

SEAF

STEEL FITTINGS CATALOGUE



General Purpose in Building Services
To European Standard BS1965 / BSEN10253

CONTENTS

Main Facilities	1-3
Manufacturing Process	4
General Illustration and Marking System	5
Steel Butt-Welding Pipe Fittings	
■ 90°, 45° Elbows/180° Elbows, Caps (BS1965 / BSEN 10253)	6
■ Tees (BS 1965 / BSEN 10253)	7
■ Reducers (BS 1965 / BSEN 10253)	8
Forged Outlet Fittings	
■ Weldolet + Saddle	9
Circular Flanges For Pipes, Valves And Fittings (BSEN1092 PN16)	10
BS Dimensional Tolerances of Fittings	11
Steel Butt-Welding Pipe Fitting for Ordinary Use	12





Main facilities

800Ton X 500Ton Tee Bulging Machine (up to 12")



Main facilities

300Ton Sizing Press Machine

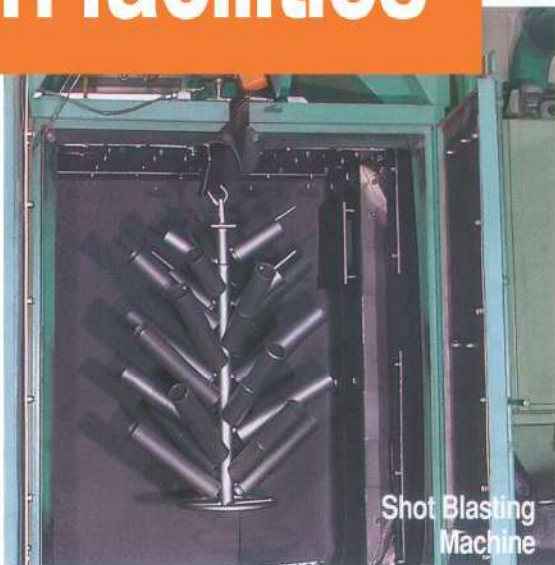


Bevelling Machine

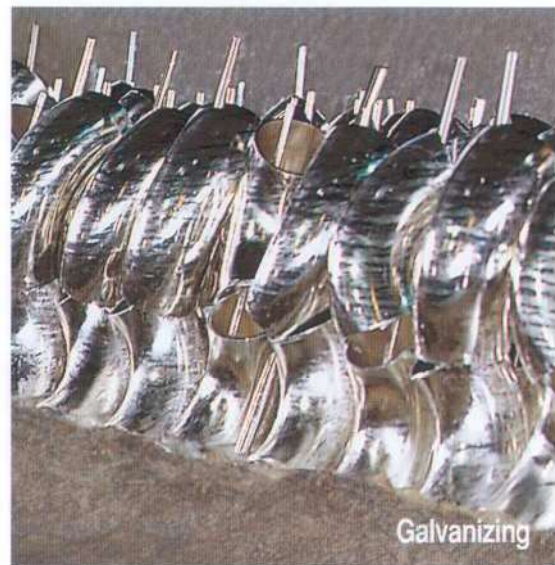


Hot Bending
Machine for Elbow

Main facilities

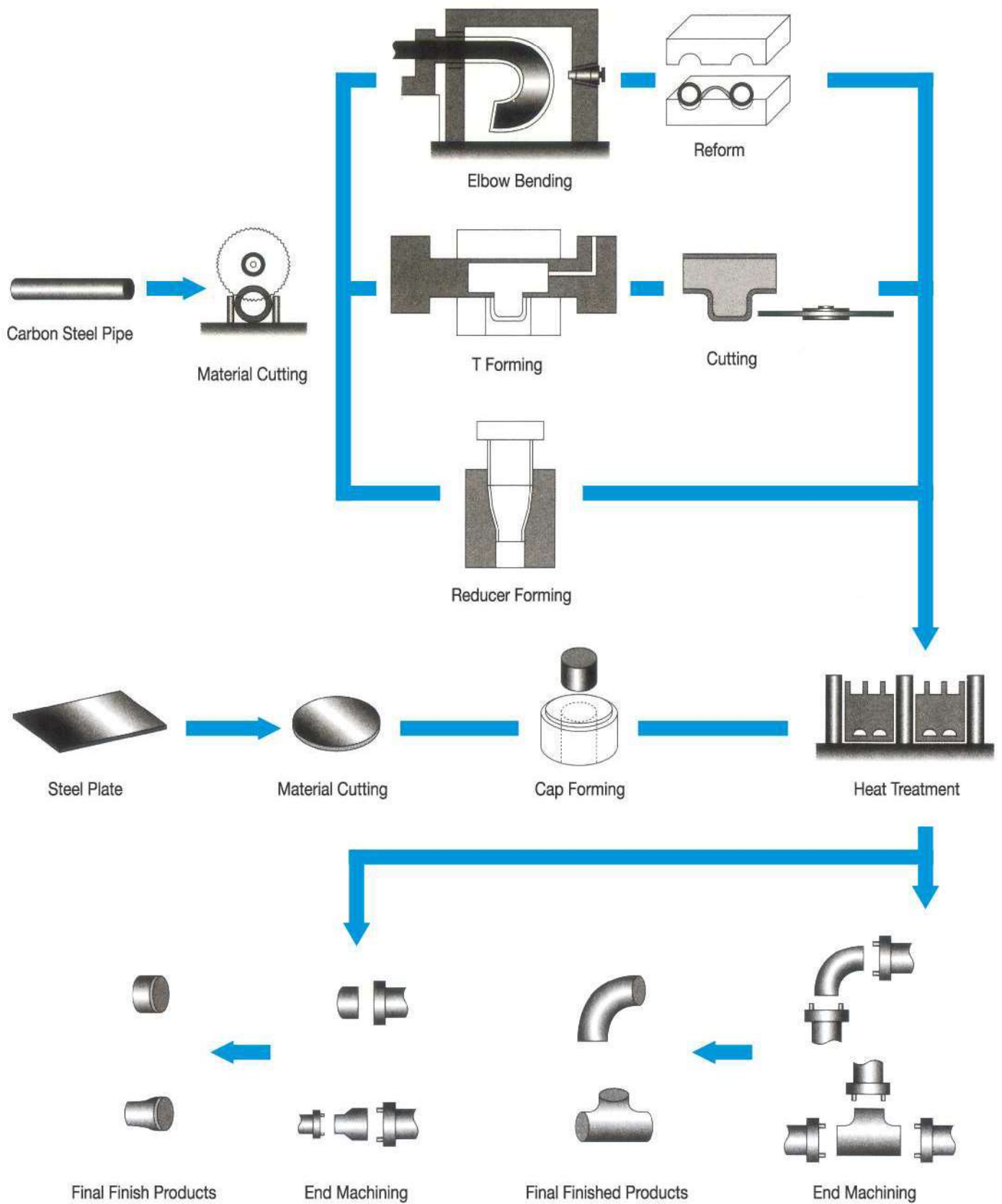


Shot Blasting
Machine



Galvanizing

MANUFACTURING PROCESS



GENERAL ILLUSTRATION

WROUGHT STEEL BUTT-WELDING FITTINGS (Carbon & Alloy Steel)



MARKING SYSTEM

• BSEN Standard Products

Steel Butt-Welding Fittings

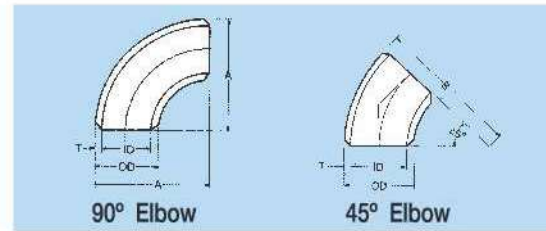
1. Manufacturer identification mark. (SEAF)
2. Country of manufacturer. (CN)
3. The reference to BSEN 10253-2 and the type of the fittings. (EN2A)
4. The steel name. (P265TR2)
5. For welded fittings only. (W)
6. Heat number. (e.g. 28235)
7. Outside diameter and wall thickness. (e.g. 34x4.0)



STEEL BUTT-WELDING PIPE FITTINGS

90 Elbows (Long, Short) 45 Elbows (Long, Short)

BS 1965 / BSEN 10253

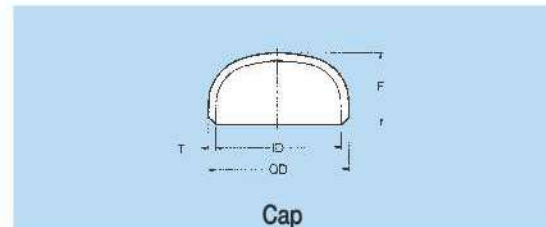


Unit:mm

Nominal Pipe Size	Outside Diameter OD	Inside Diameter ID	Wall Thickness T	Long		Short	
				A	B	A	B
1	33.7	25.7	4.0	56.0	56.0	42.0	42.0
1¼	42.4	34.4	4.0	69.0	69.0	53.0	53.0
1½	48.3	40.3	4.0	82.0	82.0	62.0	62.0
2	60.3	51.3	4.5	106.0	106.0	81.0	81.0
2½	76.1	67.1	4.5	133.0	133.0	102.0	102.0
3	88.9	78.9	5.0	159.0	159.0	121.0	121.0
4	114.3	103.5	5.4	210.0	210.0	159.0	159.0
5	139.7	128.9	5.4	260.0	260.0	197.0	197.0
6	168.3	157.5	5.4	313.0	313.0	237.0	237.0
8	219.1	206.5	6.3	414.0	414.0	313.0	313.0
10	273.0	260.4	6.3	518.0	518.0	391.0	391.0
12	323.9	311.3	6.3	619.0	619.0	467.0	467.0
14	355.6	339.6	8.0	711.0	711.0	533.0	533.0
16	406.4	390.4	8.0	813.0	813.0	610.0	610.0
18	457.0	439.4	8.8	914.0	914.0	686.0	686.0
20	508.0	490.4	8.8	1016.0	1016.0	762.0	762.0
24	610.0	591.0	9.5	1219.0	1219.0	914.0	914.0

Caps

BS 1965 / BSEN 10253



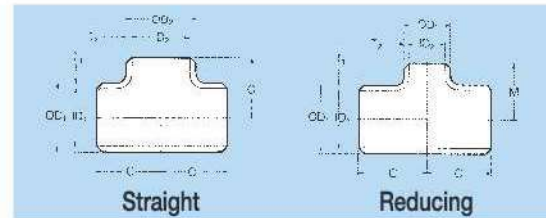
Unit:mm

Nominal Pipe Size	Outside Diameter OD	Inside Diameter ID	Wall Thickness T	E
1	33.7	25.7	4.0	25.0
1¼	42.4	34.4	4.0	38.0
1½	48.3	40.3	4.0	38.0
2	60.3	51.3	4.5	38.0
2½	76.1	67.1	4.5	38.0
3	88.9	78.9	5.0	51.0
4	114.3	103.5	5.4	64.0
5	139.7	128.9	5.4	76.0
6	168.3	157.5	5.4	89.0
8	219.1	206.5	6.3	102.0
10	273.0	260.5	6.3	127.0
12	323.9	311.3	6.3	152.0
14	355.6	339.6	8.0	165.0
16	406.4	390.4	8.0	178.0
18	457.0	439.4	8.8	203.0
20	508.0	490.4	8.8	229.0
24	610.0	591.0	9.5	267.0

STEEL BUTT-WELDING PIPE FITTINGS

Tees

BS 1965 / BSEN 10253



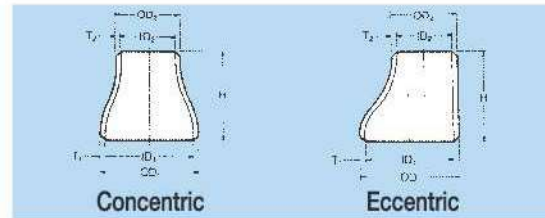
Unit:mm

Nominal Pipe Size	Run			Outlet			C	M
	Outside Dia OD ₁	Inside Dia ID ₁	Wall Thickness T ₁	Outside Dia OD ₂	Inside Dia ID ₂	Wall Thickness T ₂		
1	33.7	25.7	4.0	33.7	25.7	4.0	38.0	38.0
1 1/4	42.4	34.4	4.0	42.4	34.4	4.0	48.0	48.0
1 1/4 x 1 1/4 x 1	42.4	34.4	4.0	33.7	25.7	4.0	48.0	48.0
1 1/2	48.3	40.3	4.0	48.3	40.3	4.0	57.0	57.0
1 1/2 x 1 1/2 x 1 1/4	48.3	40.3	4.0	42.4	34.4	4.0	57.0	57.0
1 1/2 x 1 1/2 x 1	48.3	40.3	4.0	33.7	25.7	4.0	57.0	57.0
2	60.3	51.3	4.5	60.3	51.3	4.5	64.0	64.0
2 x 2 x 1 1/2	60.3	51.3	4.5	48.3	40.3	4.0	64.0	60.0
2 x 2 x 1 1/4	60.3	51.3	4.5	42.4	34.4	4.0	64.0	57.0
2 x 2 x 1	60.3	51.3	4.5	33.7	25.7	4.0	64.0	51.0
2 1/2	76.1	67.1	4.5	76.1	67.1	4.5	76.0	76.0
2 1/2 x 2 1/2 x 2	76.1	67.1	4.5	60.3	51.3	4.5	76.0	70.0
2 1/2 x 2 1/2 x 1 1/2	76.1	67.1	4.5	48.4	40.3	4.0	76.0	67.0
2 1/2 x 2 1/2 x 1 1/4	76.1	67.1	4.5	42.4	34.4	4.0	76.0	64.0
3	88.9	78.9	5.0	88.9	78.9	5.0	86.0	86.0
3 x 3 x 2 1/2	88.9	78.9	5.0	76.1	67.1	4.5	86.0	83.0
3 x 3 x 2	88.9	78.9	5.0	60.3	51.3	4.5	86.0	76.0
3 x 3 x 1 1/2	88.9	78.9	5.0	48.3	40.3	4.0	86.0	73.0
4	114.3	103.5	5.4	114.3	103.5	5.4	105.0	105.0
4 x 4 x 3	114.3	103.5	5.4	88.9	78.9	5.0	105.0	98.0
4 x 4 x 2 1/2	114.3	103.5	5.4	76.1	67.1	4.5	105.0	95.0
4 x 4 x 2	114.3	103.5	5.4	60.3	51.3	4.5	105.0	89.0
5	139.7	128.9	5.4	139.7	128.9	5.4	124.0	124.0
5 x 5 x 4	139.7	128.9	5.4	114.3	103.5	5.4	124.0	117.0
5 x 5 x 3	139.7	128.9	5.4	88.9	78.9	5.0	124.0	111.0
5 x 5 x 2 1/2	139.7	128.9	5.4	76.1	67.1	4.5	124.0	108.0
5 x 5 x 2	139.7	128.9	5.4	60.3	51.3	4.5	124.0	105.0
6	168.3	157.5	5.4	168.3	157.5	5.4	143.0	143.0
6 x 6 x 5	168.3	157.5	5.4	139.7	128.9	5.4	143.0	137.0
6 x 6 x 4	168.3	157.5	5.4	114.3	103.5	5.4	143.0	130.0
6 x 6 x 3	168.3	157.5	5.4	88.9	78.9	5.0	143.0	124.0
6 x 6 x 2 1/2	168.3	157.5	5.4	76.1	67.1	4.5	143.0	121.0
8	219.1	206.5	6.3	219.1	206.5	6.3	178.0	178.0
8 x 8 x 6	219.1	206.5	6.3	168.3	157.5	5.4	178.0	168.0
8 x 8 x 5	219.1	206.5	6.3	139.7	128.9	5.4	178.0	162.0
8 x 8 x 4	219.1	206.5	6.3	114.3	103.5	5.4	178.0	156.0
10	273.0	260.4	6.3	273.0	260.4	6.3	216.0	216.0
10 x 10 x 8	273.0	260.4	6.3	219.1	206.5	6.3	216.0	203.0
10 x 10 x 6	273.0	260.4	6.3	168.3	157.5	5.4	216.0	194.0
10 x 10 x 5	273.0	260.4	6.3	139.7	128.9	5.4	216.0	191.0
12	323.9	311.3	6.3	323.9	311.3	6.3	254.0	254.0
12 x 12 x 10	323.9	311.3	6.3	273.0	260.4	6.3	254.0	241.0
12 x 12 x 8	323.9	311.3	6.3	219.1	206.5	6.3	254.0	229.0
12 x 12 x 6	323.9	311.3	6.3	168.3	157.5	5.4	254.0	219.0
14	355.6	339.6	8.0	355.6	339.6	8.0	279.0	279.0
14 x 14 x 12	355.6	339.6	8.0	323.9	311.3	6.3	279.0	270.0
14 x 14 x 10	355.6	339.6	8.0	273.0	260.4	6.3	279.0	257.0
14 x 14 x 8	355.6	339.6	8.0	219.1	206.5	6.3	279.0	248.0
16	406.4	390.4	8.0	406.4	390.4	8.0	305.0	305.0
16 x 16 x 14	406.4	390.4	8.0	355.6	339.6	8.0	305.0	305.0
16 x 16 x 12	406.4	390.4	8.0	323.9	311.3	6.3	305.0	295.0
16 x 16 x 10	406.4	390.4	8.0	273.0	260.4	6.3	305.0	283.0
18	457.0	439.4	8.8	457.0	439.4	8.8	343.0	343.0
18 x 18 x 16	457.0	439.4	8.8	406.4	390.4	8.0	343.0	330.0
18 x 18 x 14	457.0	439.4	8.8	355.6	339.6	8.0	343.0	330.0
18 x 18 x 12	457.0	439.4	8.8	323.9	311.3	6.3	343.0	321.0
20	508.0	490.4	8.8	508.0	490.4	8.8	381.0	381.0
20 x 20 x 18	508.0	490.4	8.8	457.0	439.4	8.8	381.0	368.0
20 x 20 x 16	508.0	490.4	8.8	406.4	390.4	8.0	381.0	356.0
20 x 20 x 12	508.0	490.4	8.8	323.9	311.3	6.3	381.0	346.0
24	610.0	591.0	9.5	610.0	591.0	9.5	432.0	432.0
24 x 24 x 20	610.0	591.0	9.5	508.0	490.4	8.8	432.0	432.0
24 x 24 x 16	610.0	591.0	9.5	406.4	390.4	8.0	432.0	406.0
24 x 24 x 12	610.0	591.0	9.5	323.9	311.3	6.3	432.0	397.0

STEEL BUTT-WELDING PIPE FITTINGS

Reducers

BS 1965 / BSEN 10253



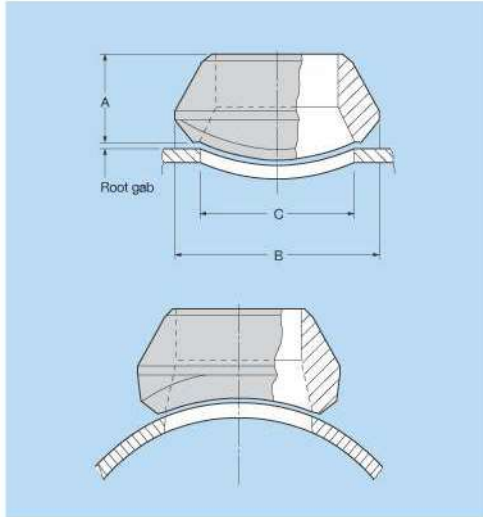
sketch drawing
not in scale

Unit:mm

Nominal Pipe Size	Large End			Small End			H
	Outside Dia OD ₁	Inside Dia ID ₁	Well Thickness T ₁	Outside Dia OD ₂	Inside Dia ID ₂	Wall Thickness T ₂	
1 1/4 x 1	42.4	34.4	4.0	33.7	25.7	4.0	51.0
1 1/2 x 1 1/4	48.3	40.3	4.0	42.4	34.4	4.0	64.0
1 1/2 x 1	48.3	40.3	4.0	33.7	25.7	4.0	64.0
2 x 1 1/2	60.3	51.3	4.5	48.3	40.3	4.0	76.0
2 x 1 1/4	60.3	51.3	4.5	42.4	34.4	4.0	76.0
2 x 1	60.3	51.3	4.5	33.7	25.7	4.0	76.0
2 1/2 x 2	76.1	67.1	4.5	60.3	51.3	4.5	89.0
2 1/2 x 1 1/2	76.1	67.1	4.5	48.3	40.3	4.0	89.0
2 1/2 x 1 1/4	76.1	67.1	4.5	42.4	34.4	4.0	89.0
2 1/2 x 1	76.1	67.1	4.5	33.7	25.7	4.0	89.0
3 x 2 1/2	88.9	78.9	5.0	76.1	67.1	4.5	89.0
3 x 2	88.9	78.9	5.0	60.3	51.3	4.5	89.0
3 x 1 1/2	88.9	78.9	5.0	48.3	40.3	4.0	89.0
3 x 1 1/4	88.9	78.9	5.0	42.4	34.4	4.0	89.0
4 x 3	114.3	103.5	5.4	88.9	78.9	5.0	102.0
4 x 2 1/2	114.3	103.5	5.4	76.1	67.1	4.5	102.0
4 x 2	114.3	103.5	5.4	60.3	51.3	4.5	102.0
5 x 4	139.7	128.9	5.4	114.3	103.5	5.4	127.0
5 x 3	139.7	128.9	5.4	88.9	78.9	5.0	127.0
5 x 2 1/2	139.7	128.9	5.4	76.1	67.1	4.5	127.0
6 x 5	168.3	157.5	5.4	139.7	128.9	5.4	140.0
6 x 4	168.3	157.5	5.4	114.3	103.5	5.4	140.0
6 x 3	168.3	157.5	5.4	88.9	78.9	5.0	140.0
6 x 2 1/2	168.3	157.5	5.4	76.1	67.1	4.5	140.0
8 x 6	219.1	206.5	6.3	168.3	157.5	5.4	152.0
8 x 5	219.1	206.5	6.3	139.7	128.9	5.4	152.0
8 x 4	219.1	206.5	6.3	114.3	103.5	5.4	152.0
10 x 8	273.0	260.4	6.3	219.1	206.5	6.3	178.0
10 x 6	273.0	260.4	6.3	168.3	157.5	5.4	178.0
10 x 5	273.0	260.4	6.3	139.7	128.9	5.4	178.0
12 x 10	323.9	311.3	6.3	273.0	260.4	6.3	203.0
12 x 8	323.9	311.3	6.3	219.1	206.5	6.3	203.0
12 x 6	323.9	311.3	6.3	168.3	157.5	5.4	203.0
12 x 5	323.9	311.3	6.3	139.7	128.9	5.4	203.0
14 x 12	355.6	339.6	8.0	323.9	311.3	6.3	330.0
14 x 10	355.6	339.6	8.0	273.0	260.4	6.3	330.0
14 x 8	355.6	339.6	8.0	219.1	206.5	6.3	330.0
16 x 14	406.4	390.4	8.0	355.6	339.6	8.0	356.0
16 x 12	406.4	390.4	8.0	323.9	311.3	6.3	356.0
16 x 10	406.4	390.4	8.0	273.0	260.4	6.3	356.0
18 x 16	457.0	439.4	8.8	406.4	390.4	8.0	381.0
18 x 14	457.0	439.4	8.8	355.6	339.6	8.0	381.0
18 x 12	457.0	439.4	8.8	323.9	311.3	6.3	381.0
20 x 18	508.0	490.4	8.8	457.0	439.4	8.8	508.0
20 x 16	508.0	490.4	8.8	406.4	390.4	8.0	508.0
20 x 14	508.0	490.4	8.8	355.6	311.3	6.3	508.0
24 x 20	610.0	591.0	9.5	508.0	490.4	8.8	508.0
24 x 18	610.0	591.0	9.5	457.0	439.4	8.8	508.0
24 x 16	610.0	591.0	9.5	406.4	390.4	8.0	508.0

FORGED OUTLET FITTINGS

Weldolet

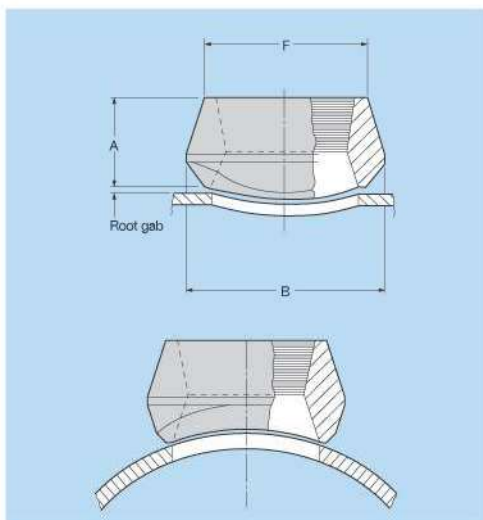


■ STD Unit:mm

Outlet Size	A	B	C
	STD	STD	STD
1/8	16.0	24.0	10.2
1/4	16.0	26.0	13.5
3/8	19.0	30.0	17.2
1/2	19.0	36.0	21.3
3/4	22.0	43.0	26.9
1	27.0	55.0	33.7
1 1/4	32.0	66.0	42.4
1 1/2	33.0	74.0	48.3
2	38.0	90.0	60.3
2 1/2	41.0	104.0	73.0
3	44.0	124.0	88.9
3 1/2	48.0	138.0	101.6
4	51.0	154.0	114.3
5	57.0	187.0	141.3
6	60.0	213.0	168.3
8	70.0	265.0	219.1
10	78.0	323.0	273.0
12	86.0	379.0	323.9
14	89.0	411.0	355.6
16	94.0	465.0	406.4
18	97.0	522.0	457.0
20	102.0	573.0	508.0
24	116.0	690.0	610.0

• Applicable Run Pipe Sizes are from Out-Let size 36 inch.

Threadolet



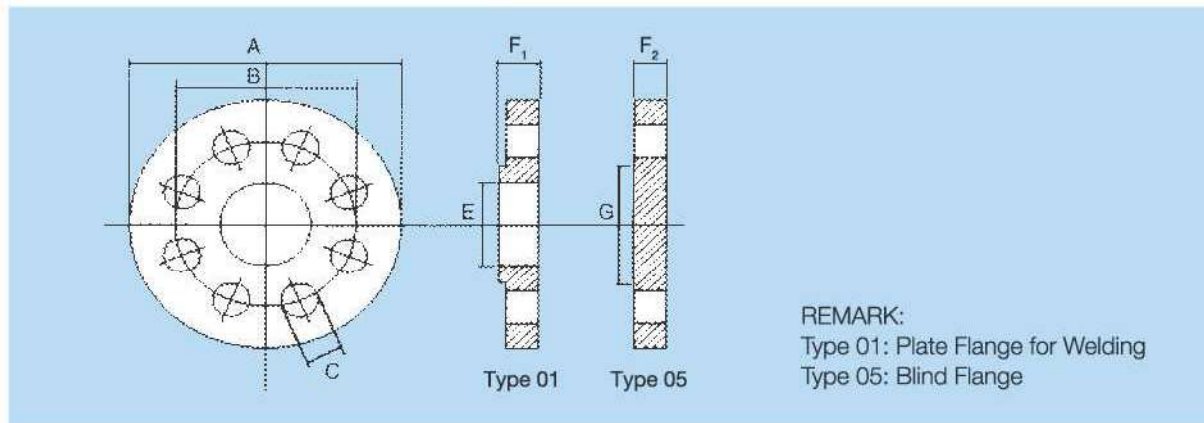
■ STD Unit:mm

Outlet Size	A	B	F
	3000#	3000#	3000#
1/8	19.0	27.0	22.0
1/4	19.0	27.0	22.0
3/8	21.0	30.0	25.0
1/2	25.0	38.0	33.0
3/4	27.0	47.0	39.0
1	33.0	56.0	48.0
1 1/4	33.0	66.0	58.0
1 1/2	35.0	75.0	64.0
2	38.0	90.0	77.0
2 1/2	46.0	105.0	94.0
3	51.0	124.0	114.0
4	57.0	154.0	140.0

• Applicable Run Pipe Sizes are from Out-Let size 36 inch.
 • Thread to ANSI B2.1 (NPT)/BS 21 (BSP)

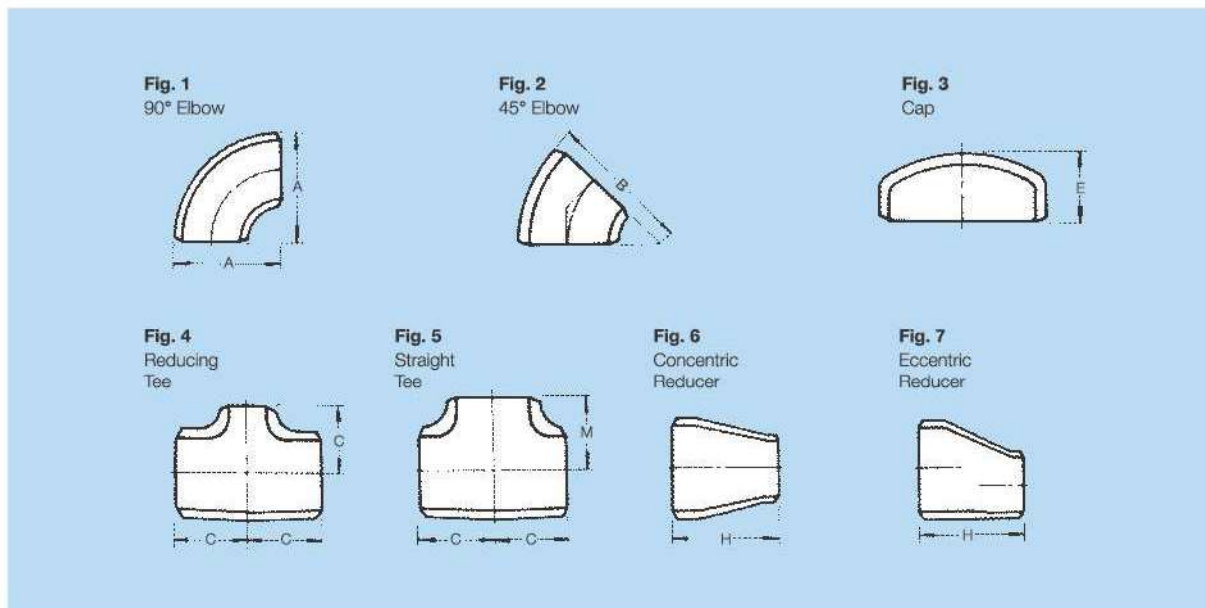
CIRCULAR FLANGES FOR PIPES, VALVES AND FITTINGS

BSEN1092 PN16 (For Steel)



Nominal Size DN	Outside Diameter A	Diameter of Bolt Circle B	Diameter of Bolt Hole C	Bolting		Bore Diameter E (Type 01)	Flange Thickness	
				Number	Size		F ₁ (Type 01)	F ₂ (Type 05)
10	90	60	14	4	M12	18.0	14	16
15	95	65	14	4	M12	22.0	14	16
20	105	75	14	4	M12	27.5	16	18
25	115	85	14	4	M12	34.5	16	18
32	140	100	18	4	M16	43.5	18	18
40	150	110	18	4	M16	49.5	18	18
50	165	125	18	4	M16	61.5	20	18
65	185	145	18	4	M16	77.5	20	18
80	200	160	18	8	M16	90.5	20	20
100	220	180	18	8	M16	116.0	22	20
125	250	210	18	8	M16	141.5	22	22
150	285	240	22	8	M20	170.5	24	22
200	340	295	22	12	M20	221.5	26	24
250	405	355	26	12	M24	276.5	29	26
300	460	410	26	12	M24	327.5	32	28
350	520	470	26	16	M24	359.0	35	30
400	580	525	30	16	M27	411.0	38	32
450	640	585	30	20	M27	462.0	42	40
500	715	650	33	20	M30	513.5	46	44
600	840	770	36	20	M33	616.5	55	54
700	910	840	36	24	M33	-	63	58
800	1025	950	39	24	M36	-	74	62
900	1125	1050	39	28	M36	-	82	64
1000	1255	1170	42	28	M39	-	90	68
1200	1485	1390	48	32	M45	-	-	-
1400	1685	1590	48	36	M45	-	-	-
1600	1930	1820	56	40	M52	-	-	-
1800	2130	2020	56	44	M52	-	-	-
2000	2345	2230	62	48	M56	-	-	-

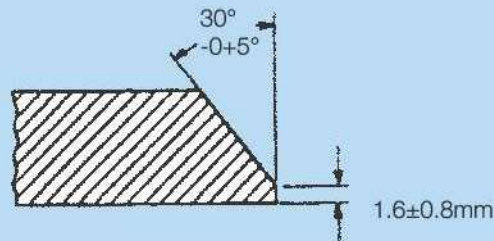
BS DIMENSIONAL TOLERANCES OF FITTINGS



Fitting	Dimensions	Nominal size (in)	Tolerances (mm)
90° Elbows	Centre to end <i>A</i> or <i>B</i> (see Fig. 1)	Up to and including 8	±2.0
		1½ to 4 10 and over	±3.0
45° Elbows	Centre to end <i>B</i> (see Fig.2)	Up to and including 16	±7.0
		18 and over	±10.0
Reducers	End to end <i>H</i> (see Fig.7 and 8)	Up to and including 8	±2.0
		10 and over	±3.0
Tees	Centre to face <i>C</i> and <i>M</i> (see Fig.5 and 6)	Up to and including 8	±2.0
		10 and over	±3.0
Caps	End to face <i>E</i> (see Fig.4)	Up to and including 4	±4.0
		5 and over	±7.0

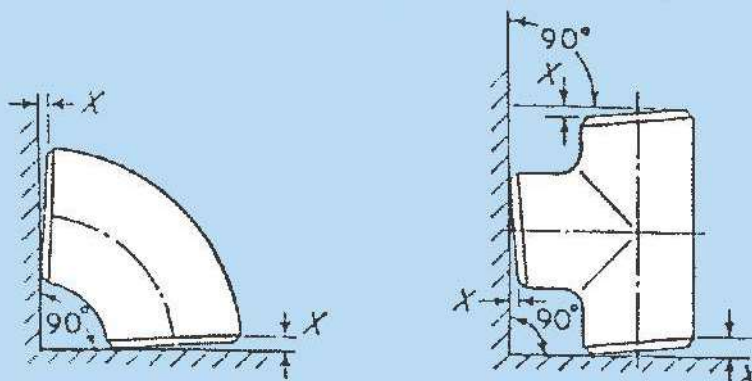
Remark: The tolerance on diameter shall apply to the outside diameter instead of the inside diameter.

STEEL BUTT-WELDING PIPE FITTING FOR ORDINARY USE



OFF-SQUARE TOLERANCES

Off-square tolerances shall be as given in Table



Typical examples of off-square tolerance 'X' checked against reference planes.

■ 'OFF-SQUARE' TOLERANCES

Nominal size of fitting (in)	'Off-square' tolerance X (in)	Nominal size of fitting (in)	'Off-square' tolerance X (in)
Up to and including 4	1/32	Up to and including 3	1
5 and 6	3/64	4 and over	1% of the outer diameter
8 to 16 inclusive	1/16		

Sole Distributor:



OFFICE: 5/F, Henan Building, 90 Jaffe Road, Wanchai, Hong Kong
TEL: 2528 0999 FAX: 2528 3113 E-MAIL: info@kembla.com.hk

SHOP: G/F., No.413 Shanghai Street, Yau Ma Tei, Kowloon
TEL: 3428 2521 FAX: 3428 2575 E-MAIL: shop@kembla.com.hk

SHOP 2: G/F., No.22A Swatow Street, Wanchai, Hong Kong
TEL: 2528 0388 FAX: 2528 0189 E-MAIL: wanchai.shop@kembla.com.hk

WAREHOUSE: D.D.85 Lot 567-D, Lau Shui Heung Road,
Po Kat Tsai Village, Fanling, New Territories.
TEL: 2674 7880 / 2674 7881 FAX: 2674 7990

Web Site: www.kembla.com.hk