



## YARIMKÜRE İNŞAAT MÜMESSİLLİK TURİZM İTHALAT İHRACAT SANAYİ VE TİCARET LİMİTED ŞİRKETİ

**Address:**

Mutlukent Mahallesi  
Ankara 85 Sitesi  
2020. Sokak No.21  
Beysukent, Çankaya  
06800 Ankara  
Türkiye  
Doğanbey V.D. 9380023742

**Tel:** +90-312-236 3217**Mobile:** +90-532-2818466**Email:** info@hempipe.com**Web:** www.hempipe.com**Tic.Sic./Reg. No.** 79333**Ticaret Oda / CoC No.** 3/6750

ISO 9001:2015 Certificate No. 55929

### FITTINGS, FLANGES, STUD BOLTS & NUTS, GASKETS, FORGED FITTINGS, INSTRUMENT FITTINGS

Our supply program covers pipe fittings, flanges, stud bolts, gaskets, forged fittings and instrument fittings.

Material grades for pipes, fittings and flanges are as follows:

Process of Manufacture	Type	Steel Grades		
		Pipe	Fittings	Flanges
<b>Welded</b>	Carbon	Apl 5L B / X42	ASTM A234 WpB	ASTM A105 N
	Carbon	ASTM A672	ASTM A234 WpB	ASTM A105 N
	High Yield CS	Apl 5L Gr X52 / X60	MSS Sp75 WpHY52 / 60	A694 F52 / 60
	Low Temp CS	ASTM A671	ASTM A420 WpL6	ASTM A350 LF2
	Low Alloy	ASTM A691	ASTM A234 Wp	ASTM A182 F
	Stainless	ASTM A312	ASTM A403	ASTM A182 F
	Stainless	ASTM A358	ASTM A403	ASTM A182 F
	Duplex	A790	A815	A182 F
	Duplex	A928	A815	A182 F
<b>Seamless</b>	Carbon	Apl 5L B / X42	ASTM A234 WpB	ASTM A105 N
	Carbon	ASTM A106 B	ASTM A234 WpB	ASTM A105 N
	Carbon	STM A53 B	ASTM A234 WpB	ASTM A105 N
	High Yield CS	Apl 5L Gr X52 / X60	MSS Sp75 WpHY52 / 60	A694 F52 / 60
	Low Temp CS	ASTM A333 Gr 6	ASTM A420 WpL6	ASTM A350 LF2
	Low Alloy	ASTM A335	ASTM A234 Wp	ASTM A182 F
	Stainless	ASTM A312	ASTM A403	ASTM A182 F
	Duplex	A790	A815	A182 F

## PIPE FITTINGS

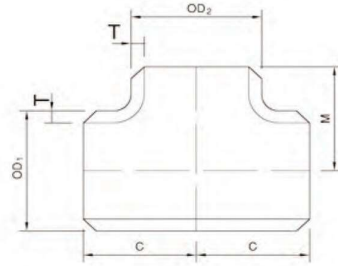
### LONG AND SHORT RADIUS ELBOWS

Following Butt-Welded Pipe Fittings are supplied: Elbows, Tees, Reducers etc. as per ASME B-16.9. The Butt-Welded Ends are prepared as per ANSI B16.25.

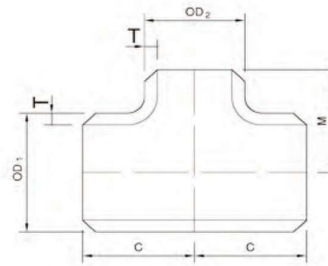


SIZE		OUTSIDE DIAMETER OD	LONG RADIUS (ANSI B16.9)			SHORT RADIUS (ANSI B16.28)		
			45D	90D	180D	45D	90D	180D
			Centre to End B	Centre to End A	Back to Face K	Centre to End B	Centre to End A	Back to Face K
mm	inch	mm	mm					
15	½	21.30	16.00	38.00	48.00	---	---	---
20	¾	26.70	19.00	38.00	51.00	---	---	---
25	1	33.40	22.00	38.00	56.00	---	25.40	41.10
32	1¼	42.40	25.00	48.00	70.00	---	31.80	52.30
40	1½	48.30	29.00	57.00	83.00	---	38.10	62.00
50	2	60.30	35.00	76.00	106.00	---	50.80	81.00
65	2½	73.00	44.00	95.00	132.00	---	63.50	100.10
80	3	88.90	51.00	114.00	159.00	31.60	76.20	120.70
90	3½	101.60	57.00	133.00	184.00	36.80	88.90	139.70
100	4	114.30	64.00	152.00	210.00	42.10	101.60	158.80
125	5	141.30	79.00	190.00	262.00	52.60	127.00	196.90
150	6	168.30	95.00	229.00	313.00	63.40	152.40	236.50
200	8	219.10	127.00	305.00	414.00	84.20	203.20	312.70
250	10	273.00	159.00	381.00	518.00	105.20	254.00	390.70
300	12	323.80	190.00	457.00	619.00	126.30	304.80	466.90
350	14	355.60	222.00	533.00	711.00	147.30	355.60	533.40
400	16	406.40	254.00	610.00	813.00	168.30	406.40	609.60
450	18	457.00	286.00	686.00	914.00	189.40	457.20	685.80
500	20	508.00	318.00	762.00	1016.00	210.40	508.00	732.00
550	22	559.00	343.00	838.00	1118.00	231.50	558.80	838.20
600	24	610.00	381.00	914.00	1219.00	252.50	609.60	914.40
650	26	660.40	406.00	991.00	---	273.50	660.00	---
700	28	711.00	438.00	1067.00	---	294.60	711.20	---
750	30	762.00	470.00	1143.00	---	315.60	762.00	---
800	32	813.00	502.00	1219.00	---	378.10	812.80	---
850	34	864.00	533.00	1295.00	---	357.70	863.60	---
900	36	914.00	565.00	1372.00	---	378.80	614.40	---
950	38	965.00	600.00	1448.00	---	---	965.00	---
1000	40	1016.00	632.00	1524.00	---	420.80	1016.00	---
1050	42	1067.00	660.00	1600.00	---	441.90	1066.80	---
1100	44	1117.60	695.00	1676.00	---	462.90	1117.60	---
1150	46	1168.40	727.00	1753.00	---	---	1168.00	---
1200	48	1219.20	759.00	1829.00	---	505.00	1219.00	---

## STRAIGHT AND REDUCING TEES



Straight  
ANSI B16.9



Reducing  
ANSI B16.9

SIZE		OUTSIDE DIAMETER		RUN	OUT-LET
mm	inch	OD1	OD2	C	M
15	½	21.30	21.30	25.00	25.00
20	¾	26.70	26.70	29.00	29.00
20 x 20 x 15	¾ x ¾ x ½	26.70	21.30	29.00	29.00
25	1	33.40	33.40	38.00	38.00
25 x 25 x 20	1 x 1 x ¾	33.40	26.70	38.00	38.00
25 x 25 x 15	1 x 1 x ½	33.40	21.30	38.00	38.00
32	1¼	42.20	42.20	48.00	48.00
32 x 32 x 25	1¼ x 1¼ x 1	42.20	33.40	48.00	48.00
32 x 32 x 20	1¼ x 1¼ x ¾	42.20	26.70	48.00	48.00
32 x 32 x 15	1¼ x 1¼ x ½	42.20	21.30	48.00	48.00
40	1½	48.30	48.30	57.00	57.00
40 x 40 x 32	1½ x 1½ x 1¼	48.30	42.20	57.00	57.00
40 x 40 x 25	1½ x 1½ x 1	48.30	33.40	57.00	57.00
40 x 40 x 20	1½ x 1½ x ¾	48.30	26.70	57.00	57.00
40 x 40 x 15	1½ x 1½ x ½	48.30	21.30	57.00	57.00
50	2	60.30	60.30	64.00	64.00
50 x 50 x 40	2 x 2 x 1½	60.30	48.30	64.00	60.00
50 x 50 x 32	2 x 2 x 1¼	60.30	42.20	64.00	57.00
50 x 50 x 25	2 x 2 x 1	60.30	33.40	64.00	51.00
50 x 50 x 20	2 x 2 x ¾	60.30	26.70	64.00	44.00
60	2½	73.00	73.00	76.00	76.00
60 x 60 x 50	2½ x 2½ x 2	73.00	60.30	76.00	70.00
60 x 60 x 40	2½ x 2½ x 1½	73.00	48.30	76.00	67.00
60 x 60 x 32	2½ x 2½ x 1¼	73.00	42.20	76.00	64.00
60 x 60 x 25	2½ x 2½ x 1	73.00	33.40	76.00	57.00
80	3	88.90	88.90	86.00	86.00
80 x 80 x 65	3 x 3 x 2½	88.90	73.00	86.00	83.00
80 x 80 x 50	3 x 3 x 2	88.90	60.30	86.00	76.00
80 x 80 x 40	3 x 3 x 1½	88.90	48.30	86.00	73.00
80 x 80 x 32	3 x 3 x 1¼	88.90	42.20	86.00	70.00
90	3½	101.60	101.60	95.00	95.00
90 x 90 x 80	3½ x 3½ x 3	101.60	88.90	95.00	92.00
90 x 90 x 65	3½ x 3½ x 2½	101.60	73.00	95.00	89.00
90 x 90 x 50	3½ x 3½ x 2	101.60	60.30	95.00	83.00
90 x 90 x 40	3½ x 3½ x 1½	101.60	48.30	95.00	79.00
100	4	114.30	114.30	105.00	105.00
100 x 100 x 90	4 x 4 x 3½	114.30	101.60	105.00	102.00
100 x 100 x 80	4 x 4 x 3	114.30	88.90	105.00	98.00
100 x 100 x 65	4 x 4 x 2½	114.30	73.00	105.00	95.00
100 x 100 x 50	4 x 4 x 2	114.30	60.30	105.00	89.00
100 x 100 x 40	4 x 4 x 1½	114.30	48.30	105.00	86.00

SIZE		OUTSIDE DIAMETER		RUN	OUT-LET
mm	inch	OD1	OD2	C	M
125	5	141.30	141.30	124.00	124.00
125 x 125 x 100	5 x 5 x 4	141.30	114.30	124.00	117.00
125 x 125 x 90	5 x 5 x 3½	141.30	101.60	124.00	114.00
125 x 125 x 80	5 x 5 x 3	141.30	88.90	124.00	111.00
125 x 125 x 65	5 x 5 x 2½	141.30	73.00	124.00	108.00
125 x 125 x 50	5 x 5 x 2	141.30	60.30	124.00	105.00
150	6	168.30	168.30	143.00	143.00
150 x 150 x 125	6 x 6 x 5	168.30	141.30	143.00	137.00
150 x 150 x 100	6 x 6 x 4	168.30	114.30	143.00	130.00
150 x 150 x 90	6 x 6 x 3½	168.30	101.60	143.00	127.00
150 x 150 x 80	6 x 6 x 3	168.30	88.90	143.00	124.00
150 x 150 x 65	6 x 6 x 2½	168.30	73.00	143.00	121.00
200	8	219.10	219.10	178.00	178.00
200 x 200 x 150	8 x 8 x 6	219.10	168.30	178.00	168.00
200 x 200 x 125	8 x 8 x 5	219.10	141.30	178.00	162.00
200 x 200 x 100	8 x 8 x 4	219.10	114.30	178.00	156.00
200 x 200 x 90	8 x 8 x 3½	219.10	101.60	178.00	152.00
250	10	273.10	273.10	216.00	216.00
250 x 250 x 200	10 x 10 x 8	273.10	219.10	216.00	203.00
250 x 250 x 150	10 x 10 x 6	273.10	168.30	216.00	194.00
250 x 250 x 125	10 x 10 x 5	273.10	141.30	216.00	191.00
250 x 250 x 100	10 x 10 x 4	273.10	114.30	216.00	184.00
300	12	323.90	323.90	254.00	254.00
300 x 300 x 250	12 x 12 x 10	323.90	273.10	254.00	241.00
300 x 300 x 200	12 x 12 x 8	323.90	219.10	254.00	229.00
300 x 300 x 150	12 x 12 x 6	323.90	168.30	254.00	219.00
300 x 300 x 125	12 x 12 x 5	323.90	141.30	254.00	216.00
350	14	355.60	355.60	279.00	279.00
350 x 350 x 300	14 x 14 x 12	355.60	323.90	279.00	270.00
350 x 350 x 250	14 x 14 x 10	355.60	273.10	279.00	257.00
350 x 350 x 200	14 x 14 x 8	355.60	219.10	279.00	248.00
350 x 350 x 150	14 x 14 x 6	355.60	168.30	279.00	238.00
400	16	406.40	406.40	305.00	305.00
400 x 400 x 350	16 x 16 x 14	406.40	355.60	305.00	305.00
400 x 400 x 300	16 x 16 x 12	406.40	323.90	305.00	295.00
400 x 400 x 250	16 x 16 x 10	406.40	273.10	305.00	283.00
400 x 400 x 200	16 x 16 x 8	406.40	219.10	305.00	273.00
400 x 400 x 150	16 x 16 x 6	406.40	168.30	305.00	264.00

**STRAIGHT AND REDUCING TEES**

SIZE		OUTSIDE DIAMETER		RUN	OUT-LET
mm	inch	OD1	OD2	C	M
450	18	457.20	457.20	343.00	343.00
450 x 450 x 400	18 x 18 x 16	457.20	406.40	343.00	330.00
450 x 450 x 350	18 x 18 x 14	457.20	355.60	343.00	330.00
450 x 450 x 300	18 x 18 x 12	457.20	323.90	343.00	321.00
450 x 450 x 250	18 x 18 x 10	457.20	273.10	343.00	308.00
450 x 450 x 200	18 x 18 x 8	457.20	219.10	343.00	298.00
500	20	508.00	508.00	381.00	381.00
500 x 500 x 450	20 x 20 x 18	508.00	457.20	381.00	368.00
500 x 500 x 400	20 x 20 x 16	508.00	406.40	381.00	356.00
500 x 500 x 350	20 x 20 x 14	508.00	355.60	381.00	356.00
500 x 500 x 300	20 x 20 x 12	508.00	323.90	381.00	346.00
500 x 500 x 250	20 x 20 x 10	508.00	273.00	381.00	333.00
500 x 500 x 200	20 x 20 x 8	508.00	219.10	381.00	324.00
600	24	609.40	609.40	432.00	432.00
600 x 600 x 500	24 x 24 x 20	609.40	508.00	432.00	432.00
600 x 600 x 450	24 x 24 x 18	609.40	457.20	432.00	419.00
600 x 600 x 400	24 x 24 x 16	609.40	406.40	432.00	406.00
600 x 600 x 350	24 x 24 x 14	609.40	355.60	432.00	406.00
600 x 600 x 300	24 x 24 x 12	609.40	323.90	432.00	397.00
600 x 600 x 200	24 x 24 x 10	609.40	273.10	432.00	384.00
650	26	660.40	660.40	495.00	495.00
650 x 650 x 600	26 x 26 x 24	660.40	609.40	495.00	483.00
650 x 650 x 500	26 x 26 x 20	660.40	508.00	495.00	457.00
650 x 650 x 450	26 x 26 x 18	660.40	457.20	495.00	444.00
650 x 650 x 400	26 x 26 x 16	660.40	406.40	495.00	432.00
650 x 650 x 350	26 x 26 x 14	660.40	355.60	495.00	432.00
650 x 650 x 300	26 x 26 x 12	660.40	323.90	495.00	422.00
700	28	711.20	711.20	521.00	521.00
700 x 700 x 650	28 x 28 x 26	711.20	660.40	521.00	521.00
700 x 700 x 600	28 x 28 x 24	711.20	609.40	521.00	508.00
700 x 700 x 500	28 x 28 x 20	711.20	508.00	521.00	483.00
700 x 700 x 450	28 x 28 x 18	711.20	457.20	521.00	470.00
700 x 700 x 400	28 x 28 x 16	711.20	406.40	521.00	457.00
700 x 700 x 350	28 x 28 x 14	711.20	355.60	521.00	457.00
700 x 700 x 300	28 x 28 x 12	711.20	323.90	521.00	448.00
750	30	762.00	762.00	559.00	559.00
750 x 750 x 700	30 x 30 x 28	762.00	711.20	559.00	546.00
750 x 750 x 650	30 x 30 x 26	762.00	660.40	559.00	546.00
750 x 750 x 600	30 x 30 x 24	762.00	609.40	559.00	533.00
750 x 750 x 500	30 x 30 x 20	762.00	508.00	559.00	508.00
750 x 750 x 450	30 x 30 x 18	762.00	457.20	559.00	495.00
750 x 750 x 400	30 x 30 x 16	762.00	406.40	559.00	483.00
750 x 750 x 350	30 x 30 x 14	762.00	355.60	559.00	483.00
750 x 750 x 300	30 x 30 x 12	762.00	323.90	559.00	473.00

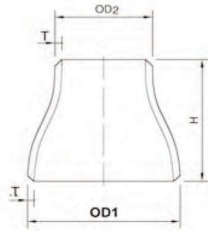
SIZE		OUTSIDE DIAMETER		RUN	OUT-LET
mm	inch	OD1	OD2	C	M
800	32	812.80	812.80	597.00	597.00
800 x 800 x 750	32 x 32 x 30	812.80	762.00	597.00	584.00
800 x 800 x 700	32 x 32 x 28	812.80	711.20	597.00	572.00
800 x 800 x 650	32 x 32 x 26	812.80	660.40	597.00	572.00
800 x 800 x 600	32 x 32 x 24	812.80	609.40	597.00	559.00
800 x 800 x 500	32 x 32 x 20	812.80	508.00	597.00	533.00
800 x 800 x 450	32 x 32 x 18	812.80	457.20	597.00	521.00
800 x 800 x 400	32 x 32 x 16	812.80	406.40	597.00	508.00
800 x 800 x 350	32 x 32 x 14	812.80	355.60	597.00	508.00
850	34	863.60	863.60	635.00	635.00
850 x 850 x 800	34 x 34 x 32	863.60	812.80	635.00	622.00
850 x 850 x 750	34 x 34 x 30	863.60	762.00	635.00	610.00
850 x 850 x 700	34 x 34 x 28	863.60	711.20	635.00	597.00
850 x 850 x 650	34 x 34 x 26	863.60	660.40	635.00	597.00
850 x 850 x 600	34 x 34 x 24	863.60	609.40	635.00	584.00
850 x 850 x 500	34 x 34 x 22	863.60	508.00	635.00	559.00
850 x 850 x 450	34 x 34 x 20	863.60	457.20	635.00	546.00
850 x 850 x 400	34 x 34 x 18	863.60	406.40	635.00	533.00
900	36	914.40	914.40	673.00	673.00
900 x 900 x 850	36 x 36 x 34	914.40	863.60	673.00	660.00
900 x 900 x 800	36 x 36 x 32	914.40	812.80	673.00	648.00
900 x 900 x 750	36 x 36 x 30	914.40	762.00	673.00	635.00
900 x 900 x 700	36 x 36 x 28	914.40	711.20	673.00	622.00
900 x 900 x 650	36 x 36 x 26	914.40	660.40	673.00	622.00
900 x 900 x 600	36 x 36 x 24	914.40	609.40	673.00	610.00
900 x 900 x 500	36 x 36 x 20	914.40	508.00	673.00	584.00
900 x 900 x 450	36 x 36 x 18	914.40	457.20	673.00	572.00
900 x 900 x 400	36 x 36 x 16	914.40	406.40	673.00	559.00
950	38	965.20	965.20	711.00	711.00
950 x 950 x 900	38 x 38 x 36	965.20	914.40	711.00	711.00
950 x 950 x 850	38 x 38 x 34	965.20	863.60	711.00	698.00
950 x 950 x 800	38 x 38 x 32	965.20	812.80	711.00	686.00
950 x 950 x 750	38 x 38 x 30	965.20	762.00	711.00	673.00
950 x 950 x 700	38 x 38 x 28	965.20	711.20	711.00	648.00
950 x 950 x 650	38 x 38 x 26	965.20	660.40	711.00	648.00
950 x 950 x 600	38 x 38 x 24	965.20	609.40	711.00	635.00
950 x 950 x 500	38 x 38 x 20	965.20	508.00	711.00	610.00
950 x 950 x 450	38 x 38 x 18	965.20	457.20	711.00	597.00

## STRAIGHT AND REDUCING TEES

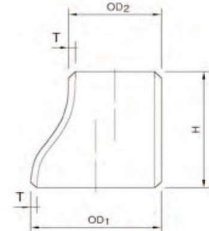
SIZE		OUTSIDE DIAMETER		RUN	OUT-LET
mm	inch	OD1	OD2	C	M
1000	40	1016.00	1016.00	749.00	749.00
1000 x 1000 x 950	40 x 40 x 38	1016.00	965.20	749.00	749.00
1000 x 1000 x 900	40 x 40 x 36	1016.00	914.40	749.00	737.00
1000 x 1000 x 850	40 x 40 x 34	1016.00	863.60	749.00	724.00
1000 x 1000 x 800	40 x 40 x 32	1016.00	812.80	749.00	711.00
1000 x 1000 x 750	40 x 40 x 30	1016.00	762.00	749.00	698.00
1000 x 1000 x 700	40 x 40 x 28	1016.00	711.20	749.00	673.00
1000 x 1000 x 600	40 x 40 x 26	1016.00	660.40	749.00	673.00
1000 x 1000 x 600	40 x 40 x 24	1016.00	609.40	749.00	660.00
1000 x 1000 x 500	40 x 40 x 20	1016.00	508.00	749.00	635.00
1000 x 1000 x 450	40 x 40 x 18	1016.00	457.20	749.00	622.00
1050	42	1066.80	1066.80	762.00	711.00
1050 x 1050 x 1000	42 x 42 x 40	1066.80	1016.00	762.00	711.00
1050 x 1050 x 950	42 x 42 x 38	1066.80	965.20	762.00	711.00
1050 x 1050 x 900	42 x 42 x 36	1066.80	914.40	762.00	711.00
1050 x 1050 x 850	42 x 42 x 34	1066.80	863.60	762.00	711.00
1050 x 1050 x 800	42 x 42 x 32	1066.80	812.80	762.00	711.00
1050 x 1050 x 750	42 x 42 x 30	1066.80	762.00	762.00	711.00
1050 x 1050 x 700	42 x 42 x 28	1066.80	711.20	762.00	698.00
1050 x 1050 x 650	42 x 42 x 26	1066.80	660.40	762.00	698.00
1050 x 1050 x 600	42 x 42 x 24	1066.80	609.40	762.00	660.00
1050 x 1050 x 500	42 x 42 x 20	1066.80	508.00	762.00	660.00
1050 x 1050 x 450	42 x 42 x 18	1066.80	457.20	762.00	648.00
1050 x 1050 x 400	42 x 42 x 16	1066.80	406.40	762.00	635.00
1100	44	1117.60	1117.60	813.00	762.00
1100 x 1100 x 1050	44 x 44 x 42	1117.60	1066.80	813.00	762.00
1100 x 1100 x 1000	44 x 44 x 40	1117.60	1016.00	813.00	749.00
1100 x 1100 x 950	44 x 44 x 38	1117.60	965.20	813.00	737.00
1100 x 1100 x 900	44 x 44 x 36	1117.60	914.40	813.00	724.00
1100 x 1100 x 850	44 x 44 x 34	1117.60	863.60	813.00	724.00
1100 x 1100 x 800	44 x 44 x 32	1117.60	812.80	813.00	711.00
1100 x 1100 x 750	44 x 44 x 30	1117.60	762.00	813.00	711.00
1100 x 1100 x 700	44 x 44 x 28	1117.60	711.20	813.00	698.00
1100 x 1100 x 650	44 x 44 x 26	1117.60	660.40	813.00	698.00
1100 x 1100 x 600	44 x 44 x 24	1117.60	609.40	813.00	698.00
1100 x 1100 x 500	44 x 44 x 20	1117.60	508.00	813.00	686.00

SIZE		OUTSIDE DIAMETER		RUN	OUT-LET
mm	inch	OD1	OD2	C	M
1150	46	1168.40	1168.40	851.00	800.00
1150 x 1150 x 1100	46 x 46 x 44	1168.40	1117.60	851.00	800.00
1150 x 1150 x 1050	46 x 46 x 42	1168.40	1066.80	851.00	787.00
1150 x 1150 x 1000	46 x 46 x 40	1168.40	1016.00	851.00	775.00
1150 x 1150 x 950	46 x 46 x 38	1168.40	965.20	851.00	762.00
1150 x 1150 x 900	46 x 46 x 36	1168.40	914.40	851.00	762.00
1150 x 1150 x 850	46 x 46 x 34	1168.40	863.60	851.00	749.00
1150 x 1150 x 800	46 x 46 x 32	1168.40	812.80	851.00	749.00
1150 x 1150 x 750	46 x 46 x 30	1168.40	762.00	851.00	737.00
1150 x 1150 x 700	46 x 46 x 28	1168.40	711.20	851.00	737.00
1150 x 1150 x 650	46 x 46 x 26	1168.40	660.40	851.00	737.00
1150 x 1150 x 600	46 x 46 x 24	1168.40	609.40	851.00	724.00
1200	48	1219.20	1219.20	889.00	838.00
1200 x 1200 x 1150	48 x 48 x 46	1219.20	1168.40	889.00	838.00
1200 x 1200 x 1100	48 x 48 x 44	1219.20	1117.60	889.00	838.00
1200 x 1200 x 1050	48 x 48 x 42	1219.20	1066.80	889.00	813.00
1200 x 1200 x 1000	48 x 48 x 40	1219.20	1016.00	889.00	813.00
1200 x 1200 x 950	48 x 48 x 38	1219.20	965.20	889.00	813.00
1200 x 1200 x 900	48 x 48 x 36	1219.20	914.40	889.00	787.00
1200 x 1200 x 850	48 x 48 x 34	1219.20	863.60	889.00	787.00
1200 x 1200 x 800	48 x 48 x 32	1219.20	812.80	889.00	787.00
1200 x 1200 x 750	48 x 48 x 30	1219.20	762.00	889.00	762.00
1200 x 1200 x 700	48 x 48 x 28	1219.20	711.20	889.00	762.00
1200 x 1200 x 650	48 x 48 x 26	1219.20	660.40	889.00	762.00
1200 x 1200 x 600	48 x 48 x 24	1219.20	609.40	889.00	737.00

## CONCENTRIC AND ECCENTRIC REDUCERS



Concentric



Eccentric

### ANSI B16.9

SIZE		OUTSIDE DIAMETER		HEIGHT
mm	inch	OD1	OD2	H
20 x 8	¾ x ¼	26.70	13.70	38.00
20 x 15	¾ x ½	26.70	21.30	38.00
25 x 20	1 x ¾	33.40	26.70	51.00
25 x 15	1 x ½	33.40	21.30	51.00
32 x 25	1¼ x 1	42.20	33.40	51.00
32 x 20	1¼ x ¾	42.20	26.70	51.00
32 x 15	1¼ x ½	42.20	21.30	51.00
40 x 32	1½ x 1¼	48.30	42.20	64.00
40 x 25	1½ x 1	48.30	33.40	64.00
40 x 20	1½ x ¾	48.30	26.70	64.00
40 x 15	1½ x ½	48.30	21.30	64.00
50 x 40	2 x 1½	60.30	48.30	76.00
50 x 32	2 x 1¼	60.30	42.20	76.00
50 x 25	2 x 1	60.30	33.40	76.00
50 x 20	2 x ¾	60.30	26.70	76.00
50 x 15	2 x ½	60.30	21.30	76.00
65 x 50	2½ x 2	73.00	60.30	89.00
65 x 40	2½ x 1½	73.00	48.30	89.00
65 x 32	2½ x 1¼	73.00	42.20	89.00
65 x 25	2½ x 1	73.00	33.40	89.00
80 x 65	3 x 2½	88.90	73.00	89.00
80 x 50	3 x 2	88.90	60.30	89.00
80 x 40	3 x 1½	88.90	48.30	89.00
80 x 32	3 x 1¼	88.90	42.20	89.00
80 x 25	3 x 1	88.90	33.40	89.00
90 x 80	3½ x 3	101.60	88.90	102.00
90 x 65	3½ x 2½	101.60	73.00	102.00
90 x 50	3½ x 2	101.60	60.30	102.00
90 x 45	3½ x 1½	101.60	48.30	102.00
90 x 32	3½ x 1¼	101.60	42.40	102.00
100 x 90	4 x 3½	114.30	101.60	102.00
100 x 80	4 x 3	114.30	88.90	102.00
100 x 65	4 x 2½	114.30	73.00	102.00
100 x 50	4 x 2	114.30	60.30	102.00
100 x 40	4 x 1½	114.30	48.30	102.00

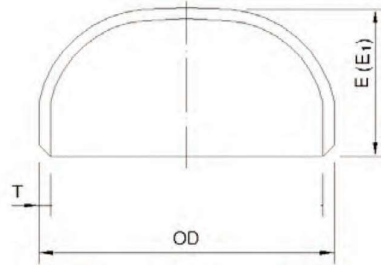
SIZE		OUTSIDE DIAMETER		HEIGHT
mm	inch	OD1	OD2	H
125 x 100	5 x 4	141.30	114.30	127.00
125 x 90	50 x 3½	141.30	101.60	127.00
125 x 80	5 x 3	141.30	88.90	127.00
125 x 65	5 x 2½	141.30	73.00	127.00
125 x 50	5 x 2	141.30	60.30	127.00
150 x 125	6 x 5	168.30	141.30	140.00
150 x 100	6 x 4	168.30	114.30	140.00
150 x 90	6 x 3½	168.30	101.60	140.00
150 x 80	6 x 3	168.30	88.90	140.00
150 x 65	6 x 2½	168.30	73.00	140.00
150 x 50	6 x 2	168.30	60.30	140.00
200 x 150	8 x 6	219.10	168.30	152.00
200 x 125	8 x 5	219.10	141.30	152.00
200 x 100	8 x 4	219.10	114.30	152.00
200 x 90	8 x 3½	219.10	101.60	152.00
200 x 80	8 x 3	219.10	88.90	152.00
250 x 200	10 x 8	273.10	219.10	178.00
250 x 150	10 x 6	273.10	168.30	178.00
250 x 125	10 x 5	273.10	141.30	178.00
250 x 100	10 x 4	273.10	114.30	178.00
300 x 250	12 x 10	323.90	273.10	203.00
300 x 200	12 x 8	323.90	219.10	203.00
300 x 150	12 x 6	323.90	168.30	203.00
300 x 125	12 x 5	323.90	141.30	203.00
350 x 300	14 x 12	355.60	323.90	330.00
350 x 250	14 x 10	355.60	273.10	330.00
350 x 200	14 x 8	355.60	219.10	330.00
350 x 150	14 x 6	355.60	168.30	330.00
400 x 350	16 x 14	406.40	355.60	356.00
400 x 300	16 x 12	406.40	323.90	356.00
400 x 250	16 x 10	406.40	273.10	356.00
400 x 200	16 x 8	406.40	219.10	356.00

## CONCENTRIC AND ECCENTRIC REDUCERS

SIZE		OUTSIDE DIAMETER		HEIGHT
mm	inch	OD1	OD2	H
450 x 400	18 x 16	457.20	406.40	381.00
450 x 350	18 x 14	457.20	355.60	381.00
450 x 300	18 x 12	457.20	323.90	381.00
450 x 250	18 x 10	457.20	273.10	381.00
500 x 450	20 x 18	508.00	457.20	508.00
500 x 400	20 x 16	508.00	406.40	508.00
500 x 350	20 x 14	508.00	355.60	508.00
500 x 300	20 x 12	508.00	323.90	508.00
600 x 500	24 x 20	609.40	508.00	508.00
600 x 450	24 x 18	609.40	457.20	508.00
600 x 400	24 x 16	609.40	406.40	508.00
600 x 350	24 x 14	609.40	355.60	508.00
650 x 600	26 x 24	660.40	609.40	610.00
650 x 500	26 x 20	660.40	508.00	610.00
650 x 450	26 x 18	660.40	457.20	610.00
650 x 400	26 x 16	660.40	406.40	610.00
700 x 650	28 x 26	711.20	660.40	610.00
700 x 600	28 x 24	711.20	609.40	610.00
700 x 500	28 x 20	711.20	508.00	610.00
700 x 450	28 x 18	711.20	457.20	610.00
750 x 700	30 x 28	762.00	711.20	610.00
750 x 650	30 x 26	762.00	660.40	610.00
750 x 600	30 x 24	762.00	609.40	610.00
750 x 500	30 x 20	762.00	508.00	610.00
800 x 750	32 x 30	812.80	762.00	610.00
800 x 700	32 x 28	812.80	711.20	610.00
800 x 650	32 x 26	812.80	660.40	610.00
800 x 600	32 x 24	812.80	609.40	610.00
850 x 800	34 x 32	863.60	812.80	610.00
850 x 750	34 x 30	863.60	762.00	610.00
850 x 700	34 x 28	863.60	711.20	610.00
850 x 650	34 x 26	863.60	660.40	610.00
900 x 850	36 x 34	914.40	863.60	610.00
900 x 800	36 x 32	914.40	812.80	610.00
900 x 750	36 x 30	914.40	762.00	610.00
900 x 700	36 x 28	914.40	711.20	610.00

SIZE		OUTSIDE DIAMETER		HEIGHT
mm	inch	OD1	OD2	H
950 x 900	38 x 36	965.20	914.40	610.00
950 x 850	38 x 34	965.20	863.60	610.00
950 x 800	38 x 32	965.20	812.80	610.00
950 x 750	38 x 30	965.20	762.00	610.00
1000 x 950	40 x 38	1016.00	965.20	610.00
1000 x 900	40 x 36	1016.00	914.40	610.00
1000 x 850	40 x 34	1016.00	863.60	610.00
1000 x 800	40 x 32	1016.00	812.80	610.00
1050 x 1000	42 x 40	1066.80	1016.00	610.00
1050 x 950	42 x 38	1066.80	965.20	610.00
1050 x 900	42 x 36	1066.80	914.40	610.00
1050 x 850	42 x 34	1066.80	863.60	610.00
1100 x 1050	44 x 42	1117.60	1066.80	610.00
1100 x 1000	44 x 40	1117.60	1016.00	610.00
1100 x 950	44 x 38	1117.60	965.20	610.00
1100 x 900	44 x 36	1117.60	914.40	610.00
1150 x 1100	46 x 44	1168.40	1117.60	711.00
1150 x 1050	46 x 42	1168.40	1066.80	711.00
1150 x 1000	46 x 40	1168.40	1016.00	711.00
1150 x 950	46 x 38	1168.40	965.20	711.00
1200 x 1150	48 x 46	1219.20	1168.40	711.00
1200 x 1100	48 x 44	1219.20	1117.60	711.00
1200 x 1050	48 x 42	1219.20	1066.80	711.00
1200 x 1000	48 x 40	1219.20	1016.00	711.00

**CAPS**



**ANSI B16.9**

SIZE		OD	HEIGHT	
mm	inch		E	E1
15	½	21.30	25.40	25.40
20	¾	26.90	25.40	25.40
25	1	33.70	38.10	38.10
32	1¼	42.40	38.10	38.10
40	1½	48.30	38.10	38.10
50	2	60.30	38.10	44.40
65	2½	73.00	38.10	50.80
80	3	88.90	50.80	63.50
90	3½	101.60	63.50	76.20
100	4	114.30	63.50	76.20
125	5	139.70	76.20	88.90
150	6	168.30	88.90	101.60
200	8	219.10	101.60	127.00
250	10	273.00	127.00	152.40
300	12	323.90	152.40	177.80
350	14	355.60	165.10	190.50
400	16	406.40	177.80	203.20
450	18	457.00	203.20	228.60
500	20	508.00	228.60	254.00
550	22	558.80	254.00	254.00
600	24	610.00	266.70	304.80
650	26	660.40	266.70	---
700	28	711.00	266.70	---
750	30	762.00	266.70	---
800	32	813.00	266.70	---
850	34	863.60	266.70	---
900	36	914.00	266.70	---
950	38	965.20	304.80	---
1000	40	1016.00	304.80	---
1050	42	1067.00	304.80	---
1100	44	1117.60	342.90	---
1150	46	1168.40	342.90	---
1200	48	1219.20	342.90	---



## WALL THICKNESS PIPE SCHEDULES

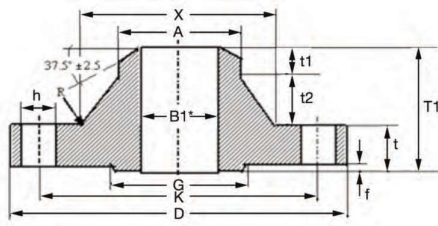
SIZE		S5S	S10S	S20S	S10	S20	S30	STD	S40	S60	XS	S80	S100	S120	S140	S160	XXS
mm	inch	mm															
15	½	1.65	2.10	2.50	---	---	---	2.80	2.80	3.20	3.70	3.70	---	---	---	4.78	7.50
20	¾	1.65	2.10	2.50	---	---	---	2.90	2.90	3.40	3.90	3.90	---	---	---	5.50	7.80
25	1	1.65	2.80	3.00	---	---	---	3.40	3.40	3.90	4.55	4.55	---	---	---	6.40	9.10
32	1¼	1.65	2.80	3.00	---	---	---	3.60	3.60	4.50	4.90	4.90	---	---	---	6.40	9.70
40	1½	1.65	2.80	3.00	---	---	---	3.70	3.70	4.50	5.10	5.10	---	---	---	7.14	10.20
50	2	1.85	2.80	3.50	---	---	---	3.90	3.90	4.90	5.54	5.54	---	---	---	8.70	11.10
65	2½	2.10	3.00	3.50	---	---	---	5.50	5.50	6.00	7.00	7.00	---	---	---	9.53	14.00
80	3	2.10	3.00	4.00	---	---	---	5.74	5.74	6.60	7.60	7.60	---	---	---	11.13	15.24
90	3½	2.10	3.00	4.00	---	---	---	5.70	5.70	7.00	8.10	8.10	---	---	---	12.70	---
100	4	2.10	3.00	4.00	---	---	---	6.00	6.00	7.10	8.60	8.60	---	11.10	---	13.50	17.10
125	5	2.80	3.40	5.00	---	---	---	6.60	6.60	8.10	9.50	9.50	---	12.70	---	15.90	19.00
150	6	2.80	3.40	5.00	---	---	---	7.10	7.10	9.30	11.00	11.00	---	14.30	---	18.26	21.90
200	8	2.80	3.80	6.50	---	6.40	7.00	8.20	8.20	10.30	12.70	12.70	15.10	18.26	20.60	23.00	22.20
250	10	3.40	4.20	6.50	---	6.40	7.80	9.30	9.30	12.70	12.70	15.10	18.30	21.44	25.40	28.60	25.40
300	12	4.00	4.60	6.50	---	6.40	8.40	9.50	10.30	14.30	12.70	17.48	21.44	25.40	28.80	33.30	25.40
350	14	4.00	4.80	7.90	6.40	7.90	9.50	9.50	11.10	15.10	12.70	19.05	23.80	27.80	31.80	35.70	---
400	16	4.20	4.80	7.90	6.40	7.90	9.50	9.50	12.70	16.70	12.70	21.44	26.20	30.96	36.50	40.50	---
450	18	4.20	4.80	7.90	6.40	7.90	11.10	9.50	14.30	19.05	12.70	23.80	29.40	34.90	39.70	45.24	---
500	20	4.80	5.50	7.90	6.40	9.50	12.70	9.50	15.10	20.60	12.70	26.20	32.54	38.10	44.45	50.00	---
550	22	---	---	---	6.40	9.50	12.70	9.50	---	22.20	12.70	28.60	34.90	41.30	47.60	54.00	---
600	24	5.50	6.40	---	6.40	9.50	14.30	9.50	17.50	24.60	12.70	31.00	38.90	46.00	52.40	59.54	---
650	26	---	---	---	7.90	12.70	---	9.50	---	---	12.70	---	---	---	---	---	---
700	28	---	---	---	7.90	12.70	15.90	9.50	---	---	12.70	---	---	---	---	---	---
750	30	---	---	---	7.90	12.70	15.90	9.50	---	---	12.70	---	---	---	---	---	---
800	32	---	---	---	7.90	12.70	15.90	9.50	17.50	---	12.70	---	---	---	---	---	---
850	34	---	---	---	7.90	12.70	15.90	9.50	17.50	---	12.70	---	---	---	---	---	---
900	36	---	---	---	7.90	12.70	15.90	9.50	19.10	---	12.70	---	---	---	---	---	---
950	38	---	---	---	7.90	12.70	15.90	9.50	---	---	12.70	---	---	---	---	---	---
1000	40	---	---	---	7.90	12.70	15.90	9.50	---	---	12.70	---	---	---	---	---	---
1050	42	---	---	---	7.90	12.70	15.90	9.50	---	---	12.70	---	---	---	---	---	---
1100	44	---	---	---	7.90	12.70	15.90	9.50	---	---	12.70	---	---	---	---	---	---
1150	46	---	---	---	7.90	12.70	15.90	9.50	---	---	12.70	---	---	---	---	---	---
1200	48	---	---	---	7.90	12.70	15.90	9.50	---	---	12.70	---	---	---	---	---	---
1250	50	---	---	---	7.90	12.70	15.90	9.50	---	---	12.70	---	---	---	---	---	---
1300	52	---	---	---	7.90	12.70	15.90	9.50	---	---	12.70	---	---	---	---	---	---
1350	54	---	---	---	7.90	12.70	15.90	9.50	---	---	12.70	---	---	---	---	---	---
1400	56	---	---	---	7.90	12.70	15.90	9.50	---	---	12.70	---	---	---	---	---	---
1450	58	---	---	---	7.90	12.70	15.90	9.50	---	---	12.70	---	---	---	---	---	---
1500	60	---	---	---	7.90	12.70	15.90	9.50	---	---	12.70	---	---	---	---	---	---
1600	62	---	---	---	7.90	12.70	15.90	9.50	---	---	12.70	---	---	---	---	---	---
1650	64	---	---	---	7.90	12.70	15.90	9.50	---	---	12.70	---	---	---	---	---	---

## FLANGES

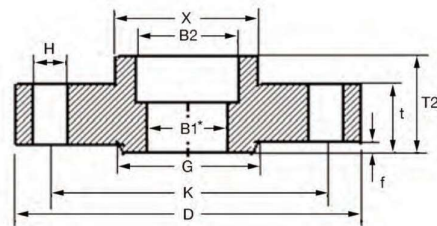


All types of Forged Flanges such as Weldneck, Slip-on, Socket Weld, threaded and Blind as per ANSI B16.5 & DIN standards sizes up to 80" (DN2000), pressure ratings from class 150 to 2500 and temperature rating are available.

### ANSI B16.5 150 CLASS FLANGES



Welding Neck RF



Socket Welding RF

### WELDING NECK RF STD\* DIMENSIONS (mm)

Size		Outside Diam.	Bore Diam.	Thick-ness	Total Thick-ness	Neck		Hub		Radius	Holes			Raised Face		Net Weight
						Base Diam.	Thick-ness	Thick-ness	Diam.		Diam.	No.	P.C.D	Outside Diam.	Thick-ness	
mm	inch	D	B1*	t	T1	X	t2	t1	A	R	h	n	K	G	f	kg
15	½	88.90	15.75	11.18	47.75	30.23	29.21	7.37	21.34	3.05	15.75	4	60.45	35.05	1.52	0.49
20	¾	98.55	20.83	12.70	52.32	38.10	31.75	7.87	26.67	3.05	15.75	4	69.85	42.93	1.52	0.72
25	1	107.95	26.67	14.22	55.63	49.28	33.02	8.38	33.53	3.05	15.75	4	79.25	50.80	1.52	1.03
32	1¼	117.35	35.05	15.75	57.15	58.67	33.02	8.38	42.16	4.83	15.75	4	88.90	63.50	1.52	1.34
40	1½	127.00	40.89	17.53	61.98	65.02	35.56	8.89	48.26	6.35	15.75	4	98.55	73.15	1.52	1.74
50	2	152.40	52.58	19.05	63.50	77.72	35.56	8.89	60.45	7.87	19.05	4	120.65	91.95	1.52	2.60
65	2½	177.80	62.74	22.35	69.85	90.42	38.10	9.40	73.15	7.87	19.05	4	139.70	104.65	1.52	4.17
80	3	190.50	77.93	23.88	69.85	107.95	36.83	9.14	88.90	9.65	19.05	4	152.40	127.00	1.52	4.99
90	3½	215.90	90.17	23.88	71.37	122.17	38.10	9.40	101.60	9.65	19.05	8	177.80	139.70	1.52	6.18
100	4	228.60	102.26	23.88	76.20	134.87	41.91	10.41	114.30	11.18	19.05	8	190.50	157.23	1.52	6.98
125	5	254.00	128.19	23.88	88.90	163.58	52.07	12.95	141.22	11.18	22.35	8	215.90	185.67	1.52	8.72
150	6	279.40	154.05	25.40	88.90	192.02	50.80	12.70	168.40	12.70	22.35	8	241.30	215.90	1.52	10.74
200	8	342.90	202.72	28.45	101.60	246.13	58.42	14.73	219.20	12.70	22.35	8	298.45	269.75	1.52	17.68
250	10	406.40	254.51	30.23	101.60	304.80	57.15	14.22	273.05	12.70	25.40	12	361.95	323.85	1.52	24.25
300	12	482.60	304.80	31.75	114.30	365.25	66.04	16.51	323.85	12.70	25.40	12	431.80	381.00	1.52	36.93
350	14	533.40	336.55	35.05	127.00	400.05	73.66	18.29	355.60	12.70	28.45	12	476.25	412.75	1.52	48.88
400	16	596.90	387.35	36.58	127.00	457.20	72.39	18.03	406.40	12.70	28.45	16	539.75	469.90	1.52	60.47
450	18	635.00	438.15	39.62	139.70	504.95	80.01	20.07	457.20	12.70	31.75	16	577.85	533.40	1.52	68.37
500	20	698.50	488.95	42.93	144.53	558.80	81.28	20.32	508.00	12.70	31.75	20	635.00	584.20	1.52	84.60
600	24	812.80	590.55	47.75	152.40	663.45	83.82	20.83	609.60	12.70	35.05	20	749.30	692.15	1.52	115.33

## ANSI B16.5 300 CLASS FLANGES

### WELDING NECK RF STD\* DIMENSIONS (mm)

Size		Outside Diam.	Bore Diam. STD	Thick-ness	Total Thick-ness	Neck		Hub		Radius	Holes			Raised Face		Net Weight
mm	inch					Base Diam.	Thick-ness	Thick-ness	Diam.		Diam.	No.	P.C.D	Outside Diam.	Thick-ness	
D	B1*	t	TI	X	t2	t1	A	R	h	n	K	G	f	kg		
15	½	95.25	15.75	14.22	52.32	38.10	30.48	7.62	21.34	3.05	15.75	4.00	66.55	35.05	1.52	0.76
20	¾	117.35	20.83	15.75	57.15	47.75	33.12	8.28	26.67	3.05	19.05	4.00	82.55	42.93	1.52	1.27
25	1	123.95	26.67	17.53	61.98	53.85	35.56	8.89	33.53	3.05	19.05	4.00	88.90	50.80	1.52	1.61
32	1¼	133.35	35.05	19.05	65.02	63.50	36.78	9.19	42.16	4.83	19.05	4.00	98.55	63.50	1.52	2.05
40	1½	155.45	40.89	20.57	68.33	69.85	38.20	9.55	48.26	6.35	22.35	4.00	114.30	73.15	1.52	2.92
50	2	165.10	52.58	22.35	69.85	84.07	38.00	9.50	60.45	7.87	19.05	8.00	127.00	91.95	1.52	3.46
65	2½	190.50	62.74	25.40	76.20	100.08	40.64	10.16	73.15	7.87	22.35	8.00	149.35	104.65	1.52	5.24
80	3	209.55	77.98	28.45	79.25	117.35	40.64	10.16	88.90	9.65	22.35	8.00	168.15	127.00	1.52	6.98
90	3½	228.60	90.17	30.23	81.03	133.35	40.64	10.16	101.60	9.65	22.35	8.00	184.15	139.70	1.52	8.79
100	4	254.00	102.36	31.75	85.85	146.05	43.28	10.82	114.30	11.18	22.35	8.00	200.15	157.53	1.52	11.38
125	5	279.40	128.27	35.05	98.55	177.80	50.80	12.70	141.22	11.18	22.35	8.00	234.95	185.67	1.52	15.20
150	6	317.50	154.18	36.58	98.55	206.25	49.58	12.40	168.40	12.70	22.35	12.00	269.75	215.90	1.52	19.42
200	8	381.00	202.69	41.15	111.25	260.35	56.08	14.02	219.20	12.70	25.40	12.00	330.20	269.75	1.52	30.16
250	10	444.50	254.51	47.75	117.35	320.55	55.68	13.92	273.05	12.70	28.45	16.00	387.35	323.85	1.52	43.45
300	12	520.70	304.80	50.80	130.05	374.65	63.40	15.85	323.85	12.70	31.75	16.00	450.85	381.00	1.52	62.36
350	14	584.20	336.55	53.85	142.75	425.45	71.12	17.78	355.60	12.70	31.75	20.00	514.35	412.75	1.52	86.43
400	16	647.70	387.35	57.15	146.05	482.60	71.12	17.78	406.40	12.70	35.05	20.00	571.50	469.90	1.52	107.38
450	18	711.20	438.15	60.45	158.75	533.40	78.64	19.66	457.20	12.70	35.05	24.00	628.65	533.40	1.52	132.34
500	20	774.70	488.95	63.50	162.05	587.25	78.64	19.71	508.00	12.70	35.05	24.00	685.80	584.20	1.52	159.80
600	24	914.40	590.55	69.85	168.15	701.55	78.64	19.66	609.60	12.70	41.15	24.00	812.80	692.15	1.52	231.82

## ANSI B16.5 600 CLASS FLANGES

### WELDING NECK RF STD\* DIMENSIONS (mm)

Size		Outside Diam.	Bore Diam. STD	Thick-ness	Total Thick-ness	Neck		Hub		Radius	Holes			Raised Face	
mm	inch					Base Diam.	Thick-ness	Thick-ness	Diam.		Diam.	No.	P.C.D	Outside Diam.	Thick-ness
D	B1*	t	TI	X	t2	t1	A	R	h	n	K	G	f	kg	
15	½	95.25	15.75	14.22	52.32	38.10	30.48	7.62	21.34	3.05	15.75	4.00	66.55	35.05	6.35
20	¾	117.35	20.83	15.75	57.15	47.75	33.02	8.38	26.67	3.05	19.05	4.00	82.55	42.93	6.35
25	1	123.95	26.67	17.53	61.98	53.85	35.56	8.89	33.53	3.05	19.05	4.00	88.90	50.80	6.35
32	1¼	133.35	35.05	20.57	66.55	63.50	36.83	9.14	42.16	4.83	19.05	4.00	98.55	63.50	6.35
40	1½	155.45	40.89	22.35	69.85	69.85	38.10	9.40	48.26	6.35	22.35	4.00	114.30	73.15	6.35
50	2	165.10	52.58	25.40	73.15	84.07	38.10	9.65	60.45	7.87	19.05	8.00	127.00	91.95	6.35
65	2½	190.50	62.74	28.45	79.25	100.08	40.64	10.16	73.15	7.87	22.35	8.00	149.35	104.65	6.35
80	3	209.55	77.98	31.75	82.55	117.35	40.64	10.16	88.90	9.65	22.35	8.00	168.15	127.00	6.35
90	3½	228.60	90.17	35.05	85.85	133.35	40.64	10.16	101.60	9.65	25.40	8.00	184.15	139.70	6.35
100	4	273.05	102.36	38.10	101.60	152.40	50.80	12.70	114.30	11.18	25.40	8.00	215.90	157.53	6.35
125	5	330.20	128.27	44.45	114.30	188.98	55.88	13.97	141.22	11.18	28.45	8.00	266.70	185.67	6.35
150	6	355.60	154.18	47.75	117.35	222.25	55.63	13.97	168.40	12.70	28.45	12.00	292.10	215.90	6.35
200	8	419.10	202.69	55.63	133.35	273.05	62.23	15.49	219.20	12.70	31.75	12.00	349.25	269.75	6.35
250	10	508.00	254.51	63.50	152.40	342.90	71.12	17.78	273.05	12.70	35.05	16.00	431.80	323.85	6.35
300	12	558.80	304.80	66.55	155.45	400.05	71.12	17.78	323.85	12.70	35.05	20.00	488.95	381.00	6.35
350	14	603.25	336.55	69.85	165.10	431.80	76.20	19.05	355.60	12.70	38.10	20.00	527.05	412.75	6.35
400	16	685.80	387.35	76.20	177.80	495.30	81.28	20.32	406.40	12.70	41.15	20.00	603.25	469.90	6.35
450	18	742.95	438.15	82.55	184.15	546.10	81.28	20.32	457.20	12.70	44.45	20.00	654.05	533.40	6.35
500	20	812.80	488.95	88.90	190.50	609.60	81.28	20.32	508.00	12.70	44.45	24.00	723.90	584.20	6.35

## ANSI B16.5 900 CLASS FLANGES

### WELDING NECK RF STD\* DIMENSIONS (mm)

Size		Outside Diam.	Bore Diam. STD	Thick-ness	Total Thick-ness	Neck		Hub		Radius	Holes			Raised Face		Net Weight
						Base Diam.	Thick-ness	Thick-ness	Diam.		Diam.	No.	P.C.D	Outside Diam.	Thick-ness	
mm	inch	D	B1*	t	TI	X	t2	t1	A	R	h	n	K	G	f	Kg
15	½	120.65	15.80	22.35	60.45	38.10	30.48	7.62	21.34	3.05	22.35	4.00	82.55	35.05	6.35	1.88
20	¾	130.05	20.93	25.40	69.85	44.45	35.56	8.89	26.67	3.05	22.35	4.00	88.90	42.93	6.35	2.54
25	1	149.35	26.64	28.45	73.15	52.32	35.76	8.94	33.53	3.05	25.40	4.00	101.60	50.80	6.35	3.72
32	1¼	158.75	35.05	28.45	73.15	63.50	35.76	8.94	42.16	4.83	25.40	4.00	111.25	63.50	6.35	4.29
40	1½	177.80	40.89	31.75	82.55	69.85	40.64	10.16	48.56	6.35	28.45	4.00	123.95	73.15	6.35	5.94
50	2	215.90	52.50	38.10	101.60	104.65	50.80	12.70	60.45	7.87	25.40	8.00	165.10	91.95	6.35	10.81
65	2½	244.35	62.71	41.15	104.65	123.95	50.80	12.70	73.15	7.87	28.45	8.00	190.50	104.65	6.35	14.92
80	3	241.30	77.93	38.10	101.60	127.00	50.80	12.70	88.90	9.65	25.40	8.00	190.50	127.00	6.35	13.60
100	4	292.10	102.26	44.45	114.30	158.75	55.88	13.97	114.30	11.18	31.75	8.00	234.95	157.23	6.35	22.37
125	5	349.25	128.19	50.80	127.00	190.50	60.96	15.24	141.22	11.18	35.05	8.00	279.40	185.67	6.35	35.90
150	6	381.00	154.05	55.63	139.70	234.95	67.26	16.81	168.40	12.70	31.75	12.00	317.50	215.90	6.35	46.98
200	8	469.90	202.72	63.50	162.05	298.45	78.84	19.71	219.20	12.70	38.10	12.00	393.70	269.75	6.35	80.07
250	10	546.10	254.51	69.85	184.15	368.30	91.44	22.86	273.05	12.70	38.10	16.00	469.90	323.85	6.35	117.90
300	12	609.60	304.80	79.25	200.15	419.10	96.72	24.18	323.85	12.70	38.10	20.00	533.40	381.00	6.35	156.80
350	14	641.35	336.55	85.85	212.85	450.85	101.60	25.40	355.60	12.70	41.15	20.00	558.80	412.75	6.35	179.94
400	16	704.85	387.35	88.90	215.90	508.00	101.60	25.40	406.40	12.70	44.45	20.00	615.95	469.90	6.35	216.91
450	18	787.40	438.15	101.60	228.60	565.15	101.60	25.40	457.20	12.70	50.80	20.00	685.80	533.40	6.35	293.63
500	20	857.25	488.95	107.95	247.65	622.30	111.76	27.94	508.00	12.70	53.85	20.00	749.30	584.20	6.35	364.11
600	24	1041.40	590.55	139.70	292.10	749.30	121.92	30.48	609.60	12.70	66.55	20.00	901.70	692.15	6.35	666.57

## ANSI B16.5 1500 CLASS FLANGES

### WELDING NECK RF STD\* DIMENSIONS (mm)

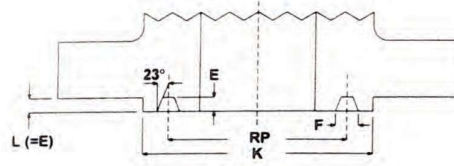
Size		Outside Diam.	Bore Diam. STD	Thick-ness	Total Thick-ness	Neck		Hub		Radius	Holes			Raised Face		Net Weight
						Base Diam.	Thick-ness	Thick-ness	Diam.		Diam.	No.	P.C.D	Outside Diam.	Thick-ness	
mm	inch	D	B1*	t	TI	X	t2	t1	A	R	h	n	K	G	f	Kg
15	½	120.65	15.80	22.35	60.45	38.10	30.48	7.62	21.34	3.05	22.35	4.00	82.55	35.05	6.35	1.88
20	¾	130.05	20.93	25.40	69.85	44.45	35.56	8.89	26.67	3.05	22.35	4.00	88.90	42.93	6.35	2.54
25	1	149.35	26.64	28.45	73.15	52.32	35.76	8.94	33.53	3.05	25.40	4.00	101.60	50.80	6.35	3.72
32	1¼	158.75	35.05	28.45	73.15	63.50	35.76	8.94	42.16	4.83	25.40	4.00	111.25	63.50	6.35	4.29
40	1½	177.80	40.89	31.75	82.55	69.85	40.64	10.16	48.26	6.35	28.45	4.00	123.95	73.15	6.35	5.94
50	2	215.90	52.50	38.10	101.60	104.65	50.80	12.70	60.45	7.87	25.40	8.00	165.10	91.95	6.35	10.81
65	2½	244.35	62.71	41.15	104.65	123.95	50.80	12.70	73.15	7.87	28.45	8.00	190.50	104.65	6.35	14.92
80	3	266.70	77.93	47.75	117.35	133.35	55.88	13.92	88.90	9.65	31.75	8.00	203.20	127.00	6.35	19.78
100	4	311.15	102.26	53.85	123.95	162.05	56.08	14.02	114.30	11.18	35.05	8.00	241.30	157.23	6.35	29.65
125	5	374.65	128.19	73.15	155.45	196.85	65.84	16.46	141.22	11.18	41.15	8.00	292.10	185.67	6.35	56.52
150	6	393.70	154.05	82.55	171.45	228.60	71.12	17.78	168.40	12.70	38.10	12.00	317.50	215.90	6.35	67.28
200	8	482.60	202.72	91.95	212.85	292.10	96.72	24.18	219.20	12.70	44.45	12.00	393.70	269.75	6.35	113.91
250	10	584.20	254.51	107.95	254.00	368.30	116.84	29.21	273.05	12.70	50.80	12.00	482.60	323.85	6.35	197.25
300	12	673.10	304.80	123.95	282.45	450.85	126.80	31.70	323.85	12.70	53.85	16.00	571.50	381.00	6.35	293.52
350	14	749.30	336.55	133.35	298.45	495.30	132.08	33.02	355.60	12.70	60.45	16.00	635.00	412.75	6.35	386.25
400	16	825.50	387.35	146.05	311.15	552.45	132.08	33.02	406.40	12.70	66.55	16.00	704.85	469.90	6.35	492.86
450	18	914.40	438.15	162.05	327.15	596.90	132.08	33.02	457.20	12.70	73.15	16.00	774.70	533.40	6.35	643.84
500	20	984.25	488.95	177.80	355.60	641.35	142.24	35.56	508.00	12.70	79.25	16.00	831.85	584.20	6.35	788.50

## ANSI B16.5 2500 CLASS FLANGES

### WELDING NECK RF STD\* DIMENSIONS (mm)

Size		Outside Diam.	Bore Diam. STD	Thick-ness	Total Thick-ness	Neck		Hub		Radius	Holes			Raised Face		Net Weight
						Base Diam.	Thick-ness	Thick-ness	Diam.		Diam.	No.	P.C.D	Outside Diam.	Thick-ness	
mm	inch	D	B1*	t	TI	X	t2	t1	A	R	h	n	K	G	f	Kg
15	½	133.35	15.75	30.23	73.15	42.93	34.29	8.64	21.34	3.05	22.35	4.00	88.90	35.05	6.35	3.13
20	¾	139.70	20.83	31.75	79.25	50.80	38.10	9.40	26.67	3.05	22.35	4.00	95.25	42.93	6.35	3.69
25	1	158.75	26.67	35.05	88.90	57.15	43.18	10.67	33.53	3.05	25.40	4.00	107.95	50.80	6.35	5.23
32	1¼	184.15	35.05	38.10	95.25	73.15	45.72	11.43	42.16	4.83	28.45	4.00	130.05	63.50	6.35	7.73
40	1½	203.20	40.89	44.45	111.25	79.25	53.34	13.46	48.26	6.35	31.75	4.00	146.05	73.15	6.35	10.83
50	2	234.95	52.58	50.80	127.00	95.25	60.96	15.24	60.45	7.87	28.45	8.00	171.45	91.95	6.35	16.09
65	2½	266.70	62.74	57.15	142.75	114.30	68.58	17.02	73.15	7.87	31.75	8.00	196.85	104.65	6.35	23.52
80	3	304.80	77.98	66.55	166.15	133.35	81.28	20.32	88.90	9.65	35.05	8.00	228.60	127.00	6.35	35.67
100	4	355.60	102.36	76.20	190.50	165.10	91.44	22.86	114.30	11.18	41.15	8.00	273.05	157.23	6.35	54.67
125	5	419.10	128.27	91.95	228.60	203.20	109.22	27.43	141.22	11.18	47.75	8.00	323.85	185.67	6.35	90.95
150	6	482.60	154.18	107.95	273.05	234.95	132.08	33.02	168.40	12.70	53.85	8.00	368.30	215.90	6.35	140.57
200	8	552.45	202.69	127.00	317.50	304.80	152.40	38.10	219.20	12.70	53.85	12.00	438.15	269.75	6.35	210.51
250	10	673.10	254.51	165.10	419.10	374.65	203.20	50.80	273.05	12.70	66.55	12.00	539.75	323.85	6.35	399.63
300	12	762.00	304.80	184.15	463.55	441.45	223.52	55.88	323.85	12.70	73.15	12.00	619.25	381.00	6.35	566.01

## ANSI B16.5 RING JOINT FACE DIMENSIONS



Ring Joint

### RING JOINT FACE DIMENSIONS (mm)

Size	ANSI 150					ANSI 300/600					ANSI 900				
	Ring No.	Pitch Diam.	Width Groove	Depth Groove	RF Diam.	Ring No.	Pitch Diam.	Width Groove	Depth Groove	RF Diam.	Ring No.	Pitch Diam.	Width Groove	Depth Groove	RF Diam.
mm	RN	RP	F	E	K	RN	RP	F	E	K	RN	RP	F	E	K
15						11	34.1	7.1	5.5	50.8	12	39.6	8.7	6.3	60.3
20						13	42.8	8.7	6.3	63.5	14	44.4	8.7	6.3	66.6
25	15	47.6	8.7	6.3	63.5	16	50.8	8.7	6.3	69.8	16	50.8	8.7	6.3	71.4
32	17	57.1	8.7	6.3	73.0	18	60.3	8.7	6.3	79.3	18	60.3	8.7	6.3	80.9
40	19	65.0	8.7	6.3	82.5	20	68.2	8.7	6.3	90.4	20	68.2	8.7	6.3	92.0
50	22	82.5	8.7	6.3	101.6	23	82.5	11.9	7.9	107.9	24	95.2	11.9	7.9	123.8
65	25	101.6	8.7	6.3	120.6	26	101.6	11.9	7.9	127.0	27	107.9	11.9	7.9	136.5
80	29	114.3	8.7	6.3	133.3	31	123.8	11.9	7.9	146.0	31	123.8	11.9	7.9	155.5
90	33	131.7	8.7	6.3	153.9	34	131.7	11.9	7.9	158.7					
100	36	149.2	8.7	6.3	171.4	37	149.2	11.9	7.9	174.6	37	149.2	11.9	7.9	180.9
125	40	171.4	8.7	6.3	193.6	41	180.9	11.9	7.9	209.5	41	180.9	11.9	7.9	215.9
150	43	193.6	8.7	6.3	219.0	45	211.1	11.9	7.9	241.3	45	211.1	11.9	7.9	241.3
200	48	247.6	8.7	6.3	273.0	49	269.8	11.9	7.9	301.6	49	269.8	11.9	7.9	307.9
250	52	304.8	8.7	6.3	330.2	53	323.8	11.9	7.9	355.6	53	323.8	11.9	7.9	361.9
300	56	381.0	8.7	6.3	406.4	57	381.0	11.9	7.9	412.7	57	381.0	11.9	7.9	419.1
350	59	396.8	8.7	6.3	425.4	61	419.1	11.9	7.9	457.2	62	419.1	16.6	11.1	466.7
400	64	454.0	8.7	6.3	482.6	65	469.9	11.9	7.9	508.0	66	469.9	16.6	11.1	523.8
450	68	517.5	8.7	6.3	546.1	69	533.4	11.9	7.9	574.6	70	533.4	19.8	12.7	593.7
500	72	558.8	8.7	6.3	596.9	73	584.2	13.4	9.5	635.0	74	584.2	19.8	12.7	647.7
600	76	673.1	8.7	6.3	711.2	77	692.1	16.6	11.1	749.3	78	692.1	26.9	15.8	771.5

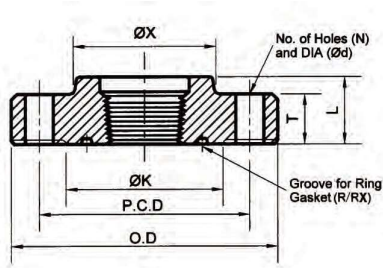
Size	ANSI 1500					ANSI 2500				
	Ring No.	Pitch Diam.	Width Groove	Depth Groove	RF Diam.	Ring No.	Pitch Diam.	Width Groove	Depth Groove	RF Diam.
mm	RN	RP	F	E	K	RN	RP	F	E	K
15	25NB TO 65NB ARE IDENTICAL TO ANSI 900					13	42.8	8.7	6.3	65.0
20						16	50.8	8.7	6.3	73.0
25						18	60.3	8.7	6.3	82.5
32						21	72.2	11.9	7.9	101.6
40						23	82.5	11.9	7.9	114.3
50					26	101.6	11.9	7.9	133.3	
65					28	111.1	13.4	9.5	149.2	
80	35	136.5	11.9	7.9	168.2	32	127.0	13.4	9.5	168.2
100	39	161.9	11.9	7.9	193.6	38	157.1	16.6	11.1	203.2
125	44	193.6	11.9	7.9	228.6	42	190.5	19.8	12.7	241.3
150	46	211.1	13.4	9.5	247.6	47	228.6	19.8	12.7	279.4
200	50	269.8	16.6	11.1	317.5	51	279.4	23.0	14.2	339.7
250	54	323.8	16.6	11.1	371.4	55	342.9	30.1	17.4	425.4
300	58	381.0	23.0	14.2	438.1	60	406.4	33.3	17.4	495.3
350	63	419.1	26.9	15.8	488.9					
400	67	469.9	30.1	17.4	546.1					
450	71	533.4	30.1	17.4	612.7					
500	75	584.2	33.3	17.4	673.1					
600	79	692.1	36.5	20.6	793.7					

**BORE DIAMETER FOR ANSI B16.5 FOR WELD NECK & SOCKET WELD FLANGES S10 TO XXS  
(ALL CLASSES 150 TO 2500)**

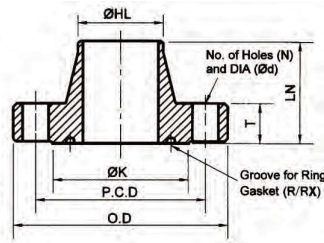
**WELD NECK RF DIMENSIONS (mm)**

Size		Bore Diameter BI											
mm	inch	Sch 10	Sch 20	Sch 30	Sch 40	Sch 60	Sch 80	XS	Sch 100	Sch 120	Sch 140	Sch 160	XXS
15	½	---	---	---	15.80	---	13.87	13.87	---	---	---	11.84	6.40
20	¾	---	---	---	20.93	---	18.85	18.85	---	---	---	15.60	11.02
25	1	---	---	---	26.64	---	24.31	24.31	---	---	---	20.70	15.21
32	1¼	---	---	---	35.05	---	32.46	32.46	---	---	---	29.46	22.76
40	1½	---	---	---	40.89	---	38.10	38.10	---	---	---	33.99	27.94
50	2	---	---	---	52.50	---	49.25	49.25	---	---	---	42.90	38.18
65	2½	---	---	---	62.71	---	59.00	59.00	---	---	---	53.98	44.98
80	3	---	---	---	77.93	---	73.66	73.66	---	---	---	66.65	58.42
90	3½	---	---	---	90.12	---	85.45	85.45	---	---	---	76.20	69.29
100	4	---	---	---	102.26	---	97.18	97.18	---	92.05	---	87.33	80.06
125	5	---	---	---	128.19	---	122.25	122.25	---	115.90	---	109.55	103.20
150	6	---	---	---	154.05	---	146.33	146.33	---	139.73	---	131.80	124.38
200	8	---	206.38	205.00	202.72	198.45	193.68	193.68	188.95	182.60	177.83	173.05	174.63
250	10	---	260.35	257.45	254.51	247.65	242.93	247.65	236.58	230.23	222.25	215.90	---
300	12	---	311.15	307.09	303.23	295.30	288.95	298.45	281.03	273.05	266.70	257.20	---
350	14	342.90	339.73	336.55	333.35	325.48	317.50	330.20	308.00	300.08	292.10	284.18	---
400	16	393.70	390.53	387.35	381.00	373.08	363.58	381.00	354.03	344.53	333.35	325.48	---
450	18	444.50	441.33	434.95	428.65	419.10	409.60	431.80	398.48	387.35	377.85	366.73	---
500	20	495.30	488.95	482.60	477.88	466.75	455.63	482.60	442.93	431.80	419.10	408.03	---
600	24	596.90	590.55	581.03	574.70	560.43	547.73	584.20	531.83	517.55	504.85	490.58	---

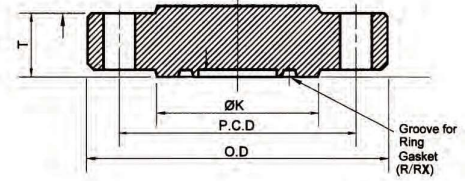
## API 6A (6B) FLANGES



Threaded Flange



Weld Neck Flange



Blind Flange

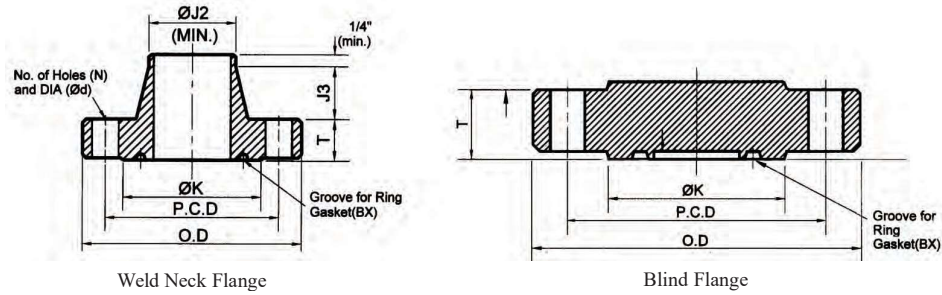
### BLIND, WELDNECK & COMPANION (THREADED) DIMENSIONS (inches)

Pressure Rating:- API 6B-2000 PSI WP (With R or RX type Ring Gasket)											
Size	OD	T	ØK	PCD	N	Ød	L	ØX	LN	ØHL	R/RX
2 <sup>1</sup> / <sub>16</sub>	6.50	1.31	4.25	5.00	8	0.75	1.75	3.31	3.19	2.38	23
2 <sup>3</sup> / <sub>16</sub>	7.50	1.44	5.00	5.88	8	0.88	1.94	3.94	3.44	2.88	26
3 <sup>1</sup> / <sub>16</sub>	8.25	1.56	5.75	6.62	8	0.88	2.12	4.62	3.56	3.50	31
4 <sup>1</sup> / <sub>16</sub>	10.75	1.81	6.88	8.50	8	1.00	2.44	6.00	4.31	4.50	37
5 <sup>1</sup> / <sub>16</sub>	13	2.06	8.25	10.50	8	1.12	2.69	7.44	4.81	5.56	41
7 <sup>1</sup> / <sub>16</sub>	14	2.19	9.50	11.50	12	1.12	2.94	8.75	4.94	6.63	45
9	16.5	2.50	11.88	13.75	12	1.25	3.31	10.75	5.56	8.63	49
11	20	2.81	14.00	17.00	16	1.38	3.69	13.50	6.31	10.75	53
13 <sup>1</sup> / <sub>16</sub>	22	2.94	16.25	19.25	20	1.38	3.94	15.75	-	-	57
16 <sup>1</sup> / <sub>16</sub>	27	3.31	20.00	23.75	20	1.62	4.50	19.50	-	-	65
21 <sup>1</sup> / <sub>16</sub>	32	3.88	25.00	28.50	24	1.75	5.38	24.00	-	-	73

Pressure Rating:- API 6B-3000 PSI WP (With R or RX type Ring Gasket)											
Size	OD	T	ØK	PCD	N	Ød	L	ØX	LN	ØHL	R/RX
2 <sup>1</sup> / <sub>16</sub>	8.50	1.81	4.88	6.50	8	1.00	2.56	4.12	4.31	2.38	24
2 <sup>3</sup> / <sub>16</sub>	9.62	1.94	5.38	7.50	8	1.12	2.81	4.88	4.44	2.88	27
3 <sup>1</sup> / <sub>16</sub>	9.50	1.81	6.12	7.50	8	1.00	2.44	5.00	4.31	3.50	31
4 <sup>1</sup> / <sub>16</sub>	11.50	2.06	7.12	9.50	8	1.25	3.06	6.25	4.81	4.50	37
5 <sup>1</sup> / <sub>16</sub>	13.75	2.31	8.50	11.00	8	1.38	3.44	7.50	5.31	5.56	41
7 <sup>1</sup> / <sub>16</sub>	15.00	2.50	9.50	12.50	12	1.25	3.69	9.25	5.81	6.63	45
9	18.50	2.81	12.12	15.50	12	1.50	4.31	11.75	6.69	8.63	49
11	21.50	3.06	14.25	18.50	16	1.50	4.56	14.50	7.56	10.75	53
13 <sup>1</sup> / <sub>16</sub>	24.00	3.44	16.50	21.00	20	1.50	4.94	16.50	-	-	57
16 <sup>1</sup> / <sub>16</sub>	27.75	3.94	20.62	24.25	20	1.75	5.06	20.00	-	-	66
20 <sup>1</sup> / <sub>16</sub>	33.75	4.75	25.50	29.25	20	2.12	6.75	24.50	-	-	74

Pressure Rating:- API 6B-5000 PSI WP (With RX type Ring Gasket)											
Size	OD	T	ØK	PCD	N	Ød	L	ØX	LN	ØHL	RX
2 <sup>1</sup> / <sub>16</sub>	8.50	1.81	4.88	6.50	8	1.00	2.56	4.12	4.31	2.38	24
2 <sup>3</sup> / <sub>16</sub>	9.62	1.94	5.38	7.50	8	1.12	2.81	4.88	4.44	2.88	27
3 <sup>1</sup> / <sub>16</sub>	10.50	2.19	6.62	8.00	8	1.25	3.19	5.25	4.94	3.50	35
4 <sup>1</sup> / <sub>16</sub>	12.25	2.44	7.62	9.50	8	1.38	3.88	6.38	5.19	4.50	39
5 <sup>1</sup> / <sub>16</sub>	14.75	3.19	9.00	11.50	8	1.62	4.44	7.75	6.40	5.56	44
7 <sup>1</sup> / <sub>16</sub>	15.50	3.62	9.75	12.50	12	1.50	5.06	9.00	7.13	6.63	46
9	19	4.06	12.50	15.50	12	1.75	6.06	11.50	8.81	8.63	50
11	23	4.69	14.63	19.00	12	2.00	6.69	14.50	10.44	10.75	54

## API 6A (6BX) FLANGES

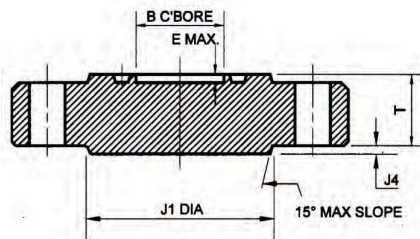


### WELDNECK & BLIND RTJ DIMENSIONS (inches)

Rating:- API 6BX-10000 PSI WP (With BX type Ring Gasket)									
Size	OD	T	ØK	PCD	N	Ød	ØJ2	J3	BX
1 <sup>3</sup> / <sub>16</sub>	7.38	1.66	4.12	5.75	8	0.88	2.56	1.91	151
2 <sup>1</sup> / <sub>16</sub>	7.88	1.73	4.38	6.25	8	0.88	2.94	2.03	152
2 <sup>3</sup> / <sub>16</sub>	9.12	2.02	5.19	7.25	8	1.00	3.62	2.25	153
3 <sup>1</sup> / <sub>16</sub>	10.62	2.30	6.00	8.50	8	1.12	4.34	2.50	154
4 <sup>1</sup> / <sub>16</sub>	12.44	2.77	7.28	10.90	8	1.25	5.75	2.88	155
5 <sup>1</sup> / <sub>16</sub>	14.06	3.13	8.69	11.81	12	1.25	7.19	3.19	169
7 <sup>1</sup> / <sub>16</sub>	18.88	4.06	11.88	15.88	12	1.62	10.00	3.75	156
9	21.75	4.88	14.12	18.75	16	1.62	12.88	3.69	157
11	25.75	5.56	16.88	22.25	16	1.88	15.75	4.06	158
13 <sup>3</sup> / <sub>16</sub>	30.25	6.62	20.38	26.50	20	2.00	19.50	4.50	159
16 <sup>3</sup> / <sub>4</sub>	34.31	6.62	22.69	30.56	24	2.00	23.69	3.00	162

Rating:- API 6BX-15000 PSI WP (With BX type Ring Gasket)									
Size	OD	T	ØK	PCD	N	Ød	ØJ2	J3	BX
1 <sup>3</sup> / <sub>16</sub>	8.19	1.78	4.19	6.31	8	1.00	2.81	1.88	151
2 <sup>1</sup> / <sub>16</sub>	8.75	2.00	4.50	6.88	8	1.00	3.25	2.12	152
2 <sup>3</sup> / <sub>16</sub>	10.00	2.25	5.25	7.88	8	1.12	3.94	2.25	153
3 <sup>1</sup> / <sub>16</sub>	11.31	2.53	6.06	9.06	8	1.25	4.81	2.50	154
4 <sup>1</sup> / <sub>16</sub>	14.19	3.09	7.62	11.44	8	1.50	6.25	2.88	155
7 <sup>1</sup> / <sub>16</sub>	19.88	4.69	12.00	16.88	16	1.62	10.88	3.62	156

Rating:- API 6BX-20000 PSI WP (With BX type Ring Gasket)									
Size	OD	T	ØK	PCD	N	Ød	ØJ2	J3	BX
1 <sup>3</sup> / <sub>16</sub>	10.12	2.50	4.62	8.00	8	1.12	4.31	1.94	151
2 <sup>1</sup> / <sub>16</sub>	11.31	2.81	5.19	9.06	8	1.25	5.00	2.06	152
2 <sup>3</sup> / <sub>16</sub>	12.81	3.12	5.94	10.31	8	1.38	5.69	2.31	153
3 <sup>1</sup> / <sub>16</sub>	14.06	3.38	6.75	11.31	8	1.50	6.31	2.50	154
4 <sup>1</sup> / <sub>16</sub>	17.56	4.19	8.62	14.06	8	1.88	8.12	2.88	155
7 <sup>1</sup> / <sub>16</sub>	25.81	6.50	13.88	21.81	16	2.12	13.31	3.81	156



Blind Flanges



## BLIND RTJ DIMENSIONS LARGER SIZES (in)

Pressure Rating:- API 6BX-2000 PSI WP (With BX type Ring Gasket)				
Nominal Size B	Flange Thickness T	Hub Diametre JI	Groove Depth E	Added Hub Thickness J4
26½	4.97	32.91	0.844	0.38
30	5.28	36.69	0.906	0.69

Pressure Rating:- API 6BX-3000 PSI WP (With BX type Ring Gasket)				
Nominal Size B	Flange Thickness T	Hub Diametre JI	Groove Depth E	Added Hub Thickness J4
26½	6.34	34.25	0.844	0.00
30	6.58	38.19	0.906	0.50

Pressure Rating:- API 6BX-5000 PSI WP (With BX type Ring Gasket)				
Nominal Size B	Flange Thickness T	Hub Diametre JI	Groove Depth E	Added Hub Thickness J4
13½	4.44	18.94	0.562	0.94
16½	5.12	21.88	0.328	0.69
18½	6.53	26.56	0.719	0.75
21½	7.12	29.88	0.750	0.88

Pressure Rating:- API 6BX-10000 PSI WP (With BX type Ring Gasket)				
Nominal Size B	Flange Thickness T	Hub Diametre JI	Groove Depth E	Added Hub Thickness J4
5½	3.12	8.81	0.375	0.25
7½	4.06	11.88	0.438	0.38
9	4.88	14.75	0.500	0.38
11	5.56	17.75	0.562	0.56
13½	6.62	21.75	0.625	0.69
16½	6.62	25.81	0.328	1.19
18½	8.78	29.62	0.719	1.00
21½	9.50	33.38	0.750	1.25

Pressure Rating:- API 6BX-15000 PSI WP (With BX type Ring Gasket)				
Nominal Size B	Flange Thickness T	Hub Diametre JI	Groove Depth E	Added Hub Thickness J4
7½	4.69	12.81	0.438	0.31
9	5.75	17.00	0.500	0.56
11	7.38	23.00	0.562	0.50
13½	8.06	23.44	0.625	0.69
18½	10.06	32.00	0.719	1.38

Pressure Rating:- API 6BX-20000 PSI WP (With BX type Ring Gasket)				
Nominal Size B	Flange Thickness T	Hub Diametre JI	Groove Depth E	Added Hub Thickness J4
7½	6.50	15.19	0.438	0.31
9	8.06	18.94	0.500	0.25
11	8.81	22.31	0.562	0.50
13½	11.50	27.31	0.625	0.56

## STUD BOLTS AND NUTS



Stud Bolts are typically used to join two flanges together in conjunction with a gasket to make a tight seal. The quantity of bolts for a flange connection will be given by the number of bolt holes in a flange. The diameter and length of bolts is dependent of flange type and Pressure Class of flange.

Dimensions from Stud Bolts are defined in the ASME B16.5 standard. The material qualities for studs are defined in the different ASTM standards, and are indicated by Grade. Frequently used grades are A193 for the threaded studs and A194 for the nuts.

ASTM A193 covers alloy and stainless steel bolting material for pressure vessels, Valves, flanges, and fittings for high temperature or high pressure service, or other special purpose applications.

ASTM A194 covers a variety of carbon, alloy, and stainless steel nuts. These nuts are intended for high-pressure or high-temperature service, or both.

Below you will find as an example a table with materials and grades for flanges, bolts and nuts, arranged on design temperature, flanges, studs and recommended nuts.

TEMPERATURE RATING	FLANGE MATERIAL	STUD GRADE	NUT GRADE
-195° to 102°C	ASTM A 182	A320 Gr. B8 Class 2	A194 Gr. 8A
	Gr. F304, F304L, F316,		
	F316L, F321, F347		
-101° to -47°C	ASTM A 350	A 320 Gr. L7	A 194 Gr. 7
	Gr. LF3		
-46° to -30°C	ASTM A 350	A 320 Gr. L7	A 194 Gr. 7
	Gr. LF2		
-29° to 427°C	ASTM A 105	A 193 Gr. B7	A 194 Gr. 2H
428° to 537°C	ASTM A 182	A 193 Gr. B16	A 194 Gr. 2H
	Gr. F11, F22		
538° to 648°C	ASTM A182	A 193 Gr. B8 Class 1	A 194 Gr. 8A
	Gr. F11, F22		
649° to 815°C	ASTM A182	A 193 Gr. B8 Class 1	A 194 Gr. 8A
	Gr. F304 H, F316 H		

## GASKETS

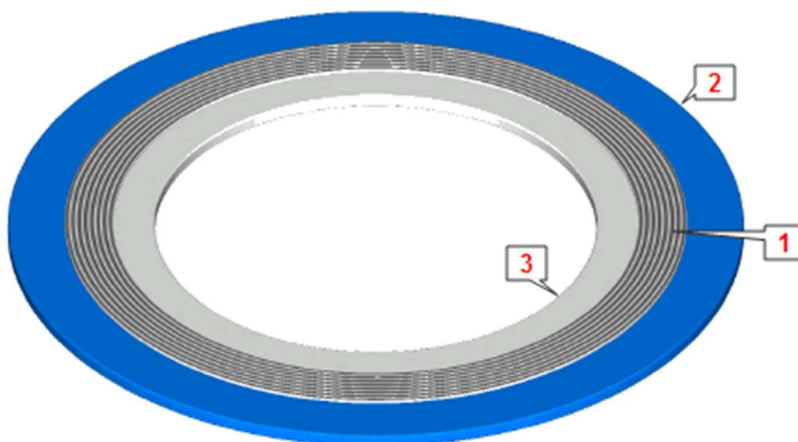
Flange gaskets are used to create a static seal between two flanges faces, at various operating conditions, with varied pressure and temperature ratings. A gasket fits on the flange faces, and forms a seal that is designed to prevent leakage of liquids and gases. Types of gaskets

Materials for gaskets can be divided into three main categories:

Non-Metallic types - usually composite sheet materials are used with flat-face and raised-face flanges in low Pressure Class applications. Non-metallic gaskets are manufactured from arimid fiber, glass fiber, elastomer, Teflon® (PTFE), graphite etc.. Full-face gasket types are suitable for use with flat-face flanges. Flat-ring gasket types are suitable for use with raised face flanges. ASME B16.21 covers types, sizes, materials, dimensions, dimensional tolerances, and markings for non-metallic flat gaskets.

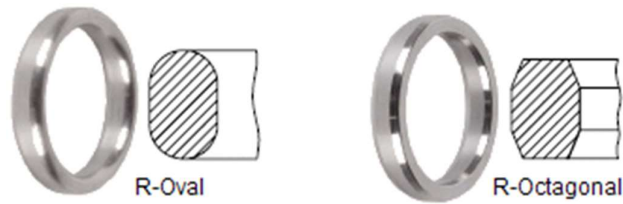


Semi-Metallic types - composites of metal and non-metallic materials. The metal is intended to offer strength and resiliency, while the non-metallic portion provides conformability and sealability. Often used semi-metallic gaskets are spiral wound and camprofile, and a variety of metal-reinforced graphite gaskets. Semi-metallic are designed for almost all operating conditions and high-temperature and pressure applications, and are used on raised face, male-and-female, and tongue-and-groove flanges. ASME B16.20 covers materials, dimensions, dimensional tolerances, and markings for metallic and semi-metallic gaskets.

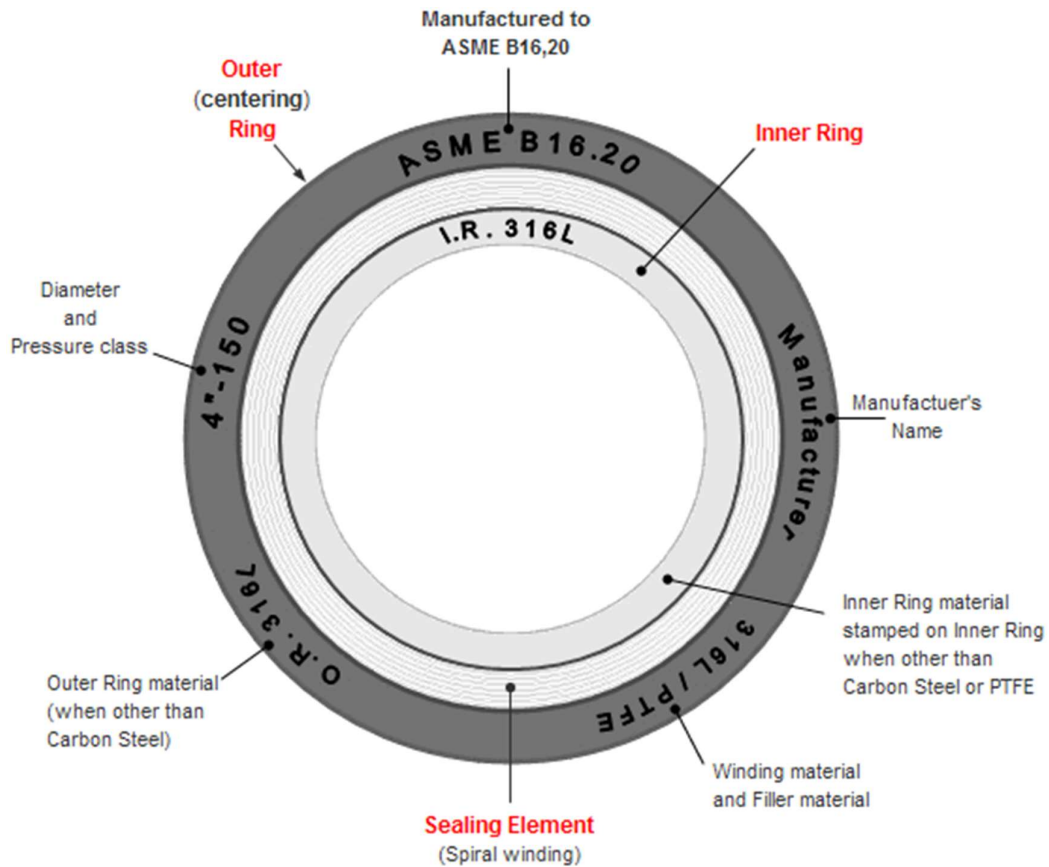


1. Sealing Element 2. Outer Ring 3. Inner Ring

Metallic types - fabricated from one or a combination of metals to the desired shape and size. Often used metallic gaskets are ring-type-joint gaskets (RTJ). They are always applied to special, accompanying flanges which ensure good, reliable sealing with the correct choice of profiles and material. Ring Type Joint gaskets are designed to seal by "initial line contact" or wedging action between the mating flange and the gasket. By applying pressure on the seal interface through bolt force, the "softer" metal of the gasket flows into the microfine structure of the harder flange material, and creating a very tight and efficient seal. ASME B16.20 covers materials, dimensions, dimensional tolerances, and markings for metallic and semi-metallic gaskets.



Typical Spriral Wound Gasket:



## FORGED FITTINGS

Forged pipe fittings are manufactured according to ASME B16.11, MSS-SP-79\83\95\97 and BS3799 standards in 3000lb and 6000lb pressure rating with threaded socket welded ends.. The fittings are made of carbon steel A105 and stainless steel SS316 material. The size available is from 1/8" to 4"



## INSTRUMENT FITTINGS



We supply following types of instrument fittings:

### 1. Dual-ferrule tube fittings

- Pressure: up to 12,100 psig (834 bar)
- Temperature: -425 to 1200°F (-253 to 648°C)
- Sizes: 1/16 to 2 in. (3 to 50 mm)
- Materials: 316 SS, Alloy 400, C-276 and brass. Other materials are available.

### 2. Single-ferrule tube fittings

- Pressure: up to 12,100 psig (834 bar)
- Temperature: -425 to 1200°F (-253 to 648°C)
- Sizes: 1/16 to 1 in.
- Materials: 316 SS, Alloy 400, C-276 and brass. Other materials are available.

### 3. Dual-ferrule tube fittings

- Pressure: up to 12,100 psig (834 bar)
- Temperature: -425 to 1200°F (-253 to 648°C)
- Sizes: 1/16 to 1 in.
- Materials: 316 SS, Alloy 400, C-276 and brass. Other materials are available.