

NEWASIA
ASIAJOINT

BUTT-WELDING PIPE FITTINGS

(KS/JIS)

Catalogue



NEWASIA
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90° Elbow (Long, Short) / 45° Elbow (Long) SPP / SGP, 7.9, STD, X-S

• KS B 1543 / JIS B 2311

Unit : mm

Nominal Pipe Size	Outside Diameter OD	Inside Diameter ID	Wall Thickness T	Long		Short
				90° A	45° B	90° A
15	21.7	16.1	2.8	38.1	15.8	-
20	27.2	21.6	2.8	38.1	15.8	-
25	34.0	27.6	3.2	38.1	15.8	25.4
32	42.7	35.7	3.5	47.6	19.7	31.8
40	48.6	41.6	3.5	57.2	23.7	38.1
50	60.5	52.9	3.8	76.2	31.6	50.8
65	76.3	67.9	4.2	95.3	39.5	63.5
80	89.1	80.7	4.2	114.3	47.3	76.2
90	101.6	93.2	4.2	133.4	55.3	88.9
100	114.3	105.3	4.5	152.4	63.1	101.6
125	139.8	130.8	4.5	190.5	78.9	127.0
150	165.2	155.2	5.0	228.6	94.7	152.4
200	216.3	204.7	5.8	304.8	126.3	203.2
250	267.4	254.2	6.6	381.0	157.8	254.0
300	318.5	304.7	6.9	457.2	189.4	304.8
350	355.6	339.8	7.9	533.4	220.9	355.6
400	406.4	390.6	7.9	609.6	252.5	406.4
450	457.2	441.4	7.9	685.8	284.1	457.2
500	508.0	492.2	7.9	762.0	315.6	508.0

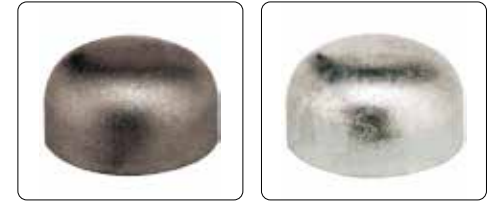
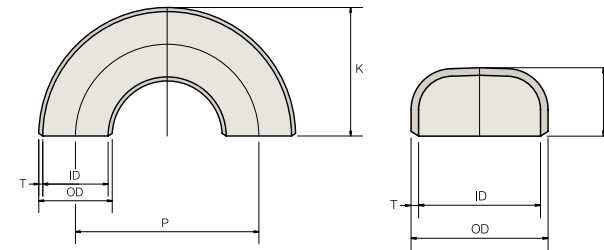
* ASTM규격 별도 문의

• KS B 1543 / JIS B 2311

Unit : mm

Nominal Pipe Size	Outside Diameter OD	Wall Thickness T						Center to Center		
		7.9 T		STD		X-S		Long		Short
		ID	T	ID	T	ID	T	A (90°)	B (45°)	A (90°)
350	355.6	339.8	7.9	336.6	9.5	330.2	12.7	533.4	220.9	355.6
400	406.4	390.6	7.9	387.4	9.5	381.0	12.7	609.6	252.5	406.4
450	457.2	441.4	7.9	438.2	9.5	431.8	12.7	685.8	284.1	457.2
500	508.0	492.2	7.9	489.0	9.5	482.6	12.7	762.0	315.6	508.0
550	558.8	543.0	7.9	539.8	9.5	533.4	12.7	838.2	347.2	558.8
600	609.6	593.8	7.9	590.6	9.5	584.2	12.7	914.4	378.7	609.6
650	660.4	644.6	7.9	641.4	9.5	635.0	12.7	990.6	410.3	660.4
700	711.2	695.4	7.9	692.2	9.5	685.8	12.7	1066.8	441.9	711.2
750	762.0	746.2	7.9	743.0	9.5	736.6	12.7	1143.0	473.4	762.0
800	812.8	797.0	7.9	793.8	9.5	787.4	12.7	1219.2	505.0	812.8
850	863.6	847.8	7.9	844.6	9.5	838.2	12.7	1295.4	536.6	863.6
900	914.4	898.6	7.9	895.4	9.5	889.0	12.7	1371.6	568.1	914.4
950	965.2	949.4	7.9	946.2	9.5	939.8	12.7	1447.8	599.7	965.2
1000	1016.0	1000.2	7.9	997.0	9.5	990.6	12.7	1524.0	631.2	1016.0
1050	1066.8	1051.0	7.9	1047.8	9.5	1041.4	12.7	1600.2	662.8	1066.8
1100	1117.6	1101.8	7.9	1098.6	9.5	1092.2	12.7	1676.4	694.4	1117.6
1150	1168.4	1152.6	7.9	1149.4	9.5	1143.0	12.7	1752.6	725.9	1168.4
1200	1219.2	1203.4	7.9	1200.2	9.5	1193.8	12.7	1828.8	757.5	1219.2

180° Elbow (Long, Short) / Cap SPP / SGP



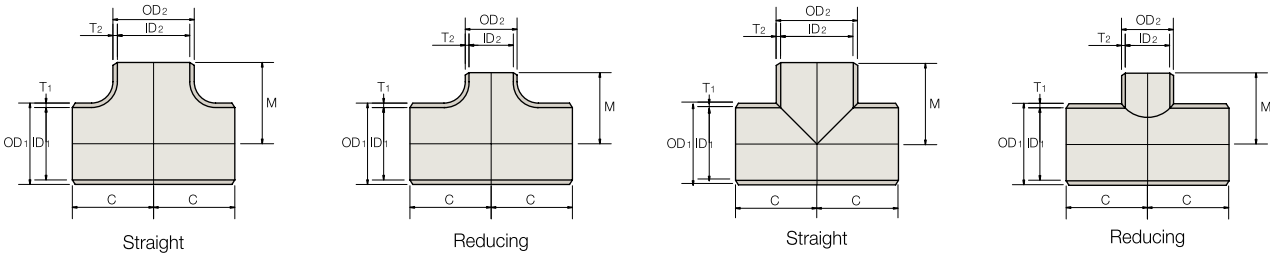
• KS B 1543 / JIS B 2311

Unit : mm

Nominal Pipe Size	Outside Diameter OD	Inside Diameter ID	Wall Thickness T	Cap E	180° Elbow			
					Long		Short	
					P	K	P	K
15	21.7	16.1	2.8	-	76.2	49.0	-	-
20	27.2	21.6	2.8	-	76.2	51.7	-	-
25	34.0	27.6	3.2	38.1	76.2	55.1	50.8	42.4
32	42.7	35.7	3.5	38.1	95.2	69.0	63.6	53.2
40	48.6	41.6	3.5	38.1	114.4	81.5	76.2	62.4
50	60.5	52.9	3.8	38.1	152.4	106.5	101.6	81.1
65	76.3	67.9	4.2	38.1	190.6	133.5	127.0	101.7
80	89.1	80.7	4.2	50.8	228.6	158.9	152.4	120.8
90	101.6	93.2	4.2	63.5	266.8	184.2	177.8	139.7
100	114.3	105.3	4.5	63.5	304.8	209.6	203.2	158.8
125	139.8	130.8	4.5	76.2	381.0	260.4	254.0	196.9
150	165.2	155.2	5.0	88.9	457.2	311.2	304.8	235.0
200	216.3	204.7	5.8	101.6	609.6	413.0	406.4	311.4
250	267.4	254.2	6.6	127.0	762.0	514.7	508.0	387.7
300	318.5	304.7	6.9	152.4	914.4	616.5	609.6	464.1
350	355.6	339.8	7.9	165.1	1066.8	711.2	711.2	533.4
400	406.4	390.6	7.9	177.8	1219.2	812.8	812.8	609.6
450	457.2	441.4	7.9	203.2	-	-	-	-
500	508.0	492.2	7.9	228.6	-	-	-	-



Tee SPP / SGP



• KS B 1543 / JIS B 2311

Unit : mm

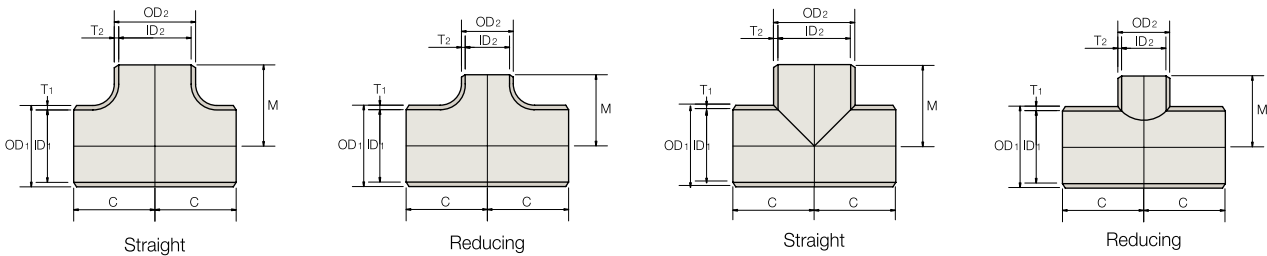
Nominal Pipe Size	Run			Outlet			Center to End	
	Outside Diameter OD ₁	Inside Diameter ID ₁	Wall Thickness T ₁	Outside Diameter OD ₂	Inside Diameter ID ₂	Wall Thickness T ₂	C	M
15X15	21,7	16,1	2,8	21,7	16,1	2,8	25,4	25,4
20X20	27,2	21,6	2,8	27,2	21,6	2,8	28,6	28,6
20X15	27,2	21,6	2,8	21,7	16,1	2,8	28,6	28,6
25X25	34,0	27,6	3,2	34,0	27,6	3,2	38,1	38,1
25X20	34,0	27,6	3,2	27,2	21,6	2,8	38,1	38,1
25X15	34,0	27,6	3,2	21,7	16,1	2,8	38,1	38,1
32X32	42,7	35,7	3,5	42,7	35,7	3,5	47,6	47,6
32X25	42,7	35,7	3,5	34,0	27,6	3,2	47,6	47,6
32X20	42,7	35,7	3,5	27,2	21,6	2,8	47,6	47,6
32X15	42,7	35,7	3,5	21,7	16,1	2,8	47,6	47,6
40X40	48,6	41,6	3,5	48,6	41,6	3,5	57,2	57,2
40X32	48,6	41,6	3,5	42,7	35,7	3,5	57,2	57,2
40X25	48,6	41,6	3,5	34,0	27,6	3,2	57,2	57,2
40X20	48,6	41,6	3,5	27,2	21,6	2,8	57,2	57,2
40X15	48,6	41,6	3,5	21,7	16,1	2,8	57,2	57,2
50X50	60,5	52,9	3,8	60,5	52,9	3,8	63,5	63,5
50X40	60,5	52,9	3,8	48,6	41,6	3,5	63,5	60,3
50X32	60,5	52,9	3,8	42,7	35,7	3,5	63,5	57,2
50X25	60,5	52,9	3,8	34,0	27,6	3,2	63,5	50,8
50X20	60,5	52,9	3,8	27,2	21,6	2,8	63,5	44,5
65X65	76,3	67,9	4,2	76,3	67,9	4,2	76,2	76,2
65X50	76,3	67,9	4,2	60,5	52,9	3,8	76,2	69,9
65X40	76,3	67,9	4,2	48,6	41,6	3,5	76,2	66,7
65X32	76,3	67,9	4,2	42,7	35,7	3,5	76,2	63,5
65X25	76,3	67,9	4,2	34,0	27,6	3,2	76,2	57,2
80X80	89,1	80,7	4,2	89,1	80,7	4,2	85,7	85,7
80X65	89,1	80,7	4,2	76,3	67,9	4,2	85,7	82,6
80X50	89,1	80,7	4,2	60,5	52,9	3,8	85,7	76,2
80X40	89,1	80,7	4,2	48,6	41,6	3,5	85,7	73,0
80X32	89,1	80,7	4,2	42,7	35,7	3,5	85,7	69,9
90X90	101,6	93,2	4,2	101,6	93,2	4,2	95,3	95,3
90X80	101,6	93,2	4,2	89,1	80,7	4,2	95,3	92,1
90X65	101,6	93,2	4,2	76,3	67,9	4,2	95,3	88,9
90X50	101,6	93,2	4,2	60,5	52,9	3,8	95,3	82,6
90X40	101,6	93,2	4,2	48,6	41,6	3,5	95,3	79,4
100X100	114,3	105,3	4,5	114,3	105,3	4,5	104,8	104,8
100X90	114,3	105,3	4,5	101,6	93,2	4,2	104,8	101,6
100X80	114,3	105,3	4,5	89,1	80,7	4,2	104,8	98,4
100X65	114,3	105,3	4,5	76,3	67,9	4,2	104,8	95,3
100X50	114,3	105,3	4,5	60,5	52,9	3,8	104,8	88,9
100X40	114,3	105,3	4,5	48,6	41,6	3,5	104,8	85,7
125X125	139,8	130,8	4,5	139,8	130,8	4,5	123,8	123,8
125X100	139,8	130,8	4,5	114,3	105,3	4,5	123,8	117,5
125X90	139,8	130,8	4,5	101,6	93,2	4,2	123,8	114,3
125X80	139,8	130,8	4,5	89,1	80,7	4,2	123,8	111,1
125X65	139,8	130,8	4,5	76,3	67,9	4,2	123,8	108,0
125X50	139,8	130,8	4,5	60,5	52,9	3,8	123,8	104,8

• KS B 1543 / JIS B 2311

Unit : mm

Nominal Pipe Size	Run			Outlet			Center to End	
	Outside Diameter OD ₁	Inside Diameter ID ₁	Wall Thickness T ₁	Outside Diameter OD ₂	Inside Diameter ID ₂	Wall Thickness T ₂	C	M
150X150	165,2	155,2	5,0	165,2	155,2	5,0	142,9	142,9
150X125	165,2	155,2	5,0	139,8	130,8	4,5	142,9	136,5
150X100	165,2	155,2	5,0	114,3	105,3	4,5	142,9	130,2
150X90	165,2	155,2	5,0	101,6	93,2	4,2	142,9	127,0
150X80	165,2	155,2	5,0	89,1	80,7	4,2	142,9	123,8
150X65	165,2	155,2	5,0	76,3	67,9	4,2	142,9	120,7
200X200	216,3	204,7	5,8	216,3	204,7	5,8	177,8	177,8
200X150	216,3	204,7	5,8	165,2	155,2	5,0	177,8	168,3
200X125	216,3	204,7	5,8	139,8	130,8	4,5	177,8	161,9
200X100	216,3	204,7	5,8	114,3	105,3	4,5	177,8	155,6
200X90	216,3	204,7	5,8	101,6	93,2	4,2	177,8	152,4
250X250	267,4	254,2	6,6	267,4	254,2	6,6	215,9	215,9
250X200	267,4	254,2	6,6	216,3	204,7	5,8	215,9	203,2
250X150	267,4	254,2	6,6	165,2	155,2	5,0	215,9	193,7
250X125	267,4	254,2	6,6	139,8	130,8	4,5	215,9	190,5
250X100	267,4	254,2	6,6	114,3	105,3	4,5	215,9	184,2
300X300	318,5	304,7	6,9	318,5	304,7	6,9	254,0	254,0
300X250	318,5	304,7	6,9	267,4	254,2	6,6	254,0	241,3
300X200	318,5	304,7	6,9	216,3	204,7	5,8	254,0	228,6
300X150	318,5	304,7	6,9	165,2	155,2	5,0	254,0	219,1
300X125	318,5	304,7	6,9	139,8	130,8	4,5	254,0	215,9
350X350	355,6	339,8	7,9	355,6	339,8	7,9	279,4	279,4
350X300	355,6	339,8	7,9	318,5	304,7	6,9	279,4	269,9
350X250	355,6	339,8	7,9	267,4	254,2	6,6	279,4	257,2
350X200	355,6	339,8	7,9	216,3	204,7	5,8	279,4	247,7
350X150	355,6	339,8	7,9	165,2	155,2	5,0	279,4	238,1
400X400	406,4	390,6	7,9	406,4	390,6	7,9	304,8	304,8
400X350	406,4	390,6	7,9	355,6	339,8	7,9	304,8	304,8
400X300	406,4	390,6	7,9	318,5	304,7	6,9	304,8	295,3
400X250	406,4	390,6	7,9	267,4	254,2	6,6	304,8	282,6
400X200	406,4	390,6	7,9	216,3	204,7	5,8	304,8	273,1
400X150	406,4	390,6	7,9	165,2	155,2	5,0	304,8	263,5
450X450	457,2	441,4	7,9	457,2	441,4	7,9	342,9	342,9
450X400	457,2	441,4	7,9	406,4	390,6	7,9	342,9	330,2
450X350	457,2	441,4	7,9	355,6	339,8	7,9	342,9	330,2
450X300	457,2	441,4	7,9	318,5	304,7	6,9	342,9	320,7
450X250	457,2	441,4	7,9	267,4	254,2	6,6	342,9	308,0
500X500	508,0	492,2	7,9	508,0	492,2	7,9	381,0	381,0
500X450	508,0	492,2	7,9	457,2	441,4	7,9	381,0	368,3
500X400	508,0	492,2	7,9	406,4	390,6	7,9	381,0	355,6
500X350	508,0	492,2	7,9	355,6	339,8	7,9	381,0	355,6
500X300	508,0	492,2	7,9	318,5	304,8	6,9	381,0	346,1
500X250	508,0	492,2	7,9	267,4	254,2	6,6	381,0	333,4
500X200	508,0	492,2	7,9	216,3	204,7	5,8	381,0	323,9

Tee 7.9T, STD, X-S



• KS B 1543 / JIS B 2311

Unit : mm

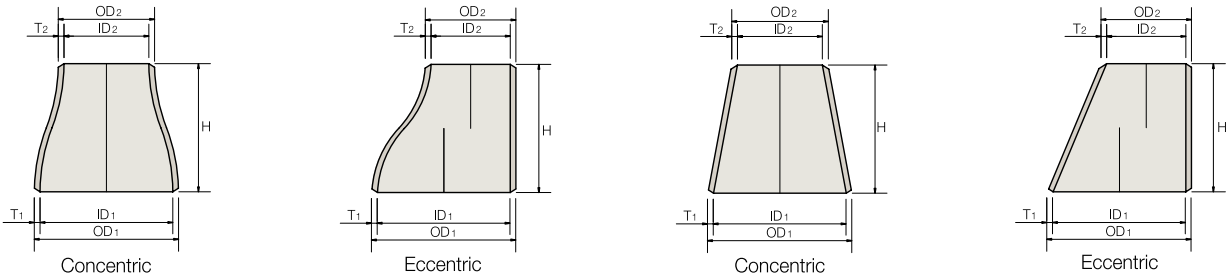
Nominal Pipe Size	Outside Diameter		Wall Thickness						Center to End	
	OD ₁	OD ₂	7.9T		STD		X-S		C	M
			T ₁	T ₂	T ₁	T ₂	T ₁	T ₂		
350X350	355.6	355.6	7.9	7.9	9.5	9.5	12.7	12.7	279.4	279.4
400X400	406.4	406.4	7.9	7.9	9.5	9.5	12.7	12.7	304.8	304.8
400X350	406.4	355.6	7.9	7.9	9.5	9.5	12.7	12.7	304.8	304.8
400X300	406.4	318.5	7.9	7.9	9.5	9.5	12.7	12.7	304.8	295.3
450X450	457.2	457.2	7.9	7.9	9.5	9.5	12.7	12.7	342.9	342.9
450X400	457.2	406.4	7.9	7.9	9.5	9.5	12.7	12.7	342.9	330.2
450X350	457.2	355.6	7.9	7.9	9.5	9.5	12.7	12.7	342.9	330.2
450X300	457.2	318.5	7.9	7.9	9.5	9.5	12.7	12.7	342.9	320.7
500X500	508.0	508.0	7.9	7.9	9.5	9.5	12.7	12.7	381.0	381.0
500X450	508.0	457.2	7.9	7.9	9.5	9.5	12.7	12.7	381.0	368.3
500X400	508.0	406.4	7.9	7.9	9.5	9.5	12.7	12.7	381.0	355.6
500X350	508.0	355.6	7.9	7.9	9.5	9.5	12.7	12.7	381.0	355.6
500X300	508.0	318.5	7.9	7.9	9.5	9.5	12.7	12.7	381.0	346.1
550X550	558.8	558.8	7.9	7.9	9.5	9.5	12.7	12.7	419.1	419.1
550X500	558.8	508.0	7.9	7.9	9.5	9.5	12.7	12.7	419.1	406.4
550X450	558.8	457.2	7.9	7.9	9.5	9.5	12.7	12.7	419.1	393.7
550X400	558.8	406.4	7.9	7.9	9.5	9.5	12.7	12.7	419.1	381.0
600X600	609.6	609.6	7.9	7.9	9.5	9.5	12.7	12.7	431.8	431.8
600X550	609.6	558.8	7.9	7.9	9.5	9.5	12.7	12.7	431.8	431.8
600X500	609.6	508.0	7.9	7.9	9.5	9.5	12.7	12.7	431.8	431.8
600X450	609.6	457.2	7.9	7.9	9.5	9.5	12.7	12.7	431.8	419.1
650X650	660.4	660.4	7.9	7.9	9.5	9.5	12.7	12.7	495.3	495.3
650X600	660.4	609.6	7.9	7.9	9.5	9.5	12.7	12.7	495.3	482.6
650X550	660.4	558.8	7.9	7.9	9.5	9.5	12.7	12.7	495.3	469.9
650X500	660.4	508.0	7.9	7.9	9.5	9.5	12.7	12.7	495.3	457.2
700X700	711.2	711.2	7.9	7.9	9.5	9.5	12.7	12.7	520.7	520.7
700X650	711.2	660.4	7.9	7.9	9.5	9.5	12.7	12.7	520.7	520.7
700X600	711.2	609.6	7.9	7.9	9.5	9.5	12.7	12.7	520.7	508.0
700X550	711.2	558.8	7.9	7.9	9.5	9.5	12.7	12.7	520.7	495.3
750X750	762.0	762.0	7.9	7.9	9.5	9.5	12.7	12.7	558.8	558.8
750X700	762.0	711.2	7.9	7.9	9.5	9.5	12.7	12.7	558.8	546.1
750X650	762.0	660.4	7.9	7.9	9.5	9.5	12.7	12.7	558.8	546.1
750X600	762.0	609.6	7.9	7.9	9.5	9.5	12.7	12.7	558.8	533.4

• KS B 1543 / JIS B 2311

Unit : mm

Nominal Pipe Size	Outside Diameter		Wall Thickness						Center to End	
	OD ₁	OD ₂	7.9T		STD		X-S		C	M
			T ₁	T ₂	T ₁	T ₂	T ₁	T ₂		
800X800	812.8	812.8	7.9	7.9	9.5	9.5	12.7	12.7	596.9	596.9
800X750	812.8	762.0	7.9	7.9	9.5	9.5	12.7	12.7	596.9	584.2
800X700	812.8	711.2	7.9	7.9	9.5	9.5	12.7	12.7	596.9	571.5
800X650	812.8	660.4	7.9	7.9	9.5	9.5	12.7	12.7	596.9	571.5
850X850	863.6	863.6	7.9	7.9	9.5	9.5	12.7	12.7	635.0	635.0
850X800	863.6	812.8	7.9	7.9	9.5	9.5	12.7	12.7	635.0	622.3
850X750	863.6	762.0	7.9	7.9	9.5	9.5	12.7	12.7	635.0	609.6
850X700	863.6	711.2	7.9	7.9	9.5	9.5	12.7	12.7	635.0	596.9
900X900	914.4	914.4	7.9	7.9	9.5	9.5	12.7	12.7	673.1	673.1
900X850	914.4	863.6	7.9	7.9	9.5	9.5	12.7	12.7	673.1	660.4
900X800	914.4	812.8	7.9	7.9	9.5	9.5	12.7	12.7	673.1	647.7
900X750	914.4	762.0	7.9	7.9	9.5	9.5	12.7	12.7	673.1	635.0
950X950	965.2	965.2	7.9	7.9	9.5	9.5	12.7	12.7	711.2	711.2
950X900	965.2	914.4	7.9	7.9	9.5	9.5	12.7	12.7	711.2	711.2
950X850	965.2	863.6	7.9	7.9	9.5	9.5	12.7	12.7	711.2	698.5
950X800	965.2	812.8	7.9	7.9	9.5	9.5	12.7	12.7	711.2	685.8
1000X1000	1016.0	1016.0	7.9	7.9	9.5	9.5	12.7	12.7	749.3	749.3
1000X950	1016.0	965.2	7.9	7.9	9.5	9.5	12.7	12.7	749.3	749.3
1000X900	1016.0	914.4	7.9	7.9	9.5	9.5	12.7	12.7	749.3	736.6
1000X850	1016.0	863.6	7.9	7.9	9.5	9.5	12.7	12.7	749.3	723.9
1050X1050	1066.8	1066.8	7.9	7.9	9.5	9.5	12.7	12.7	762.0	711.2
1050X1000	1066.8	1016.0	7.9	7.9	9.5	9.5	12.7	12.7	762.0	711.2
1050X950	1066.8	965.2	7.9	7.9	9.5	9.5	12.7	12.7	762.0	711.2
1050X900	1066.8	914.4	7.9	7.9	9.5	9.5	12.7	12.7	762.0	711.2
1100X1100	1117.6	1117.6	7.9	7.9	9.5	9.5	12.7	12.7	812.8	762.0
1100X1050	1117.6	1066.8	7.9	7.9	9.5	9.5	12.7	12.7	812.8	762.0
1100X1000	1117.6	1016.0	7.9	7.9	9.5	9.5	12.7	12.7	812.8	749.3
1100X950	1117.6	965.2	7.9	7.9	9.5	9.5	12.7	12.7	812.8	736.6
1150X1150	1168.4	1168.4	7.9	7.9	9.5	9.5	12.7	12.7	850.9	800.1
1150X1100	1168.4	1117.6	7.9	7.9	9.5	9.5	12.7	12.7	850.9	800.1
1150X1050	1168.4	1066.8	7.9	7.9	9.5	9.5	12.7	12.7	850.9	787.4
1150X1000	1168.4	1016.0	7.9	7.9	9.5	9.5	12.7	12.7	850.9	774.7
1200X1200	1219.2	1219.2	7.9	7.9	9.5	9.5	12.7	12.7	889.0	838.2
1200X1150	1219.2	1168.4	7.9	7.9	9.5	9.5	12.7	12.7	889.0	838.2
1200X1100	1219.2	1117.6	7.9	7.9	9.5	9.5	12.7	12.7	889.0	838.2
1200X1050	1219.2	1066.8	7.9	7.9	9.5	9.5	12.7	12.7	889.0	812.8

Reducer SPP / SGP



• KS B 1543 / JIS B 2311

Unit : mm

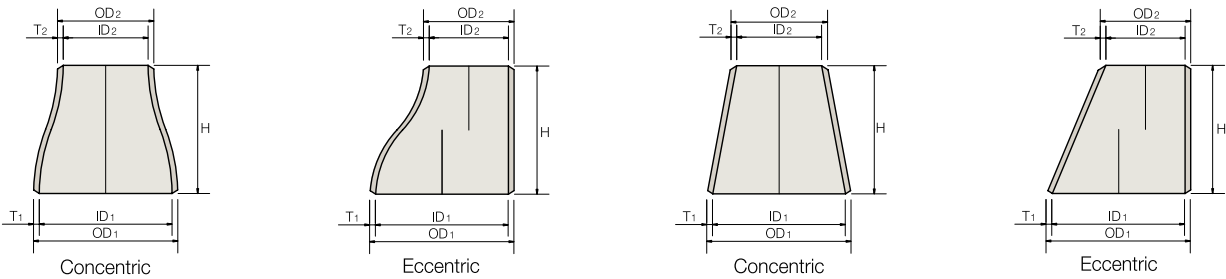
Nominal Pipe Size	Large End			Small End			End to End H
	Outside Diameter OD ₁	Inside Diameter ID ₁	Wall Thickness T ₁	Outside Diameter OD ₂	Inside Diameter ID ₂	Wall Thickness T ₂	
20X15	27.2	21.6	2.8	21.7	16.1	2.8	38.1
25X20	34.0	27.6	3.2	27.2	21.6	2.8	50.8
25X15	34.0	27.6	3.2	21.7	16.1	2.8	50.8
32X25	42.7	35.7	3.5	34.0	27.6	3.2	50.8
32X20	42.7	35.7	3.5	27.2	21.6	2.8	50.8
32X15	42.7	35.7	3.5	21.7	16.1	2.8	50.8
40X32	48.6	41.6	3.5	42.7	35.7	3.5	63.5
40X25	48.6	41.6	3.5	34.0	27.6	3.2	63.5
40X20	48.6	41.6	3.5	27.2	21.6	2.8	63.5
40X15	48.6	41.6	3.5	21.7	16.1	2.8	63.5
50X40	60.5	52.9	3.8	48.6	41.6	3.5	76.2
50X32	60.5	52.9	3.8	42.7	35.7	3.5	76.2
50X25	60.5	52.9	3.8	34.0	27.6	3.2	76.2
50X20	60.5	52.9	3.8	27.2	21.6	2.8	76.2
65X50	76.3	67.9	4.2	60.5	52.9	3.8	88.9
65X40	76.3	67.9	4.2	48.6	41.6	3.5	88.9
65X32	76.3	67.9	4.2	42.7	35.7	3.5	88.9
65X25	76.3	67.9	4.2	34.0	27.6	3.2	88.9
80X65	89.1	80.7	4.2	76.3	67.9	4.2	88.9
80X50	89.1	80.7	4.2	60.5	52.9	3.8	88.9
80X40	89.1	80.7	4.2	48.6	41.6	3.5	88.9
80X32	89.1	80.7	4.2	42.7	35.7	3.5	88.9
90X80	101.6	93.2	4.2	89.1	80.7	4.2	101.6
90X65	101.6	93.2	4.2	76.3	67.9	4.2	101.6
90X50	101.6	93.2	4.2	60.5	52.9	3.8	101.6
90X40	101.6	93.2	4.2	48.6	41.6	3.5	101.6
90X32	101.6	93.2	4.2	42.7	35.7	3.5	101.6
100X90	114.3	105.3	4.5	101.6	93.2	4.2	101.6
100X80	114.3	105.3	4.5	89.1	80.7	4.2	101.6
100X65	114.3	105.3	4.5	76.3	67.9	4.2	101.6
100X50	114.3	105.3	4.5	60.5	52.9	3.8	101.6
100X40	114.3	105.3	4.5	48.6	41.6	3.5	101.6
125X100	139.8	130.8	4.5	114.3	105.3	4.5	127.0
125X90	139.8	130.8	4.5	101.6	93.2	4.2	127.0
125X80	139.8	130.8	4.5	89.1	80.7	4.2	127.0
125X65	139.8	130.8	4.5	76.3	67.9	4.2	127.0
125X50	139.8	130.8	4.5	60.5	52.9	3.8	127.0

• KS B 1543 / JIS B 2311

Unit : mm

Nominal Pipe Size	Large End			Small End			End to End H
	Outside Diameter OD ₁	Inside Diameter ID ₁	Wall Thickness T ₁	Outside Diameter OD ₂	Inside Diameter ID ₂	Wall Thickness T ₂	
150X125	165.2	155.2	5.0	139.8	130.8	4.5	139.7
150X100	165.2	155.2	5.0	114.3	105.3	4.5	139.7
150X90	165.2	155.2	5.0	101.6	93.2	4.2	139.7
150X80	165.2	155.2	5.0	89.1	80.7	4.2	139.7
150X65	165.2	155.2	5.8	76.3	67.9	4.2	139.7
200X150	216.3	204.7	5.8	165.2	155.2	5.0	152.4
200X125	216.3	204.7	5.8	139.8	130.8	4.5	152.4
200X100	216.3	204.7	5.8	114.3	105.3	4.5	152.4
200X90	216.3	204.7	5.8	101.6	93.2	4.2	152.4
250X200	267.4	254.2	6.6	216.3	204.7	5.8	177.8
250X150	267.4	254.2	6.6	165.2	155.2	5.0	177.8
250X125	267.4	254.2	6.6	139.8	130.8	4.5	177.8
250X100	267.4	254.2	6.6	114.3	105.3	4.5	177.8
300X250	318.5	304.7	6.9	267.4	254.2	6.6	203.2
300X200	318.5	304.7	6.9	216.3	204.7	5.8	203.2
300X150	318.5	304.7	6.9	165.2	155.2	5.0	203.2
300X125	318.5	304.7	6.9	139.8	130.8	4.5	203.2
350X300	355.6	339.8	7.9	318.5	304.7	6.9	330.2
350X250	355.6	339.8	7.9	267.4	254.2	6.6	330.2
350X200	355.6	339.8	7.9	216.3	204.7	5.8	330.2
350X150	355.6	339.8	7.9	165.2	155.2	5.0	330.2
400X350	406.4	390.6	7.9	355.6	339.8	7.9	355.6
400X300	406.4	390.6	7.9	318.5	304.7	6.9	355.6
400X250	406.4	390.6	7.9	267.4	254.2	6.6	355.6
400X200	406.4	390.6	7.9	216.3	204.7	5.8	355.6
450X400	457.2	441.4	7.9	406.4	390.6	7.9	381.0
450X350	457.2	441.4	7.9	355.6	339.8	7.9	381.0
450X300	457.2	441.4	7.9	318.5	304.7	6.9	381.0
450X250	457.2	441.4	7.9	267.4	254.2	6.6	381.0
500X450	508.0	492.2	7.9	457.2	441.4	7.9	508.0
500X400	508.0	492.2	7.9	406.4	390.6	7.9	508.0
500X350	508.0	492.2	7.9	355.6	339.8	7.9	508.0
500X300	508.0	492.2	7.9	318.5	304.7	6.9	508.0

Reducer 7.9T, STD, X-S



• KS B 1543 / JIS B 2311

Unit : mm

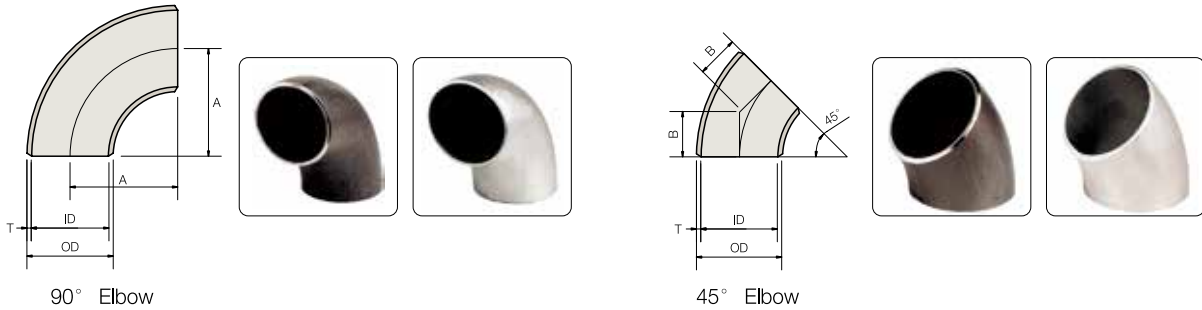
Nominal Pipe Size	Outside Diameter		Wall Thickness						End to End H
	OD ₁	OD ₂	7.9T		STD		X-S		
			T ₁	T ₂	T ₁	T ₂	T ₁	T ₂	
400X350	406.4	355.6	7.9	7.9	9.5	9.5	12.7	12.7	355.6
450X400	457.2	406.4	7.9	7.9	9.5	9.5	12.7	12.7	381.0
450X350	457.2	355.6	7.9	7.9	9.5	9.5	12.7	12.7	381.0
500X450	508.0	457.2	7.9	7.9	9.5	9.5	12.7	12.7	508.0
500X400	508.0	406.4	7.9	7.9	9.5	9.5	12.7	12.7	508.0
500X350	508.0	355.6	7.9	7.9	9.5	9.5	12.7	12.7	508.0
550X500	558.8	508.0	7.9	7.9	9.5	9.5	12.7	12.7	508.0
550X450	558.8	457.2	7.9	7.9	9.5	9.5	12.7	12.7	508.0
550X400	558.8	406.4	7.9	7.9	9.5	9.5	12.7	12.7	508.0
550X350	558.8	355.6	7.9	7.9	9.5	9.5	12.7	12.7	508.0
600X550	609.6	558.8	7.9	7.9	9.5	9.5	12.7	12.7	508.0
600X500	609.6	508.0	7.9	7.9	9.5	9.5	12.7	12.7	508.0
600X450	609.6	457.2	7.9	7.9	9.5	9.5	12.7	12.7	508.0
600X400	609.6	406.4	7.9	7.9	9.5	9.5	12.7	12.7	508.0
650X600	660.4	609.6	7.9	7.9	9.5	9.5	12.7	12.7	609.6
650X550	660.4	558.8	7.9	7.9	9.5	9.5	12.7	12.7	609.6
650X500	660.4	508.0	7.9	7.9	9.5	9.5	12.7	12.7	609.6
650X450	660.4	457.2	7.9	7.9	9.5	9.5	12.7	12.7	609.6
700X650	711.2	660.4	7.9	7.9	9.5	9.5	12.7	12.7	609.6
700X600	711.2	609.6	7.9	7.9	9.5	9.5	12.7	12.7	609.6
700X550	711.2	558.8	7.9	7.9	9.5	9.5	12.7	12.7	609.6
700X500	711.2	508.0	7.9	7.9	9.5	9.5	12.7	12.7	609.6
750X700	762.0	711.2	7.9	7.9	9.5	9.5	12.7	12.7	609.6
750X650	762.0	660.4	7.9	7.9	9.5	9.5	12.7	12.7	609.6
750X600	762.0	609.6	7.9	7.9	9.5	9.5	12.7	12.7	609.6
750X550	762.0	558.8	7.9	7.9	9.5	9.5	12.7	12.7	609.6
800X750	812.8	762.0	7.9	7.9	9.5	9.5	12.7	12.7	609.6
800X700	812.8	711.2	7.9	7.9	9.5	9.5	12.7	12.7	609.6
800X650	812.8	660.4	7.9	7.9	9.5	9.5	12.7	12.7	609.6
800X600	812.8	609.6	7.9	7.9	9.5	9.5	12.7	12.7	609.6

• KS B 1543 / JIS B 2311

Unit : mm

Nominal Pipe Size	Outside Diameter		Wall Thickness						End to End H
	OD ₁	OD ₂	7.9T		STD		X-S		
			T ₁	T ₂	T ₁	T ₂	T ₁	T ₂	
850X800	863.6	812.8	7.9	7.9	9.5	9.5	12.7	12.7	609.6
850X750	863.6	762.0	7.9	7.9	9.5	9.5	12.7	12.7	609.6
850X700	863.6	711.2	7.9	7.9	9.5	9.5	12.7	12.7	609.6
850X650	863.6	660.4	7.9	7.9	9.5	9.5	12.7	12.7	609.6
900X850	914.4	863.6	7.9	7.9	9.5	9.5	12.7	12.7	609.6
900X800	914.4	812.8	7.9	7.9	9.5	9.5	12.7	12.7	609.6
900X750	914.4	762.0	7.9	7.9	9.5	9.5	12.7	12.7	609.6
900X700	914.4	711.2	7.9	7.9	9.5	9.5	12.7	12.7	609.6
950X900	965.2	914.4	7.9	7.9	9.5	9.5	12.7	12.7	609.6
950X850	965.2	863.6	7.9	7.9	9.5	9.5	12.7	12.7	609.6
950X800	965.2	812.8	7.9	7.9	9.5	9.5	12.7	12.7	609.6
950X750	965.2	762.0	7.9	7.9	9.5	9.5	12.7	12.7	609.6
1000X950	1016.0	965.2	7.9	7.9	9.5	9.5	12.7	12.7	609.6
1000X900	1016.0	914.4	7.9	7.9	9.5	9.5	12.7	12.7	609.6
1000X850	1016.0	863.6	7.9	7.9	9.5	9.5	12.7	12.7	609.6
1000X800	1016.0	812.8	7.9	7.9	9.5	9.5	12.7	12.7	609.6
1050X1000	1066.8	1016.0	7.9	7.9	9.5	9.5	12.7	12.7	609.6
1050X950	1066.8	965.2	7.9	7.9	9.5	9.5	12.7	12.7	609.6
1050X900	1066.8	914.4	7.9	7.9	9.5	9.5	12.7	12.7	609.6
1050X850	1066.8	863.6	7.9	7.9	9.5	9.5	12.7	12.7	609.6
1100X1050	1117.6	1066.8	7.9	7.9	9.5	9.5	12.7	12.7	609.6
1100X1000	1117.6	1016.0	7.9	7.9	9.5	9.5	12.7	12.7	609.6
1100X950	1117.6	965.2	7.9	7.9	9.5	9.5	12.7	12.7	609.6
1100X900	1117.6	914.4	7.9	7.9	9.5	9.5	12.7	12.7	609.6
1150X1100	1168.4	1117.6	7.9	7.9	9.5	9.5	12.7	12.7	711.2
1150X1050	1168.4	1066.8	7.9	7.9	9.5	9.5	12.7	12.7	711.2
1150X1000	1168.4	1016.0	7.9	7.9	9.5	9.5	12.7	12.7	711.2
1150X950	1168.4	965.2	7.9	7.9	9.5	9.5	12.7	12.7	711.2
1200X1150	1219.2	1168.4	7.9	7.9	9.5	9.5	12.7	12.7	711.2
1200X1100	1219.2	1117.6	7.9	7.9	9.5	9.5	12.7	12.7	711.2
1200X1050	1219.2	1066.8	7.9	7.9	9.5	9.5	12.7	12.7	711.2
1200X1000	1219.2	1016.0	7.9	7.9	9.5	9.5	12.7	12.7	711.2

90° Elbow (Long, Short) / 45° Elbow (Long) Sch40, Sch80, Sch120, Sch160

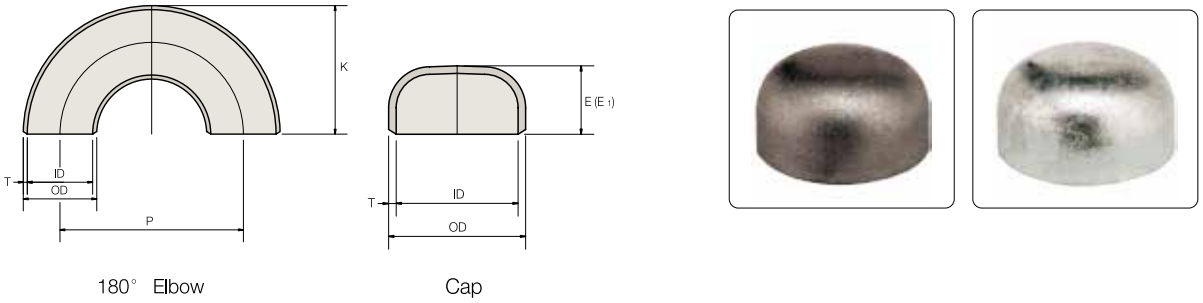


• KS B 1543 / JIS B 2312 / JIS B 2313

Unit : mm

Nominal Pipe Size	Outside Diameter OD	Wall Thickness T								Center to Center		
		Sch 40		Sch 80		Sch 120		Sch 160		Long		Short
		ID	T	ID	T	ID	T	ID	T	A (90°)	B (45°)	A (90°)
15	21.7	16.1	2.8	14.3	3.7	-	-	-	-	38.1	15.8	-
20	27.2	21.4	2.9	19.4	3.9	-	-	-	-	38.1	15.8	-
25	34.0	27.2	3.4	25.0	4.5	-	-	-	-	38.1	15.8	25.4
32	42.7	35.5	3.6	32.9	4.9	-	-	-	-	47.6	19.7	31.8
40	48.6	41.2	3.7	38.4	5.1	-	-	34.4	7.1	57.2	23.7	38.1
50	60.5	52.7	3.9	49.5	5.5	-	-	43.1	8.7	76.2	31.6	50.8
65	76.3	65.9	5.2	62.3	7.0	-	-	57.3	9.5	95.3	39.5	63.5
80	89.1	78.1	5.5	73.9	7.6	-	-	66.9	11.1	114.3	47.3	76.2
90	101.6	90.2	5.7	85.4	8.1	-	-	76.2	12.7	133.4	55.3	88.9
100	114.3	102.3	6.0	97.1	8.6	92.1	11.1	87.3	13.5	152.4	63.1	101.6
125	139.8	126.6	6.6	120.8	9.5	114.4	12.7	108.0	15.9	190.5	78.9	127.0
150	165.2	151.0	7.1	143.2	11.0	136.6	14.3	128.8	18.2	228.6	94.7	152.4
200	216.3	199.9	8.2	190.9	12.7	179.9	18.2	170.3	23.0	304.8	126.3	203.2
250	267.4	248.8	9.3	237.2	15.1	224.6	21.4	210.2	28.6	381.0	157.8	254.0
300	318.5	297.9	10.3	283.7	17.4	267.7	25.4	251.9	33.3	457.2	189.4	304.8
350	355.6	333.4	11.1	317.6	19.0	300.0	27.8	284.2	35.7	533.4	220.9	355.6
400	406.4	381.0	12.7	363.6	21.4	344.6	30.9	325.4	40.5	609.6	252.5	406.4
450	457.2	428.6	14.3	409.6	23.8	387.4	34.9	366.8	45.2	685.8	284.1	457.2
500	508.0	477.8	15.1	455.6	26.2	431.8	38.1	408.0	50.0	762.0	315.6	508.0
550	558.8	528.6	15.1	501.6	28.6	-	-	-	-	838.2	347.2	558.8
600	609.6	574.8	17.4	547.6	31.0	-	-	-	-	914.4	378.7	609.6
650	660.4	625.6	17.4	-	-	-	-	-	-	990.6	410.3	660.4
700	711.2	676.4	17.4	-	-	-	-	-	-	1066.8	441.9	711.2
750	762.0	727.2	17.4	-	-	-	-	-	-	1143.0	473.4	762.0
800	812.8	778.0	17.4	-	-	-	-	-	-	1219.2	505.0	812.8
850	863.6	828.8	17.4	-	-	-	-	-	-	1295.4	536.6	863.6
900	914.4	876.4	19.0	-	-	-	-	-	-	1371.6	568.1	914.4

180° Elbow (Long, Short) / Cap Sch40, Sch80, Sch120, Sch160

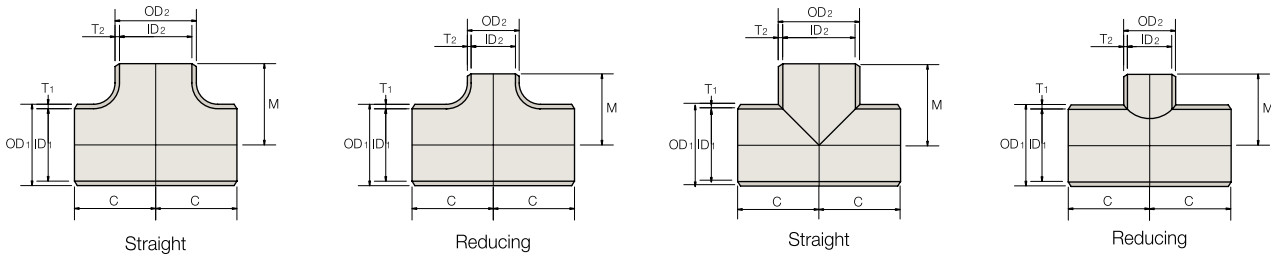


• KS B 1543 / JIS B 2312 / JIS B 2313

Unit : mm

Nominal Pipe Size	Outside Diameter OD	Wall Thickness T				Cap			180° Elbow			
		Sch 40	Sch 80	Sch 120	Sch 160	E	E1	Limited Wall Thickness Fore	Long		Short	
									P	K	P	K
15	21.7	2.8	3.7	-	-	25.4	-	-	76.2	49.0	-	-
20	27.2	2.9	3.9	-	-	25.4	-	-	76.2	51.7	-	-
25	34.0	3.4	4.5	-	-	38.1	-	-	76.2	55.1	50.8	42.4
32	42.7	3.6	4.9	-	-	38.1	-	-	95.2	69.0	63.6	53.2
40	48.6	3.7	5.1	-	7.1	38.1	-	-	114.4	81.5	76.2	62.4
50	60.5	3.9	5.5	-	8.7	38.1	44.5	5.5	152.4	106.5	101.6	81.1
65	76.3	5.2	7.0	-	9.5	38.1	50.8	7.0	190.6	133.5	127.0	101.7
80	89.1	5.5	7.6	-	11.1	50.8	63.5	7.6	228.6	158.9	152.4	120.8
90	101.6	5.7	8.1	-	12.7	63.5	76.2	8.1	266.8	184.2	177.8	139.7
100	114.3	6.0	8.6	11.1	13.5	63.5	76.2	8.6	304.8	209.6	203.2	158.8
125	139.8	6.6	9.5	12.7	15.9	76.2	88.9	9.5	381.0	260.4	254.0	196.9
150	165.2	7.1	11.0	14.3	18.2	88.9	101.6	11.0	457.2	311.2	304.8	235.0
200	216.3	8.2	12.7	18.2	23.0	101.6	127.0	12.7	609.6	413.0	406.4	311.4
250	267.4	9.3	15.1	21.4	28.6	127.0	152.4	12.7	762.0	514.7	508.0	387.7
300	318.5	10.3	17.4	25.4	33.3	152.4	177.8	12.7	914.4	616.5	609.6	464.1
350	355.6	11.1	19.0	27.8	35.7	165.1	190.5	12.7	1066.8	711.2	711.2	533.4
400	406.4	12.7	21.4	30.9	40.5	177.8	203.2	12.7	1219.2	812.8	812.8	609.6
450	457.2	14.3	23.8	34.9	45.2	203.2	228.6	12.7	1371.6	914.4	914.4	685.8
500	508.0	15.1	26.2	38.1	50.0	228.6	254.0	12.7	1524.0	1016.0	1016.0	762.0

Tee Sch40, Sch80, Sch120, Sch160



• KS B 1543 / JIS B 2312 / JIS B 2313

Unit : mm

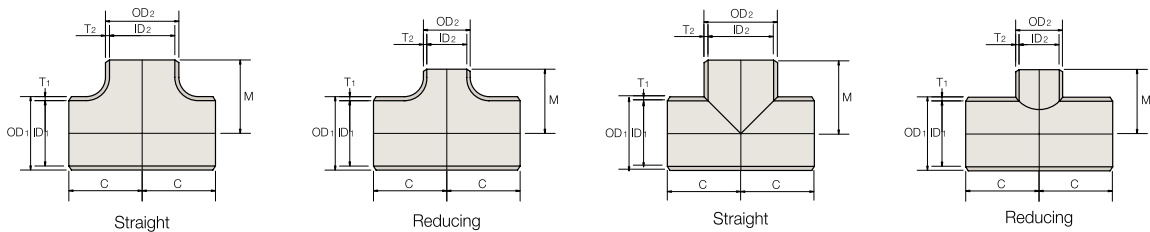
Nominal Pipe Size	Outside Diameter		Wall Thickness T								Center to End	
	OD ₁	OD ₂	Sch 40		Sch 80		Sch 120		Sch 160		C	M
			T ₁	T ₂	T ₁	T ₂	T ₁	T ₂	T ₁	T ₂		
15X15	21.7	21.7	2.8	2.8	3.7	3.7	-	-	-	-	25.4	25.4
20X20	27.2	27.2	2.9	2.9	3.9	3.9	-	-	-	-	28.6	28.6
20X15	27.2	21.7	2.9	2.8	3.9	3.7	-	-	-	-	28.6	28.6
25X25	34.0	34.0	3.4	3.4	4.5	4.5	-	-	-	-	38.1	38.1
25X20	34.0	27.2	3.4	2.9	4.5	3.9	-	-	-	-	38.1	38.1
25X15	34.0	21.7	3.4	2.8	4.5	3.7	-	-	-	-	38.1	38.1
32X32	42.7	42.7	3.6	3.6	4.9	4.9	-	-	-	-	47.6	47.6
32X25	42.7	34.0	3.6	3.4	4.9	4.5	-	-	-	-	47.6	47.6
32X20	42.7	27.2	3.6	2.9	4.9	3.9	-	-	-	-	47.6	47.6
32X15	42.7	21.7	3.6	2.8	4.9	3.7	-	-	-	-	47.6	47.6
40X40	48.6	48.6	3.7	3.7	5.1	5.1	-	-	7.1	7.1	57.2	57.2
40X32	48.6	42.7	3.7	3.6	5.1	4.9	-	-	-	-	57.2	57.2
40X25	48.6	34.0	3.7	3.4	5.1	4.5	-	-	-	-	57.2	57.2
40X20	48.6	27.2	3.7	2.9	5.1	3.9	-	-	-	-	57.2	57.2
40X15	48.6	21.7	3.7	2.8	5.1	3.7	-	-	-	-	57.2	57.2
50X50	60.5	60.5	3.9	3.9	5.5	5.5	-	-	8.7	8.7	63.5	63.5
50X40	60.5	48.6	3.9	3.7	5.5	5.1	-	-	8.7	7.1	63.5	60.3
50X32	60.5	42.7	3.9	3.6	5.5	4.9	-	-	-	-	63.5	57.2
50X25	60.5	34.0	3.9	3.4	5.5	4.5	-	-	-	-	63.5	50.8
50X20	60.5	27.2	3.9	2.9	5.5	3.9	-	-	-	-	63.5	44.5
65X65	76.3	76.3	5.2	5.2	7.0	7.0	-	-	9.5	9.5	76.2	76.2
65X50	76.3	60.5	5.2	3.9	7.0	5.5	-	-	9.5	8.7	76.2	69.9
65X40	76.3	48.6	5.2	3.7	7.0	5.1	-	-	9.5	7.1	76.2	66.7
65X32	76.3	42.7	5.2	3.6	7.0	4.9	-	-	-	-	76.2	63.5
65X25	76.3	34.0	5.2	3.4	7.0	4.5	-	-	-	-	76.2	57.2
80X80	89.1	89.1	5.5	5.5	7.6	7.6	-	-	11.1	11.1	85.7	85.7
80X65	89.1	76.3	5.5	5.2	7.6	7.0	-	-	11.1	9.5	85.7	82.6
80X50	89.1	60.5	5.5	3.9	7.6	5.5	-	-	11.1	8.7	85.7	76.2
80X40	89.1	48.6	5.5	3.7	7.6	5.1	-	-	11.1	7.1	85.7	73.0
80X32	89.1	42.7	5.5	3.6	7.6	4.9	-	-	-	-	85.7	69.9
90X90	101.6	101.6	5.7	5.7	8.1	8.1	-	-	12.7	12.7	95.3	95.3
90X80	101.6	89.1	5.7	5.5	8.1	7.6	-	-	12.7	11.1	95.3	92.1
90X65	101.6	76.3	5.7	5.2	8.1	7.0	-	-	12.7	9.5	95.3	88.9
90X50	101.6	60.5	5.7	3.9	8.1	5.5	-	-	12.7	8.7	95.3	82.6
90X40	101.6	48.6	5.7	3.7	8.1	5.1	-	-	12.7	7.1	95.3	79.4
100X100	114.3	114.3	6.0	6.0	8.6	8.6	11.1	11.1	13.5	13.5	104.8	104.8
100X90	114.3	101.6	6.0	5.7	8.6	8.1	-	-	13.5	12.7	104.8	101.6
100X80	114.3	89.1	6.0	5.5	8.6	7.6	-	-	13.5	11.1	104.8	98.4
100X65	114.3	76.3	6.0	5.2	8.6	7.0	-	-	13.5	9.5	104.8	95.3
100X50	114.3	60.5	6.0	3.9	8.6	5.5	-	-	13.5	8.7	104.8	88.9
100X40	114.3	48.6	6.0	3.7	8.6	5.1	-	-	13.5	7.1	104.8	85.7

• KS B 1543 / JIS B 2312 / JIS B 2313

Unit : mm

Nominal Pipe Size	Outside Diameter		Wall Thickness T								Center to End	
	OD ₁	OD ₂	Sch 40		Sch 80		Sch 120		Sch 160		C	M
			T ₁	T ₂	T ₁	T ₂	T ₁	T ₂	T ₁	T ₂		
125X125	139.8	139.8	6.6	6.6	9.5	9.5	12.7	12.7	15.9	15.9	123.8	123.8
125X100	139.8	114.3	6.6	6.0	9.5	8.6	12.7	11.1	15.9	13.5	123.8	117.5
125X90	139.8	101.6	6.6	5.7	9.5	8.1	-	-	15.9	12.7	123.8	114.3
125X80	139.8	89.1	6.6	5.5	9.5	7.6	-	-	15.9	11.1	123.8	111.1
125X65	139.8	76.3	6.6	5.2	9.5	7.0	-	-	15.9	9.5	123.8	108.0
125X50	139.8	60.5	6.6	3.9	9.5	5.5	-	-	15.9	8.7	123.8	104.8
150X150	165.2	165.2	7.1	7.1	11.0	11.0	14.3	14.3	18.2	18.2	142.9	142.9
150X125	165.2	139.8	7.1	6.6	11.0	9.5	14.3	12.7	18.2	15.9	142.9	136.5
150X100	165.2	114.3	7.1	6.0	11.0	8.6	14.3	11.1	18.2	13.2	142.9	130.2
150X90	165.2	101.6	7.1	5.7	11.0	8.1	-	-	18.2	12.7	142.9	127.0
150X80	165.2	89.1	7.1	5.5	11.0	7.6	-	-	18.2	11.1	142.9	123.8
150X65	165.2	76.3	7.1	5.2	11.0	7.0	-	-	18.2	9.5	142.9	120.7
200X200	216.3	216.3	8.2	8.2	12.7	12.7	18.2	18.2	23.0	23.0	177.8	177.8
200X150	216.3	165.2	8.2	7.1	12.7	11.0	18.2	14.3	23.0	18.2	177.8	168.3
200X125	216.3	139.8	8.2	6.6	12.7	9.5	18.2	12.7	23.0	15.9	177.8	161.9
200X100	216.3	114.3	8.2	6.0	12.7	8.6	18.2	11.1	23.0	13.5	177.8	155.6
200X90	216.3	101.6	8.2	5.7	12.7	8.1	-	-	23.0	12.7	177.8	152.4
250X250	267.4	267.4	9.3	9.3	15.1	15.1	21.4	21.4	28.6	28.6	215.9	215.9
250X200	267.4	216.3	9.3	8.2	15.1	12.7	21.4	18.2	28.6	23.0	215.9	203.2
250X150	267.4	165.2	9.3	7.1	15.1	11.0	21.4	14.3	28.6	18.2	215.9	193.7
250X125	267.4	139.8	9.3	6.6	15.1	9.5	21.4	12.7	28.6	15.9	215.9	190.5
250X100	267.4	114.3	9.3	6.0	15.1	8.6	21.4	11.1	28.6	13.5	215.9	184.2
300X300	318.5	318.5	10.3	10.3	17.4	17.4	25.4	25.4	33.3	33.3	254.0	254.0
300X250	318.5	267.4	10.3	9.3	17.4	15.1	25.4	21.4	33.3	28.6	254.0	241.3
300X200	318.5	216.3	10.3	8.2	17.4	12.7	25.4	18.2	33.3	23.0	254.0	228.6
300X150	318.5	165.2	10.3	7.1	17.4	11.0	25.4	14.3	33.3	18.2	254.0	219.1
300X125	318.5	139.8	10.3	6.6	17.4	9.5	25.4	12.7	33.3	15.9	254.0	215.9
350X350	355.6	355.6	11.1	11.1	19.0	19.0	27.8	27.8	35.7	35.7	279.4	279.4
350X300	355.6	318.5	11.1	10.3	19.0	17.4	27.8	25.4	35.7	33.3	279.4	269.9
350X250	355.6	267.4	11.1	9.3	19.0	15.1	27.8	21.4	35.7	28.6	279.4	257.2
350X200	355.6	216.3	11.1	8.2	19.0	12.7	27.8	18.2	35.7	23.0	279.4	247.7
350X150	355.6	165.2	11.1	7.1	19.0	11.0	27.8	14.3	35.7	18.2	279.4	238.1
400X400	406.4	406.4	12.7	12.7	21.4	21.4	30.9	30.9	40.5	40.5	304.8	304.8
400X350	406.4	355.6	12.7	11.1	21.4	19.0	30.9	27.8	40.5	35.7	304.8	304.8
400X300	406.4	318.5	12.7	10.3	21.4	17.4	30.9	25.4	40.5	33.3	304.8	295.3
400X250	406.4	267.4	12.7	9.3	21.4	15.1	30.9	21.4	40.5	28.6	304.8	282.6
400X200	406.4	216.3	12.7	8.2	21.4	12.7	30.9	18.2	40.5	23.0	304.8	273.1
400X150	406.4	165.2	12.7	7.1	21.4	11.0	30.9	14.3	40.5	18.2	304.8	263.5

Tee Sch40, Sch80, Sch120, Sch160



• KS B 1543 / JIS B 2312 / JIS B 2313

Unit : mm

Nominal Pipe Size	Outside Diameter		Wall Thickness T								Center to End	
	OD ₁	OD ₂	Sch 40		Sch 80		Sch 120		Sch 160		C	M
			T ₁	T ₂	T ₁	T ₂	T ₁	T ₂	T ₁	T ₂		
450X450	457.2	457.2	14.3	14.3	23.8	23.8	34.9	34.9	45.2	45.2	342.9	342.9
450X400	457.2	406.4	14.3	12.7	23.8	21.4	34.9	30.9	45.2	40.5	342.9	330.2
450X350	457.2	355.6	14.3	11.1	23.8	19.0	34.9	27.8	45.2	35.7	342.9	330.2
450X300	457.2	318.5	14.3	10.3	23.8	17.4	34.9	25.4	45.2	33.3	342.9	320.7
450X250	457.2	267.4	14.3	9.3	23.8	15.1	34.9	21.4	45.2	28.6	342.9	308.0
450X200	457.2	216.3	14.3	8.2	23.8	12.7	34.9	18.2	45.2	23.0	342.9	298.5
500X500	508.0	508.0	15.1	15.1	26.2	26.2	38.1	38.1	50.0	50.0	381.0	381.0
500X450	508.0	457.2	15.1	14.3	26.2	23.8	38.1	34.9	50.0	45.2	381.0	368.3
500X400	508.0	406.4	15.1	12.7	26.2	21.4	38.1	30.9	50.0	40.5	381.0	355.6
500X350	508.0	355.6	15.1	11.1	26.2	19.0	38.1	27.8	50.0	35.7	381.0	355.6
500X300	508.0	318.5	15.1	10.3	26.2	17.4	38.1	25.4	50.0	33.3	381.0	346.1
500X250	508.0	267.4	15.1	9.3	26.2	15.1	38.1	21.4	50.0	28.6	381.0	333.4
500X200	508.0	216.3	15.1	8.2	26.2	12.7	38.1	18.2	50.0	23.0	381.0	323.9
550X550	558.8	558.8	15.1	15.1	28.6	28.6	-	-	-	-	419.1	419.1
550X500	558.8	508.0	15.1	15.1	28.6	26.2	-	-	-	-	419.1	406.4
550X450	558.8	457.2	15.1	14.3	28.6	23.8	-	-	-	-	419.1	393.7
550X400	558.8	406.4	15.1	12.7	28.6	21.4	-	-	-	-	419.1	381.0
600X600	609.6	609.6	17.4	17.4	31.0	31.0	-	-	-	-	431.8	431.8
600X550	609.6	558.8	17.4	15.1	31.0	28.6	-	-	-	-	431.8	431.8
600X500	609.6	508.0	17.4	15.1	31.0	26.2	-	-	-	-	431.8	431.8
600X450	609.6	457.2	17.4	14.3	31.0	23.8	-	-	-	-	431.8	419.1
650X650	660.4	660.4	17.4	17.4	-	-	-	-	-	-	495.3	495.3
650X600	660.4	609.6	17.4	17.4	-	-	-	-	-	-	495.3	482.6
650X550	660.4	558.8	17.4	15.1	-	-	-	-	-	-	495.3	469.9
650X500	660.4	508.0	17.4	15.1	-	-	-	-	-	-	495.3	457.2
700X700	711.2	711.2	17.4	17.4	-	-	-	-	-	-	520.7	520.7
700X650	711.2	660.4	17.4	17.4	-	-	-	-	-	-	520.7	520.7
700X600	711.2	609.6	17.4	17.4	-	-	-	-	-	-	520.7	508.0
700X550	711.2	558.8	17.4	15.1	-	-	-	-	-	-	520.7	495.3
750X750	762.0	762.0	17.4	17.4	-	-	-	-	-	-	558.8	558.8
750X700	762.0	711.2	17.4	17.4	-	-	-	-	-	-	558.8	546.1
750X650	762.0	660.4	17.4	17.4	-	-	-	-	-	-	558.8	546.1
750X600	762.0	609.6	17.4	17.4	-	-	-	-	-	-	558.8	533.4
800X800	812.8	812.8	17.4	17.4	-	-	-	-	-	-	596.9	596.9
800X750	812.8	762.0	17.4	17.4	-	-	-	-	-	-	596.9	584.2
800X700	812.8	711.2	17.4	17.4	-	-	-	-	-	-	596.9	571.5
800X650	812.8	660.4	17.4	17.4	-	-	-	-	-	-	596.9	571.5
850X850	863.6	863.6	17.4	17.4	-	-	-	-	-	-	635.0	635.0
850X800	863.6	812.8	17.4	17.4	-	-	-	-	-	-	635.0	622.3
850X750	863.6	762.0	17.4	17.4	-	-	-	-	-	-	635.0	609.6
850X700	863.6	711.2	17.4	17.4	-	-	-	-	-	-	635.0	596.9
900X900	914.4	914.4	19.0	19.0	-	-	-	-	-	-	673.1	673.1
900X850	914.4	863.6	19.0	17.4	-	-	-	-	-	-	673.1	660.4
900X800	914.4	812.8	19.0	17.4	-	-	-	-	-	-	673.1	647.7
900X750	914.4	762.0	19.0	17.4	-	-	-	-	-	-	673.1	635.0

Reducer Sch40, Sch80, Sch160

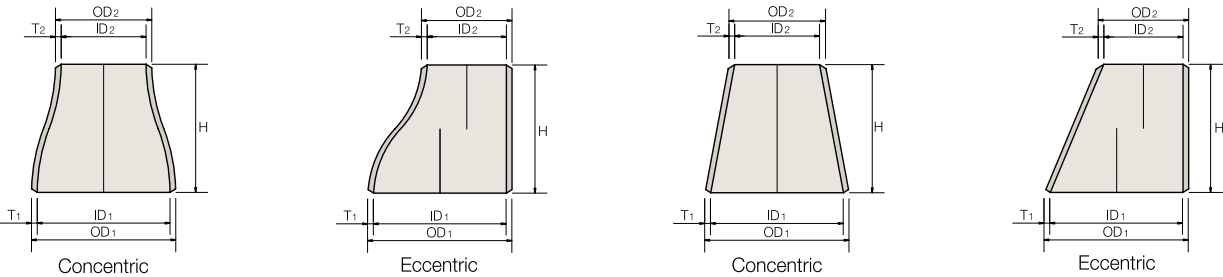


• KS B 1543 / JIS B 2312 / JIS B 2313

Unit : mm

Nominal Pipe Size	Outside Diameter		Wall Thickness T						End to End H
	OD ₁	OD ₂	Sch 40		Sch 80		Sch 160		
			T ₁	T ₂	T ₁	T ₂	T ₁	T ₂	
20X15	27.2	21.7	2.9	2.8	3.9	3.7	-	-	38.1
25X20	34.0	27.2	3.4	2.9	4.5	3.9	-	-	50.8
25X15	34.0	21.7	3.4	2.8	4.5	3.7	-	-	50.8
32X25	42.7	34.0	3.6	3.4	4.9	4.5	-	-	50.8
32X20	42.7	27.2	3.6	2.9	4.9	3.9	-	-	50.8
32X15	42.7	21.7	3.6	2.8	4.9	3.7	-	-	50.8
40X32	48.6	42.7	3.7	3.6	5.1	4.9	-	-	63.5
40X25	48.6	34.0	3.7	3.4	5.1	4.5	-	-	63.5
40X20	48.6	27.2	3.7	2.9	5.1	3.9	-	-	63.5
40X15	48.6	21.7	3.7	2.8	5.1	3.7	-	-	63.5
50X40	60.5	48.6	3.9	3.7	5.5	5.1	8.7	7.1	76.2
50X32	60.5	42.7	3.9	3.6	5.5	4.9	-	-	76.2
50X25	60.5	34.0	3.9	3.4	5.5	4.5	-	-	76.2
50X20	60.5	27.2	3.9	2.9	5.5	3.9	-	-	76.2
65X50	76.3	60.5	5.2	3.9	7.0	5.5	9.5	8.7	88.9
65X40	76.3	48.6	5.2	3.7	7.0	5.1	9.5	7.1	88.9
65X32	76.3	42.7	5.2	3.6	7.0	4.9	-	-	88.9
65X25	76.3	34.0	5.2	3.4	7.0	4.5	-	-	88.9
80X65	89.1	76.3	5.5	5.2	7.6	7.0	11.1	9.5	88.9
80X50	89.1	60.5	5.5	3.9	7.6	5.5	11.1	8.7	88.9
80X40	89.1	48.6	5.5	3.7	7.6	5.1	11.1	7.1	88.9
80X32	89.1	42.7	5.5	3.6	7.6	4.9	-	-	88.9
90X80	101.6	89.1	5.7	5.5	8.1	7.6	12.7	11.1	101.6
90X65	101.6	76.3	5.7	5.2	8.1	7.0	12.7	9.5	101.6
90X50	101.6	60.5	5.7	3.9	8.1	5.5	12.7	8.7	101.6
90X40	101.6	48.6	5.7	3.7	8.1	5.1	12.7	7.1	101.6
90X32	101.6	42.7	5.7	3.6	8.1	4.9	-	-	101.6
100X90	114.3	101.6	6.0	5.7	8.6	8.1	13.5	12.7	101.6
100X80	114.3	89.1	6.0	5.5	8.6	7.6	13.5	11.1	101.6
100X65	114.3	76.3	6.0	5.2	8.6	7.0	13.5	9.5	101.6
100X50	114.3	60.5	6.0	3.9	8.6	5.5	13.5	8.7	101.6
100X40	114.3	48.6	6.0	3.7	8.6	5.1	13.5	7.1	101.6

Reducer Sch40, Sch80, Sch160



• KS B 1543 / JIS B 2312 / JIS B 2313

Unit : mm

Nominal Pipe Size	Outside Diameter		Wall Thickness T								End to End H
	OD ₁	OD ₂	Sch 40		Sch 80		Sch 120		Sch 160		
			T ₁	T ₂	T ₁	T ₂	T ₁	T ₂	T ₁	T ₂	
125X100	139.8	114.3	6.6	6.0	9.5	8.6	12.7	11.1	15.9	13.5	127.0
125X90	139.8	101.6	6.6	5.7	9.5	8.1	-	-	15.9	12.7	127.0
125X80	139.8	89.1	6.6	5.5	9.5	7.6	-	-	15.9	11.1	127.0
125X65	139.8	76.3	6.6	5.2	9.5	7.0	-	-	15.9	9.5	127.0
125X50	139.8	60.5	6.6	3.9	9.5	5.5	-	-	15.9	8.7	127.0
150X125	165.2	139.8	7.1	6.6	11.0	9.5	14.3	12.7	18.2	15.9	139.7
150X100	165.2	114.3	7.1	6.0	11.0	8.6	14.3	11.1	18.2	13.5	139.7
150X90	165.2	101.6	7.1	5.7	11.0	8.1	-	-	18.2	12.7	139.7
150X80	165.2	89.1	7.1	5.5	11.0	7.6	-	-	18.2	11.1	139.7
150X65	165.2	76.3	7.1	5.2	11.0	7.0	-	-	18.2	9.5	139.7
200X150	216.3	165.2	8.2	7.1	12.7	11.0	18.2	14.3	23.0	18.2	152.4
200X125	216.3	139.8	8.2	6.6	12.7	9.5	18.2	12.7	23.0	15.9	152.4
200X100	216.3	114.3	8.2	6.0	12.7	8.6	18.2	11.1	23.0	13.5	152.4
200X90	216.3	101.6	8.2	5.7	12.7	8.1	-	-	23.0	12.7	152.4
250X200	267.4	216.3	9.3	8.2	15.1	12.7	21.4	18.2	28.6	23.0	177.8
250X150	267.4	165.2	9.3	7.1	15.1	11.0	21.4	14.3	28.6	18.2	177.8
250X125	267.4	139.8	9.3	6.6	15.1	9.5	21.4	12.7	28.6	15.9	177.8
250X100	267.4	114.3	9.3	6.0	15.1	8.6	-	-	28.6	13.5	177.8
300X250	318.5	267.4	10.3	9.3	17.4	15.1	25.4	21.4	33.3	28.6	203.2
300X200	318.5	216.3	10.3	8.2	17.4	12.7	25.4	18.2	33.3	23.0	203.2
300X150	318.5	165.2	10.3	7.1	17.4	11.0	25.4	14.3	33.3	18.2	203.2
300X125	318.5	139.8	10.3	6.6	17.4	9.5	25.4	12.7	33.3	15.9	203.2
350X300	355.6	318.5	11.1	10.3	19.0	17.4	27.8	25.4	35.7	33.3	330.2
350X250	355.6	267.4	11.1	9.3	19.0	15.1	27.8	21.4	35.7	28.6	330.2
350X200	355.6	216.3	11.1	8.2	19.0	12.7	27.8	18.2	35.7	23.0	330.2
350X150	355.6	165.2	11.1	7.1	19.0	11.0	27.8	14.3	35.7	18.2	330.2
400X350	406.4	355.6	12.7	11.1	21.4	19.0	30.9	27.8	40.5	35.7	355.6
400X300	406.4	318.5	12.7	10.3	21.4	17.4	30.9	25.4	40.5	33.3	355.6
400X250	406.4	267.4	12.7	9.3	21.4	15.1	30.9	21.4	40.5	28.6	355.6
400X200	406.4	216.3	12.7	8.2	21.4	12.7	30.9	18.2	40.5	23.0	355.6
450X400	457.2	406.4	14.3	12.7	23.8	21.4	34.9	30.9	45.2	40.5	381.0
450X350	457.2	355.6	14.3	11.1	23.8	19.0	34.9	27.8	45.2	35.7	381.0
450X300	457.2	318.5	14.3	10.3	23.8	17.4	34.9	25.4	45.2	33.3	381.0
450X250	457.2	267.4	14.3	9.3	23.8	15.1	34.9	21.4	45.2	28.6	381.0
500X450	508.0	457.2	15.1	14.3	26.2	23.8	38.1	34.9	50.0	54.2	508.0
500X400	508.0	406.4	15.1	12.7	26.2	21.4	38.1	30.9	50.0	40.5	508.0
500X350	508.0	355.6	15.1	11.1	26.2	19.0	38.1	27.8	50.0	35.7	508.0
500X300	508.0	318.5	15.1	10.3	26.2	17.4	38.1	25.4	50.0	33.3	508.0

• KS B 1543 / JIS B 2312 / JIS B 2313

Unit : mm

Nominal Pipe Size	Outside Diameter		Wall Thickness T								End to End H
	OD ₁	OD ₂	Sch 40		Sch 80		Sch 120		Sch 160		
			T ₁	T ₂	T ₁	T ₂	T ₁	T ₂	T ₁	T ₂	
550X500	558,8	508,0	15,1	15,1	28,6	26,2	-	-	-	-	508,0
550X450	558,8	457,2	15,1	14,3	28,6	23,8	-	-	-	-	508,0
550X400	558,8	406,4	15,1	12,7	28,6	21,4	-	-	-	-	508,0
550X350	558,8	355,6	15,1	11,1	28,6	19,0	-	-	-	-	508,0
600X550	609,6	558,8	17,4	15,1	31,0	28,6	-	-	-	-	508,0
600X500	609,6	508,0	17,4	15,1	31,0	26,2	-	-	-	-	508,0
600X450	609,6	457,2	17,4	14,3	31,0	23,8	-	-	-	-	508,0
600X400	609,6	406,4	17,4	12,7	31,0	21,4	-	-	-	-	508,0
650X600	660,4	609,6	17,4	17,4	-	-	-	-	-	-	609,6
650X550	660,4	558,8	17,4	15,1	-	-	-	-	-	-	609,6
650X500	660,4	508,0	17,4	15,1	-	-	-	-	-	-	609,6
650X450	660,4	457,2	17,4	14,3	-	-	-	-	-	-	609,6
700X650	711,2	660,4	17,4	17,4	-	-	-	-	-	-	609,6
700X600	711,2	609,7	17,4	17,4	-	-	-	-	-	-	609,6
700X550	711,2	558,8	17,4	15,1	-	-	-	-	-	-	609,6
700X500	711,2	508,0	17,4	15,1	-	-	-	-	-	-	609,6
750X700	762,0	711,2	17,4	17,4	-	-	-	-	-	-	609,6
750X650	762,0	660,4	17,4	17,4	-	-	-	-	-	-	609,6
750X600	762,0	609,6	17,4	17,4	-	-	-	-	-	-	609,6
750X550	762,0	558,8	17,4	15,1	-	-	-	-	-	-	609,6
800X750	812,8	762,0	17,4	17,4	-	-	-	-	-	-	609,6
800X700	812,8	711,2	17,4	17,4	-	-	-	-	-	-	609,6
800X650	812,8	660,4	17,4	17,4	-	-	-	-	-	-	609,6
800X600	812,8	609,6	17,4	17,4	-	-	-	-	-	-	609,6
850X800	863,6	812,8	17,4	17,4	-	-	-	-	-	-	609,6
850X750	863,6	762,0	17,4	17,4	-	-	-	-	-	-	609,6
850X700	863,6	711,2	17,4	17,4	-	-	-	-	-	-	609,6
850X650	863,6	660,4	17,4	17,4	-	-	-	-	-	-	609,6
900X850	914,4	863,6	19,0	17,4	-	-	-	-	-	-	609,6
900X800	914,4	812,8	19,0	17,4	-	-	-	-	-	-	609,6
900X750	914,4	762,0	19,0	17,4	-	-	-	-	-	-	609,6
900X700	914,4	711,2	19,0	17,4	-	-	-	-	-	-	609,6

90° Elbow (Long, Short) / 45° Elbow (Long)
 Sch10s, Sch20s, Sch40s

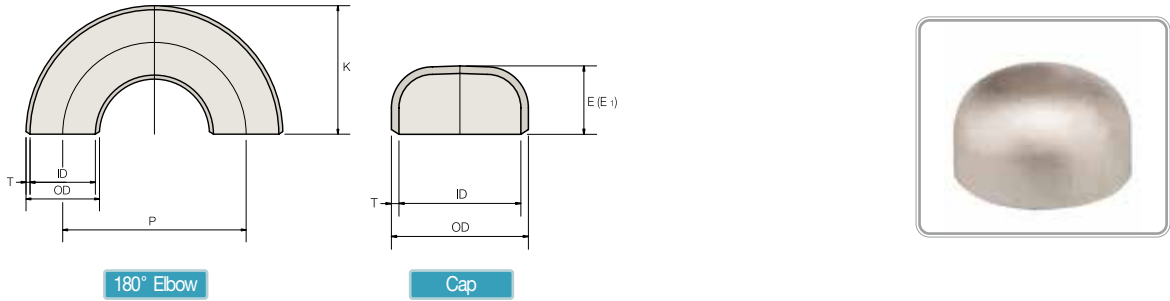


• KS B 1543 / JIS B 2312 / JIS B 2313
 Unit : mm

Nominal Pipe Size	Outside Diameter OD	Wall Thickness T						Center to Center		
		Sch10s		Sch20s		Sch40s		Long		Short
		ID	T	ID	T	ID	T	A (90°)	B (45°)	A (90°)
15	21.7	17.5	2.1	16.7	2.5	16.1	2.8	38.1	15.8	-
20	27.2	23.0	2.1	22.2	2.5	21.4	2.9	38.1	15.8	-
25	34.0	28.4	2.8	28.0	3.0	27.2	3.4	38.1	15.8	25.4
32	42.7	37.1	2.8	36.7	3.0	35.5	3.6	47.6	19.7	31.8
40	48.6	43.0	2.8	42.6	3.0	41.2	3.7	57.2	23.7	38.1
50	60.5	54.9	2.8	53.5	3.5	52.7	3.9	76.2	31.6	50.8
65	76.3	70.3	3.0	69.3	3.5	65.9	5.2	95.3	39.5	63.5
80	89.1	83.1	3.0	81.1	4.0	78.1	5.5	114.3	47.3	76.2
90	101.6	95.6	3.0	93.6	4.0	90.2	5.7	133.4	55.3	88.9
100	114.3	108.3	3.0	106.3	4.0	102.3	6.0	152.4	63.1	101.6
125	139.8	133.0	3.4	129.8	5.0	126.6	6.6	190.5	78.9	127.0
150	165.2	158.4	3.4	155.2	5.0	151.0	7.1	228.6	94.7	152.4
200	216.3	208.3	4.0	203.3	6.5	199.9	8.2	304.8	126.3	203.2
250	267.4	259.4	4.0	254.4	6.5	248.8	9.3	381.0	157.8	254.0
300	318.5	309.5	4.5	305.5	6.5	297.9	10.3	457.2	189.4	304.8
350	355.6	346.0	4.8	339.6	8.0	333.4	11.1	533.4	220.9	355.6
400	406.4	396.8	4.8	390.4	8.0	381.0	12.7	609.6	252.5	406.4
450	457.2	447.6	4.8	441.2	8.0	428.6	14.3	685.8	284.1	457.2
500	508.0	497.0	5.5	489.0	8.0	477.8	15.1	762.0	315.6	508.0
550	558.8	547.8	5.5	-	-	-	-	838.2	347.2	558.8
600	609.6	596.8	6.4	-	-	-	-	914.4	378.7	609.6
750	762.0	746.2	7.9	-	-	-	-	1143.0	473.4	762.0

* ASTM규격 별도 문의

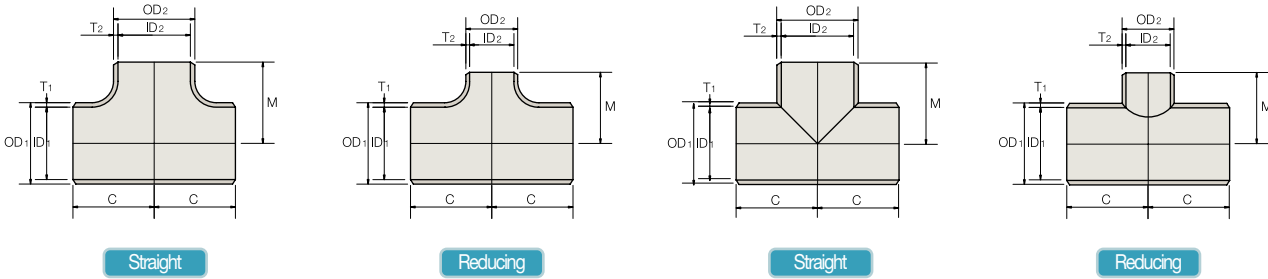
180° Elbow (Long, Short) / Cap
 sch10s, sch20s, sch40s



• KS B 1543 / JIS B 2312 / JIS B 2313
 Unit : mm

Nominal Pipe Size	Outside Diameter OD	Wall Thickness T			Cap			180° Elbow			
		Sch 10s	Sch 20s	Sch 40s	E	E1	Limited Wall	Long		Short	
								P	K	P	K
15	21.7	2.1	2.5	2.8	25.4	-	-	76.2	49.0	-	-
20	27.2	2.1	2.5	2.9	25.4	-	-	76.2	51.7	-	-
25	34.0	2.8	3.0	3.4	38.1	-	-	76.2	55.1	50.8	42.4
32	42.7	2.8	3.0	3.6	38.1	-	-	95.2	69.0	63.6	53.2
40	48.6	2.8	3.0	3.7	38.1	-	-	114.4	81.5	76.2	62.4
50	60.5	2.8	3.5	3.9	38.1	44.5	5.5	152.4	106.5	101.6	81.1
65	76.3	3.0	3.5	5.2	38.1	50.8	7.0	190.6	133.5	127.0	101.7
80	89.1	3.0	4.0	5.5	50.8	63.5	7.6	228.6	158.9	152.4	120.8
90	101.6	3.0	4.0	5.7	63.5	76.2	8.1	266.8	184.2	177.8	139.7
100	114.3	3.0	4.0	6.0	63.5	76.2	8.6	304.8	209.6	203.2	158.8
125	139.8	3.4	5.0	6.6	76.2	88.9	9.5	381.0	260.4	254.0	196.9
150	165.2	3.4	5.0	7.1	88.9	101.6	11.0	457.2	311.2	304.8	235.0
200	216.3	4.0	6.5	8.2	101.6	127.0	12.7	609.6	413.0	406.4	311.4
250	267.4	4.0	6.5	9.3	127.0	152.4	12.7	762.0	514.7	508.0	387.7
300	318.5	4.5	6.5	10.3	152.4	177.8	12.7	914.4	616.5	609.6	464.1
350	355.6	4.8	8.0	11.1	165.1	190.5	12.7	1066.8	711.2	711.2	533.4
400	406.4	4.8	8.0	12.7	177.8	203.2	12.7	1219.2	812.8	812.8	609.6
450	457.2	4.8	8.0	14.3	203.2	228.6	12.7	1371.6	914.4	914.4	685.8
500	508.0	5.5	9.5	15.1	228.6	254.0	12.7	1524.0	1016.0	1016.0	762.0

Tee
 Sch10s, Sch20s, Sch40s



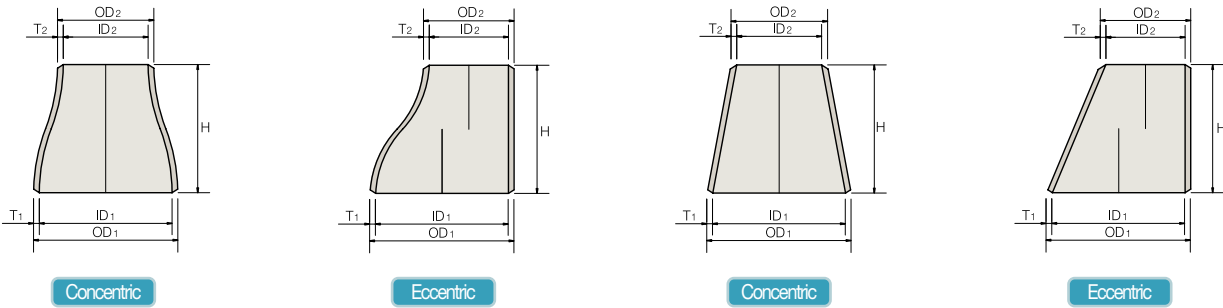
• KS B 1543 / JIS B 2312 / JIS B 2313
 Unit : mm

• KS B 1543 / JIS B 2312 / JIS B 2313
 Unit : mm

Nominal Pipe Size	Outside Diameter		Wall Thickness T						Center to End	
	OD ₁	OD ₂	Sch 10s		Sch 20s		Sch 40s		C	M
			T ₁	T ₂	T ₁	T ₂	T ₁	T ₂		
15X15	21,7	21,7	2,1	2,1	2,5	2,5	2,8	2,8	25,4	25,4
20X20	27,2	27,2	2,1	2,1	2,5	2,5	2,9	2,9	28,6	28,6
25X25	34,0	34,0	2,8	2,8	3,0	3,0	3,4	3,4	38,1	38,1
32X32	42,7	42,7	2,8	2,8	3,0	3,0	3,6	3,6	47,6	47,6
32X25	42,7	34,0	2,8	2,8	3,0	3,0	3,6	3,4	47,6	47,6
40X40	48,6	48,6	2,8	2,8	3,0	3,0	3,7	3,7	57,2	57,2
40X32	48,6	42,7	2,8	2,8	3,0	3,0	3,7	3,6	57,2	57,2
40X25	48,6	34,0	2,8	2,8	3,0	3,0	3,7	3,4	57,2	57,2
50X50	60,5	60,5	2,8	2,8	3,5	3,5	3,9	3,9	63,5	63,5
50X40	60,5	48,6	2,8	2,8	3,5	3,0	3,9	3,7	63,5	60,3
50X32	60,5	42,7	2,8	2,8	3,5	3,0	3,9	3,6	63,5	57,2
65X65	76,3	76,3	3,0	3,0	3,5	3,5	5,2	5,2	76,2	76,2
65X50	76,3	60,5	3,0	2,8	3,5	3,5	5,2	3,9	76,2	69,9
65X40	76,3	48,6	3,0	2,8	3,5	3,0	5,2	3,7	76,2	66,7
80X80	89,1	89,1	3,0	3,0	4,0	4,0	5,5	5,5	85,7	85,7
80X65	89,1	76,3	3,0	3,0	4,0	3,5	5,5	5,2	85,7	82,6
80X50	89,1	60,5	3,0	2,8	4,0	3,5	5,5	3,9	85,7	76,2
90X90	101,6	101,6	3,0	3,0	4,0	4,0	5,7	5,7	95,3	95,3
90X80	101,6	89,1	3,0	3,0	4,0	4,0	5,7	5,5	95,3	92,1
90X65	101,6	76,3	3,0	3,0	4,0	3,5	5,7	5,2	95,3	88,9
100X100	114,3	114,3	3,0	3,0	4,0	4,0	6,0	6,0	104,8	104,8
100X90	114,3	101,6	3,0	3,0	4,0	4,0	6,0	5,7	104,8	101,6
100X80	114,3	89,1	3,0	3,0	4,0	4,0	6,0	5,5	104,8	98,4
100X65	114,3	76,3	3,0	3,0	4,0	3,5	6,0	5,2	104,8	95,3
125X125	139,8	139,8	3,4	3,4	5,0	5,0	6,6	6,6	123,8	123,8
125X100	139,8	114,3	3,4	3,0	5,0	4,0	6,6	6,0	123,8	117,5
125X90	139,8	101,6	3,4	3,0	5,0	4,0	6,6	5,7	123,8	114,3
125X80	139,8	89,1	3,4	3,0	5,0	4,0	6,6	5,5	123,8	111,1
150X150	165,2	165,2	3,4	3,4	5,0	5,0	7,1	7,1	142,9	142,9
150X125	165,2	139,8	3,4	3,4	5,0	5,0	7,1	6,6	142,9	136,5
150X100	165,2	114,3	3,4	3,0	5,0	4,0	7,1	6,0	142,9	130,2
200X200	216,3	216,3	4,0	4,0	6,5	6,5	8,2	8,2	177,8	177,8
200X150	216,3	165,2	4,0	3,4	6,5	5,0	8,2	7,1	177,8	168,3
200X125	216,3	139,8	4,0	3,4	6,5	5,0	8,2	6,6	177,8	161,9
250X250	267,4	267,4	4,0	4,0	6,5	6,5	9,3	9,3	215,9	215,9
250X200	267,4	216,3	4,0	4,0	6,5	6,5	9,3	8,2	215,9	203,2
250X150	267,4	165,2	4,0	3,4	6,5	5,0	9,3	7,1	215,9	193,7
300X300	318,5	318,5	4,5	4,5	6,5	6,5	10,3	10,3	254,0	254,0
300X250	318,5	267,4	4,5	4,0	6,5	6,5	10,3	9,3	254,0	241,3
300X200	318,5	216,3	4,5	4,0	6,5	6,5	10,3	8,2	254,0	228,6

Nominal Pipe Size	Outside Diameter		Wall Thickness T						Center to End	
	OD ₁	OD ₂	Sch 10s		Sch 20s		Sch 40s		C	M
			T ₁	T ₂	T ₁	T ₂	T ₁	T ₂		
350X350	355,6	355,6	4,8	4,8	8,0	8,0	11,1	11,1	279,4	279,4
350X300	355,6	318,5	4,8	4,5	8,0	6,5	11,1	10,3	279,4	269,9
350X250	355,6	267,4	4,8	4,0	8,0	6,5	11,1	9,3	279,4	257,2
350X200	355,6	216,3	4,8	4,0	8,0	6,5	11,1	8,2	279,4	247,7
400X400	406,4	406,4	4,8	4,8	8,0	8,0	12,7	12,7	304,8	304,8
400X350	406,4	355,6	4,8	4,8	8,0	8,0	12,7	11,1	304,8	304,8
400X300	406,4	318,5	4,8	4,5	8,0	6,5	12,7	10,3	304,8	295,3
400X250	406,4	267,4	4,8	4,0	8,0	6,5	12,7	9,3	304,8	282,6
450X450	457,2	457,2	4,8	4,8	8,0	8,0	14,3	14,3	342,9	342,9
450X400	457,2	406,4	4,8	4,8	8,0	8,0	14,3	12,7	342,9	330,2
450X350	457,2	355,6	4,8	4,8	8,0	8,0	14,3	11,1	342,9	330,2
450X300	457,2	318,5	4,8	4,5	8,0	6,5	14,3	10,3	342,9	320,7
500X500	508,0	508,0	5,5	5,5	9,5	9,5	15,1	15,1	381,0	381,0
500X450	508,0	457,2	5,5	4,8	9,5	8,0	15,1	14,3	381,0	368,3
500X400	508,0	406,4	5,5	4,8	9,5	8,0	15,1	12,7	381,0	355,6
500X350	508,0	355,6	5,5	4,8	9,5	8,0	15,1	11,1	381,0	355,6
550X550	558,8	558,8	5,5	5,5	-	-	-	-	419,1	419,1
550X500	558,8	508,0	5,5	5,5	-	-	-	-	419,1	406,4
550X450	558,8	457,2	5,5	4,8	-	-	-	-	419,1	393,7
550X400	558,8	406,4	5,5	4,8	-	-	-	-	419,1	381,0
600X600	609,6	609,6	6,4	6,4	-	-	-	-	431,8	431,8
600X550	609,6	558,8	6,4	5,5	-	-	-	-	431,8	431,8
600X500	609,6	508,0	6,4	5,5	-	-	-	-	431,8	431,8
600X450	609,6	457,2	6,4	4,8	-	-	-	-	431,8	419,1
750X750	762,0	762,0	7,9	7,9	-	-	-	-	558,8	558,8
750X600	762,0	609,6	7,9	6,4	-	-	-	-	558,8	533,4

Reducer
 Sch10s, Sch20s, Sch40s



KS B 1543 / JIS B 2312 / JIS B 2313

Unit : mm

Nominal Pipe Size	Outside Diameter		Wall Thickness T						End to End H
	OD ₁	OD ₂	Sch 10s		Sch 20s		Sch 40s		
			T ₁	T ₂	T ₁	T ₂	T ₁	T ₂	
25X20	34.0	27.2	2.8	2.1	3.0	2.5	3.4	2.9	50.8
25X15	34.0	21.7	2.8	2.1	3.0	2.5	3.4	2.8	50.8
32X25	42.7	34.0	2.8	2.8	3.0	3.0	3.6	3.4	50.8
32X20	42.7	27.2	2.8	2.1	3.0	2.5	3.6	2.9	50.8
40X32	48.6	42.7	2.8	2.8	3.0	3.0	3.7	3.6	63.5
40X25	48.6	34.0	2.8	2.8	3.0	3.0	3.7	3.4	63.5
40X20	48.6	27.2	2.8	2.1	3.0	2.5	3.7	2.9	63.5
50X40	60.5	48.6	2.8	2.8	3.5	3.0	3.9	3.7	76.2
50X32	60.5	42.7	2.8	2.8	3.5	3.0	3.9	3.6	76.2
50X25	60.5	34.0	2.8	2.8	3.5	3.0	3.9	3.4	76.2
65X50	76.3	60.5	3.0	2.8	3.5	3.5	5.2	3.9	88.9
65X40	76.3	48.6	3.0	2.8	3.5	3.0	5.2	3.7	88.9
65X32	76.3	42.7	3.0	2.8	3.5	3.0	5.2	3.6	88.9
80X65	89.1	76.3	3.0	3.0	4.0	3.5	5.5	5.2	88.9
80X50	89.1	60.5	3.0	2.8	4.0	3.5	5.5	3.9	88.9
80X40	89.1	48.6	3.0	2.8	4.0	3.0	5.5	3.7	88.9
90X80	101.6	89.1	3.0	3.0	4.0	4.0	5.7	5.5	101.6
90X65	101.6	76.3	3.0	3.0	4.0	3.5	5.7	5.2	101.6
90X50	101.6	60.5	3.0	2.8	4.0	3.5	5.7	3.9	101.6
100X90	114.3	101.6	3.0	3.0	4.0	4.0	6.0	5.7	101.6
100X80	114.3	89.1	3.0	3.0	4.0	4.0	6.0	5.5	101.6
100X65	114.3	76.3	3.0	3.0	4.0	3.5	6.0	5.2	101.6
100X50	114.3	60.5	3.0	2.8	4.0	3.5	6.0	3.9	101.6
125X100	139.8	114.3	3.4	3.0	5.0	4.0	6.6	6.0	127.0
125X90	139.8	101.6	3.4	3.0	5.0	4.0	6.6	5.7	127.0
125X80	139.8	89.1	3.4	3.0	5.0	4.0	6.6	5.5	127.0
125X65	139.8	76.3	3.4	3.0	5.0	3.5	6.6	5.2	127.0
150X125	165.2	139.8	3.4	3.4	5.0	5.0	7.1	6.6	139.7
150X100	165.2	114.3	3.4	3.0	5.0	4.0	7.1	6.0	139.7
150X90	165.2	101.6	3.4	3.0	5.0	4.0	7.1	5.7	139.7
150X80	165.2	89.1	3.4	3.0	5.0	4.0	7.1	5.5	139.7
200X150	216.3	165.2	4.0	3.4	6.5	5.0	8.2	7.1	152.4
200X125	216.3	139.8	4.0	3.4	6.5	5.0	8.2	6.6	152.4
200X100	216.3	114.3	4.0	3.0	6.5	4.0	8.2	6.0	152.4

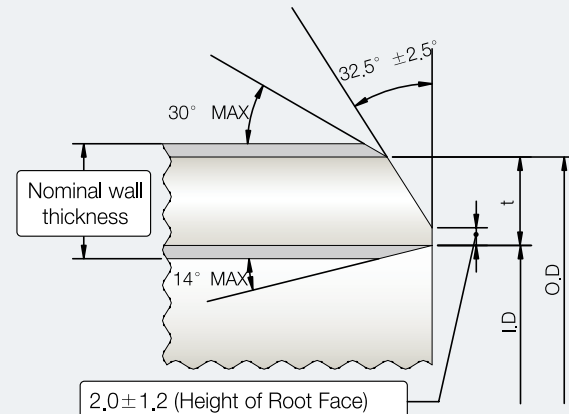
KS B 1543 / JIS B 2312 / JIS B 2313

Unit : mm

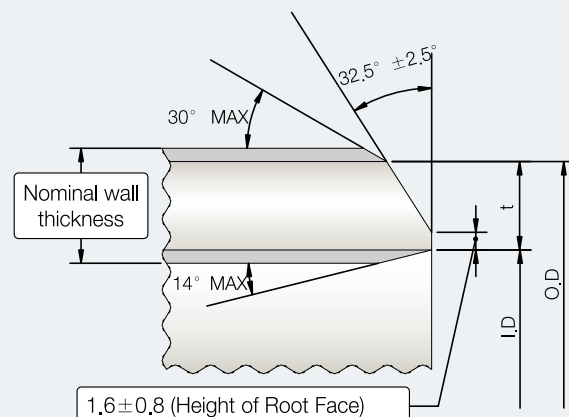
Nominal Pipe Size	Outside Diameter		Wall Thickness T						End to End H
	OD ₁	OD ₂	Sch 10s		Sch 20s		Sch 40s		
			T ₁	T ₂	T ₁	T ₂	T ₁	T ₂	
250X200	267,4	216,3	4,0	4,0	6,5	6,5	9,3	8,2	177,8
250X150	267,4	165,2	4,0	3,4	6,5	5,0	9,3	7,1	177,8
250X125	267,4	139,8	4,0	3,4	6,5	5,0	9,3	6,6	177,8
250X100	267,4	114,3	4,0	3,0	6,5	4,0	9,3	6,0	177,8
300X250	318,5	267,4	4,5	4,0	6,5	6,5	10,3	9,3	203,2
300X200	318,5	216,3	4,5	4,0	6,5	6,5	10,3	8,2	203,2
300X150	318,5	165,2	4,5	3,4	6,5	5,0	10,3	7,1	203,2
300X125	318,5	139,8	4,5	3,4	6,5	5,0	10,3	6,6	203,2
350X300	355,6	318,5	4,8	4,5	8,0	6,5	11,1	10,3	330,2
350X250	355,6	267,4	4,8	4,0	8,0	6,5	11,1	9,3	330,2
350X200	355,6	216,3	4,8	4,0	8,0	6,5	11,1	8,2	330,2
350X150	355,6	165,2	4,8	3,4	8,0	5,0	11,1	7,1	330,2
400X350	406,4	355,6	4,8	4,8	8,0	8,0	12,7	11,1	355,6
400X300	406,4	318,5	4,8	4,5	8,0	6,5	12,7	10,3	355,6
400X250	406,4	267,4	4,8	4,0	8,0	6,5	12,7	9,3	355,6
400X200	406,4	216,3	4,8	4,0	8,0	6,5	12,7	8,2	355,6
450X400	457,2	406,4	4,8	4,8	8,0	8,0	14,3	12,7	381,0
450X350	457,2	355,6	4,8	4,8	8,0	8,0	14,3	11,1	381,0
450X300	457,2	318,5	4,8	4,5	8,0	6,5	14,3	10,3	381,0
450X250	457,2	267,4	3,8	4,0	8,0	6,5	14,3	9,3	381,0
500X450	508,0	457,2	5,5	4,8	9,5	8,0	15,1	14,3	508,0
500X400	508,0	406,4	5,5	4,8	9,5	8,0	15,1	12,7	508,0
500X350	508,0	355,6	5,5	4,8	9,5	8,0	15,1	11,1	508,0
500X300	508,0	318,5	5,5	4,5	9,5	6,5	15,1	10,3	508,0
550X500	558,8	508,0	5,5	5,5	-	-	-	-	508,0
550X450	558,8	457,2	5,5	4,8	-	-	-	-	508,0
550X400	558,8	406,4	5,5	4,8	-	-	-	-	508,0
600X550	609,6	558,8	6,4	5,5	-	-	-	-	508,0
600X500	609,6	508,0	6,4	5,5	-	-	-	-	508,0
600X450	609,6	457,2	6,4	4,8	-	-	-	-	508,0
750X600	762,0	609,6	7,9	6,4	-	-	-	-	609,6

Welding End Preparations KS / JIS

Steel Butt-Welding Pipe Fittings for Ordinary Use
· KS B 1543 / JIS B 2311

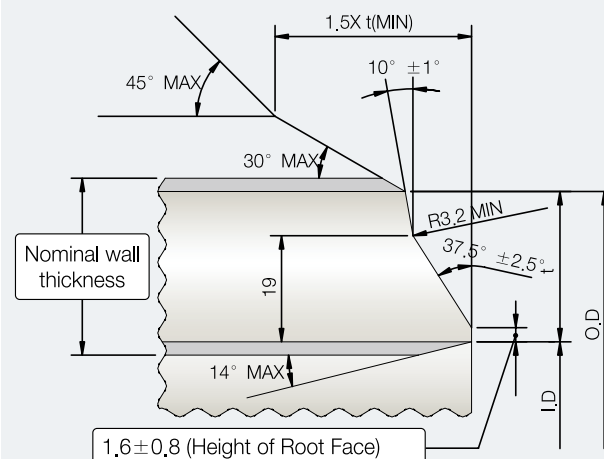


Steel Butt-Welding Pipe Fittings for Special Use
· KS B 1543 / JIS B 2312 / JIS B 2313



• In the Case Where T is 22.4mm or Less

Steel Butt-Welding Pipe Fittings for Special Use
· KS B 1543 / JIS B 2312 / JIS B 2313



• In the Case Where T is Over 22.4mm

Dimensional Tolerances KS / JIS

Steel Butt-Welding Pipe Fittings for Ordinary Use

· KS B 1543

Unit : mm

Item	Type of Pipe Fittings	Nominal Diameter						
		15-65	80-100	125-200	250-450	500-600	650-750	800-1200
		Tolerance						
Outside Dia, at end face (OD)	All pipe Fittings	±2,0	±2,5	±3,5	+5,0 -4,5	+6,4 -4,8		
inside Dia, at end face (ID)		±2,0	±2,5	±3,5	±4,5	±4,8		
Wall thickness (T)		+Not Specified -15%						
Centre-to-end dimension (A, B)	90° Elbow / 45° Elbow	±2,0		±3,2				±4,8
Centre-to-centre dimension (P)	180° Elbow	±6,4		±9,5		-		
Back-to-face dimension (K)		±6,4				-		
Alignment of ends (Max.) (U)		1,6		3,2		-		
End-to-end dimension (H)	Reducer	±2,0		±3,2			±4,8	
Centre-to-end dimension (C, M)	Tee	±2,0		±3,2				±4,8
Back-to-face dimension (E)	Cap	±3,2		±6,4			-	
Outside of end Peripheral length	All pipe Fitting	-					±0,5%	

Steel Butt-Welding Pipe Fittings for Special Use And Steel Plate Butt-Welding Pipe Fittings

· JIS B 2312 / JIS B 2313

Unit : mm

Item	Type of Pipe Fittings	Nominal Diameter						
		15-65	80-100	125-200	250-450	500-600	650-750	800-1200
		Tolerance						
Outside Dia, at end face (OD)	All pipe Fittings	+1.6 -0.8	±1.6	+2.4 -1.6	+4.0 -3.2	+6.4 -4.8		
inside Dia, at end face (ID)		±0.8	±1.6		±3.2	±4.8		
Wall thickness (T)		+Not specified -12.5%						
Centre-to-end dimension (A, B)	90° Elbow / 45° Elbow	±1.6			±2.4		±3.2	±4.8
Centre-to-centre dimension (P)	180° Elbow	±6.4			±9.5	-		
Back-to-face dimension (K)		±6.4			-			
Alignment of ends (Max.) (U)		1.6			3.2		-	
End-to-end dimension (H)	Reducer	±1.6			±2.4		±4.8	
Centre-to-end dimension (C, M)	Tee	±1.6			±2.4		±3.2	±4.8
Back-to-face dimension (E)	Cap	±3.2		±6.4			-	
Outside of end Peripheral length	All pipe Fitting	-					±0.5%	

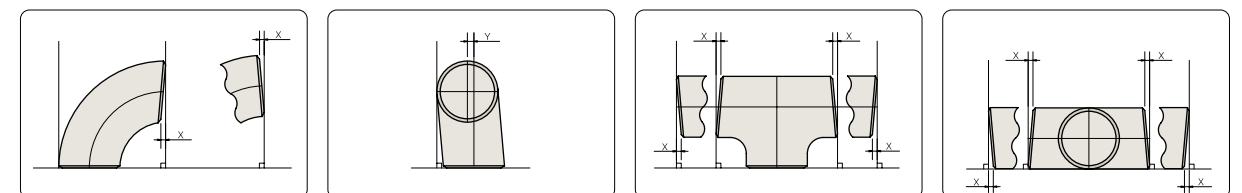
• Application Of JIS B2312 / Application Of KS B1543, JIS B2313

Right Angle for Shaft-Center of Pipe Fittings

· KS B 1543 / JIS B 2311 / JIS B 2312 / JIS B 2313

Unit : mm

Item		Type of Pipe Fittings	Nominal Diameter							
			15-100	125-200	250-300	350-400	450-600	650-750	800-1050	1100-1200
			Tolerance							
Off Angle (X)	All pipe Fittings	0,8	1,6	2,4		3,2	4,8			
Off Plane (Y)		1,6	3,2	4,8	6,4	9,5		12,7	19,1	



Butt-Welding Fittings Approx Weight

90° Elbow

Unit : Kg

Nominal Pipe Size	Long								Short								Nominal Pipe Size
	SGP	STD	S40	X-S	S80	XX-S	S160	SGP	STD	S40	X-S	S80	XX-S	S160			
15	0,08	0,08	0,08	0,10	0,10	0,15	0,12	-	-	-	-	-	-	-	15		
20	0,10	0,11	0,11	0,14	0,14	0,22	0,13	-	-	-	-	-	-	-	20		
25	0,15	0,16	0,16	0,20	0,20	0,36	0,25	0,10	0,11	0,11	0,14	0,14	0,22	0,17	25		
32	0,26	0,26	0,26	0,35	0,35	0,64	0,42	0,17	0,18	0,18	0,23	0,23	0,39	0,28	32		
40	0,35	0,37	0,37	0,50	0,50	0,93	0,65	0,24	0,25	0,25	0,33	0,33	0,57	0,49	40		
50	0,64	0,66	0,66	0,90	0,90	1,69	1,33	0,43	0,44	0,44	0,60	0,60	1,13	0,89	50		
65	1,12	1,29	1,29	1,79	1,79	3,43	2,33	0,75	0,91	0,91	1,19	1,19	2,19	1,49	65		
80	1,58	2,04	2,04	2,74	2,74	5,25	3,83	1,05	1,36	1,36	1,83	1,83	3,49	2,55	80		
100	2,91	3,84	3,84	5,36	5,36	10,20	8,02	1,94	2,56	2,56	3,58	3,58	6,79	5,35	100		
125	4,49	6,48	6,48	9,13	9,13	17,60	14,70	2,99	4,32	4,32	6,09	6,09	11,80	9,79	125		
150	7,09	9,94	9,94	15,00	15,00	29,10	24,20	4,73	6,63	6,63	10,00	10,00	19,50	16,20	150		
200	14,40	20,10	20,10	30,50	30,50	51,40	53,20	9,61	13,40	13,40	20,30	20,30	34,30	35,50	200		
250	25,40	35,40	35,40	47,70	57,00	92,80	103,00	16,90	23,60	23,60	31,80	38,00	61,00	68,60	250		
300	38,10	52,00	57,00	68,70	94,00	134,00	171,00	25,40	34,60	38,00	45,80	63,00	89,50	114,00	300		
350	56,70	67,90	79,10	89,90	133,00	-	236,00	37,80	45,30	53,00	60,00	89,00	-	158,00	350		
400	74,30	89,00	118,00	118,00	195,00	-	350,00	49,50	59,10	79,00	78,30	130,00	-	234,00	400		
450	94,20	113,00	169,00	150,00	275,00	-	495,00	62,80	75,30	113,00	99,90	183,00	-	330,00	450		
500	116,00	140,00	220,00	186,00	373,00	-	676,00	77,70	93,10	147,00	124,00	249,00	-	451,00	500		
550	141,00	169,00	267,00	225,00	493,00	-	886,00	94,10	113,00	178,00	150,00	329,00	-	591,00	550		
600	168,00	202,00	366,00	268,00	636,00	-	1160,00	112,00	135,00	244,00	179,00	424,00	-	773,00	600		
650	198,00	237,00	430,00	315,00	-	-	-	132,00	158,00	287,00	210,00	-	-	-	650		
700	230,00	276,00	500,00	367,00	-	-	-	154,00	184,00	334,00	245,00	-	-	-	700		
750	264,00	316,00	575,00	421,00	-	-	-	176,00	211,00	383,00	281,00	-	-	-	750		
800	301,00	361,00	654,00	480,00	-	-	-	201,00	241,00	436,00	320,00	-	-	-	800		
850	340,00	408,00	739,00	543,00	-	-	-	227,00	272,00	493,00	362,00	-	-	-	850		
900	380,00	457,00	904,00	608,00	-	-	-	253,00	304,00	603,00	405,00	-	-	-	900		
950	425,00	510,00	-	679,00	-	-	-	283,00	340,00	-	453,00	-	-	-	950		
1000	471,00	565,00	-	753,00	-	-	-	314,00	377,00	-	502,00	-	-	-	1000		
1050	518,00	622,00	-	828,00	-	-	-	346,00	416,00	-	554,00	-	-	-	1050		
1100	570,00	684,00	-	912,00	-	-	-	380,00	456,00	-	608,00	-	-	-	1100		
1150	623,00	748,00	-	997,00	-	-	-	415,00	499,00	-	665,00	-	-	-	1150		
1200	677,00	814,00	-	1085,00	-	-	-	452,00	543,00	-	724,00	-	-	-	1200		
1250	735,00	884,00	-	1178,00	-	-	-	490,00	589,00	-	786,00	-	-	-	1250		
1300	796,00	956,00	-	1305,00	-	-	-	530,00	637,00	-	870,00	-	-	-	1300		
1350	857,00	1031,00	-	1375,00	-	-	-	572,00	688,00	-	917,00	-	-	-	1350		
1400	926,00	1109,00	-	1480,00	-	-	-	616,00	740,00	-	976,00	-	-	-	1400		
1450	991,00	1190,00	-	1588,00	-	-	-	661,00	794,00	-	1059,00	-	-	-	1450		
1500	1060,00	1274,00	-	1700,00	-	-	-	707,00	849,00	-	1133,00	-	-	-	1500		

45° Elbow

Unit : Kg

Nominal Pipe Size	Long						
	SGP	STD	S40	X-S	S80	XX-S	S160
15	0,04	0,04	0,04	0,06	0,05	-	-
20	0,05	0,06	0,06	0,07	0,07	-	-
25	0,08	0,08	0,08	0,10	0,10	0,18	0,13
32	0,13	0,13	0,13	0,18	0,18	0,32	0,21
40	0,18	0,19	0,19	0,25	0,25	0,47	0,33
50	0,32	0,33	0,33	0,45	0,45	0,85	0,67
65	0,60	0,69	0,69	0,90	0,90	1,72	1,17
80	0,79	1,02	1,02	1,37	1,37	2,68	1,92
100	1,46	1,92	1,92	2,68	2,68	5,09	4,01
125	2,25	3,24	3,24	4,57	4,57	8,80	7,35
150	3,55	4,97	4,97	7,50	7,50	14,50	12,10
200	7,20	10,10	10,10	15,30	15,30	25,70	26,60
250	12,70	17,70	17,70	23,90	28,50	41,00	51,50
300	19,00	26,00	28,50	34,40	47,00	65,00	85,50
350	28,40	34,00	40,10	45,00	66,50	-	118,00
400	37,20	44,50	59,00	59,00	97,50	-	175,00
450	47,10	56,50	84,50	75,50	138,00	-	247,00
500	58,30	70,00	110,00	93,00	187,00	-	338,00
550	70,50	84,50	-	113,00	257,00	-	443,00
600	84,10	101,00	183,00	134,00	318,00	-	580,00
650	99,00	119,00	-	158,00	-	-	-
700	115,00	138,00	-	184,00	-	-	-
750	132,00	158,00	-	211,00	-	-	-
800	150,00	180,00	327,00	240,00	-	-	-
850	170,00	204,00	369,00	272,00	-	-	-
900	190,00	228,00	452,00	304,00	-	-	-
950	212,00	255,00	-	339,00	-	-	-
1000	235,00	282,00	-	376,00	-	-	-
1050	259,00	311,00	-	414,00	-	-	-
1100	285,00	342,00	-	456,00	-	-	-
1150	312,00	374,00	-	498,00	-	-	-
1200	339,00	407,00	-	542,00	-	-	-

Cap

Unit : Kg

Nominal Pipe Size	SGP	STD	S40	X-S	S80	XX-S	S160
15	0,03	0,04	0,04	0,05	0,05	0,10	0,06
20	0,04	0,05	0,05	0,07	0,07	0,13	0,09
25	0,08	0,11	0,11	0,15	0,15	0,29	0,20
32	0,11	0,14	0,14	0,20	0,20	0,39	0,25
40	0,15	0,17	0,17	0,24	0,24	0,50	0,35
50	0,23	0,24	0,24	0,33	0,33	0,68	0,54
65	0,34	0,42	0,42	0,57	0,57	1,33	0,77
80	0,51	0,67	0,67	0,92	0,92	2,18	1,40
100	0,88	1,17	1,17	1,68	1,68	3,80	2,76
125	1,29	1,90	1,90	2,73	2,73	6,22	4,85
150	1,99	2,83	2,83	4,38	4,38	9,85	7,81
200	3,61	5,11	5,11	7,91	7,91	16,40	15,20
250	6,33	8,92	8,92	12,20	16,40	28,35	28,90
300	9,43	13,10	13,10	17,40	26,40	39,40	47,70
350	13,20	15,90	18,60	21,20	34,90	-	61,20
400	16,60	20,00	26,70	26,70	49,00	-	92,80
450	21,20	25,50	41,50	34,10	69,00	-	131,00
500	26,40	31,80	54,10	42,50	93,70	-	179,00
550	31,50	38,80	61,40	51,70	116,00	-	219,00
600	36,60	45,10	90,10	60,10	160,00	-	307,00
650	41,00	50,50	82,30	67,30	-	-	-
700	45,50	56,20	103,00	74,90	-	-	-
750	50,30	62,10	114,00	82,80	-	-	-
800	55,40	68,40	126,00	91,20	-	-	-
850	62,30	75,40	138,00	100,00	-	-	-
900	68,00	81,90	164,00	109,00	-	-	-
950	79,00	94,70	-	126,00	-	-	-
1000	95,00	102,00	-	137,00	-	-	-
1050	92,00	110,00	-	147,00	-	-	-
1100	103,00	126,00	-	167,00	-	-	-
1150	111,00	134,00	-	179,00	-	-	-
1200	118,00	143,00	-	191,00	-	-	-

Tee

Unit : Kg

Nominal Pipe Size	SGP	STD	S40	X-S	S80	XX-S	S160	Nominal Pipe Size	SGP	STD	S40	X-S	S80	XX-S	S160
15X15	0,09	0,09	0,09	0,11	0,11	0,17	0,12	450X450	70,00	83,90	125,00	111,00	204,00	-	356,00
20X20	0,13	0,13	0,13	0,17	0,17	0,26	0,21	450X400	67,90	81,40	121,00	108,00	197,00	-	352,00
20X15	0,12	0,12	0,12	0,16	0,16	0,24	0,19	450X350	66,90	80,20	119,00	106,00	194,00	-	344,00
25X25	0,24	0,25	0,25	0,32	0,32	0,53	0,41	450X300	65,40	78,30	117,00	104,00	189,00	-	337,00
25X20	0,23	0,24	0,24	0,30	0,30	0,49	0,38	450X250	63,40	76,90	114,00	102,00	186,00	-	329,00
25X15	0,22	0,23	0,23	0,29	0,29	0,47	0,37	500X500	86,60	104,00	163,00	138,00	277,00	-	502,00
32X32	0,42	0,43	0,43	0,56	0,56	0,95	0,69	500X450	84,20	101,00	158,00	134,00	268,00	-	488,00
32X25	0,39	0,40	0,40	0,53	0,53	0,89	0,65	500X400	82,10	98,40	154,00	131,00	262,00	-	475,00
32X20	0,37	0,37	0,37	0,48	0,48	0,84	0,62	500X350	81,10	97,20	152,00	129,00	258,00	-	469,00
32X15	0,36	0,36	0,36	0,47	0,47	0,81	0,59	500X300	79,20	96,00	150,00	127,00	254,00	-	462,00
40X40	0,58	0,61	0,61	0,81	0,81	1,40	1,07	500X250	77,60	94,00	147,00	125,00	250,00	-	452,00
40X32	0,56	0,59	0,59	0,78	0,78	1,35	1,01	500X200	76,30	92,10	145,00	123,00	245,00	-	444,00
40X25	0,53	0,56	0,56	0,74	0,74	1,28	0,97	550X550	106,00	126,00	198,00	167,00	365,00	-	657,00
40X20	0,51	0,53	0,53	0,70	0,70	1,21	0,92	550X500	103,00	123,00	193,00	163,00	356,00	-	640,00
40X15	0,49	0,51	0,51	0,67	0,67	1,17	0,90	550X450	101,00	120,00	188,00	159,00	347,00	-	624,00
50X50	0,86	0,88	0,88	1,20	1,20	2,16	1,78	550X400	98,90	117,00	183,00	156,00	340,00	-	610,00
50X40	0,80	0,82	0,82	1,11	1,11	2,00	1,63	600X600	116,00	139,00	252,00	185,00	438,00	-	800,00
50X32	0,77	0,79	0,79	1,07	1,07	1,91	1,56	600X550	115,00	138,00	249,00	183,00	432,00	-	790,00
50X25	0,73	0,75	0,75	1,01	1,01	1,81	1,50	600X500	114,00	136,00	247,00	181,00	427,00	-	782,00
50X20	0,70	0,71	0,71	0,98	0,98	1,76	1,45	600X450	111,00	133,00	241,00	177,00	418,00	-	764,00
65X65	1,42	1,74	1,74	2,28	2,28	3,92	2,86	650X650	147,00	176,00	319,00	234,00	-	-	-
65X50	1,31	1,56	1,56	2,06	2,06	3,56	2,64	650X600	144,00	172,00	312,00	229,00	-	-	-
65X40	1,25	1,51	1,51	1,98	1,98	3,40	2,48	650X550	141,00	169,00	308,00	225,00	-	-	-
65X32	1,22	1,48	1,48	1,94	1,94	3,32	2,42	650X500	138,00	166,00	302,00	221,00	-	-	-
65X25	1,18	1,36	1,36	1,80	1,80	3,22	2,36	700X700	165,00	198,00	359,00	264,00	-	-	-
80X80	1,87	2,41	2,41	3,25	3,25	5,90	4,55	700X650	163,00	197,00	356,00	261,00	-	-	-
80X65	1,79	2,29	2,29	3,07	3,07	5,53	4,23	700X600	160,00	193,00	350,00	256,00	-	-	-
80X50	1,68	2,12	2,12	2,85	2,85	5,18	4,02	700X550	157,00	190,00	347,00	252,00	-	-	-
80X40	1,62	2,06	2,06	2,77	2,77	5,03	3,87	750X750	190,00	228,00	414,00	304,00	-	-	-
80X32	1,60	2,02	2,02	2,74	2,74	4,95	3,80	750X700	188,00	226,00	406,00	301,00	-	-	-
100X100	3,13	4,12	4,12	5,77	5,77	10,60	8,50	750X650	185,00	222,00	356,00	296,00	-	-	-
100X80	2,92	3,93	3,93	5,33	5,33	9,76	7,92	750X600	182,00	218,00	350,00	291,00	-	-	-
100X65	2,84	3,71	3,71	5,15	5,15	9,39	7,56	800X800	217,00	259,00	474,00	347,00	-	-	-
100X50	2,72	3,53	3,53	4,94	4,94	9,02	7,34	800X750	213,00	256,00	466,00	341,00	-	-	-
100X40	2,66	3,48	3,48	4,83	4,83	8,87	7,23	800X700	209,00	252,00	458,00	335,00	-	-	-
125X125	4,53	6,54	6,54	9,20	9,20	17,30	14,80	800X650	208,00	250,00	455,00	333,00	-	-	-
125X100	4,30	6,13	6,13	8,63	8,63	16,10	13,70	850X850	246,00	295,00	535,00	393,00	-	-	-
125X80	4,08	5,83	5,83	8,19	8,19	15,30	13,00	850X800	243,00	292,00	526,00	389,00	-	-	-
125X65	4,00	5,71	5,71	8,01	8,01	15,00	12,80	850X750	238,00	290,00	518,00	380,00	-	-	-
125X50	3,90	5,58	5,58	7,92	7,92	14,70	12,50	850X700	236,00	288,00	511,00	377,00	-	-	-
150X150	6,84	9,58	9,58	15,40	14,50	27,20	23,30	900X900	276,00	331,00	656,00	441,00	-	-	-
150X125	6,45	9,08	9,08	13,60	13,60	25,60	21,90	900X850	271,00	329,00	645,00	434,00	-	-	-
150X100	6,23	8,67	8,67	13,00	13,00	24,50	20,80	900X800	269,00	326,00	636,00	431,00	-	-	-
150X80	6,01	8,38	8,38	12,60	12,60	23,70	20,10	900X750	264,00	323,00	627,00	422,00	-	-	-
150X65	5,92	8,36	8,36	12,50	12,50	23,30	19,80	950X950	308,00	370,00	-	493,00	-	-	-
200X200	12,80	17,90	17,90	27,10	27,10	45,70	47,20	950X900	306,00	367,00	-	489,00	-	-	-
200X150	11,90	16,60	16,60	25,20	25,20	43,00	43,50	950X850	302,00	362,00	-	481,00	-	-	-
200X125	11,50	16,10	16,10	24,30	24,30	41,40	42,10	950X800	298,00	357,00	-	476,00	-	-	-
200X100	11,30	15,70	15,70	23,70	23,70	41,00	40,30	1000X1000	342,00	411,00	-	547,00	-	-	-
250X250	21,80	30,40	30,40	41,00	49,00	79,20	88,00	1000X950	340,00	408,00	-	543,00	-	-	-
250X200	20,40	28,50	28,50	38,90	45,80	54,40	81,40	1000X900	335,00	402,00	-	536,00	-	-	-
250X150	19,50	27,20	27,20	37,00	43,90	71,50	78,50	1000X850	331,00	397,00	-	529,00	-	-	-
250X125	19,20	26,80	26,80	36,20	43,10	70,00	77,00	1050X1050	352,00	422,00	-	562,00	-	-	-
250X100	18,90	26,80	26,80	36,20	42,50	68,90	76,30	1050X1000	350,00	420,00	-	559,00	-	-	-
300X300	32,00	43,60	48,70	57,70	79,20	113,00	143,00	1050X950	348,00	418,00	-	557,00	-	-	-
300X250	30,40	41,60	45,30	55,20	74,80	104,00	135,00	1050X900	346,00	416,00	-	554,00	-	-	-
300X200	29,00	39,70	42,50	53,10	71,40	102,00	128,00	1100X1100	369,00	475,00	-	633,00	-	-	-
300X150	28,10	38,40	42,00	51,20	69,50	100,00	125,00	1100X1050	394,00	473,00	-	630,00	-	-	-
300X125	27,80	38,70	41,70	51,20	68,70	98,30	124,00	1100X1000	389,00	467,00	-	623,00	-	-	-
350X350	44,70	53,50	62,40	70,90	104,00	-	186,00	1100X950	385,00	462,00	-	616,00	-	-	-
350X300	42,70	51,90	60,20	68,80	100,00	-	179,00	1150X1150	434,00	521,00	-	695,00	-	-	-
350X250	41,20	49,90	57,60	66,30	95,90	-	174,00	1150X1100	432,00	519,00	-	691,00	-	-	-
350X200	40,00	48,20	55,80	64,50	92,90	-	168,00	1150X1050	427,00	513,00	-	683,00	-	-	-
350X150	39,00	47,10	54,50	62,60	91,00	-	164,00	1150X1000	423,00	507,00	-	676,00	-	-	-
400X400	55,20	66,10	88,00	87,70	145,00	-	260,00	1200X1200	474,00	569,00	-	759,00	-	-	-
400X350	54,20	64,90	86,00	86,10	140,00	-	255,00	1200X1150	472,00	566,00	-	755,00	-	-	-
400X300	52,70	63,10	84,00	83,60	136,00	-	248,00	1200X1100	470,00	564,00	-	751,00	-	-	-
400X250	51,20	61,30	82,00	81,20	132,00	-	241,00	1200X1050	462,00	555,00	-	739,00	-	-	-
400X200	49,40	59,80	79,00	80,00	129,00	-	235,00								
400X150	48,50	58,50	77,00	77,80	127,00	-	230,00								

Butt-Welding Fittings Approx Weight

Reducer

Unit : Kg

Nominal Pipe Size	SGP	STD	S40	X-S	S80	XX-S	S160	Nominal Pipe Size	SGP	STD	S40	X-S	S80	XX-S	S160
20X15	0,06	0,06	0,06	0,08	0,08	-	-	550X500	52,10	62,40	98,00	82,90	181,00	-	-
25X20	0,11	0,12	0,12	0,15	0,15	0,25	0,19	550X450	49,50	59,40	93,20	78,90	172,00	-	-
25X15	0,10	0,11	0,11	0,14	0,14	0,22	0,17	550X400	47,00	56,40	88,40	74,80	164,00	-	-
32X25	0,16	0,16	0,16	0,21	0,21	0,35	0,25	550X350	45,30	54,30	83,60	72,10	156,00	-	-
32X20	0,15	0,15	0,15	0,19	0,19	0,31	0,23	600X550	57,10	68,40	124,00	91,00	215,00	-	-
32X15	0,13	0,14	0,14	0,18	0,18	-	-	600X500	54,80	65,70	119,00	87,30	206,00	-	-
40X32	0,24	0,25	0,25	0,33	0,33	0,57	0,43	600X450	52,60	63,00	114,00	83,80	197,00	-	-
40X25	0,21	0,22	0,22	0,30	0,30	0,50	0,38	600X400	50,40	60,50	109,00	80,30	185,00	-	-
40X20	0,20	0,21	0,21	0,27	0,27	0,45	0,35	650X600	74,50	89,40	162,00	119,00	-	-	-
40X15	0,18	0,18	0,18	0,24	0,24	0,40	0,32	650X550	71,50	85,80	155,00	114,00	-	-	-
50X40	0,37	0,38	0,38	0,51	0,51	0,91	0,75	650X500	68,50	82,10	148,00	109,00	-	-	-
50X32	0,35	0,36	0,36	0,48	0,48	0,85	0,70	650X450	66,30	79,50	142,00	106,00	-	-	-
50X25	0,31	0,33	0,33	0,44	0,44	0,77	0,64	700X650	80,60	96,60	175,00	129,00	-	-	-
50X20	0,29	0,30	0,30	0,40	0,40	0,69	0,58	700X600	77,50	93,00	168,00	124,00	-	-	-
65X50	0,60	0,73	0,73	0,95	0,95	1,68	1,20	700X550	74,50	89,40	162,00	119,00	-	-	-
65X40	0,55	0,67	0,67	0,87	0,87	1,51	1,08	700X500	72,40	86,80	155,00	115,00	-	-	-
65X32	0,52	0,64	0,64	0,83	0,83	1,42	1,02	750X700	86,60	104,00	188,00	138,00	-	-	-
65X25	0,48	0,56	0,56	0,73	0,73	1,23	0,93	750X650	83,60	100,00	182,00	133,00	-	-	-
80X65	0,73	0,94	0,94	1,25	1,25	2,25	1,71	750X600	80,60	96,60	175,00	129,00	-	-	-
80X50	0,66	0,85	0,85	1,13	1,13	2,01	1,57	750X550	78,50	94,20	168,00	125,00	-	-	-
80X40	0,62	0,79	0,79	1,04	1,04	1,83	1,44	800X750	92,60	111,00	202,00	148,00	-	-	-
80X32	0,59	0,75	0,75	1,00	1,00	1,74	1,37	800X700	89,60	108,00	195,00	143,00	-	-	-
100X80	1,10	1,45	1,45	2,02	2,02	3,65	3,00	800X650	86,60	104,00	188,00	138,00	-	-	-
100X65	1,04	1,37	1,37	1,90	1,90	3,41	2,76	800X600	84,60	102,00	184,00	135,00	-	-	-
100X50	0,97	1,27	1,27	1,76	1,76	3,11	2,58	850X800	98,70	118,00	215,00	158,00	-	-	-
100X40	0,91	1,19	1,19	1,64	1,64	2,89	2,41	850X750	95,60	115,00	208,00	153,00	-	-	-
125X100	1,74	2,50	2,50	3,52	3,52	6,47	5,59	850X700	92,60	111,00	205,00	148,00	-	-	-
125X80	1,58	2,27	2,27	3,18	3,18	5,78	5,30	850X650	90,70	109,00	200,00	145,00	-	-	-
125X65	1,50	2,16	2,16	3,02	3,02	5,46	4,70	900X850	104,60	125,60	250,00	167,30	-	-	-
125X50	1,41	2,03	2,03	2,85	2,85	5,12	4,43	900X800	101,60	122,00	243,00	162,40	-	-	-
150X125	2,55	3,57	3,57	5,38	5,38	9,89	8,63	900X750	98,60	118,40	238,00	157,60	-	-	-
150X100	2,36	3,30	3,30	4,96	4,96	8,98	7,88	900X700	95,60	114,70	234,00	152,80	-	-	-
150X80	2,18	3,04	3,04	4,56	4,56	8,21	7,21	950X900	112,00	133,00	-	177,00	-	-	-
150X65	2,09	2,94	2,94	4,38	4,38	7,88	6,80	950X850	108,00	129,00	-	172,00	-	-	-
200X150	4,17	5,71	5,71	8,63	8,63	14,30	15,00	950X800	105,00	126,00	-	167,00	-	-	-
200X125	3,87	5,40	5,40	8,14	8,14	13,40	14,00	950X750	103,00	124,00	-	165,00	-	-	-
200X100	3,67	5,10	5,10	7,68	7,68	12,60	13,10	1000X950	117,00	140,00	-	187,00	-	-	-
250X200	6,87	9,58	9,58	12,90	15,40	24,30	27,50	1000X900	114,00	137,00	-	182,00	-	-	-
250X150	6,32	8,78	8,78	11,80	14,20	22,10	25,10	1000X850	111,00	133,00	-	177,00	-	-	-
250X125	6,06	8,42	8,42	11,30	14,50	21,10	23,90	1000X800	109,00	131,00	-	174,00	-	-	-
250X100	5,80	8,20	8,20	11,00	14,00	20,50	22,60	1050X1000	123,00	147,00	-	196,00	-	-	-
300X250	9,97	13,60	14,70	18,00	24,80	35,00	44,60	1050X950	120,00	144,00	-	192,00	-	-	-
300X200	9,29	12,70	13,70	16,70	22,70	33,00	41,00	1050X900	117,00	140,00	-	187,00	-	-	-
300X150	8,69	11,80	12,80	15,60	21,40	32,00	38,00	1050X850	115,00	138,00	-	184,00	-	-	-
300X125	8,39	11,70	12,60	15,30	20,60	31,00	36,40	1100X1050	129,00	155,00	-	206,00	-	-	-
350X300	21,20	25,40	29,50	33,60	49,80	-	88,50	1100X1000	126,00	151,00	-	201,00	-	-	-
350X250	19,70	23,60	27,40	31,20	46,10	-	81,60	1100X950	123,00	147,00	-	196,00	-	-	-
350X200	18,30	21,80	25,40	28,90	42,20	-	74,70	1100X900	121,00	146,00	-	194,00	-	-	-
350X150	16,90	20,30	23,60	26,80	39,10	-	68,30	1150X1100	157,00	189,00	-	252,00	-	-	-
400X350	25,90	31,00	41,10	41,10	67,70	-	121,00	1150X1050	154,00	185,00	-	246,00	-	-	-
400X300	24,10	29,60	39,20	39,20	65,00	-	116,00	1150X1000	150,00	180,00	-	241,00	-	-	-
400X250	22,40	27,80	36,80	36,80	60,80	-	108,00	1150X950	148,00	178,00	-	237,00	-	-	-
400X200	21,70	26,20	34,50	34,50	56,60	-	99,90	1200X1150	164,00	197,00	-	263,00	-	-	-
450X400	31,50	37,80	56,20	50,10	91,40	-	165,00	1200X1100	161,00	193,00	-	257,00	-	-	-
450X350	29,80	35,70	53,00	47,40	86,40	-	155,00	1200X1050	157,00	189,00	-	252,00	-	-	-
450X300	27,70	33,20	51,70	44,00	83,00	-	149,00	1200X1000	155,00	186,00	-	248,00	-	-	-
450X250	27,10	32,70	48,40	43,20	78,50	-	140,00								
500X450	47,00	56,40	88,40	74,90	150,00	-	-								
500X400	44,70	53,50	83,90	71,10	142,00	-	-								
500X350	42,40	50,80	79,60	67,40	136,00	-	233,00								
500X300	40,80	49,20	76,90	65,10	130,00	-	-								

Stainless Steel Fittings

Unit : Kg

Nominal Pipe Size	90° Elbow (L)		90° Elbow (S)		Tee		Reducer		Cap	
	Sch 10s	Sch 20s	Sch 10s	Sch 20s	Sch 10s	Sch 20s	Sch 10s	Sch 20s	Sch 10s	Sch 20s
15	0,06	0,07	-	-	0,07	0,08	-	-	0,03	0,03
20	0,06	0,09	-	-	0,10	0,11	0,04	0,05	0,04	0,04
25	0,13	0,14	0,08	0,09	0,20	0,22	0,09	0,10	0,09	0,10
32	0,20	0,22	0,13	0,15	0,33	0,36	0,12	0,13	0,11	0,12
40	0,28	0,30	0,19	0,20	0,46	0,50	0,18	0,20	0,13	0,14
50	0,47	0,59	0,31	0,39	0,63	0,79	0,27	0,34	0,17	0,21
65	0,79	0,94	0,52	0,63	1,00	1,18	0,43	0,50	0,23	0,28
80	1,16	1,51	0,77	1,00	1,38	1,78	0,52	0,69	0,37	0,48
100	2,00	2,60	1,33	1,74	2,15	2,80	0,80	1,04	0,59	0,78
125	3,46	4,97	2,31	3,31	3,48	5,01	1,33	1,92	0,99	1,44
150	4,96	7,09	3,31	4,73	4,75	6,83	1,78	2,55	1,39	1,99
200	9,55	15,90	6,37	10,70	8,43	14,30	2,72	4,56	2,38	4,05
250	16,60	25,00	11,10	16,70	14,20	21,50	4,49	6,77	4,13	6,23
300	25,80	35,70	17,20	23,90	21,60	30,20	6,78	9,40	6,39	8,89
350	34,60	56,90	23,10	37,80	27,30	44,80	13,00	21,20	7,99	13,20
400	45,30	74,50	30,20	49,50	33,70	55,20	15,80	25,90	10,10	16,70
450	57,40	94,50	38,30	62,80	42,70	70,00	19,20	29,80	12,90	21,30
500	82,10	142,00	54,70	95,00	61,00	104,00	33,10	56,00	18,50	31,80
550	99,50	170,00	66,30	114,00	74,10	126,20	36,70	62,50	22,60	38,80
600	136,00	202,00	90,40	135,00	93,90	139,40	46,00	68,60	30,10	45,10

Materials Specifications For JIS Materials

Marking Symbol	JIS Code Number &Materials	Chemical Composition(%)					
		C	SI	MN	P	S	NI
SGP	G3452, SGP	-	-	-	0.050 Max.	0.050 Max.	-
PG370	G3454, STPG370	0.25 Max.	0.35 Max.	0.30-0.90	0.040 Max.	0.040 Max.	-
PG410	G3454, STPG410	0.30 Max.	0.35 Max.	0.30-1.00	0.040 Max.	0.040 Max.	-
PT370	G3456, STPT370	0.25 Max.	0.10-0.35	0.30-0.90	0.035 Max.	0.035 Max.	-
PT410	G3456, STPT410	0.30 Max.	0.10-0.35	0.30-1.00	0.035 Max.	0.035 Max.	-
PT480	G3456, STPT480	0.33 Max.	0.10-0.35	0.30-1.00	0.035 Max.	0.035 Max.	-
STS370	G3455, STS370	0.25 Max.	0.10-0.35	0.30-1.10	0.035 Max.	0.035 Max.	-
STS410	G3455, STS410	0.30 Max.	0.10-0.35	0.30-1.40	0.035 Max.	0.035 Max.	-
STS480	G3455, STS480	0.33 Max.	0.10-0.35	0.30-1.50	0.035 Max.	0.035 Max.	-
PY400	G3457, STPY400	-	-	-	0.050 Max.	0.050 Max.	-
SUS304	G3459, SUS304TP	0.08 Max.	1.00 Max.	2.00 Max.	0.040 Max.	0.030 Max.	8.00-11.00
SUS304H	G3459, SUS304HTP	0.04-1.00	0.75 Max.	2.00 Max.	0.040 Max.	0.030 Max.	8.00-11.00
SUS340L	G3459, SUS304LTP	0.03 Max.	1.00 Max.	2.00 Max.	0.040 Max.	0.030 Max.	9.00-13.00
SUS316	G3459, SUS316TP	0.08 Max.	1.00 Max.	2.00 Max.	0.040 Max.	0.030 Max.	10.00-14.00
SUS316H	G3459, SUS316HTP	0.04-0.10	0.75 Max.	2.00 Max.	0.030 Max.	0.030 Max.	11.00-14.00
SUS316L	G3459, SUS316LTP	0.03 Max.	1.00 Max.	2.00 Max.	0.040 Max.	0.030 Max.	12.00-16.00
PL380	G3460, STPL380	0.25 Max.	0.35 Max.	1.35 Max.	0.035 Max.	0.035 Max.	-
PL450	G3460, STPL450	0.18 Max.	0.10-0.35	0.30-0.60	0.030 Max.	0.030 Max.	3.00-3.80
SS400	G3101, SS400	-	-	-	0.050 Max.	0.050 Max.	-
SM400B	S3106, SM400B	0.20 Max.	0.35 Max.	0.60-1.20	0.040 Max.	0.040 Max.	-
SM490B	G3106, SM490B	0.18 Max.	0.55 Max.	1.50 Max.	0.040 Max.	0.040 Max.	-
SB410	G3103, SB410	0.24 Max.	0.15-0.30	0.90 Max.	0.035 Max.	0.040 Max.	-
SB450	G3103, SB450	0.28 Max.	0.15-0.30	0.90 Max.	0.035 Max.	0.040 Max.	-
S20C	G4051, S20C	0.18-0.23	0.15-0.35	0.30-0.60	0.030 Max.	0.035 Max.	-
S25C	G4051, S25C	0.22-0.28	0.15-0.35	0.30-0.60	0.030 Max.	0.035 Max.	-
S45C	G4051, S45C	0.42-0.48	0.15-0.30	0.60-0.90	0.030 Max.	0.035 Max.	-
SF45	G3201, SF45	0.60 Max.	0.15-0.50	0.30-1.20	0.030 Max.	0.035 Max.	-
SF50	G3201, SF50	0.60 Max.	0.15-0.50	0.30-1.20	0.030 Max.	0.035 Max.	-

Chemical Composition (%)		Chemical Composition (%)			Reduction of Area	Hardness (HB)
CR	MO	Tensile Strength kgf/mm ² (N/mm ²)	Yield Strength kgf/mm ² (N/mm ²)	Elongation(%) Test Piece No.(N/mm ²)		
-	-	"30 Min.(294) Min."	-	"(11, 12) 30 Min.(5) 25 Min."	-	-
-	-	"38 Min.(373) Min."	"22 Min.(216) Min."	"(11, 12) 30 Min.(5) 25 Min."	-	-
-	-	"42 Min.(412) Min."	"25 Min.(245) Min."	"(11, 12) 25 Min.(5) 20 Min."	-	-
-	-	"38 Min.(373) Min."	"22 Min.(216) Min."	"(11, 12) 30 Min.(5) 25 Min."	-	-
-	-	"42 Min.(412) Min."	"25 Min.(245) Min."	"(11, 12) 25 Min.(5) 20 Min."	-	-
-	-	"49 Min.(481) Min."	"28 Min.(275) Min."	"(11, 12) 25 Min.(5) 20 Min."	-	-
-	-	"38 Min.(373) Min."	"22 Min.(216) Min."	"(11, 12) 30 Min.(5) 25 Min."	-	-
-	-	"42 Min.(412) Min."	"25 Min.(245) Min."	"(11, 12) 25 Min.(5) 20 Min."	-	-
-	-	"49 Min.(481) Min."	"28 Min.(275) Min."	"(11, 12) 25 Min.(5) 20 Min."	-	-
-	-	"41 Min.(402) Min."	"23 Min.(226) Min."	"(11, 12) 25 Min.(5) 20 Min."	-	-
18.00-20.00	-	"53 Min.(520) Min."	"21 Min.(206) Min."	"(5) 18 Min."	-	-
18.00-20.00	-	"53 Min.(520) Min."	"21 Min.(206) Min."	"(11, 12) 35 Min.(5) 25 Min."	-	-
18.00-20.00	-	"49 Min.(481) Min."	"18 Min.(177) Min."	"(11, 12) 35 Min.(5) 25 Min."	-	-
16.00-18.00	2.00-3.00	"53 Min.(520) Min."	"21 Min.(206) Min."	"(11, 12) 35 Min.(5) 25 Min."	-	-
16.00-18.00	2.00-3.00	"53 Min.(520) Min."	"21 Min.(206) Min."	"(11, 12) 35 Min.(5) 25 Min."	-	-
16.00-18.00	2.00-3.00	"49 Min.(481) Min."	"18 Min.(177) Min."	"(11, 12) 35 Min.(5) 25 Min."	-	-
-	-	"39 Min.(382) Min."	"21 Min.(206) Min."	"(11, 12) 35 Min.(5) 25 Min."	-	-
-	-	"46 Min.(451) Min."	"25 Min.(245) Min."	"(11, 12) 30 Min.(5) 20 Min."	-	-
-	-	"41-52(402-510)"	"16t Max. 25 Min.(245) Min."	"(5) 21 Min.(14) 17 Min."	-	-
-	-	"41-52(402-510)"	"16t Max. 25 Min.(245) Min."	"(5) 23 Min.(1A) 18 Min."	-	-
-	-	"50-62(490-608)"	"16t Max. 33 Min.(324) Min."	"(5) 22 Min.(1A) 17 Min."	-	-
-	-	"42-56(412-549)"	"23 Min.(226) Min."	"(1A) 21 Min.(10) 25 Min."	-	-
-	-	"46-60(451-588)"	"25 Min.(245) Min."	"(1A) 19 Min.(10) 23 Min."	-	-
-	-	"41 Min.(402) Min."	"(N) 25 Min.(245) Min."	"28 Min."	-	116-174
-	-	"45 Min.(441) Min."	"(N) 27 Min.(265) Min."	"27 Min."	-	123-183
-	-	"58 Min.(569) Min."	"(N) 35 Min.(343) Min."	"20 Min."	-	167-227
-	-	"45-55(444-539)"	"23 Min.(226) Min."	"(14A)(A) 24 Min.(T) 19 Min."	"(A)45(T)35"	"121 Min."
-	-	"50-60(490-588)"	"25 Min.(245) Min."	"(14A)(A) 22 Min.(T) 17 Min."	"(A)40(T)30"	"134 Min."