

SPECIFICATIONS — Stainless Steel Pipe , Fitting & Flange

Buttweld Fitting

Specification ASTM A403 WP304/304L, ASTM A403 WP316/316L

Product Elbow, Tee, Reducer, Caps, Stud End

ASTM Standards

CHEW Stainless Steel Welding Fittings are manufactured in accordance with the material specifications of ASTM A-403.

This chart gives the Mechanical and Chemical properties of some of the most widely used alloys.

ANSI PRESSURE FITTING	CORROSION RESISTANT FITTING	MECHANICAL			CHEMICAL							
		TENSILE STRENGTH	YIELD STRENGTH	ELONGATION 50MM								
		KSI MIN (MPA MIN)	KSI MIN (MPA MIN)	%								
WP304	CR304	75 (515)	30 (205)	35	0.08	2.00	0.45	0.30	1.00	8.0 - 11.0	18.0 - 20.0	
WP304L	CR304L	70 (485)	25 (170)	35	0.04	2.00	0.45	0.30	1.00	8.0 - 13.0	18.0 - 20.0	
WP316	CR316	75 (515)	30 (205)	35	0.08	2.00	0.45	0.30	1.00	10.0 - 14.0	16.0 - 18.0	2.0 - 3.0
WP316L	CR316L	70 (485)	25 (170)	35	0.04	2.00	0.45	0.30	1.00	10.3 - 16.0	16.0 - 18.0	2.0 - 3.0

Maximum values except as indicated.

See appropriate spec. for exact values.

a The columbium plus tantalum content shall not be less than ten times the carbon content and not more than 1.10 per cent.

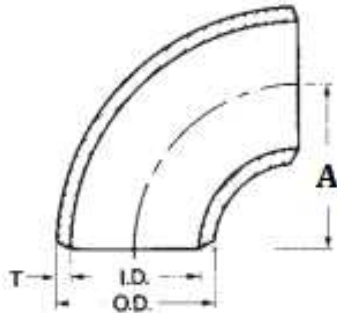
b The columbium plus tantalum content shall not be less than eight times the carbon content and not more than 1.0 per cent.

c The titanium content shall not be less than four times the carbon content and not more than .70 per cent

d For small diameter or thin walls or both, where many drawing passes are required, a carbon maximum of .040 per cent is necessary in grades WP 304L and WP 316L. Small outside diameter tubes are defined as those less than .500 in. (12.7 mm) in outside diameter and light wall tubes as those less than .049 in. (1.24 mm) in average wall thickness (.044 in. (1.12mm) in minimum wall thickness)

SPECIFICATIONS — Stainless Steel Pipe , Fitting & Flange

BW Fittings Dimension Sheet

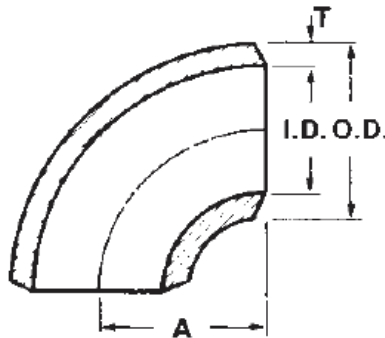


90DEG LONG RADIUS ELBOW

Nominal Pipe Size	Outside Dia (OD)	Center to End (A)	Wall Thickness (T)				Weight (Kg)			
			Sch10s	Sch STD	Sch XS	Sch160	Sch10s	Sch STD	Sch XS	Sch160
1/2"	21.3	38.1	2.1	2.77	3.73	4.78	0.06	0.076	0.097	0.15
3/4"	26.7	38.1	2.1	2.87	3.91	5.56	0.07	0.09	0.11	0.23
1"	33.4	38.1	2.77	3.38	4.55	6.35	0.14	0.16	0.22	0.26
1-1/4"	42.2	47.752	2.77	3.56	4.85	6.35	0.23	0.253	0.4	0.419
1-1/2"	48.3	57.15	2.77	3.68	5.08	7.14	0.31	0.403	0.51	0.64
2"	60.3	76.2	2.77	3.91	5.54	8.74	0.51	0.71	0.904	1.32
2-1/2"	73.0	95.25	3.04	5.16	7.01	9.53	0.86	1.36	1.81	2.35
3"	88.9	114.3	3.04	5.49	7.62	11.13	1.22	2.18	2.98	3.83
4"	114.3	152.4	3.04	6.01	8.56	13.49	2	4.17	6.18	8.02
5"	141.3	190.5	3.4	6.55	9.53	15.88	3.46	6.51	9.25	14.7
6"	168.3	228.6	3.4	7.11	10.97	18.26	4.96	10.41	16.33	26
8"	219.1	304.8	3.76	8.18	12.7	23.01	10.55	21.55	33.11	
10"	273.1	381	4.2	9.27	12.7	28.58	19.6	38.6	49.4	
12"	323.9	304.8	4.57	9.53	12.7	33.32	27.2	59.3	71.2	
14"	355.6	533.4	4.78	9.53	12.7	35.71	36.4	70.3	91.9	
16"	406.4	609.6	4.78	9.53	12.7	40.49	47.6	91.2	120	
18"	457.0	685.8	4.78	9.53	12.7	45.24	59.8	122	153	
20"	508.0	762	5.54	9.53	12.7	50.01	92	144	190	
22"	559.0	838.2	5.54	9.53	12.7	53.98	99	170	225	
24"	610.0	914.4	6.35	9.53	12.7	59.54	141	208	275	

SPECIFICATIONS — Stainless Steel Pipe , Fitting & Flange

BW Fittings Dimension Sheet

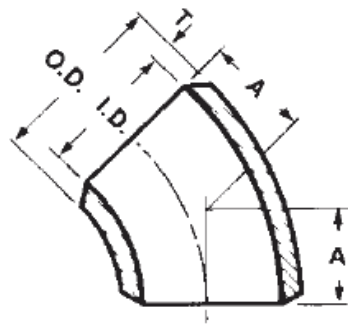


90DEG SHORT RADIUS ELBOW

Nominal Pipe Size	Outside Dia (OD)	Center to End (A)	Wall Thickness (T)				Weight (Kg)			
			Sch10s	Sch STD	Sch XS	Sch160	Sch10s	Sch STD	Sch XS	Sch160
1/2"	21.3	25.4	2.1	2.77	3.73	4.78	0.065	0.083	0.14	0.3
3/4"	26.7	25.4	2.1	2.87	3.91	5.56	0.092	0.111	0.21	0.315
1"	33.4	25.4	2.77	3.38	4.55	6.35	0.204	0.244	0.36	0.47
1-1/4"	42.2	31.75	2.77	3.56	4.85	6.35	0.327	0.412	0.543	0.89
1-1/2"	48.3	38.1	2.77	3.68	5.08	7.14	0.457	0.596	1.02	1.43
2"	60.3	50.8	2.77	3.91	5.54	8.74	0.63	0.872	1.59	3.48
2-1/2"	73.0	63.5	3.04	5.16	7.01	9.53	1.01	1.76	2.29	3.65
3"	88.9	76.2	3.04	5.49	7.62	11.13	1.37	1.9	4.29	5.87
4"	114.3	101.6	3.04	6.01	8.56	13.49	2.15	4.13	7.71	9.76
5"	141.3	127	3.4	6.55	9.53	15.88	3.48	6.55	11.34	23
6"	168.3	152.4	3.4	7.11	10.97	18.26	4.76	9.73	13.61	39.5
8"	219.1	203.2	3.76	8.18	12.7		8.46	24.4	34.7	
10"	273.1	254	4.2	9.27	12.7		14.2	30.8	51.7	
12"	323.9	304.8	4.57	9.53	12.7		21.6	59.9	75.7	
14"	355.6	355.6	4.78	9.53	12.7		48.5	72.1	115	
16"	406.4	406.4	4.78	9.53	12.7		58	99.3	122.9	
18"	457.0	457.2	4.78	9.53	12.7		76.6	128	159	
20"	508.0	508	5.54	9.53	12.7		103	160	200	
22"	559.0	558.8	5.54	9.53	12.7		133	198	248	
24"	610.0	609.6	6.35	9.53	12.7		156	224	275	

SPECIFICATIONS — Stainless Steel Pipe , Fitting & Flange

BW Fittings Dimension Sheet

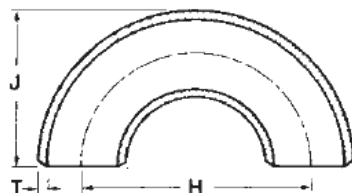


45DEG LONG RADIUS ELBOW

Nominal Pipe Size	Outside Dia (OD)	Center to End (A)	Wall Thickness (T)				Weight (Kg)			
			Sch10s	Sch STD	Sch XS	Sch160	Sch10s	Sch STD	Sch XS	Sch160
1/2"	21.3	15.87	2.1	2.77	3.73	4.78	0.03	0.038	0.048	0.05
3/4"	26.7	18.99	2.1	2.87	3.91	5.56	0.039	0.052	0.078	0.08
1"	33.4	22.22	2.76	3.38	4.55	6.35	0.078	0.09	0.128	0.15
1-1/4"	42.2	25.4	2.76	3.56	4.85	6.35	0.101	0.126	0.167	0.21
1-1/2"	48.3	28.44	2.76	3.68	5.08	7.14	0.14	0.184	0.254	0.34
2"	60.3	35.05	2.76	3.91	5.54	8.74	0.23	0.326	0.447	0.67
2-1/2"	73.0	44.45	3.04	5.16	7.01	9.53	0.4	0.683	0.89	1.17
3"	88.9	50.8	3.04	5.49	7.62	11.13	0.57	1.02	1.443	1.92
4"	114.3	63.5	3.04	6.01	8.56	13.49	1	1.92	2.81	4.21
5"	141.3	79.24	3.4	6.55	9.53	15.88	1.73	3.26	4.85	7.35
6"	168.3	95.25	3.4	7.11	10.97	18.26	0.48	5.05	8.02	12.1
8"	219.1	127	3.76	8.18	12.7		5.01	10.2	16.4	
10"	273.1	158.75	4.2	9.27	12.7		8.3	18	25.4	
12"	323.9	190.5	4.57	9.53	12.7		12.9	28.1	36.7	
14"	355.6	222.25	4.78	9.53	12.7		17.3	32.9	42.4	
16"	406.4	254	4.78	9.53	12.7		22.6	43.3	55.7	
18"	457.0	285.75	4.78	9.53	12.7		28.7	54.9	70.9	
20"	508.0	317.5	5.54	9.53	12.7		41	70	88.2	
22"	559.0	342.9	5.54	9.53	12.7		49.7	85	104.8	
24"	610.0	381	6.35	9.53	12.7		68	101	134	

SPECIFICATIONS — Stainless Steel Pipe , Fitting & Flange

BW Fittings Dimension Sheet

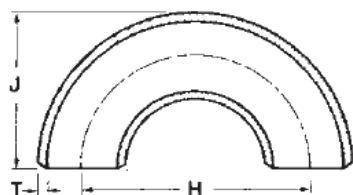


180DEG LONG RADIUS ELBOW

Nominal Pipe Size	Outside Dia (OD)	Center to End (H)	Back to face (J)	Deviation	Wall Thickness (T)			Weight (Kg)		
					Sch10s	Sch STD	Sch XS	Sch10s	Sch STD	Sch XS
1/2"	21.3	76.2	47.75	±0,03	2.1	2.77	3.73	0.118	0.15	0.19
3/4"	26.7	57.15	42.92	±0,03	2.1	2.87	3.91	0.14	0.2	0.23
1"	33.4	76.2	55.62	±0,03	2.77	3.38	4.55	0.26	0.3	0.4
1-1/4"	42.2	95.25	69.85	±0,03	2.77	3.56	4.85	0.42	0.51	0.69
1-1/2"	48.3	114.3	82.55	±0,03	2.77	3.68	5.08	0.58	0.73	1.02
2"	60.3	152.4	106.42	±0,03	2.77	3.91	5.54	0.98	1.3	1.88
2-1/2"	73.0	190.5	131.82	±0,03	3.04	5.16	7.01	1.65	2.73	3.56
3"	88.9	228.6	158.75	±0,03	3.04	5.49	7.62	2.43	4	5.74
4"	114.3	304.8	209.55	±0,03	3.04	6.01	8.56	4.19	7.67	15.76
5"	141.3	381	261.87	±0,03	3.4	6.55	9.53	7.26	13	19.39
6"	168.3	457.2	312.67	±0,03	3.4	7.11	10.97	10.43	19.9	31.98
8"	219.1	609.6	414.27	±0,03	3.76	8.18	12.7	20.15	40.3	64.33
10"	273.1	762	517.65	±0,03	4.2	9.27	12.7	35.01	70.8	99.66
12"	323.9	914.4	619.25	±0,03	4.57	9.53	12.7	53.97	111.44	144.96

SPECIFICATIONS — Stainless Steel Pipe , Fitting & Flange

BW Fittings Dimension Sheet

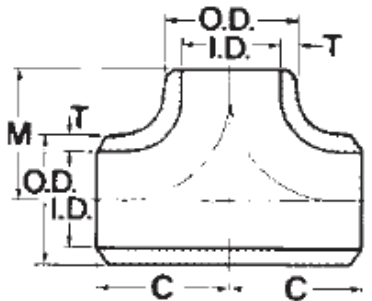


180DEG SHORT RADIUS ELBOW

Nominal Pipe Size	Outside Dia (OD)	Center to End (H)	Back to face (J)	Deviation	Wall Thickness (T)			Weight (Kg)		
					Sch10s	Sch STD	Sch XS	Sch10s	Sch STD	Sch XS
1"	33.4	50.8	41.4	±0,03	2.77	3.38	4.55	0.16	0.2	0.26
1-1/4"	42.2	63.5	52.32	±0,03	2.77	3.56	4.85	0.27	0.34	0.45
1-1/2"	48.3	76.2	61.97	±0,03	2.77	3.68	5.08	0.37	0.49	0.65
2"	60.3	101.6	81.02	±0,03	2.77	3.91	5.54	0.63	0.86	1.19
2-1/2"	73.0	127	100.07	±0,03	3.04	5.16	7.01	1.07	1.82	2.38
3"	88.9	152.4	120.65	±0,03	3.04	5.49	7.62	1.57	2.71	3.65
4"	114.3	203.2	158.75	±0,03	3.04	6.01	8.56	2.71	5.11	7.15
5"	141.3	254	196.85	±0,03	3.4	6.55	9.53	4.69	8.64	12.2
6"	168.3	304.8	236.47	±0,03	3.4	7.11	10.97	6.74	13.3	20
8"	219.1	406.4	312.67	±0,03	3.76	8.18	12.7	12.97	26.8	40.7
10"	273.1	508	390.65	±0,03	4.2	9.27	12.7	22.57	47.2	74.9
12"	323.9	609.6	466.85	±0,03	4.57	9.53	12.7	35.1	71.94	94.91

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BW Fittings Dimension Sheet

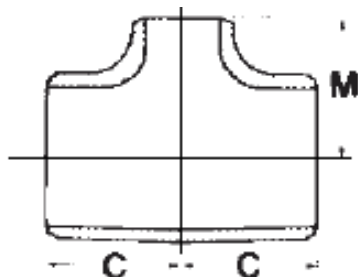


EQUAL TEE

Nominal Pipe Size	Outside Dia (OD)	Center to End (C,M)	Wall Thickness (T)				Weight (Kg)			
			Sch10s	Sch STD	Sch XS	Sch160	Sch10s	Sch STD	Sch XS	Sch160
1/2"	21.3	25.4	2.1	2.77	3.73	4.78	0.06	0.076	0.097	0.15
3/4"	26.7	28.7	2.1	2.87	3.91	5.56	0.07	0.09	0.11	0.23
1"	33.4	38.1	2.77	3.38	4.55	6.35	0.14	0.16	0.22	0.26
1-1/4"	42.2	47.75	2.77	3.56	4.85	6.35	0.23	0.253	0.4	0.419
1-1/2"	48.3	57.15	2.77	3.68	5.08	7.14	0.31	0.403	0.51	0.64
2"	60.3	63.5	2.77	3.91	5.54	8.74	0.51	0.71	0.904	1.32
2-1/2"	73.0	76.2	3.04	5.16	7.01	9.53	0.86	1.36	1.81	2.35
3"	88.9	85.85	3.04	5.49	7.62	11.13	1.22	2.18	2.98	3.83
4"	114.3	104.902	3.04	6.01	8.56	13.49	2	4.17	6.18	8.02
5"	141.3	123.95	3.4	6.55	9.53	15.88	3.46	6.51	9.25	14.7
6"	168.3	143	3.4	7.11	10.97	18.26	4.96	10.41	16.33	26
8"	219.1	177.8	3.76	8.18	12.7		10.55	21.55	33.11	
10"	273.1	215.9	4.2	9.27	12.7		19.6	38.6	49.4	
12"	323.9	254	4.57	9.53	12.7		27.2	59.3	71.2	
14"	355.6	279.4	4.78	9.53	12.7		36.4	70.3	91.9	
16"	406.4	304.8	4.78	9.53	12.7		47.6	91.2	120	
18"	457.0	342.9	4.78	9.53	12.7		59.8	122	153	
20"	508.0	381	5.54	9.53	12.7		92	144	190	
22"	559.0	419.1	5.54	9.53	12.7		99	170	225	
24"	610.0	431.8	6.35	9.53	12.7		141	208	275	

SPECIFICATIONS — Stainless Steel Pipe , Fitting & Flange

BW Fittings Dimension Sheet

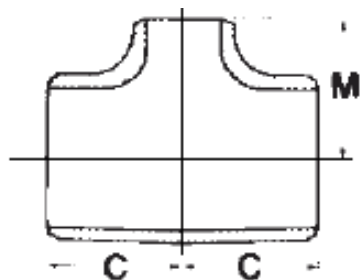


REDUCING TEE

Nominal Pipe Size		Outside Dia (OD1)	Outside Dia (OD2)	Center to End (C)	Center to End (M)	Wall Thickness (T)								Weight (Kg)			
						Sch10s		Sch STD		Sch XS		Sch160		Sch10s	Sch STD	Sch XS	Sch160
RUN	OUTLET					T1	T2	T1	T2	T1	T2	T1	T2				
3/4"	1/2"	26.7	21.3	28.7	28.7	2.1	2.1	2.87	2.77	3.91	3.73			0.123	0.2	0.23	
1"	1/2"	33.4	21.3	38.1	38.1	2.77	2.1	3.38	2.77	4.55	3.73	6.35	4.77	0.204	0.234	0.349	0.45
1"	3/4"	33.4	26.7	38.1	38.1	2.77	2.1	3.38	2.87	4.55	3.91	6.35	5.56	0.212	0.244	0.353	0.47
1-1/4"	1/2"	42.2	21.3	47.75	47.75	2.77	2.1	3.56	2.77					0.285	0.367		
1-1/4"	3/4"	42.2	26.7	47.75	47.75	2.77	2.1	3.56	2.87	4.85	3.91	6.35	5.56	0.327	0.423	0.612	0.79
1-1/4"	1"	42.2	33.4	47.75	47.75	2.77	2.77	3.56	3.38	4.85	4.55	6.35	6.35	0.339	0.441	0.643	0.83
1-1/2"	1/2"	48.3	21.3	57.15	57.15	2.77	2.1	3.68	2.77					0.431	0.561	0.897	
1-1/2"	3/4"	48.3	26.7	57.15	57.15	2.77	2.1	3.68	2.87	5.08	3.91	7.13	5.56	0.446	0.578	0.901	1.09
1-1/2"	1"	48.3	33.4	57.15	57.15	2.77	2.77	3.68	3.38	5.08	4.55	7.13	6.35	0.421	0.6	0.929	1.15
1-1/2"	1-1/4"	48.3	42.2	57.15	57.15	2.77	2.77	3.68	3.56	5.08	4.88	7.13	6.35	0.442	0.629	0.978	1.25
2"	1/2"	60.3	21.3	63.5	44.45	2.77	2.1	3.91	2.77					0.539	0.73		
2"	3/4"	60.3	26.7	63.5	44.45	2.77	2.1	3.91	2.87	5.54	3.91	8.73	5.56	0.702	1.11	1.44	3.18
2"	1"	60.3	33.4	63.5	50.8	2.77	2.77	3.91	3.38	5.54	4.55	8.73	6.35	0.725	1.14	1.46	3.23
2"	1-1/4"	60.3	42.2	63.5	57.15	2.77	2.77	3.91	3.56	5.54	4.85	8.73	6.35	0.747	1.18	1.51	3.31
2"	1-1/2"	60.3	48.3	63.5	60.45	2.77	2.77	3.91	3.68	5.54	5.08	8.73	7.13	0.766	1.23	1.57	3.47
2-1/2"	1"	73.0	33.4	76.2	66.8	3.04	2.77	5.16	3.38					0.85	1.43		
2-1/2"	1-1/4"	73.0	42.2	76.2	66.8	3.04	2.77	5.16	3.56					0.98	1.48		
2-1/2"	1-1/2"	73.0	48.3	76.2	66.8	3.04	2.77	5.16	3.68	7.01	5.08	9.52	7.13	1.18	2.08	2.61	3.44
2-1/2"	2"	73.0	60.3	76.2	69.85	3.04	2.77	5.16	3.91	7.01	5.54	9.52	8.73	1.21	2.12	2.66	3.561
3"	1"	88.9	33.1	85.85	73.15	3.04	2.77	5.49	3.38					1.5	2.88		
3"	1-1/4"	88.9	42.2	85.85	73.15	3.04	2.77	5.49	3.56					1.56	2.92		
3"	1-1/2"	88.9	48.3	85.85	73.15	3.04	2.77	5.49	3.68	7.62	5.08	11.12	7.13	1.6	2.98	3.84	5.08
3"	2"	88.9	60.3	85.85	76.2	3.04	2.77	5.49	3.91	7.62	5.54	11.12	8.73	1.63	3.01	3.86	5.17
3"	2-1/2"	88.9	73.0	85.85	82.55	3.04	3.04	5.49	5.16	7.62	7.01	11.12	9.52	1.69	3.15	3.97	5.45
4"	1-1/2"	114.3	48.3	104.9	85.85	3.04	2.77	6.01	3.68	8.56	5.08			2.51	5.04	6.63	
4"	2"	114.3	60.3	104.9	88.9	3.04	2.77	6.01	3.91	8.56	5.54	13.48	8.73	2.53	5.08	6.7	7.3
4"	2-1/2"	114.3	73.0	104.9	95.25	3.04	3.04	6.01	5.16	8.56	7.01	13.48	9.52	2.59	5.22	6.79	7.74
4"	3"	114.3	88.9	104.9	98.55	3.04	3.04	6.01	5.49	8.56	7.62	13.48	11.12	2.61	5.27	6.93	9.05
5"	2"	141.3	60.3	123.95	111.25	3.4	2.77	6.55	3.91					3.15	7.8		
5"	2-1/2"	141.3	73.0	123.95	111.25	3.4	3.04	6.55	5.16					3.38	7.85		
5"	3"	141.3	88.9	123.95	111.25	3.4	3.04	6.55	5.49	9.53	7.62	15.87	11.12	4.1	8.13	10.95	14.75
5"	4"	141.3	114.3	123.95	117.6	3.4	3.04	6.55	6.01	9.53	8.56	15.87	13.48	4.24	8.36	11.18	15.3
6"	2"	168.3	60.3	143	120.65	3.4	2.77	7.11	3.91					5.38	9.8		
6"	2-1/2"	168.3	73.0	143	120.65	3.4	3.04	7.11	5.16	10.97	7.01			5.69	11.87	17.05	
6"	3"	168.3	88.9	143	123.95	3.4	3.04	7.11	5.49	10.97	7.62	18.26	11.12	5.75	11.92	17.07	22.52
6"	4"	168.3	114.3	143	130.3	3.4	3.04	7.11	6.01	10.97	8.56	18.26	13.48	5.85	12.1	17.19	23.53
6"	5"	168.3	141.3	143	136.65	3.4	3.4	7.11	6.55	10.97	9.53	18.26	15.87	5.92	12.34	17.47	24.37

SPECIFICATIONS — Stainless Steel Pipe , Fitting & Flange

BW Fittings Dimension Sheet



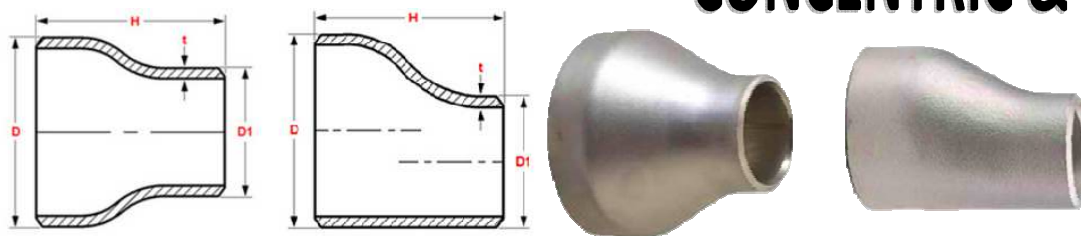
REDUCING TEE

Nominal Pipe Size		Outside Dia (OD1)	Outside Dia (OD2)	Center to End (C)	Center to End (M)	Wall Thickness (T)								Weight (Kg)			
						Sch10s		Sch STD		Sch XS		Sch160		Sch10s	Sch STD	Sch XS	Sch160
RUN	OUTLET					T1	T2	T1	T2	T1	T2	T1	T2				
8"	3"	219.1	88.9	177.8	155.7	3.75	3.04	8.18	5.49					7.89	21		
8"	4"	219.1	114.3	177.8	155.7	3.75	3.04	8.18	6.01	12.7	8.56			9.8	21.26	30.76	
8"	5"	219.1	141.3	177.8	162.05	3.75	3.4	8.18	6.55	12.7	9.53			9.83	21.35	30.86	
8"	6"	219.1	168.3	177.8	168.4	3.75	3.4	8.18	7.11	12.7	10.97			9.91	21.62	31.25	
10"	3"	273.1	88.9	215.9	190.5	4.19	3.04	9.27	5.49					13.98	33.86		
10"	4"	273.1	114.3	215.9	190.5	4.19	3.04	9.27	6.01					14.36	35.98		
10"	5"	273.1	141.3	215.9	190.5	4.19	3.4	9.27	6.55	12.7	9.53			16.47	36.14	47.47	
10"	6"	273.1	168.3	215.9	198.8	4.19	3.4	9.27	7.11	12.7	10.97			16.58	36.27	47.96	
10"	8"	273.1	219.1	215.9	203.2	4.19	3.75	9.27	8.18	12.7	12.7			16.69	36.85	48.39	
12"	5"	323.9	141.3	254	219.2	4.57	3.4	9.53	6.55					23.78	50.82		
12"	6"	323.9	168.3	254	219.2	4.57	3.4	9.53	7.11	12.7	10.97			25.1	51.96	67.48	
12"	8"	323.9	219.1	254	228.6	4.57	3.75	9.53	8.18	12.7	12.7			25.32	52.88	67.92	
12"	10"	323.9	273.1	254	241.3	4.57	4.19	9.53	9.27	12.7	12.7			25.48	53.72	68.81	
14"	6"	355.6	168.3	279.4	247.65	4.77	3.4	9.53	7.11					26.4	54.23		
14"	8"	355.6	219.1	279.4	247.65	4.77	3.75	9.53	8.18	12.7	12.7			28.79	57.88	75.22	
14"	10"	355.6	273.1	279.4	257.3	4.77	4.19	9.53	9.27	12.7	12.7			28.98	58.34	75.89	
14"	12"	355.6	323.9	279.4	270	4.77	4.57	9.53	9.53	12.7	12.7			29.14	58.81	76.57	
16"	6"	406.4	168.3	304.8	279.4	4.77	3.4	9.53	7.11					30.3	64.39		
16"	8"	406.4	219.1	304.8	282.7	4.77	3.75	9.53	8.18					31.56	65.8		
16"	10"	406.4	273.1	304.8	295.4	4.77	4.19	9.53	9.27	12.7	12.7			34.26	68.88	89.51	
16"	12"	406.4	323.9	304.8	295.4	4.77	4.57	9.53	9.53	12.7	12.7			34.47	69.43	90.32	
16"	14"	406.4	355.6	304.8	304.8	4.77	4.77	9.53	9.53	12.7	12.7			34.67	69.98	91.13	
18"	8"	457.2	219.1	342.9	320.8	4.77	3.75	9.53	8.18					40	84.3		
18"	10"	457.2	273.1	342.9	320.8	4.77	4.19	9.53	9.27					40.5	84.6		
18"	12"	457.2	323.9	342.9	320.8	4.77	4.57	9.53	9.53	12.7	12.7			43.37	87.17	113.28	
18"	14"	457.2	355.6	342.9	330.2	4.77	4.77	9.53	9.53	12.7	12.7			43.62	87.17	114.3	
18"	16"	457.2	406.4	342.9	330.2	4.77	4.77	9.53	9.53	12.7	12.7			43.89	88.57	115.33	
20"	10"	508.0	273.1	381	355.6	5.53	4.19	9.53	9.53					60.7	103.6		
20"	12"	508.0	323.9	381	355.6	5.53	4.57	9.53	9.53					62.8	105.3		
20"	14"	508.0	355.6	381	355.6	5.53	4.77	9.53	9.53	12.7	12.7			64.5	107.6	139.9	
20"	16"	508.0	406.4	381	355.6	5.53	4.77	9.53	9.53	12.7	12.7			64.9	108.4	141.1	
20"	18"	508.0	457.2	381	368.3	5.53	4.77	9.53	9.53	12.7	12.7			65.2	109.1	142.4	
22"	16"	558.8	406.4	419.1	381	5.53	4.77	9.53	9.53	12.7	12.7			78	130.2	169.2	
22"	18"	558.8	457.2	419.1	393.7	5.53	4.77	9.53	9.53	12.7	12.7			78.5	131.1	170.7	
22"	20"	558.8	508.0	419.1	406.4	5.53	5.53	9.53	9.53	12.7	12.7			79	132.1	172.3	
24"	10"	609.6	273.1	431.8	406.4	6.35	4.19	9.53	9.53					92.6	134.9		
24"	12"	609.6	323.9	431.8	406.4	6.35	4.57	9.53	9.53					94.4	136.5		
24"	14"	609.6	355.6	431.8	406.4	6.35	4.77	9.53	9.53					95.3	137.1		
24"	16"	609.6	406.4	431.8	406.4	6.35	4.77	9.53	9.53	12.7	12.7			96.8	138.2	179.6	
24"	18"	609.6	457.2	431.8	419.1	6.35	4.77	9.53	9.53	12.7	12.7			97.7	139.2	181.3	
24"	20"	609.6	508.0	431.8	431.8	6.35	5.53	9.53	9.53	12.7	12.7			98	140.2	182.9	
24"	22"	609.6	558.8	431.8	431.8	6.35	5.53	9.53	9.53	12.7	12.7			98.6	141.2	184.5	

SPECIFICATIONS — Stainless Steel Pipe , Fitting & Flange

BW Fittings Dimension Sheet

REDUCER CONCENTRIC & ECCENTRIC

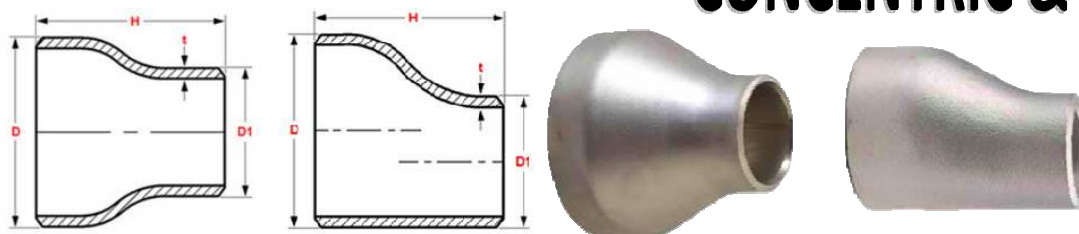


Nominal Pipe Size	Outside Dia (D)	Outside Dia (D1)	Length (H)	Wall Thickness (T) mm								Weight (Kg)			
				Sch10s		Sch STD		Sch XS		Sch160		Sch10s	Sch STD	Sch XS	Sch160
				T1	T2	T1	T2	T1	T2	T1	T2				
1/2" X 3/8"	21.3	17.3	38.1	2.1	1.65	2.77	2.31			4.77		0.03	0.04		
3/4" X 3/8"	26.7	17.3	38.1	2.1	1.65	2.87	2.31			5.56		0.034	0.048		
3/4" X 1/2"	26.7	21.3	38.1	2.1	2.1	2.87	2.77	3.91	3.73	5.56	4.77	0.043	0.059	0.075	0.123
1" X 3/8"	33.4	17.3	50.8	2.76	1.65	3.38	2.31			6.35		0.063	0.091		
1" X 1/2"	33.4	21.3	50.8	2.76	2.1	3.38	2.77	4.55	3.73	6.35	4.77	0.089	0.105	0.163	0.17
1" X 3/4"	33.4	26.7	50.8	2.76	2.1	3.38	2.87	4.55	3.91	6.35	5.56	0.098	0.116	0.168	0.19
1-1/4" X 1/2"	42.2	21.3	50.8	2.76	2.1	3.56	2.77	4.85	3.3			0.116	0.148	0.226	
1-1/4" X 3/4"	42.2	26.7	50.8	2.76	2.1	3.56	2.87	4.85	3.91			0.12	0.15	0.23	
1-1/4" X 1"	42.2	33.4	50.8	2.76	2.76	3.56	3.38	4.85	4.55	6.35	6.35	0.125	0.157	0.245	2.9
1-1/2" X 1/2"	48.3	21.3	63.5	2.76	2.1	3.68	2.77	5.08	3.3	7.13	4.77	0.154	0.204	0.276	0.342
1-1/2" X 3/4"	48.3	26.7	63.5	2.76	2.1	3.68	2.87	5.08	3.91	7.13	5.56	0.156	0.211	0.294	0.35
1-1/2" X 1"	48.3	33.4	63.5	2.76	2.76	3.68	3.38	5.08	1.55	7.13	6.35	0.17	0.219	0.308	0.38
1-1/2" X 1-1/4"	48.3	42.2	63.5	2.76	2.76	3.68	3.56	5.08	4.85	7.13	6.35	0.195	0.263	0.331	0.43
2" X 1/2"	60.3	21.3	76.2	2.76	2.1	3.91	2.77	5.54	3.3			0.208	0.29	0.36	
2" X 3/4"	60.3	26.7	76.2	2.76	2.1	3.91	2.87	5.54	3.91	8.73	5.56	0.214	0.298	0.453	0.617
2" X 1"	60.3	33.4	76.2	2.76	2.76	3.91	3.38	5.54	4.55	8.73	6.35	0.237	0.322	0.458	0.643
2" X 1-1/4"	60.3	42.2	76.2	2.76	2.76	3.91	3.56	5.54	4.85	8.73	6.35	0.258	0.352	0.525	0.704
2" X 1-1/2"	60.3	48.3	76.2	2.76	2.76	3.91	3.68	5.54	5.08	8.73	7.13	0.273	0.372	0.544	0.75
2-1/2" X 1"	73.0	33.4	88.9	3.04	2.76	5.16	3.38	7.01	4.55			0.3	0.63	0.739	
2-1/2" X 1-1/4"	73.0	42.2	88.9	3.04	2.76	5.16	3.56	7.01	4.85	9.52	6.35	0.394	0.661	0.825	1.023
2-1/2" X 1-1/2"	73.0	48.3	88.9	3.04	2.76	5.16	3.68	7.01	5.08	9.52	7.13	0.396	0.67	0.856	1.08
2-1/2" X 2"	73.0	60.3	88.9	3.04	2.76	5.16	3.91	7.01	5.54	9.52	8.73	0.432	0.724	0.938	1.216
3" X 1"	88.9	33.4	88.9	3.04	2.76	5.49	3.38	7.62	4.55	11.12	6.35	0.408	0.716	0.888	1.408
3" X 1-1/4"	88.9	42.2	88.9	3.04	2.76	5.49	3.56	7.62	3.91	11.12	6.35	0.43	0.775	1.037	1.431
3" X 1-1/2"	88.9	48.3	88.9	3.04	2.76	5.49	3.68	7.62	5.08	11.12	7.13	0.444	0.783	1.105	1.449
3" X 2"	88.9	60.3	88.9	3.04	2.76	5.49	3.91	7.62	5.54	11.12	8.73	0.478	0.846	1.178	1.574
3" X 2-1/2"	88.9	73.0	101.6	3.04	3.04	5.49	5.16	7.62	7.01	11.12	9.52	0.548	0.983	1.291	1.712
4" X 1-1/2"	114.3	48.3	101.6	3.04	2.76	6.01	3.68	8.56	5.08	13.48	7.13	0.63	1.241	1.73	2.429
4" X 2"	114.3	60.3	101.6	3.04	2.76	6.01	3.91	8.56	5.54	13.48	8.73	0.656	1.27	1.78	2.58
4" X 2-1/2"	114.3	73.0	101.6	3.04	3.04	6.01	5.16	8.56	7.01	13.48	9.52	0.706	1.37	2.007	2.76
4" X 3"	114.3	88.9	101.6	3.04	3.04	6.01	5.49	8.56	7.62	13.48	11.12	0.748	1.45	2.129	3.00
5" X 2"	141.3	60.3	127	3.4	2.76	6.55	3.91					1.03	1.92		
5" X 2-1/2"	141.3	73.0	127	3.4	3.04	6.55	5.16	9.53	7.01			1.1	2.16	3.02	
5" X 3"	141.3	88.9	127	3.4	3.04	6.55	5.49	9.53	7.62	15.87	11.12	1.2	2.27	3.55	5.32
5" X 4"	141.3	114.3	127	3.4	3.04	6.55	6.01	9.53	8.56	15.87	13.48	1.32	2.5	3.77	5.59

SPECIFICATIONS — Stainless Steel Pipe , Fitting & Flange

BW Fittings Dimension Sheet

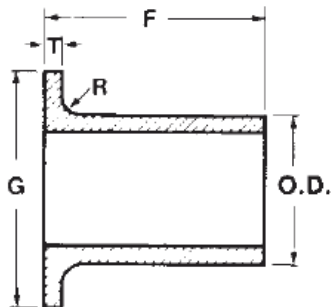
REDUCER CONCENTRIC & ECCENTRIC



Nominal Pipe Size	Outside Dia (D)	Outside Dia (D1)	Length (H)	Wall Thickness (T) mm								Weight (Kg)			
				Sch10s		Sch STD		Sch XS		Sch160		Sch10s	Sch STD	Sch XS	Sch160
				T1	T2	T1	T2	T1	T2	T1	T2				
6" X 2"	168.3	60.3	139.7	3.4	2.76	7.11	3.91					1.33	2.54		
6" X 2-1/2"	168.3	73.0	139.7	3.4	3.04	7.11	5.18	10.97	7.01			1.35	2.74	4.51	
6" X 3"	168.3	88.9	139.7	3.4	3.04	7.11	5.49	10.97	7.62	18.26	11.12	1.5	3.04	5.03	7.21
6" X 4"	168.3	114.3	139.7	3.4	3.04	7.11	6.01	10.97	8.56	18.26	13.48	1.62	3.3	5.44	7.88
6" X 5"	168.3	141.3	139.7	3.4	3.4	7.11	6.55	10.97	9.53	18.26	15.87	1.75	3.57	5.71	8.63
8" x 3"	219.1	88.9	152.4	3.76	3.04	8.17	5.49					2.33	5.08		
8" x 4"	219.1	114.3	152.4	3.76	3.04	8.17	6.01	12.7	8.56	23.01		2.56	5.1	8.43	
8" x 5"	219.1	141.3	152.4	3.76	3.4	8.17	6.55	12.7	9.53	23.01		2.7	5.4	8.83	
8" x 6"	219.1	168.3	152.4	3.76	3.4	8.17	7.11	12.7	10.97	23.01		2.85	5.71	9.24	
10" x 5"	273.1	141.3	177.8	4.2	3.4	9.27	6.55	12.7	9.53	28.57		3.3	8.21	13	
10" x 6"	273.1	168.3	177.8	4.2	3.4	9.27	7.11	12.7	10.97	28.57		3.87	8.78	13.5	
10" x 8"	273.1	219.1	177.8	4.2	3.75	9.27	8.17	12.7	12.7	28.57		4.21	9.58	14.22	
12" x 5"	323.9	141.3	203.2	4.57	3.4	9.53	6.55	12.7				4.97	12.08		
12" x 6"	323.9	168.3	203.2	4.57	3.4	9.53	7.11	12.7	10.97	33.32		5.73	12.4	18.39	
12" x 8"	323.9	219.1	203.2	4.57	3.75	9.53	8.17	12.7	12.7	33.32		6.11	13.7	19.07	
12" x 10"	323.9	273.1	203.2	4.57	4.19	9.53	9.27	12.7	12.7	33.32		6.55	14.7	19.48	
14" X 6"	355.6	168.3	330.2	4.77	3.4	9.53	7.11	12.7	10.9	35.71		11	22	28.7	
14" X 8"	355.6	219.1	330.2	4.77	3.75	9.53	8.17	12.7	12.7	35.71		12.1	24.2	31.5	
14" X 10"	355.6	273.1	330.2	4.77	4.19	9.53	9.27	12.7	12.7	35.71		13.2	26.4	34.4	
14" X 12"	355.6	323.9	330.2	4.77	4.57	9.53	9.53	12.7	12.7	35.71		14.3	28.6	37.2	
16" X 8"	406.4	219.1	330.2	4.77	3.76	9.53	8.17	12.7	12.7	40.48		14.2	28.3	36.9	
16" X 10"	406.4	273.1	330.2	4.77	4.19	9.53	9.27	12.7	12.7	40.48		15.4	30.8	40.1	
16" X 12"	406.4	323.9	355.6	4.77	4.57	9.53	9.53	12.7	12.7	40.48		16.5	33.1	43.1	
16" X 14"	406.4	355.6	355.6	4.77	4.77	9.53	9.53	12.7	12.7	40.48		17.3	34.5	44.9	
18" X 10"	457.2	273.1	355.6	4.77	4.19	9.53	9.27	12.7	12.7	45.23		17.7	35.4	46.1	
18" X 12"	457.2	323.9	355.6	4.77	4.57	9.53	9.53	12.7	12.7	45.23		18.9	37.9	9.3	
18" X 14"	457.2	355.6	355.6	4.77	4.77	9.53	9.53	12.7	12.7	45.23		19	39.4	51.3	
18" X 16"	457.2	406.4	355.6	4.77	4.77	9.53	9.53	12.7	12.7	45.23		20.9	41.9	54.5	
20" X 10"	508.0	273.1	508	5.53	4.19	9.53	9.27	12.7				30.6	53.2		
20" X 12"	508.0	323.9	508	5.53	4.57	9.53	9.53	12.7	12.7	50.01		32.8	53.8	70	
20" X 14"	508.0	355.6	508	5.53	4.77	9.53	9.53	12.7	12.7	50.01		34	55.8	72.7	
20" X 16"	508.0	406.4	508	5.53	4.77	9.53	9.53	12.7	12.7	50.01		36.1	59.3	76.9	
20" X 18"	508.0	457.2	508	5.53	4.77	9.53	9.53	12.7	12.7	50.01		38	62.4	81.3	
24" X 14"	609.6	355.6	508	6.35	4.77	9.53	9.53	12.7	12.7	59.53		43.7	62.4	81.3	
24" X 16"	609.6	406.4	508	6.35	4.77	9.53	9.53	12.7	12.7	59.53		46.1	65.8	85.5	
24" X 18"	609.6	457.2	508	6.35	4.77	9.53	9.53	12.7	12.7	59.53		48.3	68.9	89.9	
24" X 20"	609.6	508.0	508	6.35	5.53	9.53	15.08	12.7	12.7	59.53		50.6	72.3	94.1	
24" X 22"	609.6	558.8	508	6.35	5.53	9.53	9.53	12.7	12.7	59.53		46	68.6	90.1	

SPECIFICATIONS — Stainless Steel Pipe , Fitting & Flange

BW Fittings Dimension Sheet

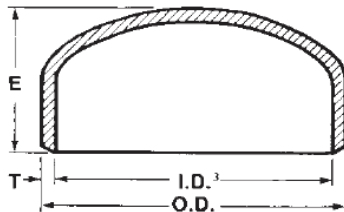


STUD END

Nominal Pipe Size	Outside Dia (OD)	Center to End (G)	Wall Thickness (T)			Length (F)	Radius (R)		Weight (Kg)		
			Sch10s	Sch STD	Sch XS		Type A (Max)	Type B (Max)	Sch10s	STD	Sch XS
1/2"	21.3	34.92	2.1	2.77	3.73	50.8	0.13	0.3	0.118	0.127	0.127
3/4"	26.7	42.87	2.1	2.87	3.91	50.8	0.13	0.3	0.154	0.168	0.168
1"	33.4	50.8	2.76	3.38	4.55	50.8	0.13	0.3	0.14	0.186	0.24
1-1/4"	42.2	63.5	2.76	3.56	4.85	50.8	0.19	0.3	0.208	0.263	0.349
1-1/2"	48.3	73.02	2.76	3.68	5.08	50.8	0.25	0.3	0.249	0.376	0.458
2"	60.3	92.07	2.76	3.91	5.54	63.5	0.31	0.3	0.376	0.539	0.743
2-1/2"	73.0	104.77	3.04	5.16	7.01	63.5	0.31	0.3	0.471	0.797	1.06
3"	88.9	127	3.04	5.49	7.62	63.5	0.38	0.3	0.638	1.133	1.508
4"	114.3	157.17	3.04	6.01	8.56	76.2	0.44	0.3	0.978	1.812	2.523
5"	141.3	185.75	3.4	6.55	9.53	76.2	0.44	0.3	1.237	2.537	3.601
6"	168.3	215.9	3.4	7.11	10.97	88.9	0.5	0.6	1.95	3.72	5.57
8"	219.1	269.87	3.76	8.18	12.7	101.6	0.5	0.6	3.1	5.89	10.12
10"	273.1	323.85	4.2	9.27	15.09	127	0.5	0.6	4.86	10.42	13.95
12"	323.9	381	4.57	9.53	17.48	152.4	0.5	0.6	7.11	14.95	19.93
14"	355.6	412.75	4.78	9.53	19.05	152.4	0.5	0.6	7.75	15.46	20.62
16"	406.4	469.9	4.78	9.53	21.44	152.4	0.5	0.6	9.02	17.98	23.98
18"	457.2	533.4	4.78	9.53	23.83	152.4	0.5	0.6	10.53	21	28
20"	508.0	584.2	5.54	9.53	26.19	152.4	0.5	0.6	13.54	23.3	31.07
24"	609.6	692.15	6.35	9.53	30.96	152.4	0.5	0.6	18.94	28.41	37.88

SPECIFICATIONS — Stainless Steel Pipe , Fitting & Flange

BW Fittings Dimension Sheet



END CAP

Nominal Pipe Size	Outside Dia (OD)	Wall Thickness (T)			Length (E)			Weight (Kg)		
		Sch10s	Sch STD	Sch XS	E	Limiting Wall Thickness, Tf	Ef	Sch10s	Sch STD	Sch XS
1/2"	21.3	2.1	2.77	3.73	25.4	4.57	25.4	0.04	0.046	0.054
3/4"	26.7	2.1	2.87	3.91	25.4	3.81	25.4	0.052	0.059	0.086
1"	33.4	2.77	3.38	4.55	38.1	4.57	38.1	0.09	0.109	0.139
1-1/4"	42.2	2.77	3.56	4.85	38.1	4.82	38.1	0.113	0.145	0.159
1-1/2"	48.3	2.77	3.68	5.08	38.1	5.08	38.1	0.13	0.171	0.222
2"	60.3	2.77	3.91	5.54	38.1	5.58	44.45	0.168	0.234	0.344
2-1/2"	73.0	3.04	5.16	7.01	38.1	7.11	50.8	0.242	0.42	0.512
3"	88.9	3.04	5.49	7.62	50.8	7.62	63.5	0.362	0.664	0.888
4"	114.3	3.04	6.01	8.56	63.5	8.1	76.2	0.585	1.17	1.51
5"	141.3	3.4	6.55	9.53	76.5	8.6	88.9	0.978	1.9	2.89
6"	168.3	3.4	7.11	10.97	88.9	9.65	101.6	1.35	2.83	4.24
8"	219.1	3.76	8.18	12.7	101.6	10.92	127	2.49	5.11	7.76
10"	273.1	4.2	9.27	15.09	127	12.7	152.4	3.84	8.92	13.11
12"	323.9	4.57	10.31	17.48	152.4	12.7	177.8	6.15	14.1	17.94
14"	355.6	4.78	11.13	19.05	165.1	12.7	190.5	7.85	16.35	21.11
16"	406.4	4.78	12.7	21.44	177.8	12.7	203.2	9.56	18.6	25.73
18"	457.0	4.78	14.27	23.83	203.2	12.7	228.6	12.1	23.54	32.57
20"	508.0	5.54	15.09	26.19	228.6	12.7	254	17.1	29.06	40.21
24"	610.0	6.35	17.48	30.96	266.7	12.7	304.8	30.15	41.85	57.86