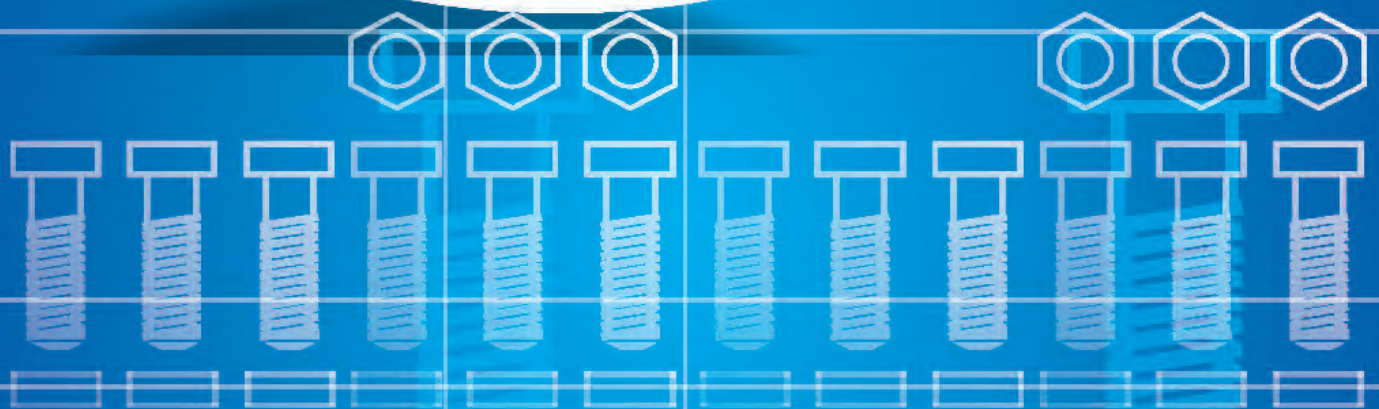




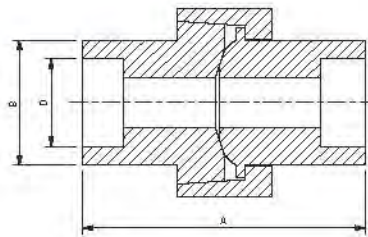
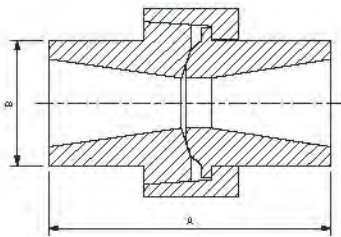
EXILITE ENGINEERING CATALOGUE



FASTENERS BOLTS SCREWS STAINLESS STEEL
FASTENERS HEXAGON HEAD BOLTS
NUTS GREASE NIPPLES WASHERS



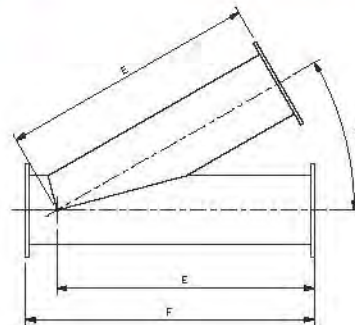
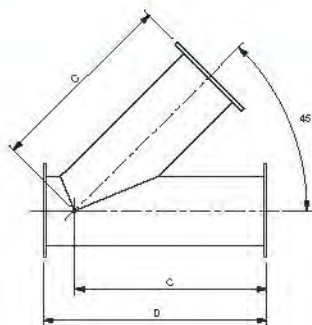
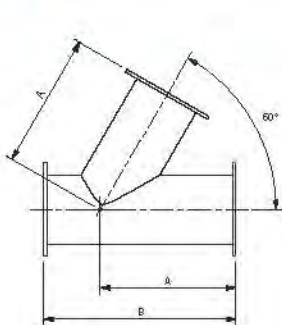
FORGED UNION NUTS BS3799 (ANSI B16.11) THREADS TO ANSI B2.1 300 LB SERIES



THREADED			MASS (APPROX) Kg
NOMINAL BORE	A mm	B mm	
8	44.5	22.0	0.140
10	47.5	25.5	0.200
15	54.0	32.0	0.350
20	58.5	38.0	0.425
25	63.5	44.5	0.650
32	71.5	57.0	0.975
40	79.5	63.5	1.255
50	92.0	76.0	2.010

SOCKET WELD					MASS (APPROX) Kg
NOMINAL BORE	A mm	B mm	D mm	E mm	
8	44.5	22.0	14.0	9.5	0.255
10	47.5	25.5	17.5	11.0	0.340
15	54.0	32.0	21.7	12.5	0.390
20	58.5	38.0	27.1	14.5	0.480
25	63.5	44.5	33.8	16.0	0.660
32	71.5	57.0	42.6	17.5	1.150
40	79.5	63.5	48.7	19.0	1.420
50	92.0	76.0	61.1	22.0	2.450

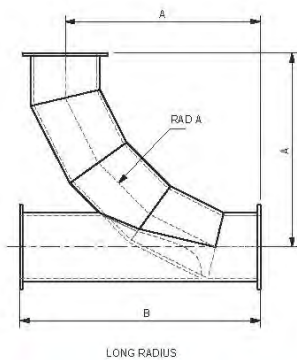
LATERALS



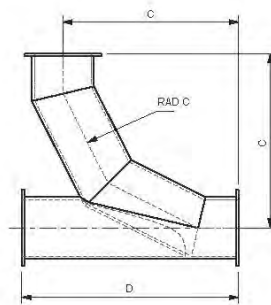
NOMINAL DIAMETER (mm)	OUTSIDE DIAMETER (mm)	60° (mm)		45° (mm)		30° (mm)	
		A	B	C	D	E	F
200	219.1	430	610	610	710	815	915
250	273.1	485	685	685	815	940	1065
300	323.9	535	760	760	915	1005	1220
350	355.6	585	840	840	1020	1195	1370
400	406.4	635	915	915	1120	1320	1520
450	457	685	990	990	1220	1450	1670
500	508	740	1065	1065	1320	1575	1830
550	559	790	1140	1140	1420	1700	1980
600	610	840	1220	1220	1520	1830	2130
650	660	890	1295	1295	1630	1955	2280
700	711	940	1370	1370	1730	2080	2430
750	762	990	1445	1445	1830	2210	2595
800	813	1045	1520	1520	1930	2335	2746
850	864	1095	1595	1595	2030	2465	2895
900	914	1145	1670	1670	2130	2595	3040



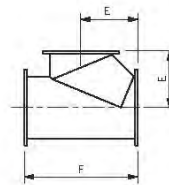
SWEEP TEES



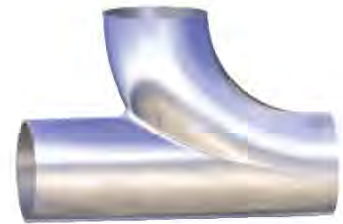
LONG RADIUS



MEDIUM RADIUS

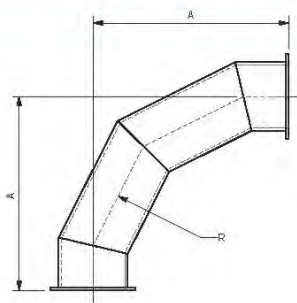


SHORT RADIUS

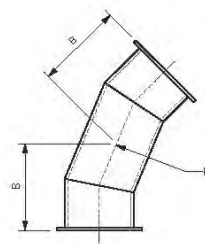


NOMINAL DIAMETER (mm)	OUTSIDE DIAMETER (mm)	LONG RADIUS (mm)		MEDIUM RADIUS (mm)		SHORT RADIUS (mm)		
		A	B	C	D	E	F	R
200	219.1	610	815	405	610	230	430	205
250	273.1	760	1020	510	760	280	535	255
300	323.9	915	1220	610	915	305	610	280
350	355.6	1070	1420	710	1070	355	710	330
400	406.4	1215	1630	815	1215	405	810	380
450	457	1380	1830	915	1380	460	920	430
500	508	1530	2040	1020	1530	510	1020	485
550	559	1680	2240	1120	1680	560	1120	535
600	610	1830	2440	1220	1830	610	1220	585
650	660	1980	2640	1320	1980	660	1320	635
700	711	2130	2840	1420	2130	710	1420	685
750	762	2280	3040	1520	2280	760	1520	740
800	813	2445	3260	1630	2445	815	1630	790
850	864	2595	3460	1730	2595	865	1730	840
900	914	2745	3660	1830	2745	915	1830	890

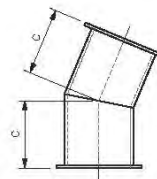
MEDIUM RADIUS BENDS



OVER 45° UP TO AND INCLUDING 90°
4 OR 5 SEGMENTS



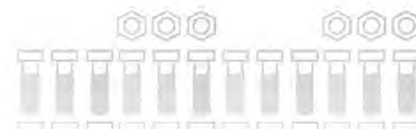
OVER 22½° UP TO AND INCLUDING 45°
3 OR 4 SEGMENTS



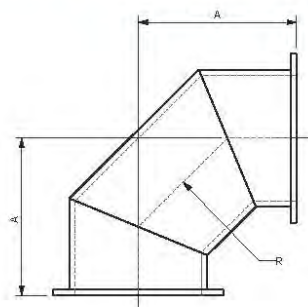
UP TO AND INCLUDING 22½°
2 OR 3 SEGMENTS



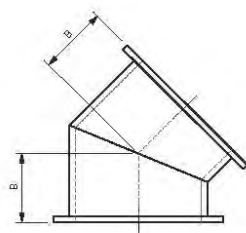
NOMINAL DIAMETER (mm)	OUTSIDE DIAMETER (mm)	CENTRE TO FACE (mm)			RADIUS (mm)
		A	B	C	
200	219.1	405	205	140	405
250	273.1	510	255	180	510
300	323.9	610	305	205	610
350	355.6	710	355	240	710
400	406.4	815	405	280	815
450	457	915	460	305	915
500	508	1020	510	345	1020
550	559	1120	560	380	1120
600	610	1220	610	405	1220
650	660	1320	660	445	1320
700	711	1420	710	485	1420
750	762	1520	760	510	1520
800	813	1630	815	545	1630
850	864	1730	865	585	1730
900	914	1830	915	610	1830



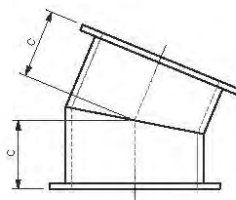
ELBOWS



OVER 45° UP TO AND INCLUDING 90°
3 OR 4 SEGMENTS



OVER 22½° UP TO AND INCLUDING 45°
2 OR 3 SEGMENTS

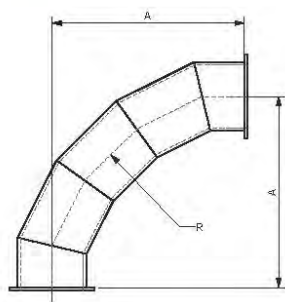


UP TO AND INCLUDING 22½°
2 SEGMENTS

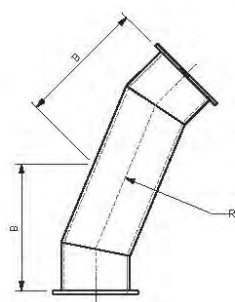


NOMINAL DIAMETER (mm)	OUTSIDE DIAMETER (mm)	CENTRE TO FACE (MM)			RADIUS (MM)
		A	B	C	
200	219.1	230	155	115	230
250	273.1	280	180	140	280
300	323.9	305	205	155	305
350	355.6	355	230	180	355
400	406.4	405	255	205	405
450	457	460	280	230	460
500	508	510	305	255	510
550	559	560	330	280	560
600	610	610	355	305	610
650	660	660	380	330	660
700	711	710	405	355	710
750	762	760	430	380	760
800	813	815	460	405	815
850	864	865	485	430	865
900	914	915	510	460	915

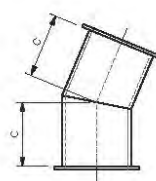
LONG RADIUS BENDS



OVER 45° UP TO AND INCLUDING 90°
6, 8 OR 7 SEGMENTS



OVER 22½° UP TO AND INCLUDING 45°
3, 4 OR 5 SEGMENTS



UP TO AND INCLUDING 22½°
2 OR 3 SEGMENTS

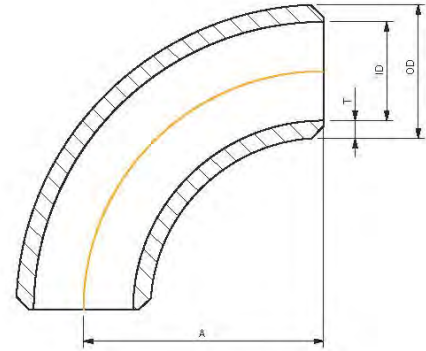


NOMINAL DIAMETER (mm)	OUTSIDE DIAMETER (mm)	CENTRE TO FACE (mm)			RADIUS (mm)
		A	B	C	
200	219.1	610	405	205	610
250	273.1	760	510	255	760
300	323.9	915	610	305	915
350	355.6	1065	710	355	1065
400	406.4	1215	815	405	1215
450	457	1380	915	460	1380
500	508	1530	1020	510	1530
550	559	1680	1120	560	1680
600	610	1830	1220	610	1830
650	660	1980	1320	660	1980
700	711	2130	1420	710	2130
750	762	2280	1520	760	2280
800	813	2445	1630	815	2445
850	864	2595	1730	865	2595
900	914	2745	1830	915	2745

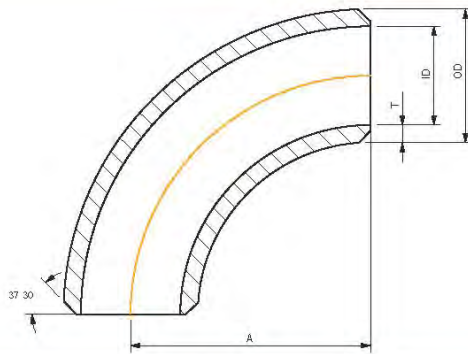
90° ELBOWS LONG RADIUS TO JIS B2311-82SGP - ALL SIZES ARE WELDED



NOMINAL PIPE SIZE mm	OUTSIDE DIAMETER OD mm	SGP		A	MASS (Kg) (APPROX.) 90°EL SGP
		INSIDE DIAMETER ID	WALL THICKNESS T		
15	21.7	16.1	2.8	38.1	0.08
20	27.2	21.6	2.8	38.1	0.10
25	34.0	27.6	3.2	38.1	0.15
32	42.7	35.7	3.5	47.6	0.25
40	48.6	41.6	3.5	57.2	0.35
50	60.5	52.9	3.8	76.2	0.63
65	76.3	67.9	4.2	95.3	1.12
80	89.1	80.7	4.2	114.3	1.58
90	101.6	93.2	4.2	133.4	2.11
100	114.3	105.3	4.5	152.4	2.91
125	139.8	130.8	4.5	190.5	4.49
150	165.2	155.2	5.0	228.6	7.09
200	216.3	204.7	5.8	304.8	14.40
*200	219.1	207.5	5.8	304.8	14.40
250	267.4	254.2	6.6	381.0	25.40
*250	273.0	259.8	6.6	381.0	25.40
300	318.5	304.7	6.9	457.2	38.10
*300	323.8	310.0	6.9	457.2	38.10
350	355.6	339.8	7.9	533.4	56.70
400	406.4	390.6	7.9	609.6	74.30
450	457.2	441.4	7.9	685.8	94.20
500	508.0	492.2	7.9	762.0	117.00
600	609.6	-	-	914.4	-



90° ELBOWS LONG RADIUS TO ANSI B 16.9



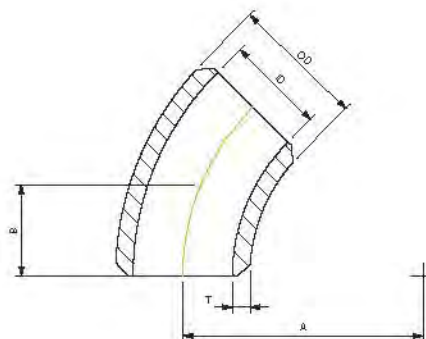
NOMINAL PIPE SIZE mm	OUTSIDE DIAMETER OD mm	CENTRE TO END A mm	STANDARD			SCHEDULE 80		
			INSIDE DIAMETER ID mm	WALL THICKNESS T mm	MASS (APPROX.) Kg	INSIDE DIAMETER ID mm	WALL THICKNESS T mm	MASS (APPROX.) Kg
15	21.3	38.1	15.80	2.77	0.1	13.87	3.73	0.1
20	26.7	28.6	20.93	2.87	0.1	18.85	3.91	0.1
25	33.4	38.1	26.64	3.38	0.2	24.31	4.55	0.2
32	42.2	47.6	35.05	3.56	0.3	32.46	4.85	0.3
40	48.3	57.2	40.89	3.68	0.4	38.10	5.08	0.5
50	60.3	76.2	52.50	3.91	0.7	49.25	5.54	0.9
65	73.0	95.3	62.71	5.16	1.3	59.00	7.01	1.7
80	88.9	114.3	77.93	5.49	2.0	73.66	7.62	2.7
90	101.6	133.4	90.12	5.74	2.8	85.45	8.08	3.9
100	114.3	152.4	102.26	6.02	3.8	97.18	8.56	5.3
125	141.3	190.5	128.19	6.55	6.5	122.25	9.53	9.3
150	168.3	228.6	154.05	7.11	10.1	146.33	10.97	15.3
200	219.1	304.8	202.72	8.18	20.3	193.68	12.70	30.9
250	273.0	381.0	254.51	9.27	36.0	242.87	15.09	57.4
300	323.9	457.2	304.80	9.53	53.0	288.90	17.48	94.7
350	355.6	533.4	336.55	9.53	68.0	317.50	19.05	132.0
400	406.4	609.6	387.35	9.53	89.2	363.52	21.44	195.0
450	457.2	685.8	438.15	9.53	113.0	409.55	23.83	274.0
500	508.0	762.0	488.95	9.53	140.0	455.63	26.19	372.0
600	609.6	914.4	590.55	9.53	202.0	547.67	30.96	634.0



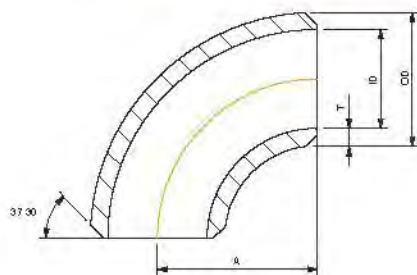
45° ELBOWS LONG RADIUS TO JIS B2311-82 SGP - ALL SIZES ARE WELDED



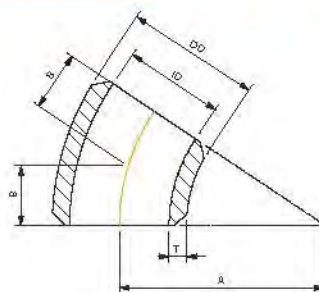
NOMINAL PIPE SIZE mm	SGP				MASS (kg)	
	OUTSIDE DIAMETER OD (mm)	INSIDE DIAMETER ID (mm)	WALL THICKNESS T (mm)	A	B	(APPROX.) 45EL SGP
15	21.7	16.1	2.8	38.1	15.8	0.04
20	27.2	21.6	2.8	38.1	15.8	0.05
25	34.0	27.6	3.2	38.1	15.8	0.07
32	42.7	35.7	3.5	47.6	19.7	0.13
40	48.6	41.6	3.5	57.2	23.7	0.19
50	60.5	52.9	3.8	76.2	31.6	0.32
65	76.3	67.9	4.2	95.3	39.5	0.56
80	89.1	80.7	4.2	114.3	47.3	0.79
90	101.6	93.2	4.2	133.4	55.3	1.06
100	114.3	105.3	4.5	152.4	63.1	1.46
125	139.8	130.8	4.5	190.5	78.9	2.25
150	165.2	155.2	5.0	228.6	94.7	3.54
200	216.3	204.7	5.8	304.8	126.2	7.20
*200	219.1	207.5	5.8	304.8	126.2	7.20
250	267.4	254.2	6.6	381.0	157.8	12.70
*250	273.0	259.8	6.6	381.0	157.8	12.70
300	318.5	304.7	6.9	457.2	189.4	19.00
*300	323.8	310.0	6.9	457.2	189.4	19.00
350	355.6	339.8	7.9	533.4	220.9	28.40
400	406.4	390.6	7.9	609.6	252.5	37.10
450	457.2	441.4	7.9	685.8	284.1	47.10
500	508.0	492.2	7.9	762.0	315.6	58.30
600	609.6	-	-	914.4	378.7	-



45° AND 90° ELBOWS TO JIS B2311-82 SGP - ALL SIZES ARE WELDED



90° ELBOWS SHORT RADIUS

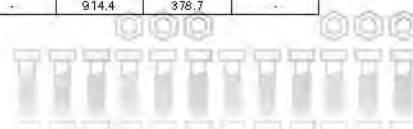


45° ELBOWS LONG RADIUS

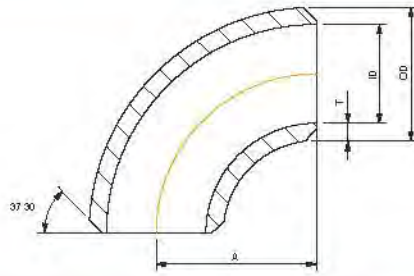


90° ELBOWS SHORT RADIUS					MASS
SGP					(Kg)
NOMINAL PIPE SIZE mm	OUTSIDE DIAMETER OD mm	INSIDE DIAMETER ID mm	WALL THICKNESS t	A	(APPROX) WGT SGP
25	34.0	27.6	3.2	25.4	0.10
32	42.7	35.7	3.5	31.8	0.17
40	48.6	41.6	3.5	38.1	0.23
50	60.5	52.9	3.8	50.8	0.42
65	76.3	67.9	4.2	63.5	0.74
80	89.1	80.7	4.2	76.2	1.05
90	101.6	93.2	4.2	86.9	1.41
100	114.3	105.3	4.5	101.6	1.94
125	139.8	130.8	4.5	127.0	2.99
150	165.2	155.2	5.0	152.14	4.73
200	216.3	204.7	5.8	203.2	9.61
*200	219.1	207.5	5.8	203.2	9.61
250	267.4	254.2	6.6	254.0	16.90
*250	273.0	259.8	6.6	254.0	16.90
300	318.5	304.7	6.9	304.8	25.40
*300	323.8	310.0	6.9	304.8	25.40
350	355.6	339.8	7.9	355.6	37.80
400	406.4	390.6	7.9	406.4	

45° ELBOWS LONG RADIUS						MASS
		SGP				(Kg)
NOMINAL PIPE SIZE mm	OUTSIDE DIAMETER OD mm	INSIDE DIAMETER ID mm	WALL THICKNESS T mm	A	B	(APPROX.) 45EL SGP
15	21.7	16.1	2.8	38.1	15.8	0.04
20	27.2	21.6	2.8	38.1	15.8	0.05
25	34.0	27.6	3.2	38.1	15.8	0.07
32	42.7	35.7	3.5	47.6	19.7	0.13
40	48.6	41.6	3.5	57.2	23.7	0.18
50	60.5	52.9	3.8	76.2	31.6	0.32
65	76.3	67.9	4.2	95.3	39.5	0.56
80	89.1	80.7	4.2	114.3	47.3	0.79
90	101.6	93.2	4.2	133.4	55.3	1.06
100	114.3	105.3	4.5	152.4	63.1	1.46
125	139.8	130.8	4.5	190.5	78.9	2.25
150	165.2	155.2	5.0	228.6	94.7	3.54
200	216.3	204.7	5.8	304.8	126.2	7.20
*200	219.1	207.5	5.8	304.8	126.2	7.20
250	267.4	254.2	6.6	381.0	157.8	12.70
*250	273.0	259.8	6.6	381.0	157.8	12.70
300	318.5	304.7	6.9	457.2	189.4	19.00
*300	323.8	310.0	6.9	457.2	189.4	19.00
350	355.6	339.8	7.9	533.4	220.9	28.40
400	406.4	390.6	7.9	609.6	252.5	37.10
450	457.2	441.4	7.9	685.8	284.1	47.10
500	508.0	492.2	7.9	762.0	315.5	58.30
600	609.6			914.4	378.7	

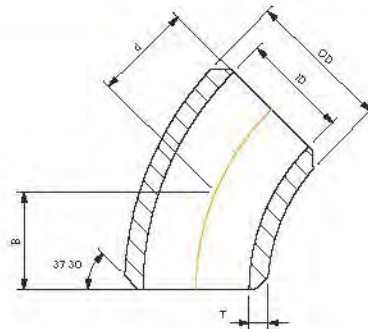


90° ELBOWS SHORT RADIUS TO ANSI



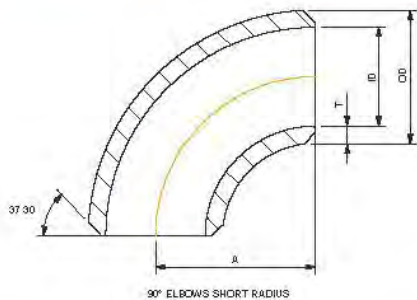
NOMINAL PIPE SIZE mm	OUTSIDE DIAMETER OD mm	CENTRE TO END a mm	STANDARD			SCHEDULE 80		
			INSIDE DIAMETER ID mm	WALL THICKNESS T mm	MASS (APPROX.) kg	INSIDE DIAMETER ID mm	WALL THICKNESS T mm	MASS (APPROX.) kg
25	33.4	25.4	26.64	3.38	0.1	33.40	4.55	0.1
32	42.2	31.8	35.05	3.56	0.2	42.16	4.85	0.2
40	48.3	38.1	40.89	3.68	0.2	38.10	5.08	0.3
50	60.3	50.8	52.50	3.91	0.4	49.25	5.54	0.6
65	73.0	63.5	62.71	5.16	0.9	59.00	7.01	1.1
80	88.9	76.2	77.93	5.49	1.4	73.66	7.62	1.8
90	101.6	88.9	90.12	5.74	1.9	85.45	8.08	2.6
100	114.3	101.6	102.26	6.02	2.6	97.18	8.56	3.6
125	141.3	127.0	128.19	6.55	4.3	122.25	9.53	6.2
150	168.3	152.4	154.05	7.11	6.8	146.33	10.97	10.2
200	219.1	203.2	202.72	8.18	13.6	193.68	12.70	20.6
250	273.1	254.0	254.51	9.27	24.0	242.87	15.09	38.2
300	323.9	304.8	304.80	9.53	35.3	288.90	17.48	63.2
350	355.6	355.6	336.55	9.53	45.4	317.50	19.05	88.2
400	406.4	406.4	387.35	9.53	59.4	363.52	21.44	130.0
450	457.2	457.2	438.15	9.53	75.4	409.65	22.83	183.0
500	508.0	508.0	488.95	9.53	93.3	455.63	26.19	248.0
600	609.6	609.6	590.55	9.53	138.5	547.67	30.96	440.0

45° ELBOWS LONG RADIUS TO ANSI B

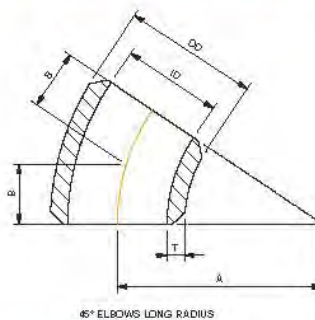


NOMINAL PIPE SIZE mm	OUTSIDE DIAMETER OD mm	CENTRE TO END b mm	STANDARD			SCHEDULE 80		
			INSIDE DIAMETER ID mm	WALL THICKNESS T mm	MASS (APPROX.) kg	INSIDE DIAMETER ID mm	WALL THICKNESS T mm	MASS (APPROX.) kg
15	21.3	15.9	15.80	2.77	0.1	13.87	3.73	0.05
20	26.7	11.11	20.93	2.87	0.1	18.95	3.91	0.05
25	33.4	22.2	26.64	3.38	0.1	24.31	4.55	0.10
32	42.2	25.4	35.05	3.56	0.1	32.46	4.85	0.20
40	48.3	28.6	40.89	3.68	0.2	38.10	5.08	0.24
50	60.3	34.9	52.50	3.91	0.3	49.25	5.54	0.50
65	73.0	44.5	62.71	5.16	0.7	59.00	7.01	0.90
80	88.9	50.8	77.93	5.49	1.0	73.66	7.62	1.40
90	101.6	57.2	90.12	5.74	1.4	85.45	8.08	2.00
100	114.3	63.5	102.26	6.02	1.9	97.18	8.56	2.67
125	141.3	79.4	128.19	6.55	3.3	122.25	9.53	4.62
150	168.3	95.3	154.05	7.11	5.1	146.33	10.97	7.07
200	219.1	127.0	202.72	8.18	10.2	193.68	12.70	15.40
250	273.1	158.8	254.51	9.27	18.0	242.87	15.09	28.70
300	323.9	190.5	304.80	9.53	26.5	288.90	17.48	47.40
350	355.6	222.3	336.55	9.53	39.6	317.50	19.05	66.00
400	406.4	254.0	387.35	9.53	59.0	363.52	21.44	97.60
450	457.2	285.8	438.15	9.53	84.0	409.65	23.83	137.00
500	508.0	317.5	488.95	9.53	110.0	455.62	26.19	186.00
600	609.6	381.0	590.55	9.53	183.0	547.68	30.96	317.00

45° ELBOWS LONG RADIUS TO JIS B2311-82 SGP-ALL SIZES ARE WELDED



90° ELBOWS SHORT RADIUS

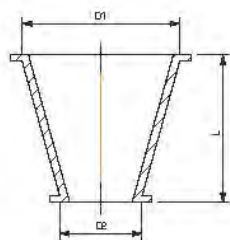


45° ELBOWS LONG RADIUS

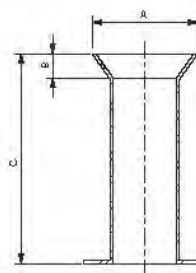
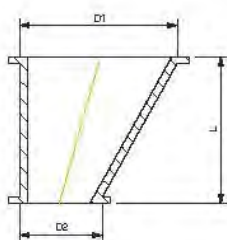
90° ELBOWS SHORT RADIUS					MASS
NOMINAL PIPE SIZE (mm)	OUTSIDE DIAMETER (OD) (mm)	INSIDE DIAMETER (ID) (mm)	WALL THICKNESS (T) (mm)	A (mm)	(APPROX.) 90°S SGP (Kg)
25	34.0	27.6	3.2	25.4	0.10
32	42.7	35.7	3.5	31.8	0.17
40	48.6	41.6	3.5	38.1	0.23
50	60.5	52.9	3.8	50.8	0.42
65	76.3	67.9	4.2	63.5	0.74
80	89.1	80.7	4.2	76.2	1.05
90	101.6	93.2	4.2	88.9	1.41
100	114.3	105.3	4.5	101.6	1.94
125	139.8	130.8	4.5	127.0	2.99
160	165.2	155.2	5.0	152.14	4.73
200	216.3	204.7	5.8	203.2	9.61
*200	219.1	207.5	5.8	203.2	9.61
250	267.4	254.2	6.6	254.0	16.90
*250	273.0	259.8	6.6	254.0	16.90
300	318.5	304.7	6.9	304.8	25.40
*300	323.8	310.0	6.9	304.8	25.40
350	355.6	339.8	7.9	355.6	37.80
400	406.4	390.6	7.9	406.4	-

45° ELBOWS LONG RADIUS					MASS
SGP					(Kg)
NOMINAL PIPE SIZE (mm)	OUTSIDE DIAMETER (OD) (mm)	INSIDE DIAMETER (ID) (mm)	WALL THICKNESS (T) (mm)	A (mm)	(APPROX.) 45°L SGP
15	21.7	16.1	2.8	38.1	0.04
20	27.2	21.6	2.8	38.1	0.05
25	34.0	27.6	3.2	38.1	0.07
32	42.7	35.7	3.5	47.6	0.13
40	48.6	41.6	3.5	57.2	0.18
50	60.5	52.9	3.8	76.2	0.32
65	76.3	67.9	4.2	95.3	0.56
80	89.1	80.7	4.2	114.3	0.79
90	101.6	93.2	4.2	133.4	1.06
100	114.3	105.3	4.5	152.4	1.46
125	139.8	130.8	4.5	190.5	2.25
160	165.2	155.2	5.0	228.6	3.54
200	216.3	204.7	5.8	304.8	7.20
*200	219.1	207.5	5.8	304.8	7.20
250	267.4	254.2	6.6	381.0	12.70
*250	273.0	259.8	6.6	381.0	12.70
300	318.5	304.7	6.9	457.2	19.00
*300	323.8	310.0	6.9	457.2	19.00
350	355.6	339.8	7.9	533.4	28.40
400	406.4	390.6	7.9	609.6	37.10
450	457.2	441.4	7.9	685.8	47.10
500	508.0	492.2	7.9	762.0	58.30
600	609.6	-	-	914.4	378.7

REDUCERS & BELLMOUTHS



REDUCERS



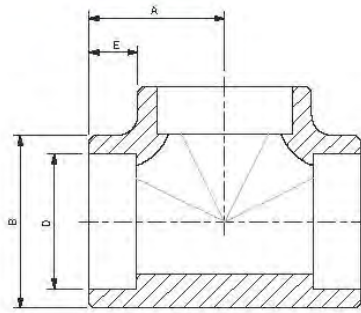
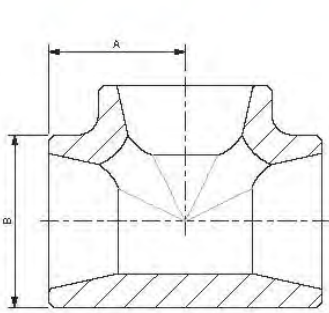
BELLMOUTH



D1	D2	L
NOMINAL DIAMETER (mm)	OUTSIDE DIAMETER (mm)	NOMINAL DIAMETER (mm)
200	219.1	100-150
250	273.1	150-200
300	323.9	150-250
350	355.6	200-300
400	406.4	350-350
450	457	300-400
500	508	300-450
550	559	350-500
600	610	400-550
650	660	400-600
700	711	450-650
750	762	500-700
800	813	550-750
850	864	600-800
900	914	600-850

NOMINAL DIAMETER (mm)	OUTSIDE DIAMETER (mm)	A (mm)	B (mm)
200	219.1	305	102
250	273.1	380	127
300	323.9	460	155
350	355.6	535	180
400	406.4	610	205
450	457	685	230
500	508	760	255
550	559	840	280
600	610	915	305
650	660	990	330
700	711	1065	335
750	762	1140	380
800	813	1220	405
850	864	1295	430
900	914	1380	460

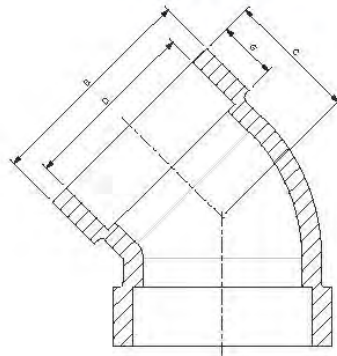
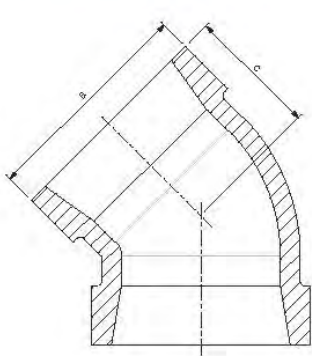
FORGED TEE TO BS3799 (ANSI B16.11) THREADS TO ANSI B2.1



THREADED			MASS
NOMINAL BORE	A mm	B mm	(APPROX) Kg
8	24.5	25.5	0.195
10	28.5	33.5	0.380
15	33.5	38.0	0.560
20	38.0	46.0	0.840
25	44.5	55.5	1.360
32	51.0	62.0	1.654
40	60.5	75.5	3.100
50	63.5	84.0	3.175

SOCKET WELD					MASS
NOMINAL BORE	A mm	B mm	D mm	E mm	(APPROX) Kg
8	24.5	25.5	14.0	9.5	0.155
10	24.5	25.5	17.5	11.0	0.140
15	28.5	33.5	21.7	12.5	0.308
20	33.5	38.0	27.1	14.5	0.386
25	38.0	46.0	33.8	16.0	0.608
32	44.5	55.5	42.6	17.5	0.931
40	51.0	62.0	48.7	19.0	1.238
50	60.5	75.5	61.1	22.0	1.911

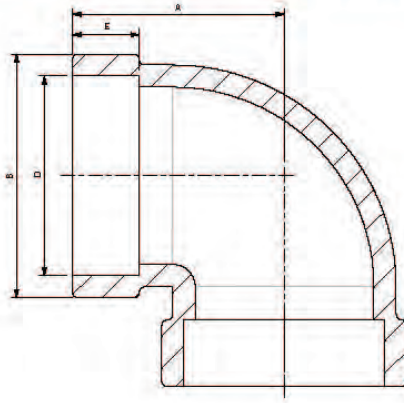
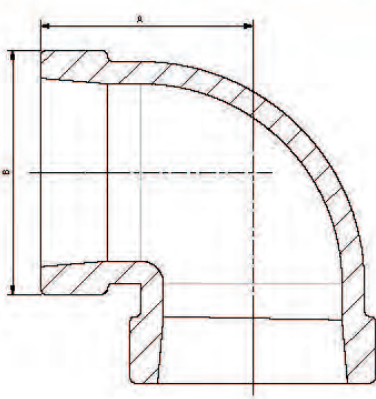
FORGED 45° ELBOWS TO BS 3799 (ANSI B16.11) THREADS TO ANSI B2.1



THREADED			MASS
NOMINAL BORE	B mm	C mm	(APPROX.) Kg
8	25.5	19.0	0.115
10	38.0	25.5	0.365
15	38.0	25.5	0.340
20	46.0	28.5	0.535
25	55.5	33.5	0.920
32	62.0	35.0	0.965
40	75.5	43.0	1.835
50	84.0	43.5	1.930

SOCKET WELD					MASS
NOMINAL BORE	B mm	C mm	D mm	G mm	(APPROX.) Kg
8	25.5	19.0	14.0	9.5	0.095
10	25.5	19.0	17.5	11.0	0.090
15	38.0	25.5	21.7	11.0	0.260
20	38.0	25.5	27.1	12.5	0.250
25	46.0	28.5	33.8	14.5	0.381
32	55.5	33.5	42.6	16.0	0.608
40	62.0	35.0	48.7	16.0	0.708
50	75.5	43.0	61.1	17.5	1.135

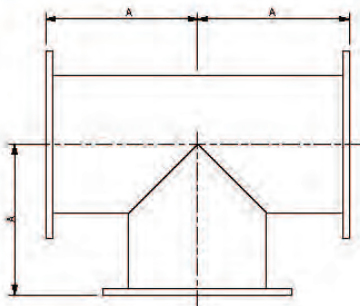
FORGED 90° ELBOWS TO BS 3799 (ANSI B16.11) THREADS TO ANSI



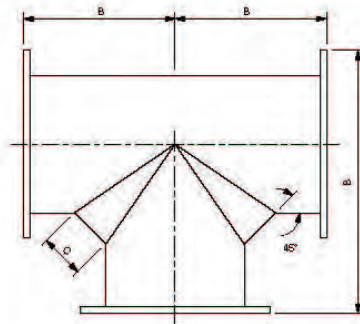
THREADED			MASS
NOMINAL BORE	A mm	B mm	(APPROX.) Kg
8	24.6	25.5	0.140
10	28.6	33.3	0.270
15	33.3	38.1	0.415
20	38.1	46.0	0.650
25	44.5	55.6	1.035
32	50.8	62.6	1.350
40	60.3	75.4	2.215
50	63.5	84.1	2.470

SOCKET WELD					MASS
NOMINAL BORE	A mm	B mm	D mm	E mm	(APPROX.) Kg
8	24.5	25.5	14.0	9.5	0.120
10	24.5	25.5	17.5	11.0	0.104
15	28.5	33.5	21.7	12.5	0.218
20	33.5	38.0	27.1	14.5	0.308
25	38.0	46.0	33.8	16.0	0.467
32	44.5	55.5	42.6	17.5	0.671
40	51.0	62.0	48.7	19.0	0.902
50	60.5	75.5	61.1	22.0	1.361

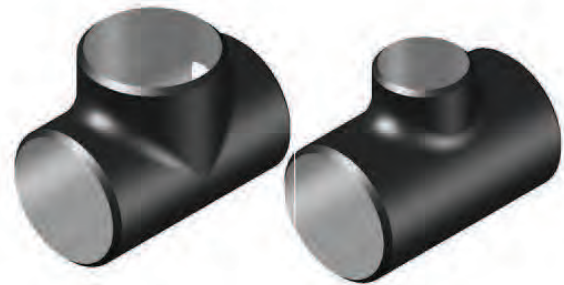
TEES



SHORT TEE



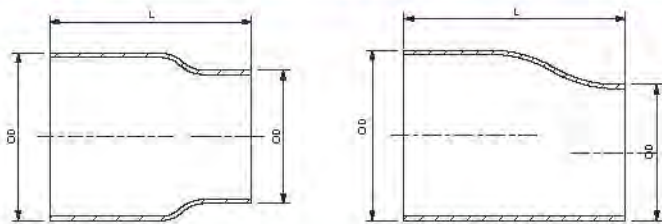
GUSSETED TEE



NOMINAL DIAMETER (mm)	OUTSIDE DIAMETER (mm)	A (mm)	B (mm)	C (mm)
200	219.1	230	355	102
250	273.1	280	405	127
300	323.9	305	460	155
350	355.6	355	510	180
400	406.4	405	560	205
450	457	460	610	230
500	508	510	660	255
550	559	560	710	280
600	610	610	760	305
650	660	660	815	330
700	711	710	865	355
750	762	760	915	380
800	813	815	970	405
850	864	865	1020	430
900	914	915	1070	460

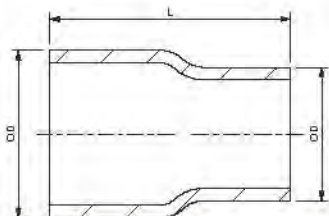


WELDING REDUCERS CONCENTRIC AND ECCENTRIC



			MASS (APPROX.)				
NOMINAL PIPE SIZE	OUTSIDE DIAMETERS OD	LENGTH L	STANDARD MASS	EXTRA STRONG	FULL SCHEDULE 80	SCHEDULE 160	DOUBLE EXTRA STRONG
mm	mm	mm	Kg	Kg	Kg	Kg	Kg
30X15	26.7X21.3	38.1	0.07	0.10		0.12	0.18
25X15	33.4X21.3	50.8	0.18	0.20		0.22	0.34
25X20	33.4X26.7	50.8	0.18	0.20		0.22	0.36
32X15	42.2X21.3	50.8	0.18	0.22			
32X20	42.2X26.7	50.8	0.18	0.22			
32X25	42.2X33.4	50.8	0.22	0.22			
40X15	48.3X21.3	63.5	0.22	0.30		0.33	0.56
40X20	48.3X26.7	63.5	0.25	0.31		0.34	0.62
40X25	48.3X33.4	63.5	0.28	0.34		0.36	0.68
40X32	48.3X42.2	63.5	0.31	0.35		0.43	0.68
50X15	60.3X21.3	76.2	0.31	0.40		0.65	0.90
50X20	60.3X26.7	76.2	0.31	0.45		0.65	0.90
50X25	60.3X33.4	76.2	0.34	0.50		0.68	0.97
50X32	60.3X42.2	76.2	0.38	0.52		0.68	1.02
60X40	60.3X48.3	76.2	0.40	0.54		0.72	1.08
60X25	73.0X33.4	88.9	0.56	0.80		1.00	1.60
65X32	73.0X42.2	88.9	0.56	0.84		1.02	1.63
65X40	73.0X48.3	88.9	0.62	0.86		1.02	1.76
65X50	73.0X60.3	88.9	0.68	0.90		1.13	1.81
80X25	88.9X33.4	88.9	0.68	1.02		1.40	2.04
80X32	88.9X42.2	88.9	0.72	1.08		1.40	2.15
80X40	88.9X48.3	88.9	0.77	1.13		1.45	2.22
80X50	88.9X60.3	88.9	0.81	1.18		1.54	2.26
80X65	88.9X73.0	88.9	0.90	1.24		1.67	2.72
100X25	114.3X33.4	101.6	1.24	1.59			
100X32	114.3X42.2	101.6	1.24	1.70			
100X40	114.3X48.3	101.6	1.30	1.81		2.40	3.63
100X50	114.3X60.3	101.6	1.36	1.92		2.45	3.74
100X65	114.3X73.0	101.6	1.47	1.98		2.50	3.85
100X80	114.3X88.9	101.6	1.53	2.04		2.90	4.08
125X80	141.3X60.3	127.0	2.26	2.94			
125X65	141.3X73.0	127.0	2.38	3.17			
125X50	141.3X88.9	127.0	2.50	3.40			
125X100	141.3X114.3	127.0	2.72	3.74			

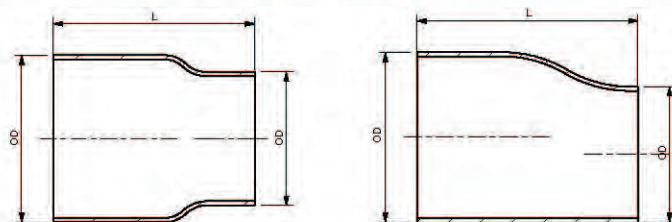
			MASS (APPROX.)				
NOMINAL PIPE SIZE	OUTSIDE DIAMETERS OD	LENGTH L	STANDARD MASS	EXTRA STRONG	FULL SCHEDULE 80	SCHEDULE 160	DOUBLE EXTRA STRONG
mm	mm	mm	Kg	Kg	Kg	Kg	Kg
150X50	168.3X60.3	139.7	3.17	4.30			
150X65	168.3X73.0	139.7	3.29	4.53		6.80	8.62
150X80	168.3X88.9	139.7	3.63	4.76		7.03	9.07
150X90	168.3X101.6	139.7	3.74	5.00			
150X100	168.3X114.3	139.7	3.74	5.21		7.50	9.98
150X125	168.3X141.3	139.7	3.85	5.44		8.80	10.43
200X80	219.1X88.9	152.4	5.00	7.25			
200X90	219.1X101.6	152.4	5.00	7.50			
200X100	219.1X114.3	152.4	5.00	7.71		10.67	14.97
200X125	219.1X141.3	152.4	5.44	8.16		12.36	15.86
200X150	219.1X168.3	152.4	6.01	8.50		14.06	16.33
*250X80	273.0X88.9	177.8	8.16	10.43			
250X100	273.0X114.3	177.8	9.07	11.56	17.0	22.68	
250X125	273.0X141.3	177.8	9.52	12.70	17.0	23.58	
250X150	273.0X168.3	177.8	9.75	13.38	17.0	24.50	
250X200	273.0X219.1	177.8	9.98	13.38	17.0	26.08	
*300X100	323.9X114.3	203.2	13.38	17.23			
300X125	323.9X141.3	203.2	13.60	17.70			
300X150	323.9X168.3	203.2	14.06	18.14	26.76	37.65	
300X200	323.9X219.1	203.2	14.51	19.05	26.76	39.46	
300X250	323.9X273.0	203.2	15.42	19.73	26.76	43.54	
350X150	355.6X168.3	330.2	26.30	35.40			
350X200	355.6X219.1	330.2	26.53	35.66			
350X250	355.6X273.0	330.2	26.87	35.94			
350X300	355.6X323.9	330.2	27.21	36.28			
400X200	406.4X219.1	355.6	31.11	40.16			
400X250	406.4X273.0	355.6	31.52	40.37			
400X300	406.4X323.9	355.6	31.75	40.82			
400X350	406.4X355.6	355.6	32.20	41.27			
450X300	457.2X323.9	381.0	37.65	51.25			
450X350	457.2X355.6	381.0	38.10	51.71			
450X400	457.2X406.4	381.0	38.55	52.16			
500X350	508.0X355.6	508.0	53.33	76.20			
500X400	508.0X406.4	508.0	56.24	76.65			
500X450	508.0X457.2	508.0	56.70	77.11			
600X400	609.6X406.4	508.0	65.77	86.18			
600X450	609.6X457.2	508.0	67.13	88.45			
600X500	609.6X508.0	508.0	68.04	90.72			



			MASS (APPROX.)				
NOMINAL PIPE SIZE	OUTSIDE DIAMETERS OD	LENGTH L	STANDARD MASS	EXTRA STRONG	FULL SCHEDULE 80	SCHEDULE 160	DOUBLE EXTRA STRONG
mm	mm	mm	Kg	Kg	Kg	Kg	Kg
20X15	26.7X21.3	38.1	0.07	0.10		0.12	0.18
25X15	33.4X21.3	50.8	0.18	0.20		0.22	0.34
25X20	33.4X26.7	50.8	0.18	0.20		0.22	0.36
32X15	42.2X21.3	50.8	0.18	0.22			
32X20	42.2X26.7	50.8	0.18	0.22			
32X25	42.2X33.4	50.8	0.22	0.22			
40X15	48.3X21.3	63.5	0.22	0.30		0.33	0.56
40X20	48.3X26.7	63.5	0.25	0.31		0.34	0.62
40X25	48.3X33.4	63.5	0.28	0.34		0.36	0.68
40X32	48.3X42.2	63.5	0.31	0.35		0.43	0.68
50X15	60.3X21.3	76.2	0.31	0.40		0.65	0.90
50X20	60.3X26.7	76.2	0.31	0.45		0.65	0.90
50X25	60.3X33.4	76.2	0.34	0.50		0.68	0.97
50X32	60.3X42.2	76.2	0.38	0.52		0.68	1.02
60X40	60.3X48.3	76.2	0.40	0.54		0.72	1.08
60X25	73.0X33.4	88.9	0.56	0.80		1.00	1.60
65X32	73.0X42.2	88.9	0.56	0.84		1.02	1.63
65X40	73.0X48.3	88.9	0.62	0.86		1.02	1.76
65X50	73.0X60.3	88.9	0.68	0.90		1.13	1.81
80X25	88.9X33.4	88.9	0.68	1.02		1.40	2.04
80X32	88.9X42.2	88.9	0.72	1.08		1.40	2.15
80X40	88.9X48.3	88.9	0.77	1.13		1.45	2.22
80X50	88.9X60.3	88.9	0.81	1.18		1.54	2.26
80X65	88.9X73.0	88.9	0.90	1.24		1.67	2.72
100X25	114.3X33.4	101.6	1.24	1.59			
100X32	114.3X42.2	101.6	1.24	1.70			
100X40	114.3X48.3	101.6	1.30	1.81		2.40	3.63
100X50	114.3X60.3	101.6	1.36	1.92		2.45	3.74
100X65	114.3X73.0	101.6	1.47	1.98		2.50	3.85
100X80	114.3X88.9	101.6	1.53	2.04		2.90	4.08
125X80	141.3X60.3	127.0	2.26	2.94			
125X65	141.3X73.0	127.0	2.38	3.17			
125X50	141.3X88.9	127.0	2.50	3.40			
125X100	141.3X114.3	127.0	2.72	3.74			
150X80	168.3X60.3	139.7	3.17	4.30			
150X65	168.3X73.0	139.7	3.29	4.53		6.80	8.62

			MASS (APPROX.)				
NOMINAL PIPE SIZE	OUTSIDE DIAMETERS OD	LENGTH L	STANDARD MASS	EXTRA STRONG	FULL SCHEDULE 80	SCHEDULE 160	DOUBLE EXTRA STRONG
mm	mm	mm	kg	kg	kg	kg	kg
150X80	168.3X88.9	139.7	3.63	4.76		7.03	9.07
150X90	168.3X101.6	139.7	3.74	5.00			
150X100	168.3X114.3	139.7	3.74	5.21		7.50	9.98
150X125	168.3X141.3	139.7	3.85	5.44		8.50	10.43
200X80	219.1X88.9	152.4	5.00	7.25			
200X90	219.1X101.6	152.4	5.00	7.50			
200X100	219.1X114.3	152.4	5.00	7.71		10.67	14.97
200X125	219.1X141.3	152.4	5.44	8.16		12.36	15.86
200X150	219.1X168.3	152.4	6.01	8.50		14.06	16.33
*250X80	273.0X88.9	177.8	8.16	10.43			
250X100	273.0X114.3	177.8	9.07	11.56	17.0	22.68	
250X125	273.0X141.3	177.8	9.52	12.70	17.0	23.58	
250X150	273.0X168.3	177.8	9.75	13.38	17.0	24.50	
250X200	273.0X219.1	177.8	9.98	13.38	17.0	26.08	
*300X100	323.9X114.3	203.2	13.38	17.23			
300X125	323.9X141.3	203.2	13.60	17.70			
300X150	323.9X168.3	203.2	14.06	18.14	26.76	37.65	
300X200	323.9X219.1	203.2	14.51	19.05	26.76	39.46	
300X250	323.9X273.0	203.2	15.42	19.73	26.76	43.54	
350X150	355.6X168.3	330.2	26.30	35.40			
350X200	355.6X219.1	330.2	26.53	35.66			
350X250	355.6X273.0	330.2	26.87	35.94			
350X300	355.6X323.9	330.2	27.21	36.28			
400X200	406.4X219.1	355.6	31.11	40.16			
400X250	406.4X273.0	355.6	31.52	40.37			
400X300	406.4X323.9	355.6	31.75	40.82			
400X350	406.4X355.6	355.6	32.20	41.27			
450X300	457.2X323.9	381.0	37.65	51.25			
450X350	457.2X355.6	381.0	38.10	51.71			
450X400	457.2X406.4	381.0	38.55	52.16			
500X350	508.0X355.6	508.0	53.33	76.20			
500X400	508.0X406.4	508.0	56.24	76.65			
500X450	508.0X457.2	508.0	56.70	77.11			
600X400	609.6X406.4	508.0	65.77	86.18			
600X450	609.6X457.2	508.0	67.13	88.45			
600X500	609.6X508.0	508.0	68.04	90.72			

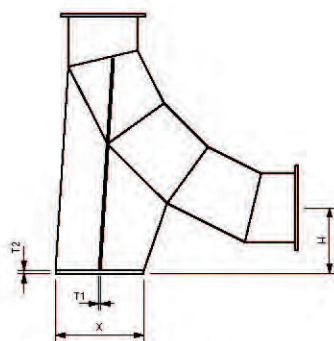
WELDING REDUCERS CONCENTRIC AND ECCENTRIC



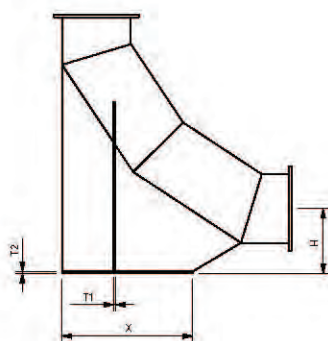
NOMINAL PIPE SIZE mm	OUTSIDE DIAMETERS OD mm	LENGTH L mm	MASS (APPROX.) SGP Kg
20X15	27.2X21.7	38.1	0.057
25X20	34.0X27.2	50.8	0.110
25X15	34.0X21.7	50.8	0.100
32X25	42.7X34.0	60.8	0.164
32X20	42.7X27.2	60.8	0.140
32X15	42.7X21.7	50.8	0.129
40X32	48.6X42.7	63.5	0.232
40X25	48.6X34.0	63.5	0.209
40X20	48.6X27.2	63.5	0.191
50X40	60.5X48.6	76.2	0.364
50X32	60.5X42.7	76.2	0.344
50X25	60.5X34.0	76.2	0.315
50X20	60.5X27.2	76.2	0.283
65X50	76.3X60.5	88.9	0.594
65X40	76.3X48.6	88.9	0.543
65X32	76.3X42.7	88.9	0.518
65X25	76.3X34.0	88.9	0.482
80X65	89.1X76.3	88.9	0.726
80X50	89.1X60.5	88.9	0.668
80X40	89.1X48.6	88.9	0.611
80X32	89.1X42.7	88.9	0.587
90X80	101.6X89.1	101.6	0.961
90X65	101.6X76.3	101.6	0.899
90X50	101.6X60.5	101.6	0.826
90X40	101.6X48.6	101.6	0.771
100X90	114.3X101.6	101.6	1.170
100X80	114.3X89.1	101.6	1.100
100X65	114.3X76.3	101.6	1.040
100X50	114.3X60.5	101.6	0.967
125X100	139.8X114.3	127.0	1.740
125X90	139.8X101.6	127.0	1.660
125X80	139.8X89.1	127.0	1.580

NOMINAL PIPE SIZE mm	OUTSIDE DIAMETERS OD mm	LENGTH L mm	MASS (APPROX.) SGP Kg
125X65	139.8X76.3	127.0	1.50
160X125	166.2X139.8	139.7	2.55
160X100	166.2X114.3	139.7	2.36
160X90	166.2X101.6	139.7	2.27
160X80	166.2X89.1	139.7	2.18
160X65	166.2X76.3	139.7	2.09
200X160	219.1X166.2	162.4	4.17
200X125	219.1X139.8	162.4	3.87
200X100	219.1X114.3	162.4	3.67
200X90	219.1X101.6	162.4	3.57
250X200	273.0X219.1	177.8	6.87
250X150	273.0X166.2	177.8	6.32
250X125	273.0X139.8	177.8	6.06
300X250	323.8X273.0	203.2	9.97
300X200	323.8X219.1	203.2	9.29
300X150	323.8X166.2	203.2	8.69
300X125	323.8X139.8	203.2	8.39
350X300	356.6X323.8	330.2	21.20
350X250	356.6X273.0	330.2	19.70
350X200	356.6X219.1	330.2	18.30
400X350	406.4X356.6	356.6	20.90
400X300	406.4X323.8	356.6	19.80
400X250	406.4X273.0	356.6	18.20
450X400	457.2X406.4	381.0	26.30
450X350	457.2X356.6	381.0	24.60
450X300	457.2X323.8	381.0	23.30
600X450	608.0X457.2	608.0	40.00
600X400	608.0X406.4	608.0	37.60
600X350	608.0X356.6	608.0	35.30
600X600	608.0X608.0	608.0	-
600X450	608.0X457.2	608.0	-

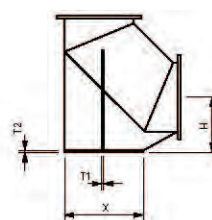
DUCKFOOT ELBOWS AND BENDS



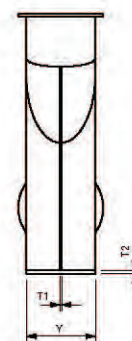
LONG RADIUS BEND



MEDIUM RADIUS BEND



ELBOW

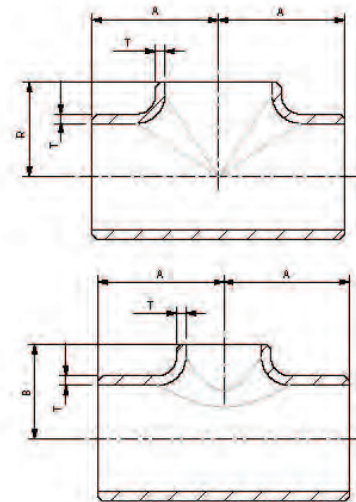


NOMINAL DIAMETER (mm)	OUTSIDE DIAMETER (mm)	BASE (mm)			RIBS (mm)	
		X	Y	T2	T1	H
200	219.1	355	230	10	6	255
250	273.1	405	280	10	6	280
300	323.9	460	330	10	6	305
350	355.6	510	380	12	8	330
400	406.4	560	430	12	8	355
450	457	610	485	12	8	380
500	508	660	535	14	10	405
550	559	710	585	14	10	430
600	610	760	635	14	10	460
650	660	815	693	16	12	485
700	711	865	733	16	12	510
750	762	915	793	16	12	535
800	813	970	833	18	14	560
850	864	1020	883	18	14	585
900	914	1070	933	18	14	610

TEES EQUAL AND UNEQUAL TO JIS B2311-82



NOMINAL PIPE SIZE mm	OUTSIDE DIAMETER OD mm	SGP		A	B	MASS Kg (APPROX.)
		INSIDE DIAMETER ID mm	WALL THICKNESS T mm			
15	21.7	16.1	2.8	25.4	25.4	0.085
20	27.2	21.6	2.8	28.6	28.6	0.122
25	34.0	27.6	3.2	38.1	38.1	0.236
32	42.7	35.7	3.5	47.6	47.6	0.441
40	48.6	41.6	3.5	57.2	57.2	0.573
50	60.5	52.9	3.8	63.5	63.5	0.851
65	76.3	67.9	4.2	76.2	76.2	1.42
80	89.1	80.7	4.2	85.7	85.7	1.87
90	101.6	93.2	4.2	95.3	95.3	2.37
100	114.3	105.3	4.5	104.8	104.8	3.13
125	139.8	130.8	4.5	123.8	123.8	4.53
150	165.2	155.2	5.0	142.9	142.9	6.84
200	219.1	207.5	5.8	177.8	177.8	12.80
250	273.0	259.8	6.6	215.9	215.9	21.8
300	323.8	310.0	6.9	254.0	254.0	32.0
350	355.6	339.8	7.9	279.4	279.4	44.7
400	406.4	390.6	7.9	304.8	304.8	55.2
450	457.2	441.4	7.9	342.9	342.9	70.0
500	508.0	492.2	7.9	381.0	381.0	86.6



NOMINAL PIPE SIZE		CENTRE TO END		MASS (APPROX.)	
RUN mm	BRANCH mm	RUN A mm	BRANCH B mm	STANDARD MASS Kg	SCHEDULE 80 Kg
15	15	25.4	25.4	0.08	0.11
	10	25.4	25.4	0.06	0.08
	5	25.4	25.4	0.04	0.05
20	20	28.6	28.6	0.11	0.16
	15	28.6	28.6	0.16	0.18
	10	28.6	28.6	0.16	0.13
25	25	38.1	38.1	0.24	0.32
	20	38.1	38.1	0.23	0.28
	15	38.1	38.1	0.23	0.28
32	32	47.6	47.6	0.46	0.55
	25	47.6	47.6	0.39	0.51
	20	47.6	47.6	0.37	0.48
40	40	57.1	57.1	0.71	0.80
	32	57.1	57.1	0.68	0.77
	25	57.1	57.1	0.65	0.72
50	50	63.5	63.5	0.99	1.19
	40	63.5	63.5	0.93	1.11
	32	63.5	63.5	0.89	1.07
65	65	76.2	76.2	1.30	1.59
	50	76.2	76.2	1.47	1.90
	40	76.2	76.2	1.55	1.86
80	80	85.7	85.7	2.28	3.24
	65	85.7	85.7	2.27	3.04
	50	85.7	85.7	2.14	2.85
90	90	95.2	95.2	4.47	5.07
	80	95.2	95.2	4.48	4.98
	65	95.2	95.2	4.53	4.63
100	100	104.8	104.8	6.25	7.77
	90	104.8	104.8	6.25	7.77
	80	104.8	104.8	6.25	7.77
125	125	123.8	123.8	8.00	9.28
	100	123.8	123.8	8.00	9.28
	90	123.8	123.8	8.00	9.28

NOMINAL PIPE SIZE		CENTRE TO END		MASS (APPROX.)	
RUN mm	BRANCH mm	RUN A mm	BRANCH B mm	STANDARD MASS Kg	SCHEDULE 80 Kg
150	150	142.9	142.9	10.2	16.80
	125	142.9	136.5	9.22	14.00
	100	142.9	130.2	8.91	13.50
200	200	177.8	177.8	22.90	29.00
	150	177.8	168.3	18.40	27.00
	125	177.8	161.9	18.40	26.20
250	250	215.9	215.9	36.80	60.80
	200	215.9	203.2	32.40	43.90
	150	215.9	193.7	30.50	42.00
300	300	254.0	254.0	58.40	95.80
	250	254.0	241.3	53.10	71.80
	200	254.0	228.6	53.10	62.90
350	350	279.4	279.4	83.20	129.00
	300	279.4	269.9	79.40	89.80
	250	279.4	261.2	76.10	85.50
400	400	304.8	304.8	115.00	173.00
	350	304.8	295.3	105.00	156.00
	300	304.8	282.6	101.00	151.00
450	450	342.9	342.9	161.00	253.00
	400	342.9	330.2	151.00	235.00
	350	342.9	320.7	144.00	225.00
500	500	381.0	381.0	225.00	353.00
	450	381.0	368.3	217.00	335.00
	400	381.0	355.6	212.00	325.00
550	550	419.1	419.1	263.00	403.00
	500	419.1	406.4	255.00	393.00
	450	419.1	393.7	248.00	383.00
600	600	457.2	457.2	325.00	503.00
	550	457.2	444.5	317.00	493.00
	500	457.2	431.8	310.00	483.00

