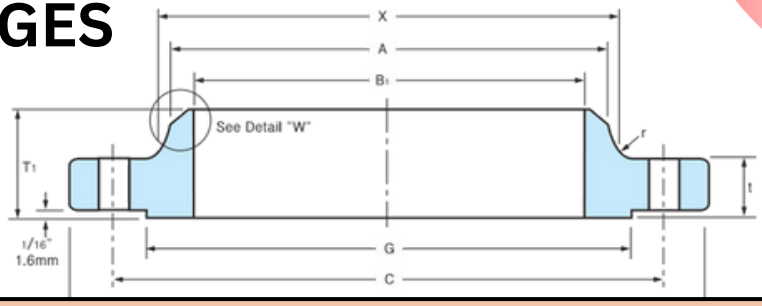
- Class 75 Flanges
- Class 150 Flanges
- Class 300 Flanges
- Class 400 Flanges
- Class 600 Flanges
- Class 900 Flanges

CPS
CREATIVE PIPING SOLUTIONS PVT. LTD.

CLASS 75 FLANGES



Detail "W"
Typical Welding



ASME B16, 47 SER, B(AP1605)

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED | *(www.creativeforged.com)* | **Unit : mm**

Nominal Pipe Size	Outside Diameter of Pipe	O.D. of Raised Face	Diam. at Base of Hub	Thickness	BORE			Length Thru Hub	Diam of Hub of Bevel	Radius at Base of Hub	DRILLING			Approximate Weight Pounds(Kg)
					Wall Thickness						Bolt Circle Diam.	Number of Holes	Diam, of Holes	
					6.35mm	9.5mm	12.7mm							
	D	G	X	t	B1			T1	A	r	C			
26	762	704.9	676.1	33.3	647.7	641.4	635.0	58.7	661.9	7.9	723.9	36	19.1	63.9 (29.01)
28	813	755.7	726.9	33.3	698.5	692.2	685.8	62.0	712.7	7.9	774.7	40	19.1	68.3 (31.01)
30	864	806.5	777.7	33.3	749.3	743.0	736.6	65.0	763.4	7.9	825.5	44	19.1	777.2 (35.05)
32	914	857.3	828.5	35.1	800.1	793.8	787.4	69.9	814.3	7.9	876.3	48	19.1	105.8 (48.03)
34	965	908.1	879.3	35.1	850.9	844.6	838.2	73.2	865.1	7.9	927.1	52	19.1	110.2 (50.03)
36	1034	965.2	935.0	36.6	901.7	895.4	889.0	85.9	915.9	9.7	992.1	40	22.4	136.7 (62.06)
38	1084	1016.0	985.8	38.1	952.5	946.2	939.8	88.9	966.7	9.7	1042.9	40	22.4	154.3 (70.05)
40	1135	1066.8	1036.6	38.1	1003.3	997.0	990.6	91.9	1017.54	9.7	1093.7	44	22.4	163.1 (74.05)
42	1186	1117.6	1087.4	39.6	1054.1	1047.8	1041.4	95.3	1068.3	9.7	1144.5	48	22.4	169.8 (77.09)
44	1251	1174.8	1140.0	42.9	1104.9	1049.4	1143.0	104.6	1119.1	9.7	1203.5	36	25.4	180.8 (82.08)
46	1302	1225.6	1190.8	44.5	1155.7	1149.4	1143.0	108.0	1169.9	9.7	1254.3	40	25.4	231.5 (105.01)
48	1353	1276.4	1241.6	46.0	1206.5	1200.2	1193.8	111.3	1220.7	9.7	1305.1	44	25.4	264.6 (120.03)
50	1403	1327.2	1293.9	47.8	1257.3	1251.0	1244.6	115.8	1271.5	9.7	1355.9	44	25.4	295.8 (134.28)
52	1457	1378.0	1344.7	47.8	1308.1	1301.8	1295.4	120.7	1322.3	9.7	1409.7	48	25.4	313.2 (142.18)
54	1508	1428.8	1397.0	49.3	1358.9	1352.6	1346.2	125.5	1373.1	9.7	1460.5	48	25.4	396.8 (180.15)
56	1575	1485.9	1450.8	50.8	1409.7	1403.4	1397.0	134.9	1423.9	11.2	1521.0	40	28.4	406.6 (184.58)
68	1626	1536.7	1501.6	52.3	1460.5	1454.2	1447.8	138.2	1474.7	11.2	1571.8	44	28.4	430.8 (195.56)
60	1676	1587.5	1552.4	55.6	1511.3	1505.0	1498.6	144.5	1525.5	11.2	1622.6	44	28.4	463.0 (210.20)

CLASS 150 FLANGES

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED | *(www.creativeforged.com)*

Nominal Pipe Size	Outside Diameter of Pipe	O.D. of Raised Face	Diam. at Base of Hub	Thickness	BORE			Length Thru Hub	Diam of Hub of Bevel	Radius at Base of Hub	DRILLING			Approximate Weight Pounds(Kg)
					Wall Thickness						Bolt Circle Diam.	Number of Holes	Diam, of Holes	
					6.35mm	9.5mm	12.7mm							
	D	G	X	t	B1			T1	A	r	C			
26	786	711.2	684.3	41.1	647.7	641.4	635.0	88.9	661.9	9.7	744.5	36	22.4	114.6 (52.03)
28	837	762.0	735.1	44.5	698.5	692.2	685.8	95.3	712.7	9.7	795.3	40	22.4	127.9 (58.07)
30	887	812.8	787.4	44.5	749.3	743.0	736.6	100.1	763.4	9.7	846.1	44	22.4	143.4 (65.06)
32	941	863.6	839.7	46.0	800.1	793.8	787.4	108.0	814.3	9.7	900.2	48	22.4	187.4 (85.08)
34	1005	920.8	892.0	49.3	850.9	844.6	838.2	110.2	865.1	9.7	957.3	52	25.4	220.5 (100.11)
36	1057	971.6	944.6	52.3	901.7	895.4	889.0	117.3	915.9	9.7	1009.7	40	25.4	253.5 (115.09)
38	1124	1022.4	997.0	53.8	952.5	946.2	939.8	124.0	968.2	9.7	1069.8	40	28.4	297.5 (135.07)
40	1175	1079.5	1049.3	55.6	1003.3	997.0	990.6	128.5	1019.0	9.7	1120.6	44	28.4	330.7 (150.14)
42	1226	1130.3	1101.9	58.7	1054.1	1047.8	1041.4	133.4	1069.8	11.2	1171.4	48	28.4	363.8 (165.17)
44	1276	1181.1	1152.7	60.5	1104.9	1049.4	1143.0	136.7	1120.6	11.2	1222.2	52	28.4	440.9 (200.17)
46	1341	1234.9	1205.0	62.0	1155.7	1149.4	1143.0	144.5	1171.4	11.2	1284.2	40	31.8	463.0 (210.20)
48	1392	1289.1	1257.3	65.0	1206.5	1200.2	1193.8	149.4	1222.2	11.2	1335.0	44	31.8	529.1 (240.21)
50	1443	1339.9	1308.1	68.3	1257.3	1251.0	1244.6	153.9	1273.0	11.2	1385.8	48	31.8	552.4 (250.27)
52	1494	1390.7	1360.4	69.9	1308.1	1301.8	1295.4	157.2	1323.8	11.2	1436.6	52	31.8	585.9 (265.77)
54	1549	1441.5	1412.7	71.4	1358.9	1352.6	1346.2	162.1	1374.6	11.2	1492.3	56	31.8	683.4 (310.26)
56	1600	1492.3	1465.3	73.2	1409.7	1403.4	1397.0	166.6	1425.4	14.2	1543.1	60	31.8	674.8 (306.08)
68	1675	1543.1	1516.1	74.7	1460.5	1454.2	1447.8	174.8	1476.2	14.2	1611.4	48	35.1	810.6 (367.76)
60	1726	1600.2	1570.0	76.2	1511.3	1505.0	1498.6	179.3	1527.0	14.2	1662.2	52	35.1	903.9 (410.37)

Notes:

(1) For the inside diameter of pipes (corresponding to' Bore'(B1) of Welding Neck Flanges), refer to page 52.

(2) Class 75 flanges will be furnished with 0.06″(1.6mm) raised face, which is included in' Thickness'(t) and' Length through Hub'(T1)

(3) Dimensional tolerances are in accordance with ANSI B16.5

CLASS 300 FLANGES

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED — (www.creativeforged.com)

Nominal Pipe Size	Outside Diameter of Pipe	O.D. of Raised Face	Diam. at Base of Hub	Thickness		BORE			Length Thru Hub	Diam of Hub of Bevel	Radius at Base of Hub	DRILLING			Approximate Weight Pounds(Kg)
						Wall Thickness						Bolt Circle Diam.	Number of Holes	Diam, of Holes	
				WNF	Blind	6.35mm	9.5mm	12.7mm							
	D	G	X	t		B1			T1	A	r	C			
26	867	736.6	701.5	88.9	88.9	647.7	641.4	635.0	144.5	665.2	14.2	803.1	32	35.1	440.9 (200.17)
28	921	787.4	755.7	88.9	88.9	698.5	692.2	685.8	149.4	716.0	14.2	857.3	36	35.1	463.0 (210.20)
30	991	844.6	812.8	93.7	93.7	749.3	743.0	736.6	158.0	768.4	14.2	920.8	36	38.1	595.2 (270.22)
32	1054	901.7	863.6	103.1	103.1	800.1	793.8	787.4	168.1	819.2	15.7	977.9	32	41.1	725.5 (330.29)
34	1108	952.5	917.4	103.1	103.1	850.9	844.6	838.2	173.0	870.0	15.7	1031.7	36	41.1	793.7 (360.34)
36	1171	1009.7	965.2	103.1	103.1	901.7	895.4	889.0	180.8	920.8	15.7	1089.2	32	44.5	903.9 (410.37)
38	1222	1060.5	1016.0	111.2	11.2	952.5	946.2	939.8	192.0	971.6	15.7	1140.0	36	44.5	1256.6 (570.50)
40	1273	1114.6	1066.8	115.8	115.8	1003.3	997.0	990.6	198.4	1022.4	15.7	1190.8	40	44.5	14550.0 (660.57)
42	1334	1168.4	1117.6	119.1	119.1	1054.1	1047.8	1041.4	204.7	1074.7	15.7	1244.5	36	47.8	1587.3 (720.63)
44	1384	1219.2	1173.2	127.0	127.0	1104.9	1049.4	1143.0	214.4	1125.5	154.7	1295.4	40	50.8	1763.7 (800.72)
46	1461	1270.0	1128.9	128.5	130.0	1155.7	1149.4	1143.0	222.3	1176.3	15.7	1365.3	36	50.8	2138.5 (970.88)
48	1511	1327.2	1277.9	128.5	134.8	1206.5	1200.2	1193.8	223.8	1227.1	15.7	1416.1	40	50.8	2182.5 (990.86)
50	1562	1378.0	1330.5	138.1	139.7	1257.3	1251.0	1244.6	235.0	1277.9	15.7	1466.9	44	50.8	2308.2 (1047.92)
52	1613	1428.8	1382.8	142.7	144.2	1308.1	1301.8	1295.4	242.8	1328.7	15.7	1517.7	48	50.8	2453.3 (1113.79)
54	1673	1479.6	1435.1	136.6	149.3	1358.9	1352.6	1346.2	239.8	1379.5	15.7	1577.8	48	50.8	2557.3 (1161.01)
56	1765	1536.7	1493.8	153.9	156.9	1409.7	1403.4	1397.0	268.2	1422.4	17.5	1651.0	36	60.5	2949.9 (1336.01)
68	1827	1593.9	1547.9	153.9	162.0	1460.5	1454.2	1447.8	274.6	1481.1	17.5	1712.0	40	60.5	3144.5 (1427.60)
60	1878	1651.0	1598.7	150.8	166.6	1511.3	1505.0	1498.6	271.5	1531.9	17.5	1763.8	40	60.5	3196.7 (1451.30)

CLASS 400 FLANGES

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED — (www.creativeforged.com)

Nominal Pipe Size	Outside Diameter of Pipe	O.D. of Raised Face	Diam. at Base of Hub	Thickness		BORE			Length Thru Hub	Diam of Hub of Bevel	Radius at Base of Hub	DRILLING			Approximate Weight Pounds(Kg)
						Wall Thickness						Bolt Circle Diam.	Number of Holes	Diam, of Holes	
				WNF	Blind	6.35mm	9.5mm	12.7mm							
	D	G	X	t		B1			T1	A	r	C			
26	850.9	711.2	668.8	88.9	88.9	647.7	641.4	635.0	149.3	660.4	11.1	781.0	28	38.1	- -
28	914.4	762.0	739.6	95.2	95.2	698.5	692.2	685.8	158.7	711.2	12.7	838.2	24	41.1	- -
30	971.5	819.1	793.7	101.6	101.6	749.3	743.0	736.6	169.9	762.0	12.7	895.3	28	41.1	- -
32	1035.0	873.2	844.5	107.9	107.9	800.1	793.8	787.4	179.3	812.8	12.7	952.5	28	44.4	- -
34	1085.8	927.1	898.6	111.2	112.2	850.9	844.6	838.2	187.4	863.6	14.2	1003.3	32	44.4	- -
36	1155.7	980.9	952.6	119.1	119.1	901.7	895.4	889.0	200.1	914.4	14.2	1066.8	28	47.7	- -

CLASS 600 FLANGES

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED — (www.creativeforged.com)

Nominal Pipe Size	Outside Diameter of Pipe	O.D. of Raised Face	Diam. at Base of Hub	Thickness		BORE			Length Thru Hub	Diam of Hub of Bevel	Radius at Base of Hub	DRILLING			Approximate Weight Pounds(Kg)
						Wall Thickness						Bolt Circle Diam.	Number of Holes	Diam, of Holes	
				WNF	Blind	6.35mm	9.5mm	12.7mm							
	D	G	X	t		B1			T1	A	r	C			
26	889.0	726.9	698.5	111.2	111.2	647.7	641.4	635.0	180.8	660.4	12.7	806.4	28	44.4	- -
28	952.5	784.3	752.3	115.8	115.8	698.5	692.2	685.8	190.5	711.2	12.7	863.6	28	47.7	- -
30	1022.3	841.2	806.4	125.4	127.0	749.3	743.0	736.6	204.7	762.0	12.7	927.1	28	50.8	- -
32	1085.8	895.3	860.5	130.0	134.8	800.1	793.8	787.4	215.9	812.8	12.7	984.2	28	53.8	- -
34	1162.0	952.5	914.4	141.2	144.2	850.9	844.6	838.2	233.4	863.6	14.2	1054.1	24	60.4	- -
36	1212.8	1009.5	968.2	146.0	150.8	901.7	895.4	889.0	242.8	914.4	14.2	1104.9	28	60.4	- -

CLASS 900 FLANGES

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED — (www.creativeforged.com)

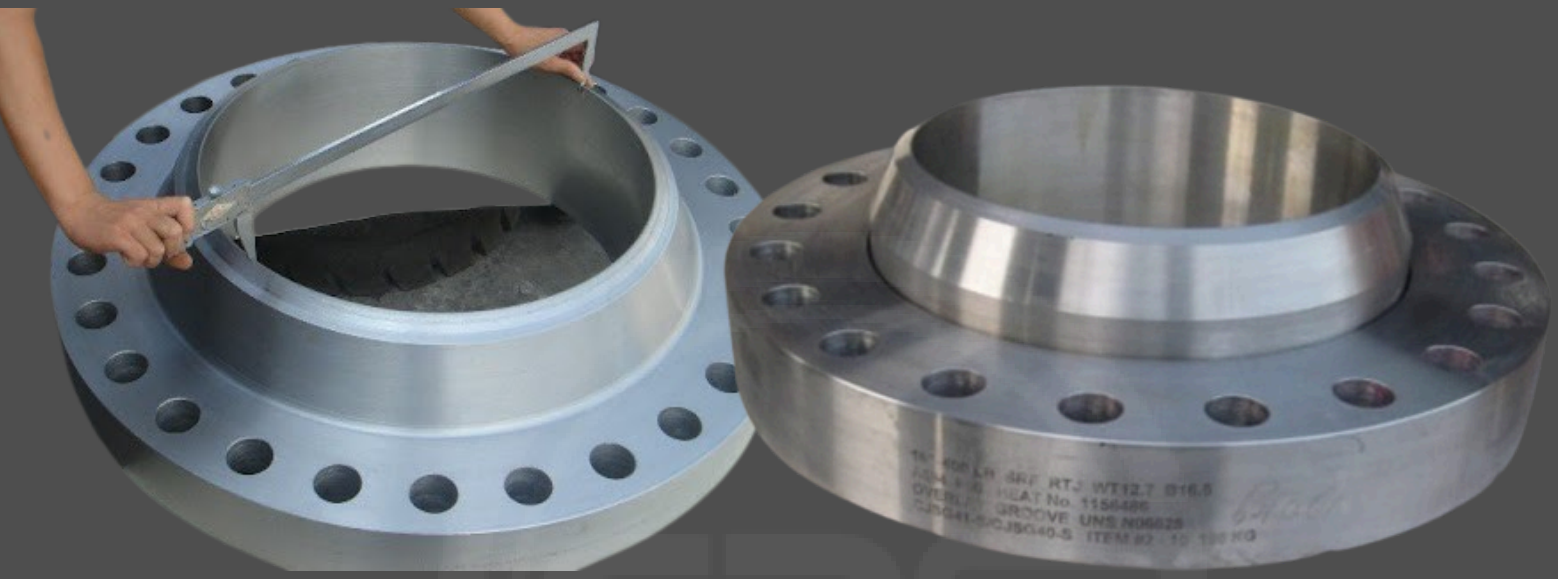
Nominal Pipe Size	Outside Diameter of Pipe	O.D. of Raised Face	Diam. at Base of Hub	Thickness		BORE			Length Thru Hub	Diam of Hub of Bevel	Radius at Base of Hub	DRILLING			Approximate Weight Pounds(Kg)
						Wall Thickness						Bolt Circle Diam.	Number of Holes	Diam, of Holes	
				WNF	Blind	6.35mm	9.5mm	12.7mm							
	D	G	X	t		B1			T1	A	r	C			
26	1022.3	762.0	742.9	134.8	153.9	647.7	641.4	635.0	258.8	666.4	11.1	901.7	20	66.5	- -
28	1104.9	819.1	797.0	147.5	166.6	698.5	692.2	685.8	276.3	711.2	12.7	971.5	20	73.1	- -
30	1181.1	876.3	850.9	155.4	176.0	749.3	743.0	736.6	289.0	762.0	12.7	1035.0	20	79.2	- -
32	1238.2	927.1	908.0	160.2	185.6	800.1	793.8	787.4	303.2	812.8	12.7	1092.2	20	79.2	- -
34	1314.4	990.6	962.1	171.4	195.0	850.9	844.6	838.2	319.0	863.6	14.2	1155.7	20	85.8	- -
36	1346.2	1028.7	1016.0	172.9	201.6	901.7	895.4	889.0	325.3	914.4	14.2	1200.1	24	79.2	- -

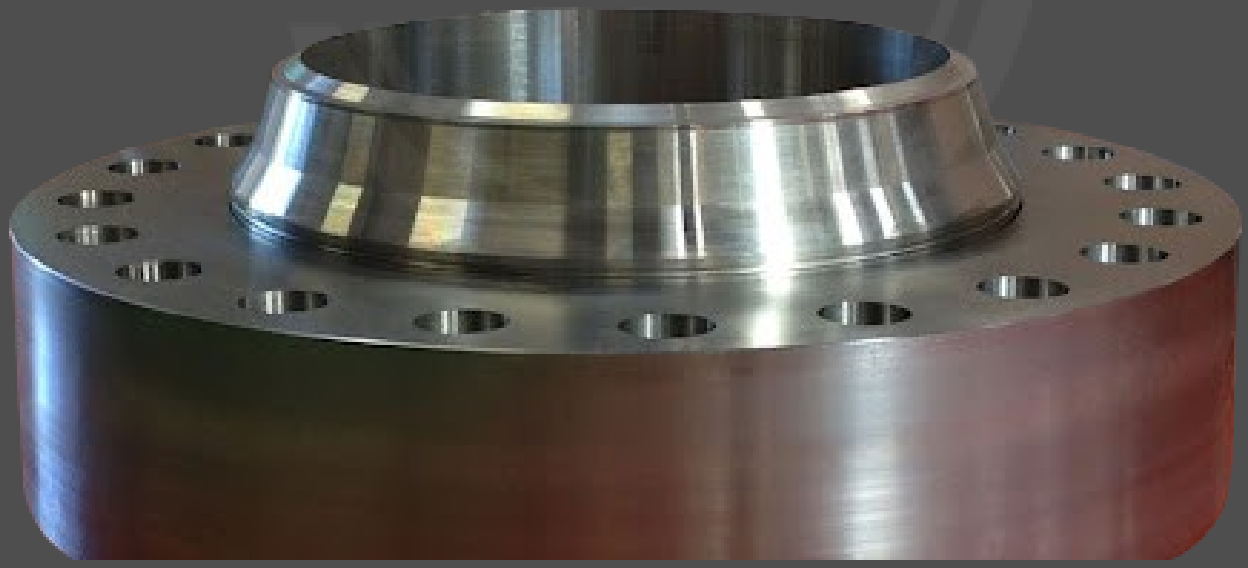
Notes:

(1) For the inside diameter of pipes (corresponding to' Bore'(B1) of Welding Neck Flanges), refer to page 52.

(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 tolerances are in accordance with ANSI B16.5





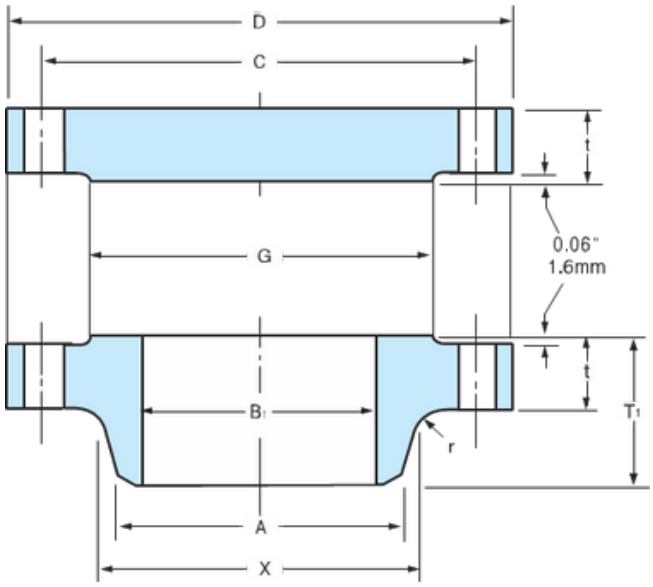
ANSI/ASME B16.47 SERIES A

FLANGES (MSS SP44)

- Class 150 Flanges
- Class 300 Flanges
- Class 400 Flanges
- Class 600 Flanges
- Class 900 Flanges

CPS
CREATIVE PIPING SOLUTIONS PVT. LTD.

CLASS 150 FLANGES



ANSI/ ASME B16.47 SERIES A FLANGES

CLASS 150 FLANGES	CREATIVE PIPING SOLUTIONS PRIVATE LIMITED				www.creativeforged.com	
Nominal Pipe Size	Outside Diameter of Pipe	O.D. of Raised Face	Diam. at Base of Hub	Thickness	BORE	
					Wall Thickness	
					9.5mm	12.7mm
	D	G	X	t	B1	
26	870	749.3	676.1	68.3	641.4	635.0
28	927	800.1	726.9	71.4	692.2	685.8
30	984	857.3	781.1	74.7	743.0	736.6
32	1060	914.4	831.9	80.8	793.8	787.4
34	1111	965.2	882.7	82.6	844.6	838.2
36	1168	1022.4	933.5	90.4	895.4	889.0
38	1238	1073.2	990.6	87.4	946.2	939.8
40	1289	1124.0	1041.4	90.4	997.0	990.6
42	1346	1193.8	1092.2	96.8	1047.8	1041.4
44	1403	1244.6	1143.0	101.6	1049.4	1143.0
46	1454	1295.4	1196.8	103.1	1149.4	1143.0
48	1511	1358.9	1247.6	108.0	1200.2	1193.8
50	1568	1409.7	1301.8	111.3	1251.0	1244.6
52	1626	1460.5	1352.6	115.8	1301.8	1295.4
54	1683	1511.3	1403.4	120.7	1352.6	1346.2
56	1746	1574.8	1457.5	124.0	1403.4	1397.0
68	1803	1625.6	1508.3	128.5	1454.2	1447.8
60	1854	1676.4	1559.1	131.8	1505.0	1498.6

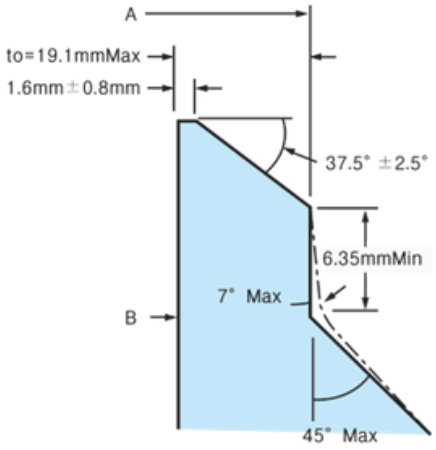
Notes:

(1) For the'Bore'(B1) other than wall thickness 0.375"(9.5mm) and 0.500"(12.7mm), refer to page 52.

(2) Class 150 flanges Will be furnished with 0.06"(1.6mm) raised face, which is included in' Thickness'(t) and' Length through Hub'(T1)

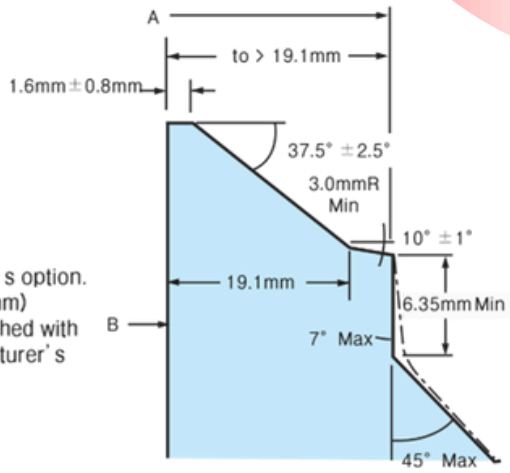
(3) Dimensional tolerances are in accordance with ANSI B16.5

WELDING-ENDS FOR WELDING-NECK FLANGES



BEVEL FOR WALL THICKNESSES (t)
O.19 IN. TO O.88 IN. INCLUSIVE

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

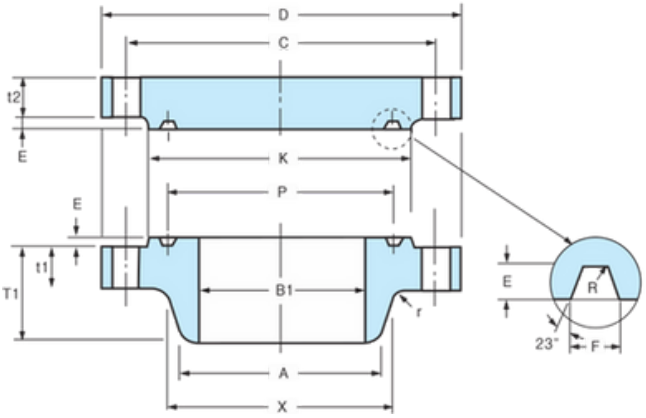


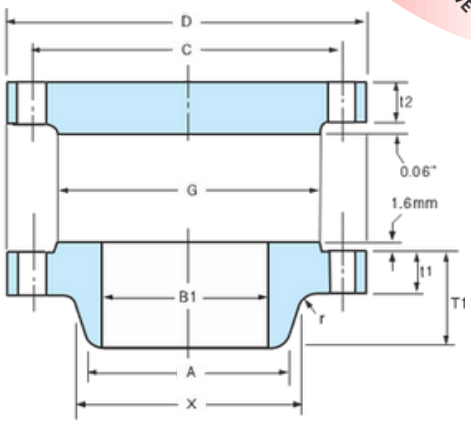
BEVEL FOR WALL THICKNESSES (t)
GREATER THAN O.88 IN.

CLASS 150 FLANGES	CREATIVE PIPING SOLUTIONS PRIVATE LIMITED			www.creativeforged.com		
Nominal Pipe Size	Length thru Hub	Diam. of Hub Bevel	Radius of Fillet	DRILLING		
				Bolt Circle Diam.	Number of Holes	Diam. of Holes
	T1	A	r	C		
26	120.7	660.4	9.7	806.5	24	35.1
28	125.5	711.2	11.2	863.6	28	35.1
30	136.7	762.0	11.2	914.4	28	35.1
32	144.5	812.8	11.2	977.9	28	41.1
34	149.4	863.6	12.7	1028.7	32	41.1
36	157.0	914.4	12.7	1085.9	32	41.1
38	157.2	965.2	12.7	1149.4	32	41.1
40	163.6	1016.0	12.7	1200.2	36	41.1
42	171.5	1066.8	12.7	1257.3	36	41.1
44	177.8	1117.6	12.7	1314.5	40	41.1
46	185.7	1168.4	12.7	1365.3	40	41.1
48	192.0	1219.2	12.7	1422.4	44	41.1
50	203.2	1270.0	12.7	1479.6	44	47.8
52	209.6	1320.8	12.7	1536.7	44	47.8
54	215.9	1371.6	12.7	1593.9	44	47.8
56	228.6	1422.4	12.7	1651.0	48	47.8
68	235.0	1473.2	12.7	1708.0	48	47.8
60	239.8	1524.0	12.7	1759.0	52	47.8

(4) Maximum Pressure Rating for raised face flanges is 285 psi (19.5 BARS) at atmospheric temperature.
(5) Flange dimensions of size 12"(304.8m) through 24"(609.6mm) flanges (except 22"(558.8mm)) are in accordance with ANSI B16.5

CLASS 300 FLANGES





ANSI/ ASME B16.47 SERIES A FLANGES

CLASS 300 FLANGES	CREATIVE PIPING SOLUTIONS PVT. LTD.								(www.creativeforged.com)
Nominal Pipe Size	Outside Diameter of Pipe	O.D. of Raised Face	Diam. at Base of Hub	Thickness		BORE Wall Thickness		Length Thru Hub	Diam of Hub of Bevel	Radius at Base of Hub
				Welding Neck	Blind	9.5mm	12.7mm			
	D	G	X	t1	t2	B1		T1	A	r
26	972	749.3	720.9	79.2	79.2	641.4	635.0	184.2	660.4	9.7
28	1035	800.1	774.7	85.9	85.9	692.2	685.8	196.9	711.2	11.2
30	1092	857.3	827.0	91.9	91.9	743.0	736.6	209.6	762.0	11.2
32	1149	914.3	881.1	98.6	98.6	793.8	787.4	222.3	812.8	11.2
34	1207	965.2	936.8	101.6	101.6	844.6	838.2	231.6	863.6	12.7
36	1270	1022.4	990.6	104.6	104.6	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	1044.6	114.3	114.3	997.0	990.6	193.5	1016.0	12.7
42	1289	1136.7	1098.6	119.1	119.1	1047.8	1041.4	200.2	1066.8	12.7
44	1353	1193.8	1149.4	124.0	124.0	1049.4	1143.0	206.2	1117.6	12.7
46	1416	1244.6	1203.5	128.5	128.5	1149.4	1143.0	215.9	1168.4	12.7
48	1467	1301.8	1254.3	133.4	133.4	1200.2	1193.8	223.8	1219.2	12.7
50	1530	1358.9	1305.1	139.7	139.7	1251.0	1244.6	231.6	1270.0	12.7
52	1581	1409.7	1355.9	144.5	144.5	1301.8	1295.4	238.3	1320.8	12.7
54	1657	1466.9	1409.7	152.4	152.4	1352.6	1346.2	252.5	1371.6	12.7
56	1708	517.7	1463.5	153.9	153.9	1403.4	1397.0	260.4	1422.4	12.7
68	1759	1574.8	1514.3	158.8	158.8	1454.2	1447.8	266.7	1493.2	12.7
60	1810	1625.6	1565.1	163.6	163.6	1505.0	1498.6	273.1	1524.0	12.7

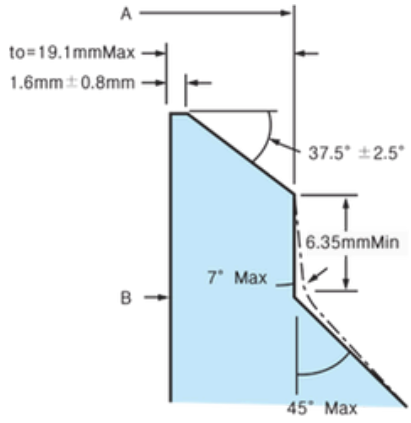
Notes:

(1) For the'Bore'(B1) other than wall thickness 0.375"(9.5mm) and 0.500"(12.7mm), refer to page 52.

(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)

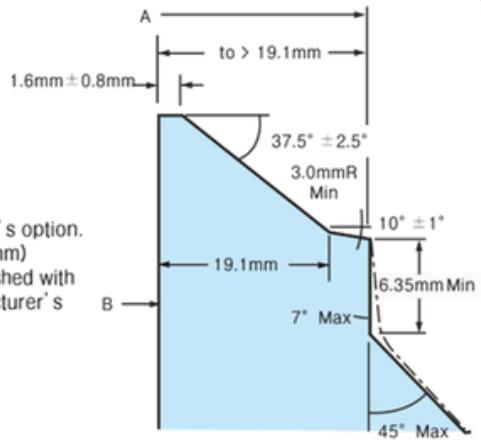
(3) Dimensional tolerances are in accordance with ANSI B16.5

WELDING-ENDS FOR WELDING-NECK FLANGES



BEVEL FOR WALL THICKNESSES (t)
O.19 IN. TO O.88 IN. INCLUSIVE

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



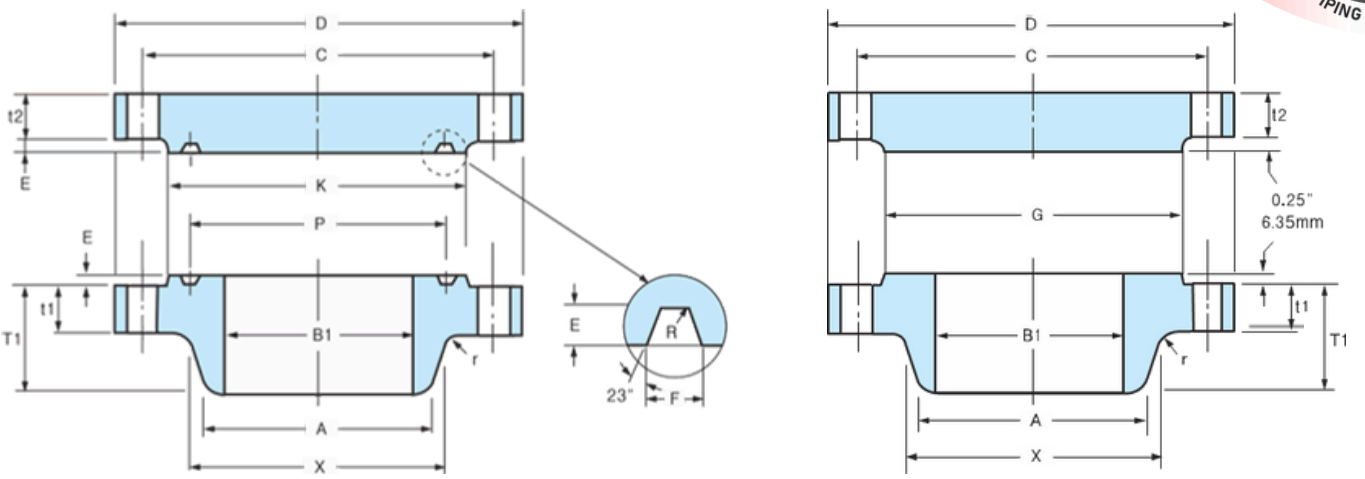
BEVEL FOR WALL THICKNESSES (t)
GREATER THAN O.88 IN.

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED | www.creativeforged.com | Unit : mm

Nominal Pipe Size	DRILLING			Pitch Diam.	GROOVE DIMENSIONS			Diam. of Raised Face	Ring and Groove Number
	Bolt Circle Diam.	Number of Holes	Diam. of Holes		Width	Depth	Radius		
	C			P	F	E	R	K	
26	876.3	28	44.5	749.3	19.8	12.7	1.5	809.8	R93
28	939.8	28	44.5	800.1	19.8	12.7	1.5	860.6	R94
30	997.0	28	47.8	857.3	19.8	12.7	1.5	917.4	R95
32	1054.1	28	50.8	914.4	23.0	14.3	1.5	984.3	R96
34	1104.9	28	50.8	965.2	23.0	14.3	1.5	1035.1	R97
36	1168.4	32	53.8	1022.4	23.0	14.3	1.5	1092.2	R98
38	1092.2	32	41.1						
40	1115.7	32	44.5						
42	1206.5	32	44.5						
44	1263.7	32	47.8						
46	1320.8	28	50.8						
48	1371.6	32	50.8						
50	1428.8	32	53.8						
52	1479.6	32	53.8						
54	1549.4	28	60.5						
56	1600.2	28	60.5						
68	1651.0	32	60.5						
60	1701.8	32	60.5						

(4) Maximum Pressure Rating for raised face flanges is 740 psi (51 BARS) at atmospheric temperature.
(5) Flange dimensions of size 12"(304.8m) through 24"(609.6mm) flanges (except 22"(558.8mm)) are in accordance with ANSI B16.5

CLASS 400 FLANGES



CLASS 400 FLANGES	CREATIVE PIPING SOLUTIONS PVT. LTD.								(www.creativeforged.com)
Nominal Pipe Size	Outside Diameter of Pipe	O.D. of Raised Face	Diam. at Base of Hub	Thickness		BORE Wall Thickness		Length Thru Hub	Diam of Hub of Bevel	Radius of Fillet
				Welding Neck	Blind	9.5mm	12.7mm			
	D	G	X	t1	t2	B1		T1	A	r
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	1016.0	14.2
42	1321	1143.0	1107.9	133.4	133.4	1047.8	1041.4	223.8	1066.8	14.2
44	1384	1200.2	1158.7	139.7	139.7	1049.4	1143.0	233.4	1117.6	14.2
46	1441	1257.3	1212.9	146.1	146.1	1149.4	1143.0	244.3	1168.4	14.2
48	1511	1308.1	1267.0	152.4	152.4	1200.2	1193.8	257.0	1219.2	14.2
50	1568	1361.9	1320.8	157.2	158.8	1251.0	1244.6	268.2	1270.0	14.2
52	1619	1412.7	1371.6	162.1	163.6	1301.8	1295.4	276.4	1320.8	14.2
54	1702	1470.2	1425.4	169.9	171.5	1352.6	1346.2	289.1	1371.6	14.2
56	1753	1527.0	1479.6	174.8	176.3	1403.4	1397.0	298.5	1422.4	14.2
68	1803	1577.8	1530.4	177.8	180.8	1454.2	1447.8	306.3	1493.2	14.2
60	1886	1635.3	1584.5	185.7	189.0	1505.0	1498.6	319.0	1524.0	14.2

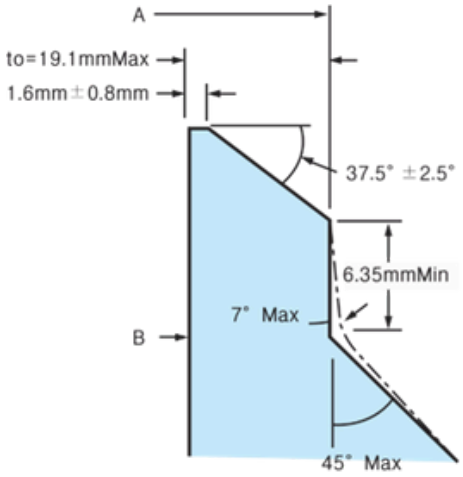
Notes:

(1) For the'Bore'(B1) other than wall thickness 0.375"(9.5mm) and 0.500"(12.7mm), refer to page 52.

(2) Class 400 flanges will be furnished with 0.25"(6.4mm) raised face, which is not included in' Thickness'(t) and' Length through Hub'(T1)

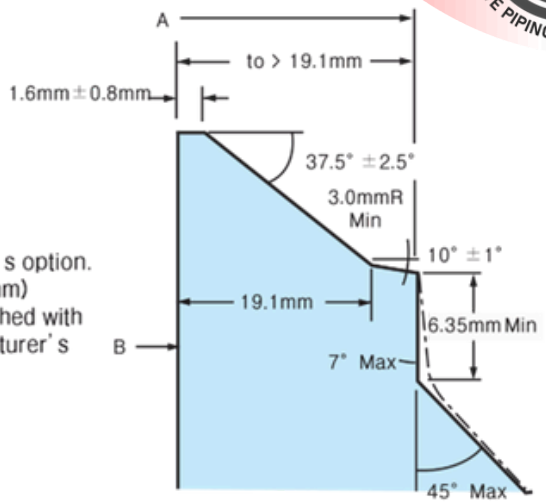
(3) Dimensional tolerances are in accordance with ANSI B16.5

WELDING-ENDS FOR WELDING-NECK FLANGES



BEVEL FOR WALL THICKNESSES (t)
O.19 IN. TO O.88 IN. INCLUSIVE

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



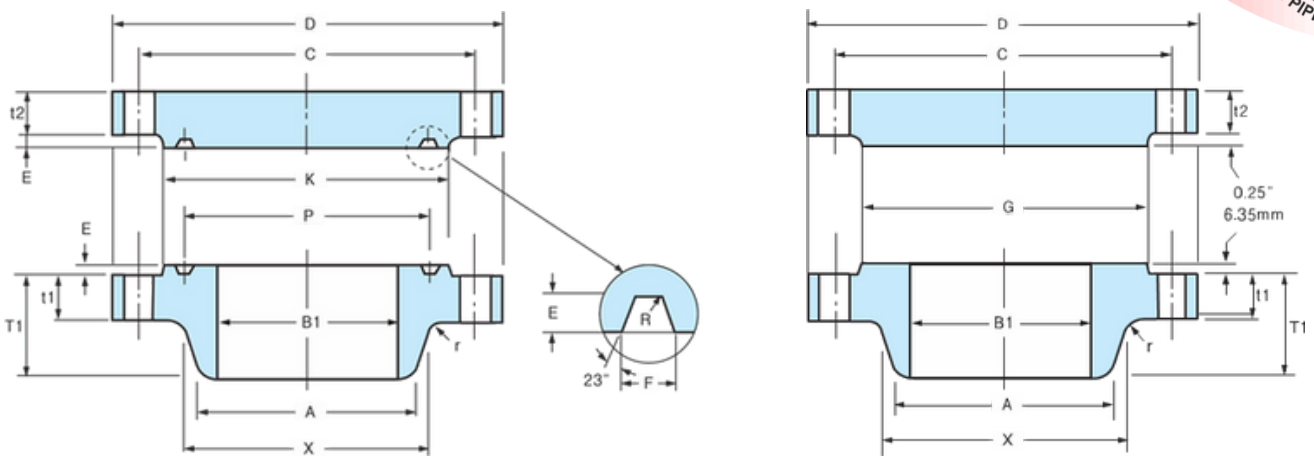
BEVEL FOR WALL THICKNESSES (t)
GREATER THAN O.88 IN.

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED | www.creativeforged.com | Unit : mm

Nominal Pipe Size	DRILLING			Pitch Diam.	GROOVE DIMENSIONS			Diam. of Raised Face	Ring and Groove Number
	Bolt Circle Diam.	Number of Holes	Diam. of Holes		Width	Depth	Radius		
	C			P	F	E	R	K	
26	876.3	28	47.8	749.3	19.8	12.7	1.5	809.8	R93
28	939.8	28	50.8	800.1	19.8	12.7	1.5	860.6	R94
30	997.0	28	53.8	857.3	19.8	12.7	1.5	917.4	R95
32	1047.8	28	53.8	914.4	23.0	14.3	1.5	984.3	R96
34	1104.9	28	53.8	965.2	23.0	14.3	1.5	1035.1	R97
36	1168.4	32	53.8	1022.4	23.0	14.3	1.5	1092.2	R98
38	1117.6	32	47.8						
40	1174.8	32	50.8						
42	1225.6	32	50.8						
44	1282.7	32	53.8						
46	1339.9	28	53.8						
48	1403.4	32	60.5						
50	1460.5	32	60.5						
52	1511.3	32	60.5						
54	1581.2	28	66.5						
56	1632.0	32	66.5						
68	1682.8	32	66.5						
60	1752.6	32	73.2						

(4) Maximum Pressure Rating for raised face flanges is 740 psi (51 BARS) at atmospheric temperature.
(5) Flange dimensions of size 12"(304.8m) through 24"(609.6mm) flanges (except 22"(558.8mm)) are in accordance with ANSI B16.5

CLASS 600 FLANGES



ANSI/ ASME B16.47 SERIES A FLANGES

CLASS 600 FLANGES			CREATIVE PIPING SOLUTIONS PVT. LTD.					(www.creativeforged.com)		
Nominal Pipe Size	Outside Diameter of Pipe	O.D. of Raised Face	Diam. at Base of Hub	Thickness		BORE		Length Thru Hub	Diam of Hub of Bevel	Radius of Fillet
						Wall Thickness				
				Welding Neck	Blind	9.5mm	12.7mm			
	D	X	G	t1	t2	B1		T1	A	r
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	1016.0	14.2
42	1403	1127.3	1168.4	168.1	171.5	1047.8	1041.4	279.4	1066.8	14.2
44	1454	1181.1	1225.6	173.0	177.8	1049.4	1143.0	289.1	1117.6	14.2
46	1511	1234.9	1276.4	179.3	185.7	1149.4	1143.0	300.0	1168.4	14.2
48	1594	1289.1	1333.5	189.0	195.3	1200.2	1193.8	316.0	1219.2	14.2
50	1670	1343.1	1384.3	196.9	203.2	1251.0	1244.6	328.7	1270.0	14.2
52	1721	1394.0	1435.1	203.2	209.6	1301.8	1295.4	336.6	1320.8	14.2
54	1778	1447.8	1492.3	209.6	217.4	1352.6	1346.2	349.3	1371.6	14.2
56	1854	1501.6	1543.1	217.4	225.6	1403.4	1397.0	362.0	1422.4	15.7
68	1905	1552.4	1600.2	222.3	231.6	1454.2	1447.8	369.8	1473.2	15.7
60	1994	1609.9	1657.4	233.4	242.8	1505.0	1498.6	388.9	1524.0	17.5

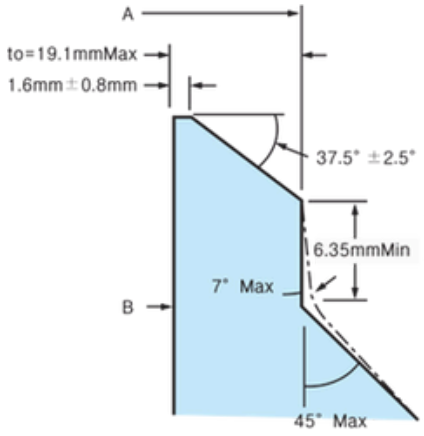
Notes:

(1) For the'Bore'(B1) other than wall thickness 0.375"(9.5mm) and 0.500"(12.7mm), refer to page 52.

(2) Class 600 flanges will be furnished with 0.25"(6.35mm) raised face, which is not included in' Thickness'(t) and' Length through Hub'(T1)

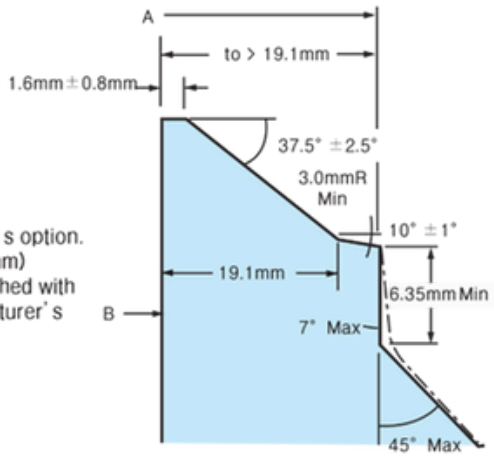
(3) Dimensional tolerances are in accordance with ANSI B16.5

WELDING-ENDS FOR WELDING-NECK FLANGES



BEVEL FOR WALL THICKNESSES (t)
O.19 IN. TO O.88 IN. INCLUSIVE

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



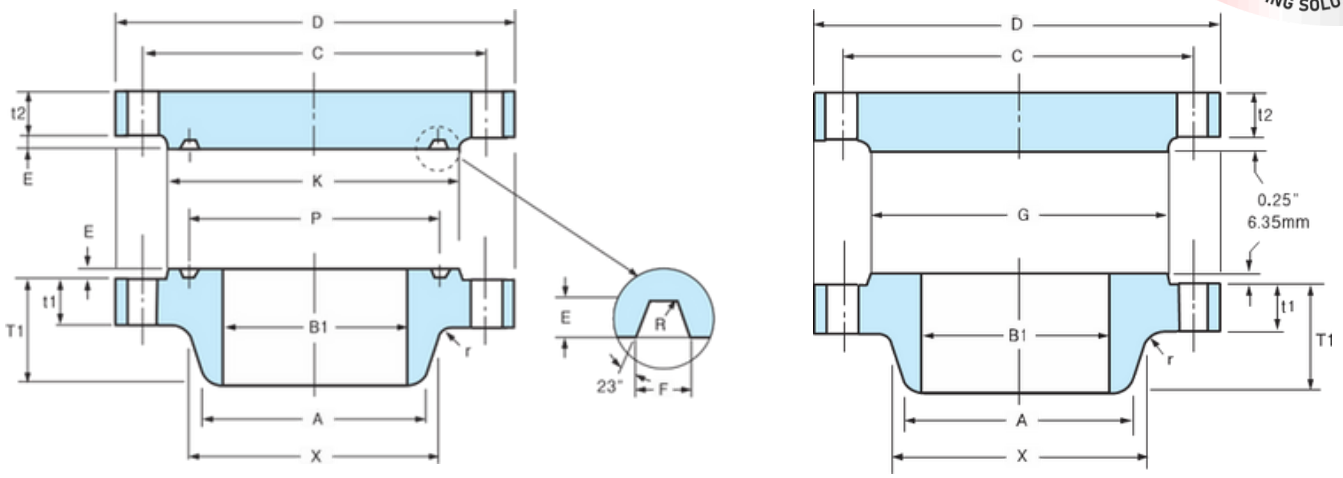
BEVEL FOR WALL THICKNESSES (t)
GREATER THAN O.88 IN.

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED								www.creativeforged.com	Unit : mm
Nominal Pipe Size	DRILLING			Pitch Diam.	GROOVE DIMENSIONS			Diam. of Raised Face	Ring and Groove Number
	Bolt Circle Diam.	Number of Holes	Diam. of Holes		Width	Depth	Radius		
	C			P	F	E	R	K	
26	914.4	28	50.8	749.3	19.8	12.7	1.5	809.8	R93
28	965.2	28	53.8	800.1	19.8	12.7	1.5	860.6	R94
30	1022.4	28	53.8	857.3	19.8	12.7	1.5	917.4	R95
32	1079.5	28	60.5	914.4	23.0	14.3	1.5	984.3	R96
34	1130.3	28	60.5	965.2	23.0	14.3	1.5	1035.1	R97
36	1193.8	28	66.5	1022.4	23.0	14.3	1.5	1092.2	R98
38	1162.1	28	60.5						
40	1212.9	32	60.5						
42	1282.7	28	66.5						
44	1333.5	32	66.5						
46	1390.7	32	66.5						
48	1460.5	32	73.2						
50	1524.0	28	79.2						
52	1574.8	32	79.2						
54	1632.0	32	79.2						
56	1695.5	32	85.9						
68	1746.3	32	85.9						
60	1822.5	28	91.9						

(4) Maximum Pressure Rating for raised face flanges is 1480 psi (102.1 BARS) at atmospheric temperature.

(5) Flange dimensions of size 12"(304.8m) through 24"(609.6mm) flanges (except 22"(558.8mm)) are in accordance with ANSI B16.5

CLASS 900 FLANGES



ANSI/ ASME B16.47 SERIES A FLANGES

CLASS 600 FLANGES			CREATIVE PIPING SOLUTIONS PVT. LTD.					(www.creativeforged.com)		
Nominal Pipe Size	Outside Diameter of Pipe	O.D. of Raised Face	Diam. at Base of Hub	Thickness		BORE		Length Thru Hub	Diam of Hub of Bevel	Radius of Fillet
						Wall Thickness				
				Welding Neck	Blind	9.5mm	12.7mm			
	D	X	G	t1	t2	B1		T1	A	r
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	1173.6	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	1049.4	1143.0	390.7	1117.6	22.4
46	1734	1292.4	1333.5	225.6	275.8	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

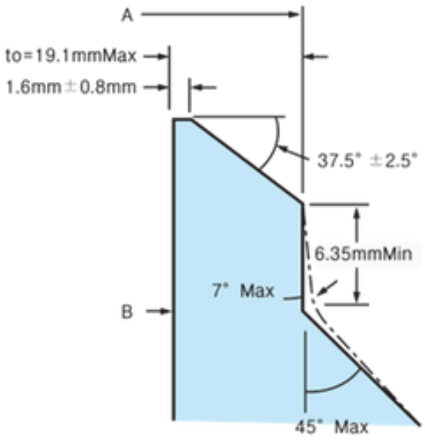
Notes:

(1) For the'Bore'(B1) other than Wall Thickness 0.375"(9.5mm) and 0.500"(12.7mm), refer to page 52.

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

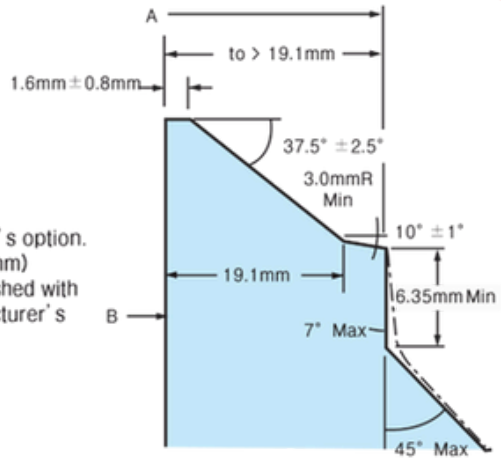
(3) Dimensional tolerances are in accordance with ANSI B16.5

WELDING-ENDS FOR WELDING-NECK FLANGES



BEVEL FOR WALL THICKNESSES (t)
O.19 IN. TO O.88 IN. INCLUSIVE

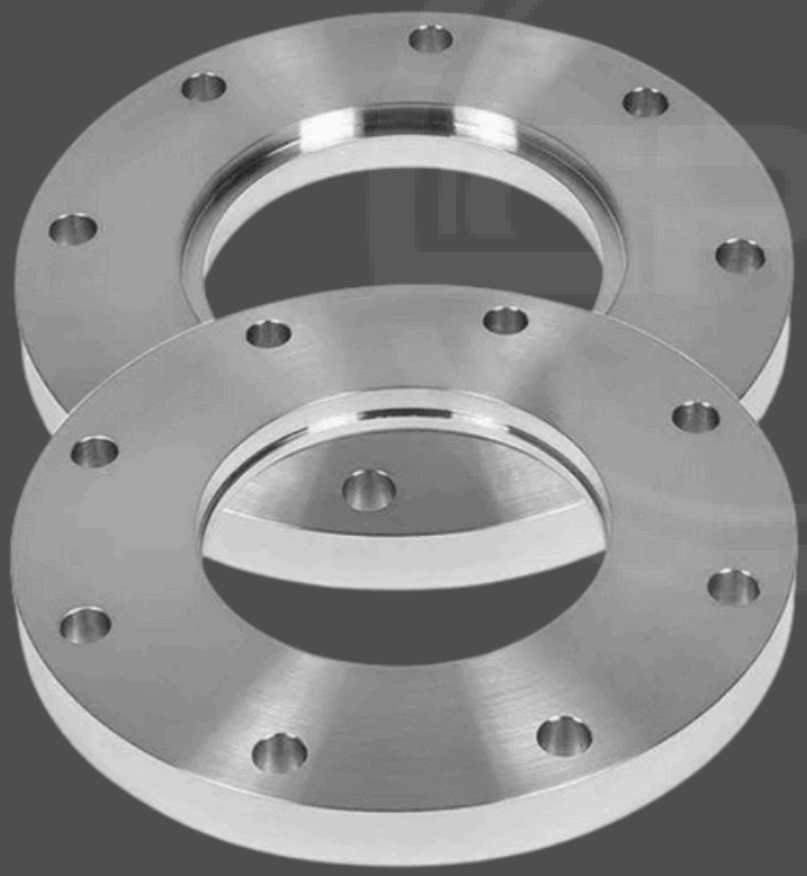
Notes:
* Or I inch at manufacturer's option.
** Flanges sizes 24"(609.6mm) and smaller may be furnished with 37-1/2° bevel at manufacturer's option.



BEVEL FOR WALL THICKNESSES (t)
GREATER THAN O.88 IN.

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED								www.creativeforged.com	Unit : mm
Nominal Pipe Size	DRILLING			Pitch Diam.	GROOVE DIMENSIONS			Diam. of Raised Face	Ring and Groove Number
	Bolt Circle Diam.	Number of Holes	Diam. of Holes		Width	Depth	Radius		
	C			P	F	E	R	K	
26	925.5	20	73.2	749.3	30.2	30.2	2.3	831.9	R100
28	1022.4	20	79.2	800.1	33.3	33.3	2.3	889.0	R101
30	1085.9	20	79.2	857.3	33.3	33.3	2.3	946.2	R102
32	1155.7	20	85.9	914.4	914.4	33.3	2.3	1003.3	R103
34	1225.6	20	91.9	965.2	965.2	36.5	2.3	1066.8	R104
36	1289.1	20	91.9	1022.4	1022.4	36.5	2.3	1124.0	R105
38	1289.1	20	91.9						
40	1339.9	24	91.9						
42	1390.7	24	91.9						
44	1463.5	24	98.6						
46	1536.7	24	104.6						
48	1587.5	24	104.6						

(4) Maximum Pressure Rating for raised face flanges is 2220 psi (153.1 BARS) at atmospheric temperature.
(5) Flange dimensions of size 12"(304.8m) through 24"(609.6mm) flanges are in accordance with ANSI B16.5.



AWWA FLANGES

- General Specifications
- Class B&D Flanges Table 2
- Class B&D Flanges Table 3
- Class E Flanges Table 4

CPS
CREATIVE PIPING SOLUTIONS PVT. LTD.

GENERAL SPECIFICATIONS
AWWA C207 FLANGES

1. Standard Finishes for Contact Face of AWWA Flange

Flanges of all classes shall be flat faced-that is, without projection or raised face. The dimensions given for thickness are minimum. The flanges shall be faced smooth or may have a serrated finish of approximately 32 serrations per inch, approximately 1/64 in. deep. Serrations may be either spiral or concentric.

2. Dimensional Tolerances for AWWA Flanges

Dimension		Tolerance in.
Bore		+1/16-0
Outside diameter		±1/8
Thickness	18 in. and smaller	+1/8-0
	20 in. and larger	+3/16-0
Length through Hub		+3/16-1/16
Bolt Circle Diameter		±1/16

Note: For other dimensional tolerances, see ANSI B16.5, page 47.

3. Bolting

Bolts and nuts shall be carbon steel ASTM A307, Grades A or B, Bolts shall have regular unfinished square or hexagonal heads, and nuts shall have regular square or hexagonal dimensions all in accordance with ANSI B18.21 for wrench head bolts and nuts and wrench openings.

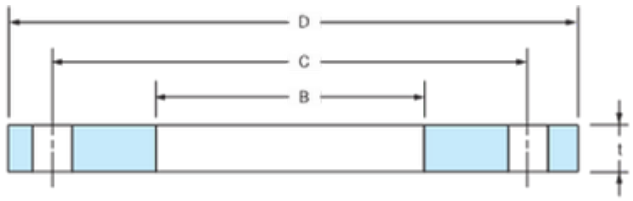
All bolts and nuts shall be threaded in accordance with ANSI B1.1 for screw threads, coarse-thread series,Class 2A and 2B fit.

4. Gaskets

These standards are predicated on the user of either a cloth-inserted rubber gasket 1/16 in. thick or an absestos ring gasket that is either 1/16 in. or 1/8 in. thick, at the purchaser's option:The gasket shall extend from the inside diameter of the flange to at least the inside edge of the bolt holes, or it may.

CLASS B & D FLANGES TABLE 2

AWWA Standard Steel Ring Flanges, Class B(86psi) and Class D (175-150 psi)



SLIP–ON

BLIND

Unit : mm

AWWA C207	CREATIVE PIPING SOLUTIONS PVT. LTD. (www.creativeforged.com)							
Nominal Pipe Size	Outside Diam.	Bore	Thickness		DRILLING			
					Bolt Circle Diam.	Number of Holes	Diam. of Bolt Holes	
	D	B	Class B(t)	Class D(t)	C		Class B	Class D
4	228.6	116.1	15.9	15.9	190.5	8	19.1	19.1
5	254.0	143.8	15.9	15.9	215.9	8	19.1	22.2
6	279.4	170.7	17.5	17.5	241.3	8	19.1	22.2
8	342.9	221.5	17.5	17.5	298.5	8	19.1	22.2
10	406.4	276.4	17.5	17.5	362.0	12	19.1	25.4
12	482.6	327.2	17.5	20.6	431.8	12	19.1	25.4
14	533.4	360.4	17.5	23.8	476.3	12	22.2	28.6
16	596.9	411.2	17.5	25.4	539.8	16	22.2	28.6
18	635.0	462.0	17.5	27.0	577.9	16	22.2	31.8
20	698.5	512.8	17.5	28.6	635.0	20	22.2	31.8
22	749.3	563.6	19.1	30.2	692.2	20	222	34.9
24	812.8	614.4	19.1	31.8	749.3	20	22.2	34.9
26	870.0	665.2	20.6	33.3	806.5	24	22.2	34.9
28	927.1	716.0	22.2	33.3	863.6	28	22.2	34.9
30	984.3	766.8	22.2	34.9	914.4	28	25.4	34.9
32	1,060.5	817.6	23.8	38.1	977.9	28	25.4	41.3
34	1,111.3	868.4	23.8	38.1	1,028.7	32	25.4	41.3
36	1,168.4	919.2	25.4	41.3	1,085.9	32	25.4	41.3
38	1,238.3	970.0	25.4	41.3	1,149.4	32	25.4	41.3
40	1,289.1	1,020.8	25.4	41.3	1,200.2	36	25.4	41.3
42	1,346.2	1,071.6	28.6	44.5	1,257.3	36	28.6	41.3
44	1,403.4	1,122.4	28.6	44.5	1,314.5	40	28.6	41.3
46	1,454.2	1,173.2	28.6	44.5	1,365.3	40	28.6	41.3
48	1,511.3	1,224.0	31.8	44.5	1,422.4	44	28.6	41.3
50	1,568.5	1,274.8	31.8	50.8	1,479.6	44	31.8	47.6
52	1,625.6	1,325.6	31.8	50.8	1,536.7	44	31.8	47.6
54	1,682.8	1,376.4	34.9	54.0	1,593.9	44	34.9	47.6
60	1,854.2	1,528.8	38.1	57.2	1,759.0	52	34.9	47.6
66	2,032.0	1,681.2	41.3	63.5	1,930.4	52	34.9	47.6
72	2,197.1	1,833.6	44.5	66.7	2,095.5	60	34.9	47.6
78	2,362.2	1,986.0	50.8	69.9	2,260.6	64	41.3	54.0
84	2,533.7	2,138.4	50.8	69.9	2,425.7	64	41.3	54.0
90	2,705.1	2,290.8	57.2	76.2	2,590.8	68	47.6	60.3
96	2,876.6	2,443.2	57.2	76.2	2,755.9	68	47.6	60.3
102	3,048.0	2,595.6	63.5	82.6	2,908.3	72	54.0	66.7
108	3,219.5	2,748.0	63.5	82.6	3,067.1	72	54.0	66.7
114	3,390.9	2,900.4	69.9	88.9	3,219.5	76	60.3	73.0
120	3,562.4	3,052.8	69.9	88.9	3,371.9	76	60.3	73.0

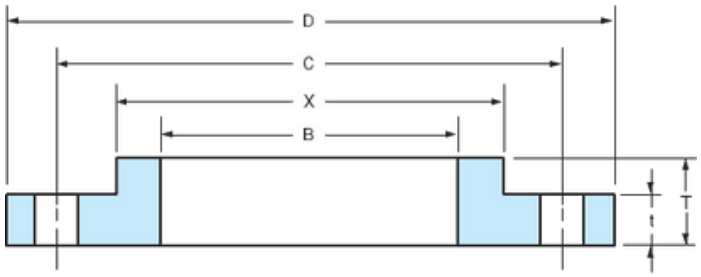
Notes:

(1) For standard finishes for contact face, refer to page 46.

(2) The‘ Bore’(B) shall be 3/16 in. larger than the nominal outside diameter of the pipe, unless otherwise specified.

CLASS B & D FLANGES TABLE 3

AWWA Standard Steel Hub Flanges, Class B(86psi) and Class D (175-150 psi)



SLIP–ON

Unit : mm

AWWA C207	CREATIVE PIPING SOLUTIONS PVT. LTD.	(www.creativeforged.com)

Nominal Pipe Size	Outside Diam.	Bore	Thickness	Length Through Hub	Diam. of Hub at Base	DRILLING			
						Bolt Circle Diam.	Number of Holes	Diam. of Bolt Holes	
	D	B	t	T	X	C		Class B	Class D
4	228.6	116.1	12.7	22.2	134.9	190.5	8	19.1	19.1
5	254.0	143.8	14.3	31.8	160.3	215.9	8	19.1	22.2
6	279.4	170.7	14.3	31.8	192.1	241.3	8	19.1	22.2
8	342.9	221.5	14.3	31.8	246.1	298.5	8	19.1	22.2
10	406.4	276.4	17.5	31.8	304.8	362.0	12	19.1	25.4
12	482.6	327.2	17.5	31.8	365.1	431.8	12	19.1	25.4
14	533.4	360.4	19.1	31.8	400.1	476.3	12	22.2	28.6
16	596.9	411.2	19.1	31.8	457.2	539.8	16	22.2	28.6
18	635.0	462.0	19.1	31.8	504.8	577.9	16	22.2	31.8
20	698.5	512.8	19.1	31.8	558.8	635.0	20	22.2	31.8
22	749.3	563.6	25.4	44.5	616.0	692.2	20	222	34.9
24	812.8	614.4	25.4	44.5	663.6	749.3	20	22.2	34.9
26	870.0	665.2	25.4	44.5	723.9	806.5	24	22.2	34.9
28	927.1	716.0	25.4	44.5	774.7	863.6	28	22.2	34.9
30	984.3	766.8	25.4	44.5	825.5	914.4	28	25.4	34.9
32	1,060.5	817.6	28.6	44.5	882.7	977.9	28	25.4	41.3
34	1,111.3	868.4	28.6	44.5	933.5	1,028.7	32	25.4	41.3
36	1,168.4	919.2	28.6	44.5	984.3	1,085.9	32	25.4	41.3
38	1,238.3	970.0	28.6	44.5	1,035.1	1,149.4	32	25.4	41.3
40	1,289.1	1,020.8	28.6	44.5	1,092.2	1,200.2	36	25.4	41.3
42	1,346.2	1,071.6	31.8	44.5	1,143.0	1,257.3	36	28.6	41.3
44	1,403.4	1,122.4	31.8	57.2	1,193.8	1,314.5	40	28.6	41.3
46	1,454.2	1,173.2	31.8	57.2	1,244.6	1,365.3	40	28.6	41.3
48	1,511.3	1,224.0	34.9	63.5	1,295.4	1,422.4	44	28.6	41.3
50	1,568.5	1,274.8	34.9	63.5	1,346.2	1,479.6	44	31.8	47.6
52	1,625.6	1,325.6	34.9	63.5	1,397.0	1,536.7	44	31.8	47.6
54	1,682.8	1,376.4	34.9	63.5	1,447.8	1,593.9	44	34.9	47.6
60	1,854.2	1,528.8	38.1	69.9	1,600.2	1,759.0	52	34.9	47.6
66	2,032.0	1,681.2	38.1	69.9	1,752.6	1,930.4	52	34.9	47.6
72	2,197.1	1,833.6	38.1	69.9	1,905.0	2,095.5	60	34.9	47.6
78	2,362.2	1,986.0	44.5	76.2	2,063.8	2,260.6	64	41.3	54.0
84	2,533.7	2,138.4	44.5	76.2	2,222.5	2,425.7	64	41.3	54.0
90	2,705.1	2,290.8	50.8	82.6	2,381.3	2,590.8	68	47.6	60.3
96	2,876.6	2,443.2	50.8	82.6	2,540.0	2,755.9	68	47.6	60.3
102	3,048.0	2,595.6	57.2	88.9	2,686.1	2,908.3	72	54.0	66.7
108	3,219.5	2,748.0	57.2	88.9	2,832.1	3,067.1	72	54.0	66.7
114	3,390.9	2,900.4	63.5	95.3	2,990.9	3,219.5	76	60.3	73.0
120	3,562.4	3,052.8	63.5	95.3	3,149.6	3,371.9	76	60.3	73.0

Notes:

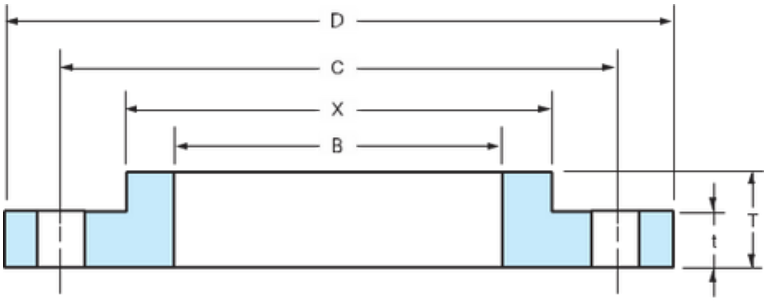
(1) For standard finishes for contact face, refer to page 46.

(2) For Slip-on Flanges,(Hub Type Flanges), the hubs can be shaped either vertical from base to top or tapered within thelimits of 7 degrees.

(3) The' Bore (B)shall be 3/16 in. larger than the nominal outside diameter of the pipe, unless otherwise specified.

CLASS E FLANGES TABLE 4

AWWA Standard Steel Hub Flanges, Class E (275 psi)



AWWA C207	CREATIVE PIPING SOLUTIONS PVT. LTD.				(www.creativeforged.com)		
Nominal Pipe Size	Outside Diam.	Bore	Thickness	Length Through Hub	Diam. of Hub at Base	DRILLING	
						Bolt Circle Diam.	Number of Holes	Diam. of Bolt Holes
	D	B	t	T	X	C		Class D
4	228.6	116.1	12.7	22.2	134.9	190.5	8	19.1
5	254.0	143.8	14.3	31.8	160.3	215.9	8	22.2
6	279.4	170.7	14.3	31.8	192.1	241.3	8	22.2
8	342.9	221.5	14.3	31.8	246.1	298.5	8	22.2
10	406.4	276.4	17.5	31.8	304.8	362.0	12	25.4
12	482.6	327.2	17.5	31.8	365.1	431.8	12	25.4
14	533.4	360.4	19.1	31.8	400.1	476.3	12	28.6
16	596.9	411.2	19.1	31.8	457.2	539.8	16	28.6
18	635.0	462.0	19.1	31.8	504.8	577.9	16	31.8
20	698.5	512.8	19.1	31.8	558.8	635.0	20	31.8
22	749.3	563.6	25.4	44.5	616.0	692.2	20	34.9
24	812.8	614.4	25.4	44.5	663.6	749.3	20	34.9
26	870.0	665.2	25.4	44.5	723.9	806.5	24	34.9
28	927.1	716.0	25.4	44.5	781.1	863.6	28	34.9
30	984.3	766.8	25.4	44.5	831.9	914.4	28	34.9
32	1,060.5	817.6	28.6	44.5	889.0	977.9	28	41.3
34	1,111.3	868.4	28.6	44.5	939.8	1,028.7	32	41.3
36	1,168.4	919.2	28.6	44.5	997.0	1,085.9	32	41.3
38	1,238.3	970.0	28.6	44.5	1,060.5	1,149.4	32	41.3
40	1,289.1	1,020.8	28.6	44.5	1,111.3	1,200.2	36	41.3
42	1,346.2	1,071.6	31.8	44.5	1,168.4	1,257.3	36	41.3
44	1,403.4	1,122.4	31.8	57.2	1,219.2	1,314.5	40	41.3
46	1,454.2	1,173.2	31.8	57.2	1,270.0	1,365.3	40	41.3
48	1,511.3	1,224.0	34.9	63.5	1,327.2	1,422.4	44	41.3
50	1,568.5	1,274.8	34.9	63.5	1,378.0	1,479.6	44	47.6
52	1,625.6	1,325.6	34.9	63.5	1,435.1	1,536.7	44	47.6
54	1,682.8	1,376.4	34.9	63.5	1,492.3	1,593.9	44	47.6
60	1,854.2	1,528.8	38.1	69.9	1,657.4	1,759.0	52	47.6
66	2,032.0	1,681.2	38.1	69.9	1,816.1	1,930.4	52	47.6
72	2,197.1	1,833.6	38.1	69.9	1,993.9	2,095.5	60	47.6
78	2,362.2	1,986.0	44.5	76.2	2,146.3	2,260.6	64	54.0
84	2,533.7	2,138.4	44.5	76.2	2,298.7	2,425.7	64	54.0
90	2,705.1	2,290.8	50.8	82.6	2,457.5	2,590.8	68	60.3
96	2,876.6	2,443.2	50.8	82.6	2,609.9	2,755.9	68	60.3
102	3,048.0	2,595.6	57.2	88.9	2,762.3	2,908.3	72	66.7
108	3,219.5	2,748.0	57.2	88.9	2,908.3	3,067.1	72	66.7
114	3,390.9	2,900.4	63.5	95.3	3,079.8	3,219.5	76	73.0
120	3,562.4	3,052.8	63.5	95.3	3,251.2	3,371.9	76	73.0

Notes:

(1) For standard finishes for contact face, refer to page 46.

(2) For Slip-on Flanges, (Hub Type Flanges), the hubs can be shaped either vertical from base to top or tapered within the limits of 7 degrees.

(3) The' Bore'(B) shall be 3/16 in. larger than the nominal outside diameter of the pipe, unless otherwise specified.

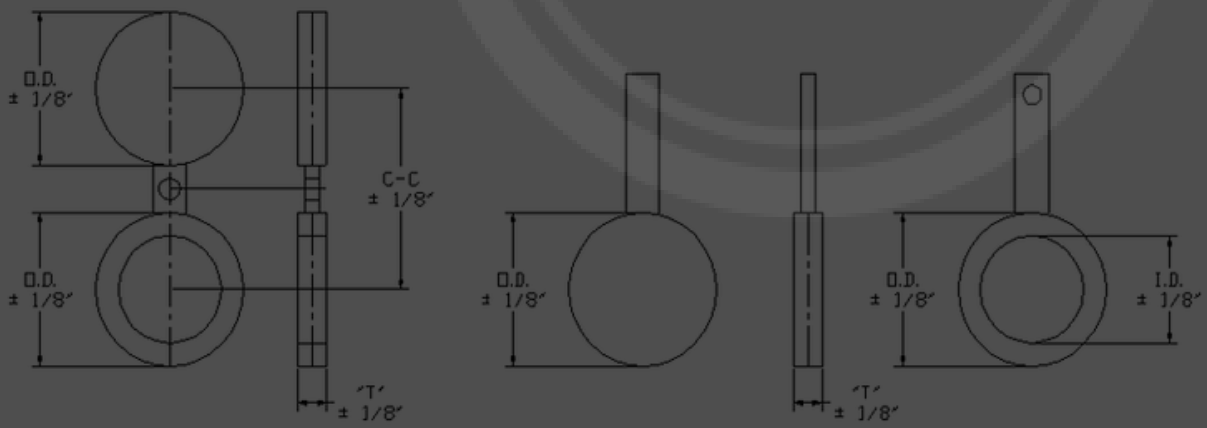


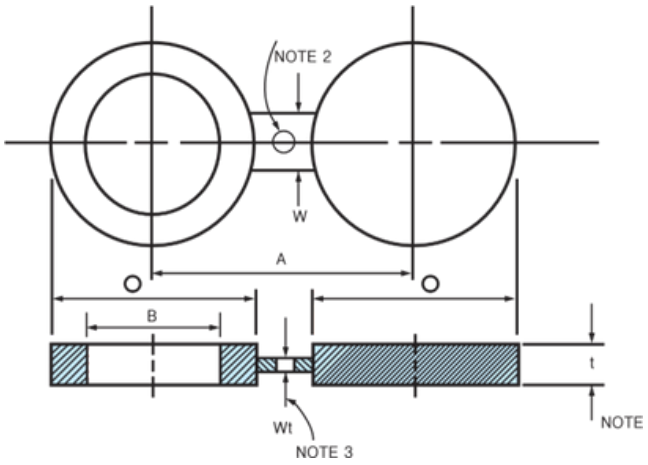
FIGURE-8 PADDLE BLIND SPACER RING

AWWA FLANGES

- Class 150, 300 Figure 8 Blanks
- Class 600, 900 Figure 8 Blanks
- Class 1500, 2500 Figure 8 Blanks
- Class 150 Spacer and Blanks
- Class 300 Spacer and Blanks

CPS
CREATIVE PIPING SOLUTIONS PVT. LTD.

CLASS 150, 300 FIGURE 8 BLANKS



CREATIVE PIPING SOLUTIONS PRIVATE LIMITED						www.creativeforged.com				Unit : mm
Size	150 LB					300 LB				
	B	O	A	T	W	B	O	A	T	W
1/2	16	44	60	3	38	16	51	67	6	38
3/4	21	54	70	3	38	21	64	83	6	38
1	27	64	79	3	38	27	70	89	6	38
1-1/4	42	73	89	6	38	42	79	99	6	38
1-1/2	48	83	99	6	38	48	92	114	6	51
2	60	102	121	6	51	60	108	127	10	51
2-1/2	73	121	140	6	51	73	127	149	10	64
3	89	133	152	6	64	89	146	168	10	64
3-1/2	102	159	178	10	64	102	162	184	13	64
4	114	171	190	10	64	114	178	200	13	64
5	141	194	216	10	76	141	213	235	16	76
6	168	219	241	13	76	168	248	270	16	76
8	219	276	298	13	76	219	305	330	2	89
10	273	337	362	16	102	273	359	387	25	102
12	324	406	432	19	102	324	419	451	28	102
14	356	448	476	19	108	356	483	514	32	121
16	406	511	540	22	108	406	537	572	38	124
18	457	546	578	25	114	457	594	629	41	114
20	508	603	635	28	121	508	651	686	44	121
24	610	714	749	32	140	610	772	813	51	140

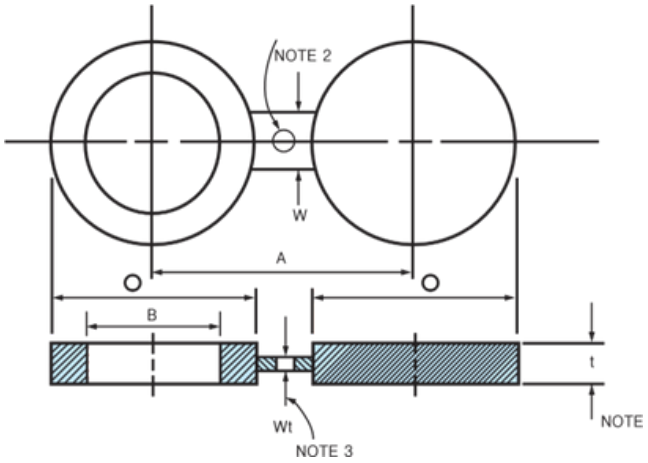
Notes:

(1) Thickness(dimension t) includes a corrosion allowance of 0.05 inch (1.3millimeters) for material groups 1.1, 1.7, 1.9, 1.10, and 1.12 Corrosion allowance is 0.00 inch for material groups 2.1, 2.2, 2.4, and 2.5.

(2) Hole size (where required due to bolt spacing) shall be the same as the flange bolt hole.

(3) The thickness of the web(or tie bar) dimension Wt, shall be 0.25 inch (6.35millimeter) minimum, except when t is less than 0.25 inch, Wt shall equal t.

CLASS 600, 900 FIGURE 8 BLANKS



CREATIVE PIPING SOLUTIONS PRIVATE LIMITED						www.creativeforged.com			Unit : mm	
Size	600 LB					900 LB				
	B	O	A	T	W	B	O	A	T	W
1/2	16	51	67	6	38	16	60	83	6	38
3/4	21	64	83	6	38	21	67	89	6	41
1	27	70	89	6	57	27	76	102	6	57
1-1/4	37	79	99	10	57	37	86	111	10	57
1-1/2	43	92	114	10	67	43	95	124	10	67
2	55	108	127	10	57	55	140	165	13	57
2-1/2	67	127	149	13	67	67	162	190	13	67
3	83	146	168	13	67	83	165	190	16	67
3-1/2	96	159	184	16	76	-	-	-	-	-
4	108	191	216	16	76	108	203	235	19	76
5	135	238	267	19	86	135	244	279	22	86
6	162	264	292	22	86	162	286	318	25	86
8	212	318	349	28	95	212	356	394	35	95
10	265	397	432	35	105	265	432	470	41	105
12	315	454	489	41	105	315	495	533	48	105
14	346	489	527	44	114	346	518	559	54	114
16	397	562	603	51	124	397	572	616	60	124
18	448	610	654	54	133	448	635	686	67	133
20	497	679	724	64	133	497	695	749	73	133
24	597	787	838	73	152	597	835	902	89	152

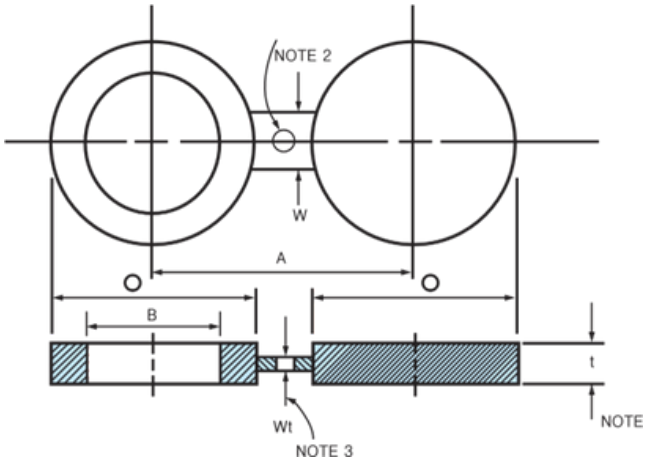
Notes:

(1) Thickness(dimension t) includes a corrosion allowance of 0.05 inch (1.3millimeters) for material groups 1.1, 1.7, 1.9, 1.10, and 1.12 Corrosion allowance is 0.00 inch for material groups 2.1, 2.2, 2.4, and 2.5.

(2) Hole size (where required due to bolt spacing) shall be the same as the flange bolt hole.

(3) The thickness of the web(or tie bar) dimension Wt, shall be 0.25 inch (6.35millimeter) minimum, except when t is less than 0.25 inch, Wt shall equal t.

CLASS 1500, 2500 FIGURE 8 BLANKS



CREATIVE PIPING SOLUTIONS PRIVATE LIMITED						www.creativeforged.com			Unit : mm	
Size	1500 LB					2500 LB				
	B	O	A	T	W	B	O	A	T	W
1/2	16	60	83	6	38	16	67	89	10	38
3/4	21	67	89	10	41	21	73	95	10	41
1	27	76	102	10	64	27	83	108	10	64
1-1/4	35	86	111	10	64	35	102	130	13	64
1-1/2	41	95	124	13	70	41	114	146	16	70
2	53	140	165	13	70	53	143	171	16	70
2-1/2	63	162	190	16	76	63	165	197	19	76
3	78	171	203	19	76	78	194	229	22	76
3-1/2	-	-	-	-	-	-	-	-	-	-
4	102	206	241	22	89	102	232	273	28	89
5	128	251	292	28	89	128	276	324	35	89
6	154	279	318	35	89	154	314	368	41	89
8	203	349	394	41	102	198	384	438	54	102
10	255	432	483	51	114	248	473	540	67	114
12	303	518	572	60	114	289	546	619	79	114
14	333	575	635	67	127	-	-	-	-	-
16	381	638	705	76	133	-	-	-	-	-
18	429	702	775	86	146	-	-	-	-	-
20	478	752	832	95	152	-	-	-	-	-
24	575	899	991	111	178	-	-	-	-	-

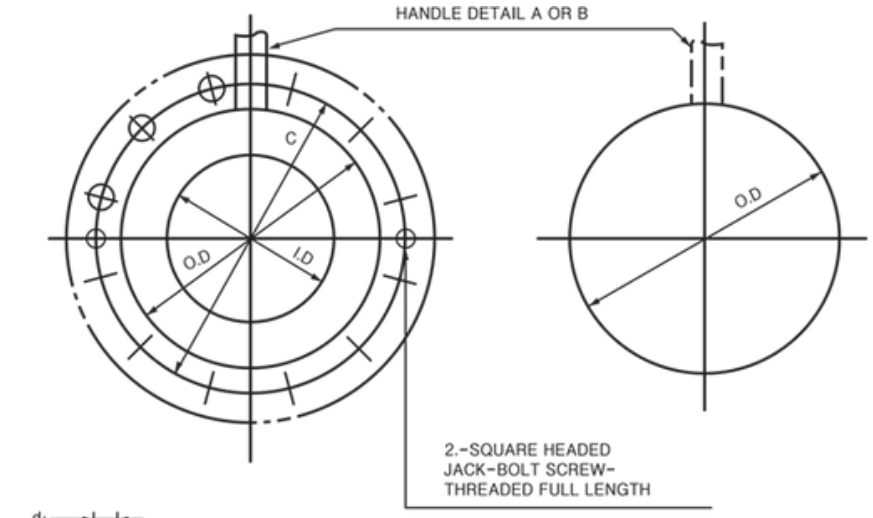
Notes:

(1) Thickness(dimension t) includes a corrosion allowance of 0.05 inch (1.3millimeters) for material groups 1.1, 1.7, 1.9, 1.10, and 1.12 Corrosion allowance is 0.00 inch for material groups 2.1, 2.2, 2.4, and 2.5.

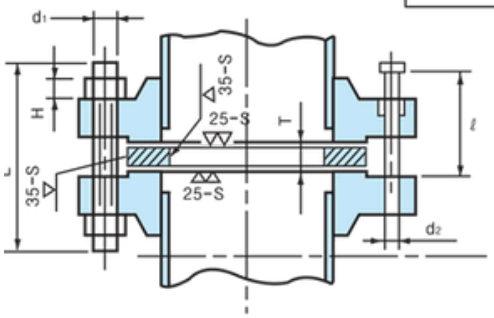
(2) Hole size (where required due to bolt spacing) shall be the same as the flange bolt hole.

(3) The thickness of the web(or tie bar) dimension Wt, shall be 0.25 inch (6.35millimeter) minimum, except when t is less than 0.25 inch, Wt shall equal t.

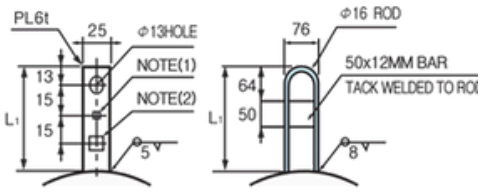
CLASS 150 SPACER AND BLANKS



BLANK



SPACER



22.7KG & UNDER OVER 22.7KG

FOR THE SPACER AND BLANK

"A" "B"

HANDLE DETAIL

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED										www.creativeforged.com	Unit : mm		
Size	SPACER & BLANK				BOLT & NUT					JACK SCREW		WEIGHT (KG)		REMARKS
	O.D	I.D	T	L1	C	d1	NO	L	H	d2	t	SPACER	BLANK	
8	276	219	13	165	298.4	M20	8	140	20	M20	75	3.6	7.8	
10	337	273	16	165	361.9	M22	12	150	22	M20	80	5.8	13.5	
12	406	324	19	165	431.8	M22	12	155	22	M20	85	9.9	22.7	
14	448	359	19	172	476.2	M27	12	175	27	M20	90	12.4	30.6	
16	511	406	22	172	539.7	M27	16	180	27	M22	90	17.0	42.8	
18	546	457	25	172	577.8	M30	16	195	30	M22	100	17.9	54.2	
20	603	508	28	178	635.0	M30	20	210	30	M22	105	24.2	73.0	
24	714	610	32	178	749.0	M33	20	230	30	M24	115	36.7	121.0	

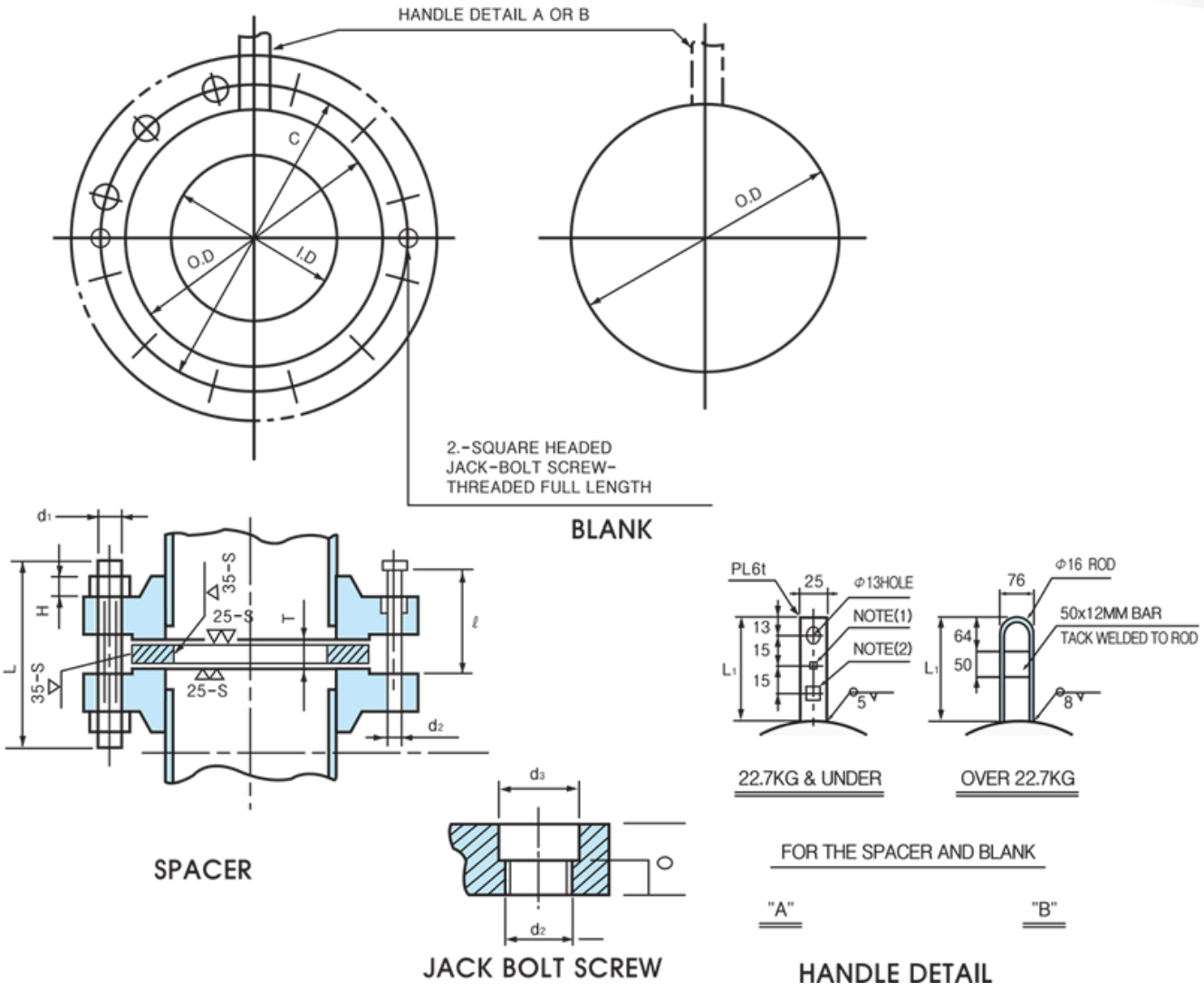
Notes:

(1) 5□ Hole shall only be applied to the spacer.

(2) To be die stamp on both side as follows, spacer is“ S”and blank in“ B”

(3) For dimensional tolerances

CLASS 300 SPACER AND BLANKS



CREATIVE PIPING SOLUTIONS PRIVATE LIMITED									www.creativeforged.com		Unit : mm	
Size	SPACER & BLANK				BOLT & NUT					JACK SCREW		WEIGHT (KG)	
	O.D	I.D	T	L1	C	d1	NO	L	H	d2	t	SPACER	BLANK
8	305	219	22	165	330.2	M22	12	175	22	M20	95	7.9	14.0
10	359	273	25	172	387.3	M27	16	205	27	M20	105	11.2	22.5
12	419	324	28	178	450.8	M30	16	225	30	M20	115	17.3	37.7
14	483	356	32	178	514.3	M30	20	235	30	M22	120	27.1	54.2
16	537	406	38	184	571.5	M33	20	250	33	M22	130	34.2	73.9
18	594	457	41	191	628.6	M33	24	260	33	M22	135	44.5	101.2
20	651	508	44	191	685.8	M33	24	275	33	M24	145	56.7	134.6
24	772	610	51	203	812.8	M39	24	310	39	M24	160	89.1	222.2

Notes:

(1) 5 Hole shall only be applied to the spacer.

(2) To be die stamp on both side as follows, spacer is“ S”and blank in“ B”

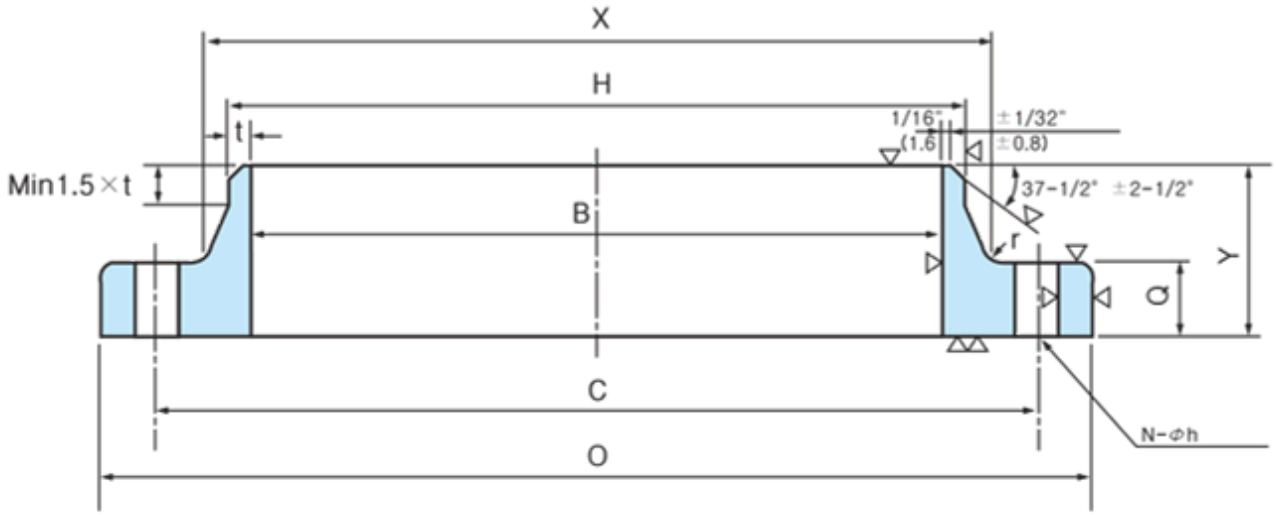
(3) For dimensional tolerances

TAYLOR FLANGES

- Class 125 Flanges
- Class 175 Flanges
- Class 250 Flanges
- Class 350 Flanges

CREATIVE PIPING SOLUTIONS PVT. LTD.

TAYLOR FLANGES CLASS-125



WELDING NECK TYPE

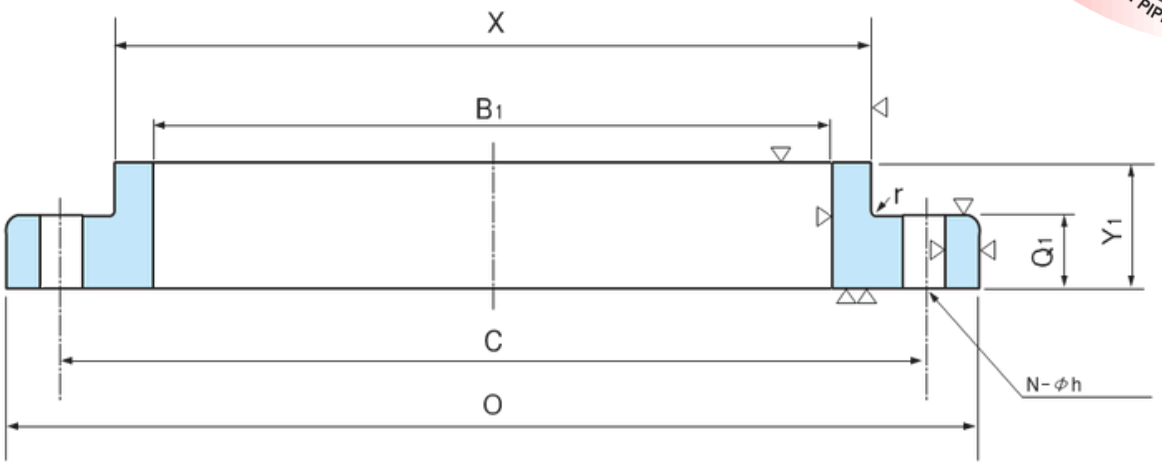
CREATIVE PIPING SOLUTIONS PRIVATE LIMITED							www.creativeforged.com		Unit : mm					
Nominal Pipe Size	COMMON DIMENSIONS				Diameter of Hub at Bevel		THICKNESS				LENGHT THRU HUB			
	Outside Diameter of Flange		Diameter at Base of Hub				Welding Neck		Slip-On		Welding Neck		Slip-On	
	O		X		H		Q		Q1		Y		Y1	
	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.
26	870.0	34-1/4	723.9	28-1/2	660.4	26	50.8	2	50.8	2	127.0	5	85.7	3-3/8
28	927.1	36-1/2	781.1	30-3/4	711.2	28	52.4	2-1/16	52.4	2-1/16	128.6	5-1/16	87.3	3-7/16
30	984.3	38-3/4	831.9	32-3/4	762.0	30	54.0	2-1/8	54.0	2-1/8	130.2	5-1/8	88.9	3-1/2
32	1060.5	41-3/4	889.0	35	812.8	32	57.2	2-1/4	57.2	2-1/4	133.4	5-1/4	92.1	3-5/8
34	1111.3	43-3/4	939.8	37	863.6	34	58.8	2-5/16	58.8	2-5/16	134.9	5-5/16	93.7	3-11/16
36	1168.4	46	997.0	39-1/4	914.4	36	60.3	2-3/8	60.3	2-3/8	136.5	5-3/8	95.3	3-3/4
38	1238.3	48-3/4	1060.5	41-3/4	965.2	38	60.3	2-3/8	60.3	2-3/8	136.5	5-3/8	95.3	3-3/4
40	1289.1	50-3/4	1111.3	43-3/4	1016.0	40	63.5	2-1/2	63.5	2-1/2	139.7	5-1/2	98.4	3-7/8
42	1346.2	53	1168.4	46	1066.8	42	66.7	2-5/8	66.7	2-5/8	142.9	5-5/8	101.6	4
44	1403.4	55-1/4	1219.2	48	1117.6	44	66.7	2-5/8	66.7	2-5/8	142.9	5-5/8	101.6	4
46	1454.2	57-1/4	1270.0	50	1168.4	46	68.3	2-11/16	68.3	2-11/16	144.5	5-11/16	103.2	4-1/16
48	1511.3	59-1/2	1327.2	52-1/4	1219.2	48	69.9	2-3/4	69.9	2-3/4	146.1	5-3/4	104.8	4-1/8
50	1568.5	61-3/4	1378.0	54-1/4	1270.0	50	69.9	2-3/4	69.9	2-3/4	146.1	5-3/4	104.8	4-1/8
52	1625.6	64	1435.1	56-1/2	1320.8	52	73.0	2-7/8	73.0	2-7/8	149.2	5-7/8	108.0	4-1/4
54	1682.8	66-1/4	1492.3	58-3/4	1371.6	54	76.2	3	76.2	3	152.4	6	111.1	4-3/8
60	1854.2	73	1657.4	65-1/4	1524.0	60	79.4	3-1/8	79.4	3-1/8	155.6	6-1/8	114.3	4-1/2
66	2032.0	80	1816.1	71-1/2	1676.4	66	85.7	3-1/8	85.7	3-1/8	161.9	6-3/8	123.8	4-7/8
72	2197.1	86-1/2	1993.9	78-1/2	1828.8	72	88.9	3-1/2	88.9	3-1/2	165.1	6-1/2	127.0	5
84	2533.7	99-3/4	2298.7	90-1/2	2133.6	84	98.4	3-7/8	98.4	3-7/8	174.6	6-7/8	136.5	5-3/8
96	2876.6	113-1/4	2609.9	102-3/4	2438.4	96	108.0	4-1/4	108.0	4-1/4	184.2	7-1/4	146.1	5-3/4

Notes:

Properly there is no Steel Flange Standard of this designation, the term“ CLASS 125”being precisely applicable to a Cast Iron Standard under ANSI B16.1.

These flanges are used for connections to cast steel valves, pumps or other equipment, having flanged ends made to Cast Iron Standard dimensions.

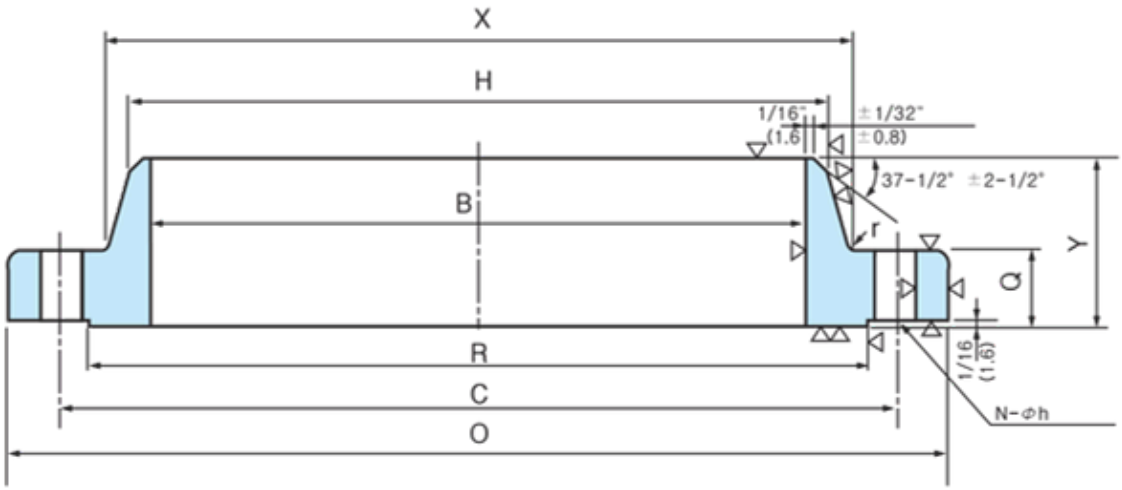
These flanges are identical with Class E of AWWA C207 For machining tolerances see ANSI B16.5.



SLIP – ON TYPE

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED					www.creativeforged.com		Unit : mm			
Nominal Pipe Size	INSIDE DIAMETER				DRILLING TEMPLATE			Fillet Radius		APPROX WEIGHT	
	Welding Neck	Slip-On			Bolt Circle Diameter		Number Of Holes	Diam, of Holes			Welding Neck	Slip-On
	B	B1			Q							
		mm.	in.		mm.	in.	N	h	mm.	in.	Kg	Kg
26	To be specified by purchaser	666.8	26-1/4		806.5	31-3/4	24	1-3/8	9.5	3/8	118	107
28		717.6	28-1/4		863.6	34	28	1-3/8	9.5	3/8	134	122
30		768.4	30-1/4		914.4	36	28	1-3/8	9.5	3/8	154	138
32		819.2	32-1/4		977.9	38-1/2	28	1-5/8	99.5	3/8	186	170
34		870.0	34-1/4		1028.7	40-1/2	32	1-5/8	9.5	3/8	200	181
36		920.8	36-1/4		1085.9	42-3/4	32	1-5/8	9.5	3/8	225	204
38		971.6	38-1/4		1149.4	45-1/4	32	1-5/8	9.5	3/8	259	240
40		1022.4	40-1/4		1200.2	47-1/4	36	1-5/8	9.5	3/8	281	259
42		1073.2	42-1/4		1257.3	49-1/2	36	1-5/8	9.5	3/8	322	295
44		1124.0	44-1/4		1314.5	51-3/4	40	1-5/8	9.5	3/8	340	313
46		1174.8	46-1/4		1365.3	53-3/4	40	1-5/8	9.5	3/8	363	331
48		1225.6	48-1/4		1422.4	56	44	1-5/8	9.5	3/8	395	363
50		1276.4	50-1/4		1479.6	58-1/4	44	1-7/8	11.1	7/16	408	376
52		1327.2	52-1/4		1536.6	60-1/2	44	1-7/8	11.1	7/16	454	417
54		1378.0	54-1/4		1593.9	62-3/4	44	1-7/8	11.1	7/16	499	465
60		1530.4	60-1/4		1759.0	69-1/4	52	1-7/8	11.1	7/16	612	567
66		1682.8	66-1/4		1930.4	76	52	1-7/8	11.1	7/16	805	737
72		1835.2	72-1/4		2095.5	82-1/2	60	1-7/8	11.1	7/16	953	873
84		2140.0	84-1/4		2425.7	95-1/2	64	1-7/8	15.9	5/8	1281	1179
96		2444.8	96-1/4		2755.9	108-1/2	68	2-3/8	22.2	7/8	1724	1486

TAYLOR FLANGES CLASS-175



WELDING NECK TYPE

Welding Neck, Slip-on and Blind

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED	www.creativeforged.com	Unit : mm

Nominal Pipe Size	COMMON DIMENSIONS				Diameter at Base of Hub		THICKNESS						LENGHT THRU HUB			
	Outside Diameter of Flange		O.D Raised Face				Welding Neck		Slip-On		Blind		Welding Neck		Slip-On	
	O		R		X		Q		Q1		Q2		Y		Y1	
	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.
26	800.1	31-1/2	736.6	29	701.7	27-5/8	34.9	1-3/8	34.9	1-3/8	47.6	1-7/8	85.7	3-3/8	69.9	2-3/4
28	850.9	33-1/2	787.4	31	752.5	29-5/8	34.9	1-3/8	34.9	1-3/8	50.8	2	85.7	3-3/8	69.9	2-3/4
30	908.1	35-3/4	844.6	33-1/4	809.6	31-7/8	34.9	1-3/8	34.9	1-3/8	54.0	2-1/8	92.1	3-5/8	69.9	2-3/4
32	958.9	37-3/4	895.4	35-1/4	860.4	33-7/8	34.9	1-3/8	34.9	1-3/8	57.2	2-1/4	92.1	3-5/8	69.9	2-3/4
34	1022.4	40-1/4	949.3	37-3/8	911.2	35-7/8	38.1	1-1/2	44.5	1-3/4	60.3	2-3/8	95.3	3-3/4	85.7	3-3/8
36	1073.2	42-1/4	1000.1	39-3/8	962.0	37-7/8	38.1	1-1/2	44.5	1-3/4	63.5	2-1/2	95.3	3-3/4	85.7	3-3/8
38	1124.0	44-1/4	1050.9	41-3/8	1012.8	39-7/8	44.5	1-3/4	50.8	2	66.7	2-5/8	104.8	4-1/8	95.3	3-3/4
40	1174.8	46-1/4	1101.7	43-3/8	1063.6	41-7/8	44.5	1-3/4	50.8	2	69.9	2-3/4	104.8	4-1/8	101.6	4
42	1244.6	49	1162.1	45-3/4	1120.8	44-1/8	50.8	2	60.3	2-3/8	73.0	2-7/8	114.3	4-1/2	111.1	4-3/8
44	1295.4	51	1212.9	47-3/4	1171.6	46-1/8	50.8	2	60.3	2-3/8	76.2	3	114.3	4-1/2	111.1	4-3/8
46	1346.2	53	1263.7	49-3/4	1222.4	48-1/8	50.8	2	60.3	2-3/8	79.4	3-1/8	114.3	4-1/2	117.5	4-5/8
48	1397.0	55	1314.5	51-3/4	1273.2	50-1/8	57.2	2-1/4	66.7	2-5/8	85.7	3-1/8	123.8	4-7/8	123.8	4-7/8
50	1447.8	57	1365.3	53-3/4	1324.0	52-1/8	57.2	2-1/4	66.7	2-5/8	85.7	3-1/8	123.8	4-7/8	123.8	4-7/8
52	1511.3	59-1/2	1422.3	56	1378.0	54-1/4	66.7	2-5/8	76.2	3	92.1	3-5/8	136.5	5-3/8	136.5	5-3/8
54	1562.1	61-1/2	1473.3	58	1428.8	56-1/4	66.7	2-5/8	76.2	3	92.1	3-5/8	136.5	5-3/8	136.5	5-3/8
60	1714.5	67-1/2	1625.6	64	1581.2	62-1/4	69.9	2-3/4	79.4	3-1/8	101.6	4	146.1	5-3/4	149.2	5-7/8
66	1866.9	73-1/2	1778.0	70	1739.9	68-1/2	79.4	3-1/8	101.6	4	111.1	4-3/8	155.6	6-1/8	174.6	6-7/8
72	2032.0	80	1943.1	76-1/2	1892.3	74-1/2	92.1	3-5/8	127.0	5	120.7	4-3/4	168.3	6-5/8	203.2	8
84	2387.6	94	1289.2	90-1/8	2235.2	88	76.2	3	127.0	5	139.7	5-1/2	177.8	7	215.9	8-1/2
96	2692.4	106	2594.0	102-1/8	2540.0	100	88.9	3-1/2	127.0	5	155.6	6-1/8	190.5	7-1/2	228.6	9

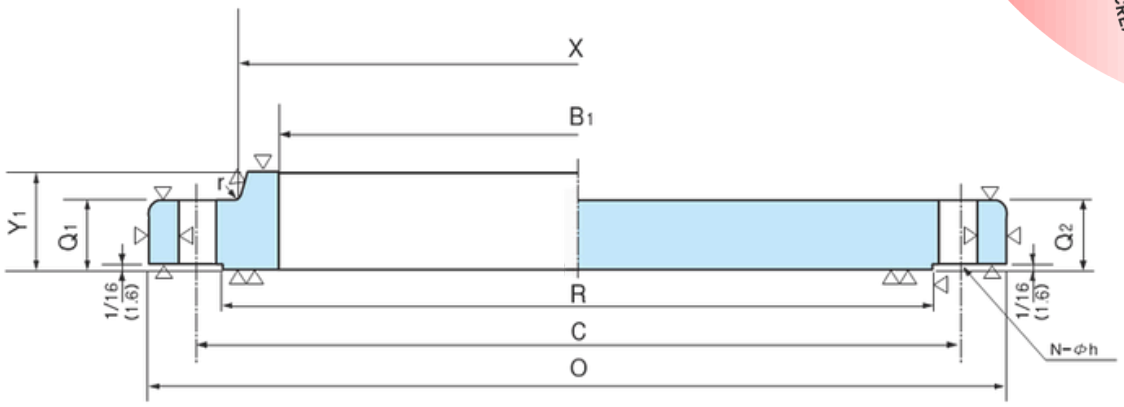
Notes:

(1) This designation applies to flanges formerly listed as“ 150lb at 750。 F.”

(2) Pressure rating;-175psi at -20。 F to 650。 F; or 150psi at 750。 F.

(3) When applied to Welding Neck flanges, these ratings are based on inside diameters of pipe or shell as listed in “Nominal Size”column, and pipe or shell thicknesses ranging from 3/8”to 5/8”.

(4) When applied to Slip-on flanges, ratinges are based on outside diameters of pipe or shell as listed in“ Nominal Size”



CREATIVE PIPING SOLUTIONS PRIVATE LIMITED														www.creativeforged.com	Unit : mm
Diameter of Hub at Bevel		INSIDE DIAMETER			DRILLING TEMPLATE				Fillet Radius		APPROX WEIGHT			Nomi -nal Pipe Size
		Welding Neck	Slip-On		Bolt Circle Diameter		Number Of Holes	Diam, of Holes			Weld -ing Neck	Slip -On	Blind	
H		B	B1		C		N	h	r					
mm.	in.		mm.	in.	mm.	in.			mm.	in.	Kg	Kg	Kg	
660.4	26	To be specified by purchaser	666.8	26-1/4	758.8	29-7/8	28	7/8	9.5	3/8	54	48		26
711.2	28		717.6	28-1/4	809.6	31-7/8	28	7/8	9.5	3/8	59	52	184	28
762.0	30		768.4	30-1/4	866.8	34-1/8	36	7/8	9.5	3/8	68	59	222	30
812.8	32		819.2	32-1/4	917.6	36-1/8	36	7/8	9.5	3/8	73	64	268	32
863.6	34		870.0	34-1/4	974.7	38-3/8	36	1	9.5	3/8	88	91	381	34
914.4	36		920.8	36-1/4	1025.5	40-3/8	36	1	9.5	3/8	93	95	440	36
965.2	38		971.6	38-1/4	1076.3	42-3/8	36	1	9.5	3/8	111	113	510	38
1016.0	40		1022.6	40-1/4	1127.1	44-3/8	40	1	9.5	3/8	116	122	590	40
1066.8	42		1073.2	42-1/4	1190.6	46-7/8	40	1-1/8	9.5	3/8	154	166	680	42
1117.6	44		1124.0	44-1/4	1241.4	48-7/8	40	1-1/8	9.5	3/8	163	172	771	44
1168.4	46		1174.8	46-1/4	1292.2	50-7/8	40	1-1/8	9.5	3/8	170	186	873	46
1219.2	48		1225.6	48-1/4	1343.0	52-7/8	44	1-1/8	9.5	3/8	195	209	1009	48
1270.0	50		1276.4	50-1/4	1393.8	54-7/8	44	1-1/8	9.5	3/8	204	218	1089	50
1320.8	52		1327.2	52-1/4	1454.2	57-1/4	44	1-1/4	9.5	3/8	254	272	1270	52
1371.6	54		1378.0	54-1/4	1505.0	59-1/4	44	1-1/4	9.5	3/8	263	281	1360	54
1454.0	60		1530.4	60-1/4	1657.4	65-1/4	48	1-1/4	9.5	3/8	308	331	1814	60
1676.4	66		1682.8	66-1/4	1809.8	71-1/4	56	1-1/4	6.4	1/4	376	454	2347	66
1828.8	72		1835.2	72-1/4	1974.9	77-3/4	64	1-1/4	12.7	1/2	488	635	3016	72
2133.6	84		2140.0	84-1/4	2324.1	91-1/2	72	1-3/8	12.7	1/2	703	1021	-	84
2438.4	96		2444.8	96-1/4	2628.9	103-1/2	88	1-3/8	12.7	1/2	885	1179	-	96

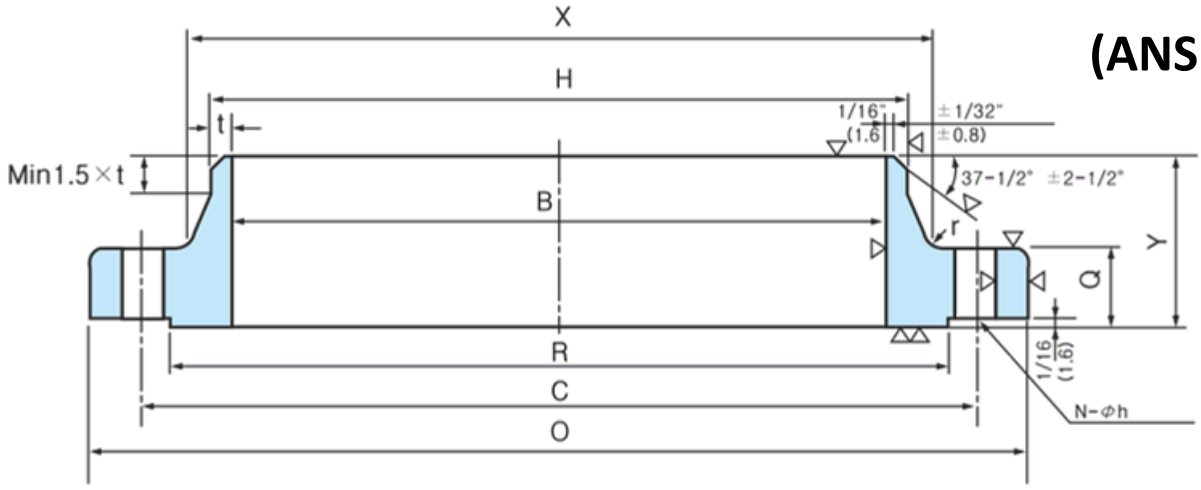
column. Bored slip to over nominal O.D pipe, any larger bore will affect the pressure rating.

(5) These flanges have been designed in accordance with" Modern Flange Design"(Taylor Forge Bulletin 722) and hence they comply in all respects with the current ASME Code.

(6) For machining tolerances see ANSI Standard B16.5.

TAYLOR FLANGES CLASS-250

(ANSI-B16.b)



WELDING NECK TYPE

Welding Neck and Slip-on

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED	www.creativeforged.com	Unit : mm

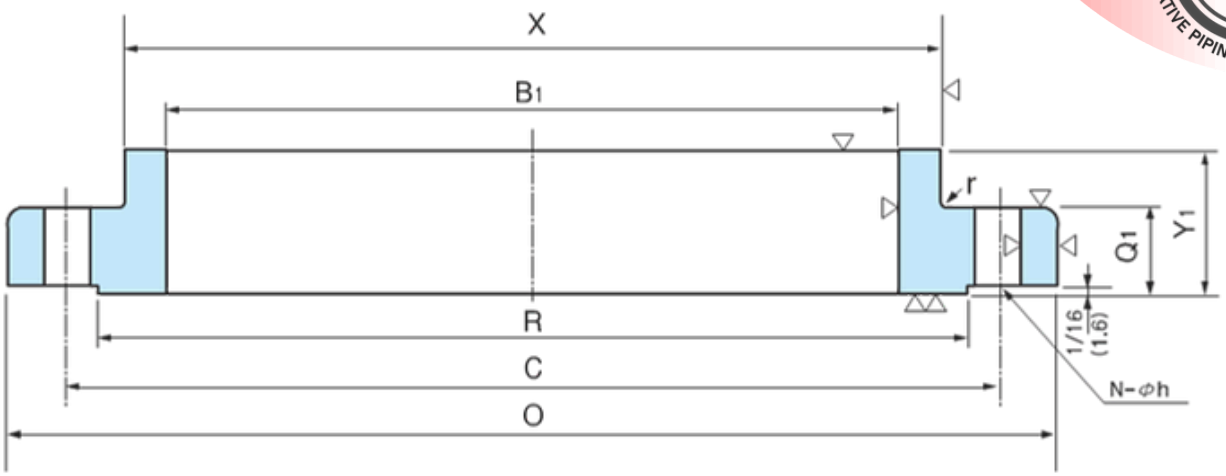
Nominal Pipe Size	COMMON DIMENSIONS				Diameter at Base of Hub		THICKNESS				LENGHT THRU HUB			
	Outside Diameter of Flange		O.D Raised Face				Welding Neck		Slip-On		Welding Neck		Slip-On	
	O		R		X		Q		Q1		Y		Y1	
	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.
26	971.6	38-1/4	823.9	32-7/16	774.7	30-1/2	71.5	2-13/16	71.5	2-13/16	147.7	5-13/16	120.7	4-3/4
28	1035.1	40-3/4	887.4	34-15/16	838.2	33	74.6	2-15/16	74.6	2-15/16	150.8	5-15/16	127.0	5
30	1092.2	43	944.6	37-3/16	895.4	35-1/4	76.2	3	76.2	3	152.4	6	127.0	5
32	1149.4	45-1/4	1001.7	39-7/16	952.5	37-1/2	79.4	3-1/8	79.4	3-1/8	155.6	6-1/8	130.2	5-1/8
34	1206.5	47-1/2	1052.5	41-7/16	1003.3	39-1/2	82.6	3-1/4	82.6	3-1/4	158.8	6-1/4	133.4	5-1/4
36	1270.0	50	1109.7	43-11/16	1054.1	41-1/2	85.7	3-3/8	85.7	3-3/8	161.9	6-3/8	136.5	5-3/8
38	1327.2	52-1/4	1160.5	45-11/16	1104.9	43-1/2	87.3	3-7/16	87.3	3-7/16	163.5	6-7/16	139.7	5-1/2
40	1384.3	54-1/2	1217.6	47-15/16	1162.1	45-3/4	90.5	3-9/16	90.5	3-9/16	166.7	6-9/16	139.7	5-1/2
42	1447.8	57	1281.1	50-7/16	1212.9	47-3/4	93.7	3-11/16	93.7	3-11/16	176.2	6-15/16	142.9	5-5/8
44	1505.0	59-1/4	1338.3	52-11/16	1263.7	49-3/4	95.3	3-3/4	95.3	3-3/4	177.8	7	146.1	5-3/4
46	1562.1	61-1/2	1395.4	54-15/16	1314.5	51-3/4	98.4	3-7/8	98.4	3-7/8	181.0	7-1/8	149.2	5-7/8
48	1651.0	65	1484.3	58-7/16	1371.6	54	101.6	4	101.6	4	184.2	7-1/4	152.4	6

Notes:

Properly there is no Steel Flange Standard of this designation, the term “Class 250”being pecisely applicable to a Cast Iron lron Standard under ANSI B16b.

They are ordinarily used for flanged connections to cast steel valves and equipment made to Class 250 Cast lron Standard dimensions and we recommend their use only for such purposes.

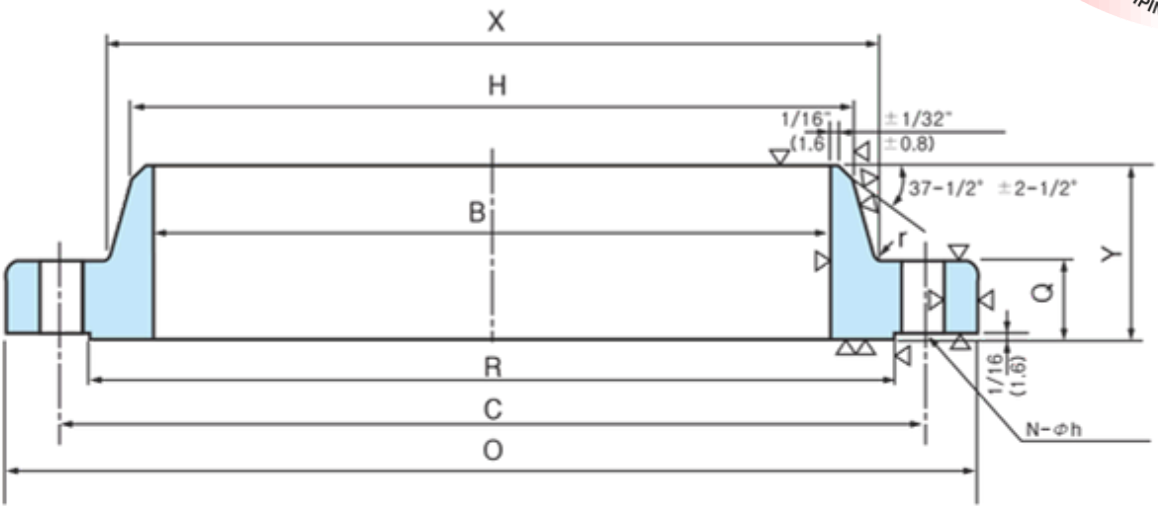
For machining tolerances see ANSI Standard B16.5



SLIP–ON TYPE

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED												www.creativeforged.com	Unit : mm
Diameter of Hub at Bevel		INSIDE DIAMETER			DRILLING TEMPLATE			Fillet Radius		APPROX WEIGHT		Nomi-nal Pipe Size
		Welding Neck	Slip-On		Bolt Circle Diameter		Number 0f Holes	Diam, of Holes			Weld-ing Neck	Slip-On	
H		B	B1		C		N	h	r				
mm.	in.		mm.	in.	mm.	in.			mm.	in.	Kg	Kg	
660.4	26	To be specified by purchaser	666.8	26-1/4	876.3	34-1/2	28	1-7/8	9.5	3/8	241	341	**26**
711.2	28		717.6	28-1/4	939.8	37	28	1-7/8	9.5	3/8	286	291	**28**
762.0	30		768.4	30-1/4	997.0	39-1/4	28	1-7/8	9.5	3/8	319	323	**30**
812.8	32		819.2	32-1/4	1054.1	41-1/2	28	1-7/8	9.5	3/8	359	364	**32**
863.6	34		870.0	34-1/4	1104.9	43-1/2	28	1-7/8	9.5	3/8	400	405	**34**
914.4	36		920.8	36-1/4	1168.4	46	32	2-1/8	9.5	3/8	441	441	**36**
965.2	38		971.6	38-1/4	1219.2	48	32	2-1/8	9.5	3/8	478	478	**38**
1016.0	40		1022.6	40-1/4	1276.4	50-1/4	36	2-1/8	9.5	3/8	523	534	**40**
1066.8	42		1073.2	42-1/4	1339.4	52-3/4	36	2-1/8	15.9	5/8	603	591	**42**
1117.6	44		1124.0	44-1/4	1397.0	55	36	2-1/8	19.1	3/4	648	636	**44**
1168.4	46		1174.8	46-1/4	1454.2	57-1/4	40	2-1/8	22.2	7/8	694	682	**46**
1219.2	48		1225.6	48-1/4	1543.1	60-3/4	44	2-1/8	38.1	1-1/2	830	819	**48**

TAYLOR FLANGES CLASS-350



WELDING NECK TYPE

Welding Neck, Slip-on and Blind

CREATIVE PIPING SOLUTIONS PRIVATE LIMITED | www.creativeforged.com | Unit : mm

Nominal Pipe Size	COMMON DIMENSIONS						THICKNESS						LENGHT THRU HUB			
	Outside Diameter of Flange		O.D Raised Face		Diameter at Base of Hub		Welding Neck		Slip-On		Blind		Welding Neck		Slip-On	
	O		R		X		Q		Q1		Q2		Y		Y1	
	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.
26	831.9	32-3/4	749.3	29-1/2	708.0	27-7/8	63.5	2-1/2	63.5	2-1/2	69.9	2-3/4	127.0	5	114.3	4-1/2
28	882.7	34-3/4	800.1	31-1/2	758.8	29-7/8	63.5	2-1/2	63.5	2-1/2	73.0	2-7/8	127.0	5	114.3	4-1/2
30	939.8	37	857.3	33-3/4	816.0	32-1/8	66.7	2-5/8	66.7	2-5/8	76.2	3	133.4	5-1/4	120.7	4-3/4
32	990.6	39	908.1	35-3/4	866.8	34-1/8	69.9	2-3/4	69.9	2-3/4	82.6	3-1/4	139.7	5-1/2	127.0	5
34	1041.4	41	958.9	37-3/4	917.6	36-1/8	73.0	2-7/8	73.0	2-7/8	85.7	3-3/8	146.1	5-3/4	130.2	5-1/8
36	1111.3	43-3/4	1022.4	40-1/4	977.9	38-1/2	79.4	3-1/8	79.4	3-1/8	92.1	3-5/8	155.6	6-1/8	142.9	5-5/8
38	1162.1	45-3/4	1073.2	42-1/4	1028.7	40-1/2	79.4	3-1/8	79.4	3-1/8	95.3	3-3/4	155.6	6-1/8	142.9	5-5/8
40	1212.9	47-3/4	1124.0	44-1/4	1079.5	42-1/2	82.6	3-1/4	82.6	3-1/4	101.6	4	158.8	6-1/4	149.2	5-7/8
42	1270.0	50	1181.1	46-1/2	1136.7	44-3/4	88.9	3-1/2	88.9	3-1/2	104.8	4-1/8	165.1	6-1/2	155.6	6-1/8
44	1339.0	52-3/4	1241.4	48-7/8	1187.5	46-3/4	95.3	4-3/4	95.3	3-3/4	111.1	4-3/8	171.5	6-3/4	171.5	6-3/4
46	1390.7	54-3/4	1292.2	50-7/8	1238.3	48-3/4	108.0	4-1/4	108.0	4-1/4	120.7	4-3/4	184.2	7-1/4	184.2	7-1/4
48	1441.5	56-3/4	1343.0	52-7/8	1289.1	50-3/4	108.0	4-1/4	108.0	4-1/4	120.7	4-3/4	184.2	7-1/4	184.2	7-1/4
50																
52	1562.1	61-1/2	1454.2	57-1/4	1397.0	55	108.0	4-1/4					190.5	7-1/2		
54	1612.9	63-1/2	1505.0	59-1/4	1447.8	57	114.3	4-1/2	120.7	4-3/4			196.9	7-3/4	209.6	8-1/4
60	1765.3	69-1/2	1657.4	65-1/4	1600.2	63	114.3	4-1/2	127.0	5			203.2	8	215.9	8-1/2
66	1955.8	77	1838.3	72-3/8	1778.0	70	101.6	4					215.9	8-1/2		
72	2108.2	83	1990.7	78-3/8	1930.4	76	101.6	4					228.6	9		
84	2451.1	96-1/2	2324.1	91-1/2	2260.6	89	127.0	5					254.0	10		
96	2775.0	109-1/4	2638.4	103-7/8	2571.8	101-1/4	158.8	6-1/4					285.8	11-1/4		

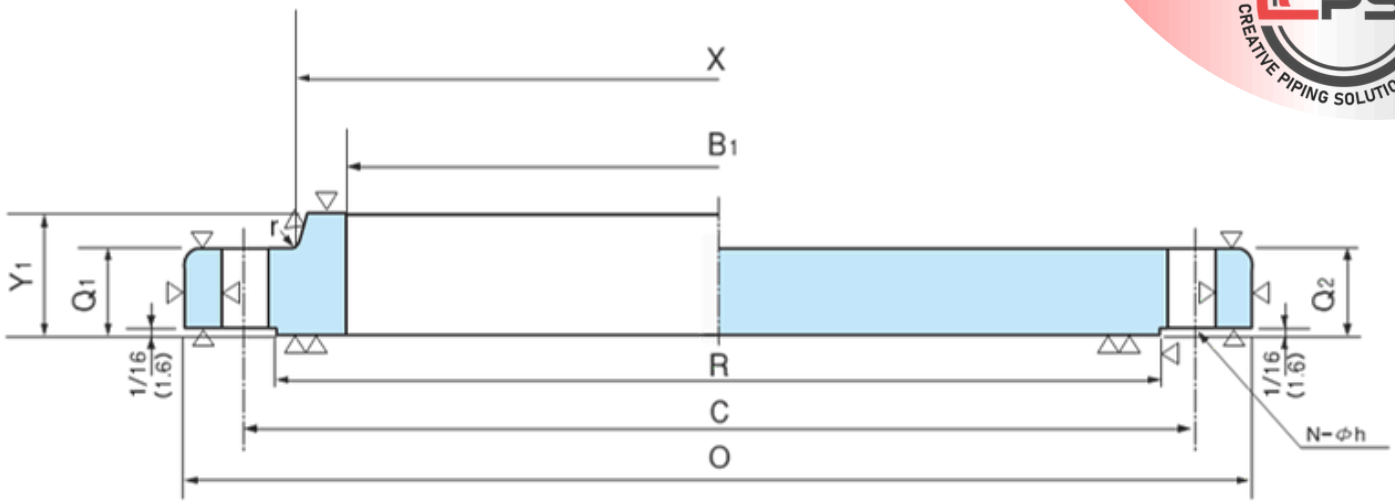
Notes:

(1) Can be furnished. Class 350 flanges in thicknesses over 3 are of ASTM A105 steel.

(2) Pressure rating-350 psi at-20F to 650F, or 300psi at 750F.

(3) This designation applies to flanges formerly listed as“ 300lb. at 750。F”Class 350 flanges are designed in accordance with“ Modern Flange Design”(Taylor Forge Bulletin 502) and hence comply in all respects with the current ASME Boiler and Pressure vessel Code.

(4) Sizes are nominal inside diameters of pipe or shell used with Welding Neck flanges, and nominal outside diameters of pipe of shell used with Slip-On flanges.



CREATIVE PIPING SOLUTIONS PRIVATE LIMITED											www.creativeforged.com		Unit : mm	
Diameter of Hub at Bevel		INSIDE DIAMETER			DRILLING TEMPLATE				Fillet Radius		APPROX WEIGHT			Nomi -nal Pipe Size
		Welding Neck	Slip-On		Bolt Circle Diameter		Number Of Holes	Diam, of Holes			Weld -ing Neck	Slip -On	Blind	
H		B	B1		C		N	h	r					
mm.	in.		mm.	in.	mm.	in.			mm.	in.	Kg	Kg	Kg	
660.4	26	To be specified by purchaser	666.8	26-1/4	777.9	30-5/8	28	1-1/8	9.5	3/8	111	102	263	**26**
711.2	28		717.6	28-1/4	828.7	32-5/8	28	1-1/8	9.5	3/8	118	113	340	**28**
762.0	30		768.4	30-1/4	885.8	34-7/8	32	1-1/8	9.5	3/8	138	134	404	**30**
812.8	32		819.2	32-1/4	936.6	36-7/8	36	1-1/8	9.5	3/8	154	147	476	**32**
863.6	34		870.0	34-1/4	987.4	38-7/8	40	1-1/8	9.5	3/8	170	161	556	**34**
914.4	36		920.8	36-1/4	1054.1	41-1/2	40	1-1/4	9.5	3/8	218	211	680	**36**
965.2	38		971.6	38-1/4	1104.9	43-1/2	40	1-1/4	9.5	3/8	231	222	771	**38**
1016.0	40		1022.6	40-1/4	1155.7	45-1/2	44	1-1/4	9.5	3/8	245	240	896	**40**
1066.8	42		1073.2	42-1/4	1212.9	47-3/4	48	1-1/4	9.5	3/8	290	281	1009	**42**
1117.6	44		1124.0	44-1/4	1276.4	50-1/4	44	1-3/8	11.1	7/16	345	345	1191	**44**
1168.4	46		1174.8	46-1/4	1327.2	52-1/4	48	1-3/8	11.1	7/16	399	399	1338	**46**
1219.2	48		1225.6	48-1/4	1378.0	54-1/4	48	1-3/8	11.1	7/16	417	417	1479	**48**
														50
1320.8	52		1327.2	52-1/4	1492.3	58-3/4	52	1-1/2	12.7	1/2	488	-	-	**52**
1371.6	54		1378.0	54-1/4	1543.1	60-3/4	52	1-1/2	12.7	1/2	544	522	-	**54**
1454.0	60		1530.4	60-1/4	1695.5	66-3/4	60	1-1/2	12.7	1/2	601	658	-	**60**
1676.4	66		1682.8	66-1/4	1879.6	74	60	1-5/8	12.7	1/2	760	-	-	**66**
1828.8	72		1835.2	72-1/4	2032.0	80	72	1-5/8	12.7	1/2	839	-	-	**72**
2133.6	84		2140.0	84-1/4	2368.6	93-1/4	80	1-3/4	12.7	1/2	1338	-	-	**84**
2438.4	96		2444.8	96-1/4	2686.1	105-3/4	84	1-7/8	15.9	5/8	1928	-	-	**96**

(5) When applied to Welding Neck flanges, these rating are based on inside diameters of pipe or shell as listed in "Nominal Size"column and pipe or shell thicknesses ranging from 1/2"to 1".
When applied to Slip-On flanges, ratings are based on outside diameters of pipe or shell as listed in "Nominal Size"column. Bored to slip over nominal OD pipe, any larger bore will affect the pressure rating.
These flanges have been designed in accordance with" Modern Flange Design"(Taylor Forge Bulletin 722) and hence they comply in all respects with the current ASME Code.
(6) For machining tolerances see ANSI Standard B16.5.

Manufacturing Process of Flanges:-

Creativeforged.com Flanges Manufacturing Process :


Raw Material


Raw material Test


Raw Material Cutting


Steel Heating


Flange Forging


Flange Rolling


Flange Machining

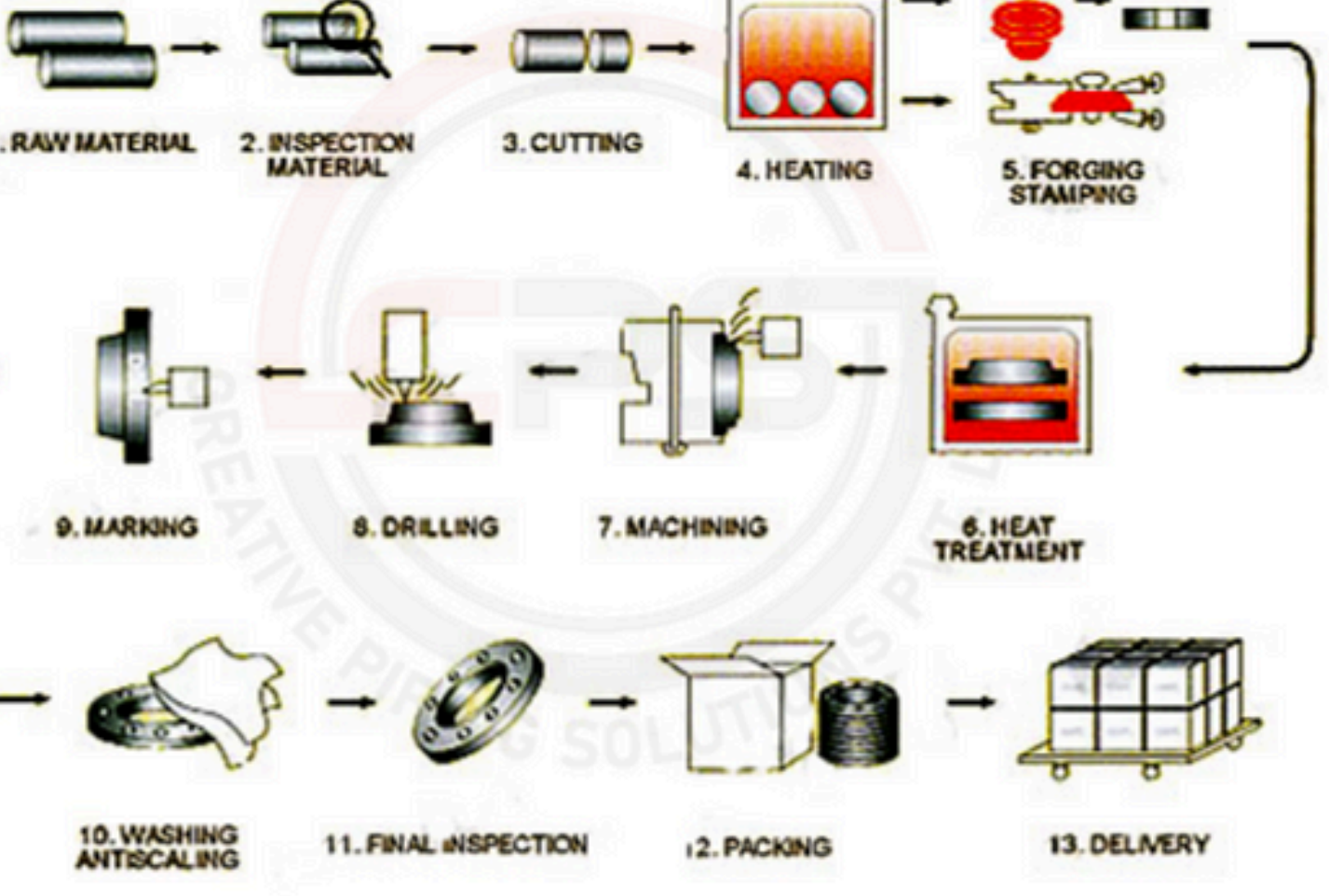

Flange Drilling Holes


Steel Flange Marking


Flange Coating


Flange


Packing and Delivery



Creative Piping Solutions PVT. LTD STANDARD MARKING

- Manufacturer of Product
- Size
- Class
- Bore (if applicable)
- Dimensional Specification
- Material Specification
- Heat Code*
- Production Code (Optional)

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STEEL PIPE FITTINGS & VALVES

OUR ASSOCIATES

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A Navratna Company

Punj Lloyd

TATA
TATA STEEL LIMITED

LARSEN & TOUBRO

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Bharat Petroleum

VOLTAS
A TATA Enterprise

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ऑयल इंडिया लिमिटेड
Oil India Limited

हिन्दुस्तान पेट्रोलियम
HP
Hindustan Petroleum Corporation Limited

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THE NO. 1, FORGED
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