



# RHINO FITT<sup>UK</sup>

*A Quality Product of WEC (LEEDS) Co.*

## Butt Weld Fittings

• Carbon Steel • Stainless Steel • Special Alloys



AN ISO 9001:2015 CERTIFIED COMPANY





W.E.C (Leeds) Ltd, established in the UK in 1997, is today a leading name in the Manufacture and Distribution of specialised hoses for the Oil and Petrochemical industry.

Recognising the opportunity in the piping industry W.E.C (Leeds) ramped up manufacturing to become a major PFV (Pipes, Fittings & Valves), branded as Rhinofitt. Today Rhinofitt is the preferred vendor across UK and Europe for enterprise level projects.

Upping the ante in the international market, based on our success in Europe, we are now one of the leading brands worldwide. Rhinofitt is known for offering a good quality product at competitive prices whilst maintaining a high standard of service and technical know how, supported by our wide network of distributors.

W.E.C (Leeds) recognises the need to offer the highest standards of customer service and this has always been a fundamental rule in our business model as well as our success both for existing and potential new clients.

Within the Rhinofitt range we provide all types of pipe fittings and flanges in various grades of Carbon Steel and Stainless Steel manufactured to the highest quality standards.





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## Capabilities

### Carbon Steel

- ASTM A234 / A234M
- ASTM A420 / A420M

### Stainless Steel

- ASTM A403 / A403M
- Duplex & Super Duplex ASTM A815 / A815M

## Product Range

### Size

- ½" to 60"
- Larger sizes available on request

### Wall Thickness

- Sch 20 to Sch XXS
- Special Wall Thickness on request

### Type

- Elbows, Equal & Reducing Tees, Eccentric and Concentric Reducers, and Caps

### Grade

- ASTM A234 (WPB), ASTM A420 (WPL6)
- ASTM A403 / A403M (WP304L) / (WP316L)
- ASTM A815 Gr. S31803 / S32750 / S32760

### Pipe Material

- Carbon Steel
- Stainless Steel
- Available in Seamless and Welded

## Applicable Standards

ASTM A234 / A234M WPB Fittings  
Piping Fittings of Wrought Carbon Steel  
and Alloy Steel for Moderate and High  
Temperature Service

ASTM A420 / A420M WPL6 Fittings  
Piping Fittings of Wrought Carbon Steel  
and Alloy Steel for Low – Temperature  
Service

ASTM A860 / A860M (WPHY 52 Fittings)  
Wrought High Strength Low – Alloy Steel  
Buttweld Fittings

ASTM A815 / A815M Fittings  
Wrought Ferritic / Austenitic Pipe Fittings

ASME B16.90  
Factory Made Wrought Butt Welding  
Fittings

MSS-SP-75  
High Test Wrought Butt - Welded Fittings

NACE MR0175 / ISO 15156  
Metals for Sulfide Stress Cracking and  
Stress Corrosion Cracking Resistance in  
Sour Oilfield Environments



At RHINOFITT we ensure that all our products undergo the most stringent process of testing and analysis.

## Testing

### Destructive Testing

- Tensile Test
- Charpy Impact Test (0°C to -60°C)
- Macro Hardness Test
- Metallographic Test
- Guided or Welded Bend Test for Welded Materials
- Hydrogen Induced Cracking Test (HIC) – Sour Service
- Sulphite Stress Cracking Test (SSC) – Sour Service
- Intergranular Corrosion Test
- Pitting and Crevice Corrosion Resistance Test
- Ferrite Count

### Non - Destructive Testing

- Dimensional Inspection
- Positive Material Identification (PMI)
- Surface Hardness Test
- Ultrasonic Thickness Check
- Penetrant Test – Liquid Penetrant Test (LPT)
- Ultrasonic Flaw Detection (UTFD)
- Radiography Inspection (RT)
- Eddy Current Test (ET)
- Drift Test / Pigging
- Hydrostatic Test

### Heat Treatment

#### Temperature

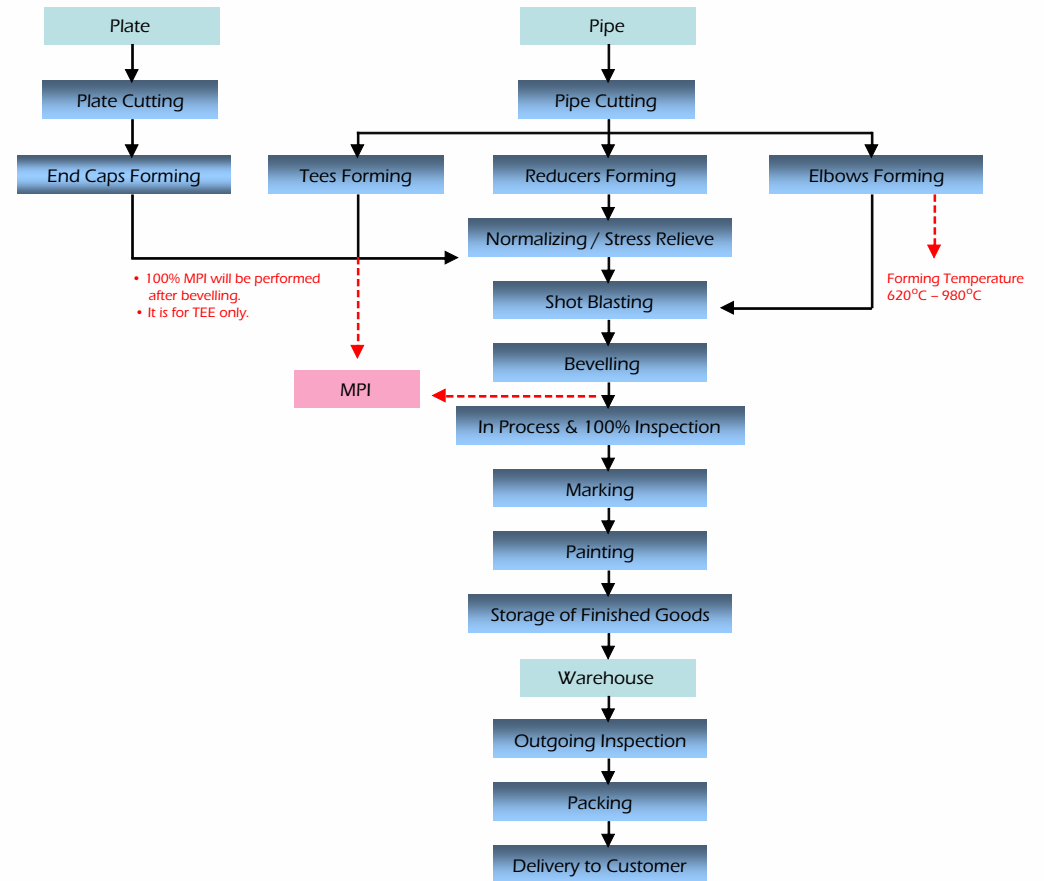
- Up to 1200°C

#### Post Heat Treatment

- Stress Relieved
- Tempering
- Normalizing
- Quenched

Note : The above tests are subject to customer's requirement on the standard/specification compliance.

## Manufacturing Process





## Wrought Steel Butt-welding Fittings



90° Elbow Long Radius



90° Elbow Short Radius



45° Elbow Long Radius



180° Long Radius  
Return Elbow



180° Short Radius  
Return Elbow



Equal Tee



Reducing Tee



Reducer (Concentric)



Reducer (Eccentric)



End Cap



## Stainless Steel Butt-welding Fittings



90° Elbow Long Radius



90° Elbow Short Radius



45° Elbow Long Radius



180° Elbow Long Radius



180° Elbow Short Radius



Equal Tee



Reducing Tee



Reducer (Concentric)



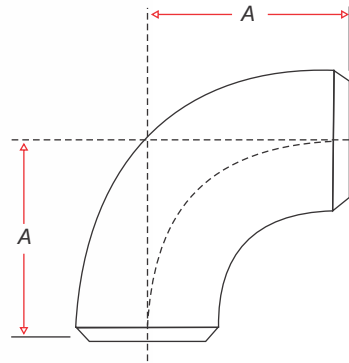
Reducer (Eccentric)



Cap



## 90° LONG RADIUS ELBOWS



### ASME B16.9

Nominal Pipe Size (NPS)	Outside Diameter at Bevel	Sch. 10s	Sch. 40s	SCH STD		SCH 40		SCH XS		SCH 80		SCH 120		SCH 160		SCH XXS	
		Wall thk.	Wall thk.	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg
½"	21.3	2.11	2.77	2.77	0.08	2.77	0.08	3.73	0.1	3.73	0.1			4.78	0.12	7.47	0.18
¾"	26.7	2.11	2.87	2.87	0.11	2.87	0.11	3.91	0.14	3.91	0.14			5.56	0.13	7.82	0.22
1"	33.4	2.77	3.38	3.38	0.16	3.38	0.16	4.55	0.2	4.55	0.2			6.35	0.26	9.09	0.36
1¼"	42.2	2.77	3.56	3.56	0.27	3.56	0.27	4.85	0.36	4.85	0.36			6.35	0.42	9.7	0.64
1½"	48.3	2.77	3.68	3.68	0.4	3.68	0.4	5.08	0.53	5.08	0.53			7.14	0.7	10.15	0.93
2"	60.3	2.77	3.91	3.91	0.67	3.91	0.67	5.54	0.9	5.54	0.9			8.74	1.5	11.07	1.69
2½"	73	3.05	5.16	5.16	1.37	5.16	1.37	7.01	1.79	7.01	1.79			9.53	2.33	14.02	3.43
3"	88.9	3.05	5.49	5.49	2.08	5.49	2.08	7.62	2.74	7.62	2.74			11.13	4.1	15.24	5.25
4"	114.3	3.05	6.02	6.02	3.95	6.02	3.95	8.56	5.4	8.56	5.4	11.13	7.2	13.49	8.6	17.12	10.4
5"	141.3	3.40	6.56	6.55	6.67	6.55	6.67	9.53	9.34	9.53	9.34	12.7	12.7	15.88	17.6	19.05	17.6
6"	168.3	3.40	7.11	7.11	10.4	7.11	10.4	10.97	15.5	10.97	15.5	14.27	21.1	18.26	28	21.95	31.8
8"	219.1	3.76	8.18	8.18	20.9	8.18	20.9	12.7	31.3	12.7	31.3	18.26	46.05	23.01	56.72	22.23	55
10"	273.1	4.90	9.27	9.27	37	9.27	37	12.7	49.4	15.09	57.11	21.44	84.55	28.58	109.7	25.4	98.65
12"	323.9	4.57	9.52	9.53	54	10.31	58.15	12.7	71.2	17.48	94.82	25.4	140	33.32	182.42	25.4	140
14"	355.6	4.78		9.53	69.3	11.13	79.96	12.7	91.5	19.05	132.16	27.79	197	35.71	246.5		
16"	406.4	4.78		9.53	91.2	12.7	120	12.7	120	21.44	204.3	30.96	227.5	40.49	365.9		
18"	457.2	4.78		9.53	116	14.27	177.06	12.7	153	23.83	287.84	34.93	412	45.24	519		
20"	508	5.54		9.53	143.3	15.09	230	12.7	190.3	26.19	390.9	38.1	554.6	50.01	716		
22"	559	5.54		9.53	174.5	-		12.7	230.5	28.58	523.4	41.28	728	53.98	886		
24"	610	6.35		9.53	207	17.48	384	12.7	274.5	30.96	667.4	46.02	964	59.54	1,250.00		

\* All dimensions in mm.

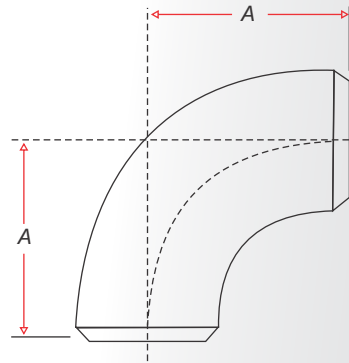
\* All weights indicated are approximate.

Other sizes available on request.





## 90° LONG RADIUS ELBOWS



### ASME B16.9

Nominal Pipe Size (NPS)	Outside Diameter at Bevel	SCH STD		SCH XS	
		Wall thk.	Weight kg	Wall thk.	Weight kg
26"	660.0	9.53	247.00	12.70	328.00
28"	711.0	9.53	276.00	12.70	356.00
30"	762.0	9.53	331.00	12.70	429.00
32"	813.0	9.53	362.00	12.70	468.00
34"	864.0	9.53	409.00	12.70	530.00
36"	914.0	9.53	478.00	12.70	635.00
38"	965.0	9.53	510.00	12.70	664.00
40"	1016.0	9.53	566.00	12.70	738.00
42"	1067.0	9.53	616.00	12.70	820.00
44"	1118.0	9.53	686.00	12.70	896.00
46"	1168.0	9.53	749.00	12.70	979.00
48"	1219.0	9.53	816.00	12.70	1068.00

\* All dimensions in mm.

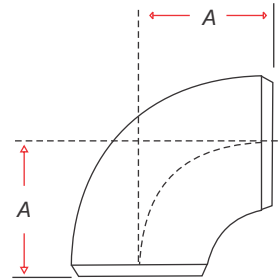
\* All weights indicated are approximate.  
Other sizes available on request.

HIGHER  
W.T.  
ON REQUEST





## 90° SHORT RADIUS ELBOWS



### ASME B16.9

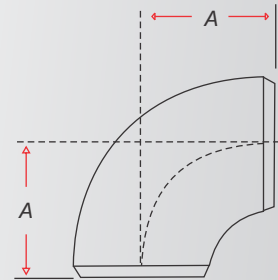
Nominal Pipe Size (NPS)	Outside Diameter at Bevel	SCH STD		SCH 40		SCH XS		SCH 80		SCH 120		SCH 160		SCH XXS	
		Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg
1"	33.4	3.38	0.11	3.38	0.11	4.55	0.14	4.55	0.14			6.35	0.17	9.09	0.22
1¼"	42.2	3.56	0.18	3.56	0.18	4.85	0.24	4.85	0.24			6.35	0.31	9.70	0.43
1½"	48.3	3.68	0.25	3.68	0.25	5.08	0.34	5.08	0.34			7.14	0.43	10.15	0.57
2"	60.3	3.91	0.44	3.91	0.44	5.54	0.62	5.54	0.62			8.74	0.92	11.07	1.13
2½"	73.0	5.16	0.91	5.16	0.91	7.01	1.19	7.01	1.19			9.53	1.49	14.02	2.19
3"	88.9	5.49	1.38	5.49	1.38	7.62	1.85	7.62	1.85			11.13	2.60	15.24	3.49
4"	114.3	6.02	2.60	6.02	2.60	8.56	3.60	8.56	3.60	11.13	4.50	13.49	5.35	17.12	6.79
5"	141.3	6.55	4.40	6.55	4.40	9.53	6.20	9.53	6.20	12.70	9.10	15.88	11.40	19.05	13.53
6"	168.3	7.11	6.85	7.11	6.85	10.97	10.30	10.97	10.30	14.27	14.60	18.26	18.20	21.95	21.33
8"	219.1	8.18	13.70	8.18	13.70	12.70	20.60	12.70	20.60	18.26	33.50	23.01	40.57	22.23	39.50
10"	273.1	9.27	24.50	9.27	24.50	12.70	32.80	15.09	40.00	21.44	64.80	28.58	83.95	25.40	75.60
12"	323.9	9.53	36.00	10.31	40.00	12.70	47.00	17.48	66.28	25.40	87.60	33.32	114.00	25.40	89.50
14"	355.6	9.53	46.20	11.13	55.39	12.70	61.20	19.05	93.07	27.79	130.00	35.71	162.00		
16"	406.4	9.53	61.00	12.70	80.10	12.70	80.10	21.44	136.20	30.96	190.30	40.49	242.50		
18"	457.2	9.53	77.50	14.27	117.59	12.70	102.00	23.83	191.60	34.93	272.50	45.24	344.50		
20"	508.0	9.53	96.00	15.09	153.45	12.70	126.30	26.19	260.14	38.10	368.00	50.01	476.00		
22"	559.0	9.53	117.50			12.70	154.00	28.58	350.50	41.28	485.00	53.98	625.00		
24"	610.0	9.53	138.50	17.48	256.00	12.70	183.50	30.96	443.55	46.02	641.50	59.54	833.00		

\* All dimensions in mm.

\* All weights indicated are approximate.  
Other sizes available on request.



## 90° SHORT RADIUS ELBOWS



### ASME B16.9

Nominal Pipe Size (NPS)	Outside Diameter at Bevel	SCH STD		SCH XS	
		Wall thk.	Weight kg	Wall thk.	Weight kg
26"	660.0	9.53	159.50	12.70	204.00
30"	762.0	9.53	216.00	12.70	285.00
36"	914.0	9.53	313.00	12.70	423.00
38"	965.0	9.53	340.00	12.70	452.00
40"	1016.0	9.53	377.00	12.70	501.00
42"	1067.0	9.53	416.00	12.70	553.00
44"	1118.0	9.53	457.00	12.70	607.00
46"	1168.0	9.53	499.00	12.70	664.00
48"	1219.0	9.53	544.00	12.70	723.00

\* All dimensions in mm.

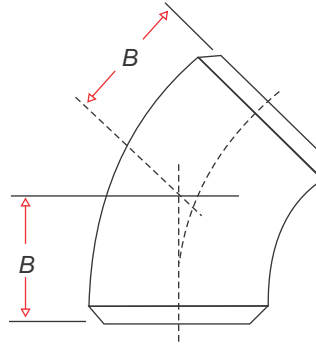
\* All weights indicated are approximate.  
Other sizes available on request.

HIGHER  
W.T.  
ON REQUEST





# 45° LONG RADIUS ELBOWS



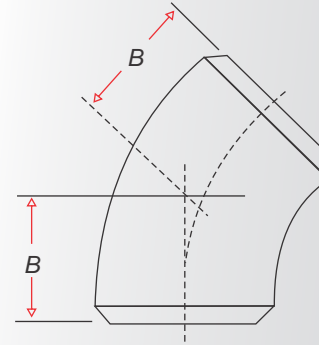
## ASME B16.9

Nominal Pipe Size (NPS)	Outside Diameter at Bevel	Sch.10s		Sch.40s		SCH STD		SCH 40		SCH XS		SCH 80		SCH 120		SCH 160		SCH XXS	
		Wall thk.	Wall thk.	Wall thk.	kg	Wall thk.	kg	Wall thk.	kg	Wall thk.	kg	Wall thk.	kg	Wall thk.	kg	Wall thk.	kg	Wall thk.	kg
½"	21.3	2.11	2.77	2.77	0.04	2.77	0.04	3.73	0.05	3.73	0.05			4.78	0.05	7.47	0.08		
¾"	26.7	2.11	2.87	2.87	0.06	2.87	0.06	3.91	0.07	3.91	0.07			5.56	0.06	7.82	0.1		
1"	33.4	2.77	3.38	3.38	0.08	3.38	0.08	4.55	0.1	4.55	0.1			6.35	0.13	9.09	0.18		
1¼"	42.2	2.77	3.56	3.56	0.13	3.56	0.13	4.85	0.18	4.85	0.18			6.35	0.21	9.7	0.32		
1½"	48.3	2.77	3.68	3.68	0.19	3.68	0.19	5.08	0.25	5.08	0.25			7.14	0.33	10.15	0.47		
2"	60.3	2.77	3.91	3.91	0.33	3.91	0.33	5.54	0.45	5.54	0.45			8.74	0.71	11.07	0.85		
2½"	73	3.05	5.16	5.16	0.69	5.16	0.69	7.01	0.9	7.01	0.9			9.53	1.17	14.02	1.72		
3"	88.9	3.05	5.49	5.49	1.02	5.49	1.02	7.62	1.37	7.62	1.37			11.13	1.92	15.24	2.63		
4"	114.3	3.05	6.02	6.02	1.95	6.02	1.95	8.56	2.68	8.56	2.68	11.13	3.5	13.49	4.2	17.12	5.09		
5"	141.3	3.40	6.56	6.55	3.31	6.55	3.31	9.53	4.63	9.53	4.63	12.7	6.15	15.88	7.46	19.05	8.8		
6"	168.3	3.40	7.11	7.11	5.13	7.11	5.13	10.97	7.57	10.97	7.57	14.27	10.2	18.26	13.7	21.95	15.4		
8"	219.1	3.76	8.18	8.18	10.3	8.18	10.3	12.7	15.4	12.7	15.4	18.26	22.6	23.01	26.6	22.23	26.6		
10"	273.1	4.90	9.27	9.27	18.3	9.27	18.3	12.7	24.4	15.09	30	21.44	41.3	28.58	53.7	25.4	47.9		
12"	323.9	4.57	9.52	9.53	27	10.31	29.57	12.7	35.5	17.48	49.94	25.4	68.6	33.32	90	25.4	68.6		
14"	355.6	4.78		9.53	34.5	11.13	39.98	12.7	45.4	19.05	69.92	27.79	97.5	35.71	123				
16"	406.4	4.78		9.53	44.5	12.7	59.3	12.7	59.3	21.44	102.15	30.96	143.5	40.49	183				
18"	457.2	4.78		9.53	57.5	14.27	88.53	12.7	76	23.83	143.92	34.93	205	45.24	259				
20"	508	5.54		9.53	71	15.09	114	12.7	94	26.19	195.67	38.1	277	50.01	357.5				
22"	559	5.54		9.53	86.5			12.7	114.3	28.58	256.7	41.28	363	53.98	469				
24"	610	6.35		9.53	103	17.48	192.04	12.7	137	30.96	333.7	46.02	481.5	59.54	625				

\* All dimensions in mm.  
\* All weights indicated are approximate.  
Other sizes available on request.



## 45° LONG RADIUS ELBOWS



### ASME B16.9

Nominal Pipe Size (NPS)	Outside Diameter at Bevel	SCH STD		SCH XS	
		Wall thk.	Weight kg	Wall thk.	Weight kg
26"	660.0	9.53	124.00	12.70	164.00
28"	711.0	9.53	154.00	12.70	193.00
30"	762.0	9.53	165.00	12.70	214.00
32"	813.0	9.53	193.00	12.70	255.00
34"	864.0	9.53	210.00	12.70	279.00
36"	914.0	9.53	235.00	12.70	318.00
38"	965.0	9.53	272.00	12.70	354.00
40"	1016.0	9.53	295.00	12.70	397.00
42"	1067.0	9.53	320.00	12.70	425.00
44"	1118.0	9.53	363.00	12.70	488.00
46"	1168.0	9.53	408.00	12.70	530.00
48"	1219.0	9.53	454.00	12.70	567.00

\* All dimensions in mm.

\* All weights indicated are approximate.  
Other sizes available on request.

HIGHER  
W.T.  
ON REQUEST

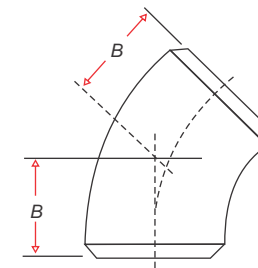
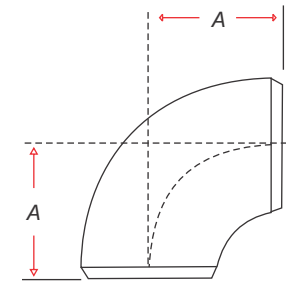
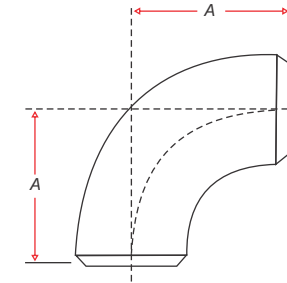


While every care has been taken in the preparation of the information in this catalogue, the Company accepts no liability for any loss or damage either direct or consequential arising out of use of this catalogue. This compilation is for reference only, for further details please refer to relevant Standards.



## DIMENSIONS OF ELBOWS

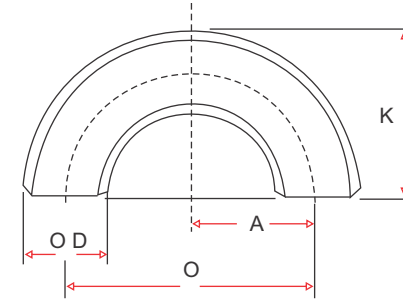
Nominal Pipe Size (NPS)	DN	Outside Diameter at Bevel	Center - to - End		
			90 Deg LR Elbows	45 Deg LR Elbows	90 Deg SR Elbows
			A	B	A
1/2"	15	21.3	38	16	
3/4"	20	26.7	38	19	
1"	25	33.4	38	22	25
1 1/4"	32	42.2	48	25	32
1 1/2"	40	48.3	57	29	38
2"	50	60.3	76	35	51
2 1/2"	65	73	95	44	64
3"	80	88.9	114	51	76
4"	100	114.3	152	64	102
5"	125	141.3	190	79	127
6"	150	168.3	229	95	152
8"	200	219.1	305	127	203
10"	250	273	381	159	254
12"	300	323.9	457	190	305
14"	350	355.6	533	222	353
16"	400	406.4	610	254	406
18"	450	457.2	686	286	457
20"	500	508	762	318	508
22"	550	559	838	343	559
24"	600	610	914	381	610
26"	650	660	991	406	
28"	700	711	1067	438	
30"	750	762	1143	470	
32"	800	813	1219	502	
34"	850	864	1295	533	
36"	900	914	1372	565	
40"	950	1016	1524	632	
42"	1050	1067	1600	660	
48"	1200	1219	1829	759	



While every care has been taken in the preparation of the information in this catalogue, the Company accepts no liability for any loss or damage either direct or consequential arising out of use of this catalogue. This compilation is for reference only, for further details please refer to relevant Standards.



# 180° LONG RADIUS RETURN ELBOWS



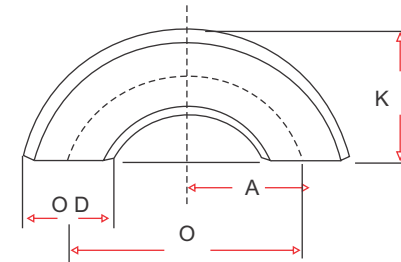
## ASME B16.9

Nominal Pipe Size (NPS)	Outside Diameter at Bevel	SCH STD		SCH 40		SCH XS		SCH 80		SCH 120		SCH 160		SCH XXS	
		Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg
½"	21.3	2.77		2.77		3.73		3.73				4.78		7.47	
¾"	26.7	2.87		2.87		3.91		3.91				5.56		7.82	
1"	33.4	3.38	0.31	3.38	0.31	4.55	0.40	4.55	0.40			6.35	0.54	9.09	0.68
1¼"	42.2	3.68	0.76	3.68	0.76	5.08	1.00	5.08	1.00			6.35	1.36	9.70	1.80
1½"	48.3	3.56	0.53	3.56	0.53	4.85	0.69	4.85	0.69			7.14	0.88	10.15	1.22
2"	60.3	3.91	1.36	3.91	1.36	5.54	1.85	5.54	1.85			8.74	2.80	11.07	3.36
2½"	73.0	5.16	2.67	5.16	2.67	7.01	3.50	7.01	3.50			9.53	4.68	14.02	5.40
3"	88.9	5.49	4.19	5.49	4.19	7.62	5.62	7.62	5.62			11.13	8.04	15.24	10.34
4"	114.3	6.02	7.94	6.02	7.94	8.56	11.00	8.56	11.00	11.13	14.22	13.49	16.84	17.12	20.60
5"	141.3	6.55	13.50	6.55	13.50	9.53	19.00	9.53	19.00	12.70	25.30	15.88	30.84	19.05	36.20
6"	168.3	7.11	20.90	7.11	20.90	10.97	31.30	10.97	31.30	14.27	40.84	18.26	50.92	21.95	59.80
8"	219.1	8.18	41.90	8.18	41.90	12.70	63.50	12.70	63.50	18.65	90.92	23.01	111.86	22.23	108.80
10"	273.1	9.27	74.40	9.27	74.40	12.70	100.20	15.09	120.62	21.44	167.08	28.58	216.38	25.40	194.82
12"	323.9	9.53	109.30	10.31	120.14	12.70	143.80	17.48	198.72	25.40	281.74	33.32	359.80	25.40	281.74
14"	355.6	9.53	140.20	11.13	166.12	12.70	184.60	19.05	277.36	27.79	395.08	35.71	495.40		
16"	406.4	9.53	183.70	12.70	242.20	12.70	242.20	21.44	408.34	30.96	576.10	40.49	734.30		
18"	457.2	9.53	233.10	14.27	352.42	12.70	308.00	23.83	575.14	34.93	822.42	45.24	1039.18		
20"	508.0	9.53	288.90	15.09	459.92	12.70	381.50	26.19	782.06	38.10	1109.16	50.01	1435.00		
22"	559.0	9.53	349.70			12.70	462.70	28.58	1032.70	41.28	1454.08	53.98	1879.00		
24"	610.0	9.53	417.30	17.48	768.20	12.70	533.40	30.96	1329.42	46.02	1928.20	59.54	2502.00		

\* All dimensions in mm.  
\* All weights indicated are approximate.  
Other sizes available on request.



# 180° SHORT RADIUS RETURN ELBOWS



## ASME B16.9

Nominal Pipe Size (NPS)	Outside Diameter at Bevel	SCH STD		SCH 40		SCH XS		SCH 80		SCH 120		SCH 160		SCH XXS	
		Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg
½"	21.3	2.77		2.77		3.73		3.73				4.78		7.47	
¾"	26.7	2.87		2.87		3.91		3.91				5.56		7.82	
1"	33.4	3.38	0.23	3.38	0.23	4.55		4.55				6.35	0.34	9.09	0.44
1¼"	42.2	3.68	0.36	3.68	0.36	5.08		5.08				6.35	0.62	9.70	0.86
1½"	48.3	3.56	0.50	3.56	0.50	4.85	0.68	4.85	0.68			7.14	0.86	10.15	1.14
2"	60.3	3.91	0.86	3.91	0.86	5.54	1.32	5.54	1.32			8.74	1.84	11.07	2.26
2½"	73.0	5.16	1.82	5.16	1.82	7.01	2.36	7.01	2.36			9.53	2.98	14.02	4.38
3"	88.9	5.49	2.72	5.49	2.72	7.62	3.72	7.62	3.72			11.13	5.20	15.24	6.98
4"	114.3	6.02	5.53	6.02	5.53	8.56	7.44	8.56	7.44	11.13	9.00	13.49	10.70	17.12	13.58
5"	141.3	6.55	8.70	6.55	8.70	9.53	12.56	9.53	12.56	12.70	18.20	15.88	22.80	19.05	27.06
6"	168.3	7.11	14.92	7.11	14.92	10.97	20.73	10.97	20.73	14.27	29.20	18.26	36.40	21.95	42.60
8"	219.1	8.18	29.44	8.18	29.44	12.70	43.66	12.70	43.66	18.65	67.00	23.01	81.14	22.23	79.00
10"	273.1	9.27	50.80	9.27	50.80	12.70	64.87	15.09		21.44	129.60	28.58	167.90	25.40	151.20
12"	323.9	9.53	71.22	10.31		12.70	96.16	17.48		25.40	175.20	33.32	228.00	25.40	179.00
14"	355.6	9.53	94.35	11.13		12.70	122.92	19.05		22.79	260.00	35.71	324.00		
16"	406.4	9.53	116.58	12.70		12.70	153.77	21.44		30.96	380.60	40.49	485.00		
18"	457.2	9.53	167.42	14.27		12.70	192.77	23.83		34.93	545.00	45.24	689.00		
20"	508.0	9.53	188.10	15.09		12.70	251.75	26.19		38.10	736.00	50.01	952.00		
22"	559.0	9.53				12.70		28.58		41.28	970.00	53.98	1250.00		
24"	610.0	9.53	268.53	17.48		12.70	352.90	30.96		46.02	1283.00	59.54	1666.00		

\* All dimensions in mm.  
\* All weights indicated are approximate.  
Other sizes available on request.

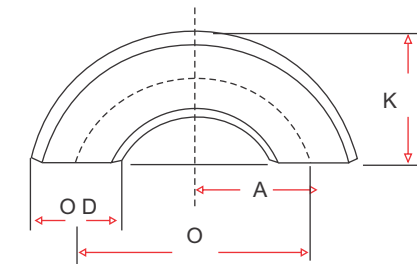
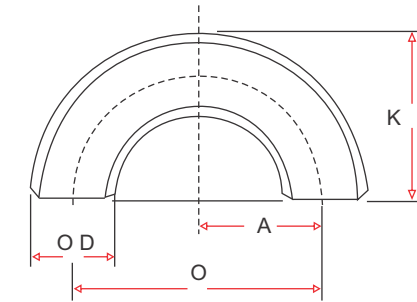
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## DIMENSIONS OF ELBOWS 180°

Nominal Pipe Size (NPS)	Outside Diameter at Bevel	Center - to - Center	Back - to - Face
		O	K
1/2"	21	76	48
3/4"	27	57	43
1"	33	76	56
1 1/4"	42	95	70
1 1/2"	48	114	83
2"	60	152	106
2 1/2"	73	191	132
3"	89	229	159
4"	114	305	210
5"	141	381	262
6"	168	457	313
8"	219	610	414
10"	273	762	518
12"	324	914	619
14"	356	1067	711
16"	406	1219	813
18"	457	1372	914
20"	508	1524	1016
22"	559	1676	1118
24"	610	1829	1219

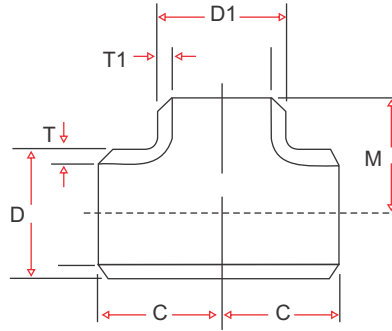


\* All dimensions in mm.  
\* All weights indicated are approximate.  
Other sizes available on request.

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## EQUAL TEES



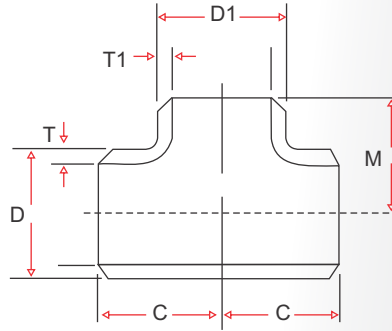
### ASME B16.9

Nominal Pipe Size (NPS)	Outside Diameter at Bevel	Sch. 10s	Sch. 40s	SCH STD		SCH 40		SCH XS		SCH 80		SCH 120		SCH 160		SCH XXS	
		Wall thk.	Wall thk.	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg
½"	21.3	2.11	2.77	2.77	0.11	2.77	0.11	3.73	0.14	3.73	0.14			4.78	0.28		
¾"	26.7	2.11	2.87	2.87	0.16	2.87	0.16	3.91	0.21	3.91	0.21			5.56	0.29	7.82	0.38
1"	33.4	2.77	3.38	3.38	0.32	3.38	0.32	4.55	0.41	4.55	0.41			6.35	0.45	9.09	0.58
1¼"	42.2	2.77	3.56	3.56	0.57	3.56	0.57	4.85	0.76	4.85	0.76			6.35	0.77	9.7	1.05
1½"	48.3	2.77	3.68	3.68	0.8	3.68	0.8	5.08	1.08	5.08	1.08			7.14	1.21	10.15	1.56
2"	60.3	2.77	3.91	3.91	1.17	3.91	1.17	5.54	1.67	5.54	1.67			8.74	2.25	11.07	2.69
2½"	73	3.05	5.16	5.16	2.28	5.16	2.28	7.01	3.05	7.01	3.05			9.53	3.42	14.02	4.54
3"	88.9	3.05	5.49	5.49	3.05	5.49	3.05	7.62	4.24	7.62	4.24			11.13	6.21	15.24	7.63
4"	114.3	3.05	6.02	6.02	5.17	6.02	5.17	8.56	7.36	8.56	7.36			13.49	15.53	17.12	17
5"	141.3	3.40	6.56	6.55	8.36	6.55	8.36	9.53	12.12	9.53	12.12	12.7	18	15.88	23.93	19.05	25
6"	168.3	3.40	7.11	7.11	12.32	7.11	12.32	10.97	18.86	10.97	18.86	14.27	24	18.26	38.59	21.95	39
8"	219.1	3.76	8.18	8.18	22.87	8.18	22.87	12.7	30.9	12.7	30.9	18.26	50	23.01	71	22.23	69
10"	273.1	4.90	9.27	9.27	36.45	9.27	36.45	12.7	48.3	15.09	68	21.44	93	28.58	120		
12"	323.9	4.57	9.52	9.53	55.9	10.31	70.5	12.7	72.58	17.48	115	25.4	150	33.32	184		
14"	355.6	4.78		9.53	70.1	11.13	114.41	12.7	76.8	19.05	165	27.79	240	35.71	300		
16"	406.4	4.78		9.53	87.25	12.7	105.6	12.7	105.6	21.44	249	30.96	330	40.49	425		
18"	457.2	4.78		9.53	107.05	14.27	238.35	12.7	184	23.83	322	34.93	450	45.24	590		
20"	508	5.54		9.53	129.6	15.09	320.52	12.7	176	26.19	459.05	38.1	590	50.01	790		
22"	559	5.54		9.53	163.9	-		12.7	203.7	28.58	600	41.28	840	53.98	1100		
24"	610	6.35		9.53	186.3	17.48	570.68	12.7	232	30.96	748	46.02	1100	59.54	1310		

\* All dimensions in mm.  
\* All weights indicated are approximate.  
Other sizes available on request.



## EQUAL TEES



### ASME B16.9

Nominal Pipe Size (NPS)	Outside Diameter at Bevel	SCH STD		SCH XS	
		Wall thk.	Weight kg	Wall thk.	Weight kg
26"	660.0	9.53	213.00	12.70	270.00
28"	711.0	9.53	240.00	12.70	305.00
30"	762.0	9.53	277.00	12.70	351.00
32"	813.0	9.53	316.00	12.70	401.00
34"	864.0	9.53	357.00	12.70	453.00
36"	914.0	9.53	401.00	12.70	509.00
38"	965.0	9.53	447.00	12.70	569.00
40"	1016.0	9.53	497.00	12.70	631.00
42"	1067.0	9.53	526.00	12.70	669.00
44"	1118.0	9.53	591.00	12.70	752.00
46"	1168.0	9.53	647.00	12.70	823.00
48"	1219.0	9.53	706.00	12.70	898.00

\* All dimensions in mm.

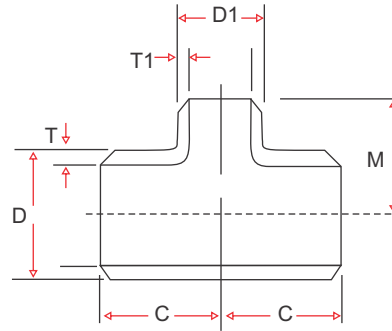
\* All weights indicated are approximate.  
Other sizes available on request.

HIGHER  
W.T.  
ON REQUEST





# REDUCING TEES



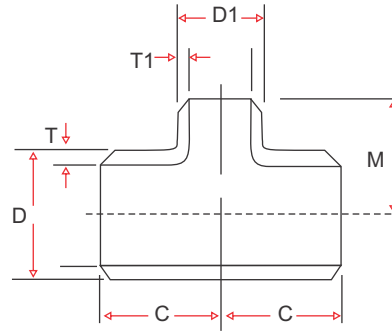
## ASME B16.9

Nominal Pipe Size (NPS)	Outside Diameter mm		SCH STD			SCH 40			SCH XS			SCH 80		
			Wall thk.		Weight	Wall thk.		Weight	Wall thk.		Weight	Wall thk.		Weight
			T	T1	kg	T	T1	kg	T	T1	kg	T	T1	kg
3/4" x 1/2"	26.7	21.3	2.87	2.77	0.15	2.87	2.77	0.15	3.91	3.73	0.21	3.91	3.73	0.21
1" x 1/2"	33.4	21.3	3.38	2.77	0.30	3.38	2.77	0.30	4.55	3.73	0.40	4.55	3.73	0.40
	3/4"	26.7		2.87	0.30		2.87	0.30		3.91	0.40		3.91	0.40
1 1/4" x 1/2"	42.2	21.3	3.56	2.77	0.52	3.56	2.77	0.52	4.85	3.73	0.70	4.85	3.73	0.70
	3/4"	26.7		2.87	0.54		2.87	0.54		3.91	0.72		3.91	0.72
	1"	33.4		3.38	0.54		3.38	0.54		4.55	0.72		4.55	0.72
1 1/2" x 1/2"	48.3	21.3	3.68	2.77	0.70	3.68	2.77	0.70	5.08	3.73	0.99	5.08	3.73	0.99
	3/4"	26.7		2.87	0.74		2.87	0.74		3.91	1.06		3.91	1.06
	1"	33.4		3.38	0.74		3.38	0.74		4.55	1.06		4.55	1.06
	1 1/4"	42.2		3.56	0.76		3.56	0.76		4.85	1.06		4.85	1.06
2" x 1/2"	60.3	21.3	3.91	2.77	1.03	3.91	2.77	1.03	5.54	3.73	1.44	5.54	3.73	1.44
	3/4"	26.7		2.87	1.10		2.87	1.10		3.91	1.54		3.91	1.54
	1"	33.4		3.38	1.12		3.38	1.12		4.55	1.54		4.55	1.54
	1 1/4"	42.2		3.56	1.12		3.56	1.12		4.85	1.54		4.85	1.54
	1 1/2"	48.3		3.68	1.14		3.68	1.14		5.08	1.57		5.08	1.57
2 1/2" x 1"	73.0	33.4	5.16	3.38	2.13	5.16	3.38	2.13	7.01	4.55	2.75	7.01	4.55	2.75
	1 1/4"	42.2		3.56	2.17		3.56	2.17		4.85	2.80		4.85	2.80
	1 1/2"	48.3		3.68	2.20		3.68	2.20		5.08	2.86		5.08	2.86
	2"	60.3		3.91	2.20		3.91	2.20		5.54	2.95		5.54	2.95

\* All dimensions in mm.  
\* All weights indicated are approximate.  
Other sizes available on request.



# REDUCING TEES



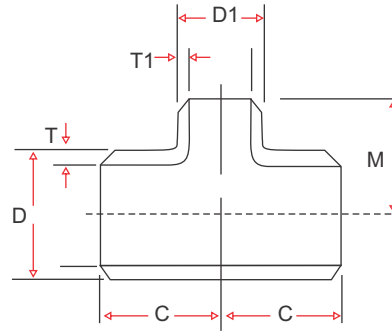
## ASME B16.9

Nominal Pipe Size (NPS)	Outside Diameter mm		SCH STD			SCH 40			SCH XS			SCH 80				
			Wall thk.		Weight	Wall thk.		Weight	Wall thk.		Weight	Wall thk.		Weight		
			T	T1	kg	T	T1	kg	T	T1	kg	T	T1	kg		
3" x 1"	88.9	33.4	5.49	3.38	2.68	5.49	3.38	2.68	7.62	4.55	3.69	7.62	4.55	3.69		
				42.2		3.56	2.73		3.56	2.73		4.85	3.69		4.85	3.69
				48.3		3.68	2.73		3.68	2.73		5.08	3.76		5.08	3.76
				60.3		3.91	2.88		3.91	2.88		5.54	3.90		5.54	3.90
				73.0		5.16	2.93		5.16	2.93		7.01	4.09		7.01	4.09
4" x 1"	114.3	33.4	6.02	3.38	4.67	6.02	3.38	4.67	8.56	4.55	6.86	8.56	4.55	6.86		
				42.2		3.56	4.89		3.56	4.89		4.85	6.96		4.85	6.96
				48.3		3.68	4.96		3.68	4.96		5.08	7.06		5.08	7.06
				60.3		3.91	4.96		3.91	4.96		5.54	7.06		5.54	7.06
				73.0		5.16	4.96		5.16	4.96		7.01	7.16		7.01	7.16
5" x 2"	141.3	60.3	6.55	3.91	7.39	6.55	3.91	7.39	9.53	5.54	10.75	9.53	5.54	10.75		
				73.0		5.16	7.59		5.16	7.59		7.01	11.02		7.01	11.02
				88.9		5.49	7.77		5.49	7.77		7.62	11.29		7.62	11.29
				114.3		6.02	7.97		6.02	7.97		8.56	11.57		8.56	11.57
				168.3		7.11	10.80		7.11	10.80		10.97	16.30		10.97	16.30
6" x 2"	168.3	60.3	7.11	3.91	10.80	7.11	3.91	10.80	10.97	5.54	16.30	10.97	5.54	16.30		
				73.0		5.16	10.94		5.16	10.94		7.01	16.48		7.01	16.48
				88.9		5.49	11.18		5.49	11.18		7.62	17.46		7.62	17.46
				114.3		6.02	11.31		6.02	11.31		8.56	17.80		8.56	17.80
				141.3		6.55	12.32		6.55	12.32		9.53	18.86		9.53	18.86
8" x 3"	219.1	88.9	8.18	5.49	19.35	8.18	5.49	19.35	12.70	7.62	23.18	12.70	7.62	23.18		
				114.3		6.02	20.10		6.02	20.10		8.56	27.20		8.56	27.20
				141.3		6.55	20.49		6.55	20.49		9.53	28.43		9.53	28.43
				168.3		7.11	21.05		7.11	21.05		10.97	29.05		10.97	29.05

\* All dimensions in mm.  
\* All weights indicated are approximate.  
Other sizes available on request.



## REDUCING TEES



### ASME B16.9

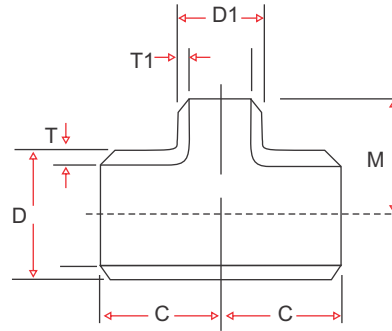
Nominal Pipe Size (NPS )	Outside Diameter mm		SCH STD			SCH 40			SCH XS			SCH 80		
			Wall thk.		Weight	Wall thk.		Weight	Wall thk.		Weight	Wall thk.		Weight
			T	T1	kg	T	T1	kg	T	T1	kg	T	T1	kg
10" x 3"	273.1	88.9	9.27	5.49	27.34	9.27	5.49	27.34	12.70	7.62	36.23	15.09	7.62	
4"		114.3		6.02	29.89		6.02	29.89		8.56	39.61		8.56	53.00
5"		141.3		6.55	32.08		6.55	32.08		9.53	42.51		9.53	53.00
6"		168.3		7.11	33.54		7.11	33.54		10.97	44.44		10.97	54.00
8"		219.1		8.18	34.27		8.18	34.27		12.70	41.41		12.70	71.00
12" x 4"	323.9	114.1	9.53	6.02	41.93	10.31	6.02		12.70	8.56	54.44	17.48	8.56	
5"		141.3		6.55	45.84		6.55	64.00		9.53	59.52		9.53	82.00
6"		168.1		7.11	49.20		7.11	64.00		10.97	63.88		10.97	82.00
8"		219.1		8.18	51.43		8.18	64.00		12.70	66.78		12.70	82.00
10"		273.0		9.27	52.55		9.27	67.00		12.70	68.23		15.09	103.00
14" x 6"	355.6	168.3	9.53	7.11	57.49	11.13	7.11	109.00	12.70	10.97	64.46	19.05	10.97	122.00
8"		219.1		8.18	61.69		8.18	109.00		12.70	69.17		12.70	122.00
10"		273.0		9.27	64.50		9.27	109.00		12.70	72.32		15.09	141.00
12"		323.9		9.53	65.90		10.31	114.00		12.70	73.89		17.48	143.00
16" x 6"	406.4	168.3	9.53	7.11	65.44	12.70	7.11	160.00	12.70	10.97	77.80	21.44	10.97	163.00
8"		219.1		8.18	71.55		8.18	160.00		12.70	86.60		12.70	163.00
10"		273.0		9.27	76.78		9.27	160.00		12.70	92.93		15.09	163.00
12"		323.9		9.53	80.27		10.31	161.00		12.70	97.16		17.48	181.00
14"		355.6		9.53	82.02		11.13	167.00		12.70	99.27		19.05	200.00

\* All dimensions in mm.

\* All weights indicated are approximate.  
Other sizes available on request.



## REDUCING TEES



### ASME B16.9

Nominal Pipe Size (NPS)	Outside Diameter mm		SCH STD				SCH 40				SCH XS				SCH 80			
			Wall thk.		Weight kg	Wall thk.		Weight kg	Wall thk.		Weight kg	Wall thk.		Weight kg				
			T	T1		T	T1		T	T1		T	T1					
18" x 8"	457.0	219.1	9.53	8.18	105.45	14.27	8.18	150.00	12.70	12.70	124.70	23.88	12.70	205.00				
10"	273.0			9.27	105.45		9.27	150.00		12.70	124.70		15.09	225.00				
12"	323.9			9.53	107.05		10.31	194.00		12.70	184.00		17.48	234.00				
14"	355.6			9.53	107.05		11.13	194.00		12.70	184.00		19.05	258.00				
16"	406.4			9.53	107.05		12.70	238.00		12.70	184.00		21.44	279.00				
20" x 8"	508.0	219.1	9.53	8.18	128.70	15.09	8.18	220.00	12.70	12.70	160.00	26.19	12.70	228.00				
10"	273.0			9.27	128.70		9.27	220.00		12.70	160.00		15.09	293.00				
12"	323.9			9.53	128.70		10.31	224.00		12.70	160.00		17.48	324.00				
14"	355.6			9.53	129.60		11.13	224.00		12.70	176.00		19.05	324.00				
16"	406.4			9.53	129.60		12.70	230.00		12.70	176.00		21.44	355.00				
18"	457.2			9.53	129.60		14.27	265.00		12.70	176.00		23.88	410.00				
22" x 10"	559.0	273.0	9.53	9.27	154.30	-			12.70	12.70	203.70	28.58	15.09	374.00				
12"	323.9			9.53	154.30					12.70	203.70		17.48	374.00				
14"	355.6			9.53	154.30					12.70	203.70		19.05	374.00				
16"	406.4			9.53	163.90					12.70	203.70		21.44	415.00				
18"	457.2			9.53	163.90					12.70	203.70		23.88	415.00				
20"	508.0			9.53	163.90					12.70	203.70		26.19	513.00				
24" x 10"	610.0	273.0	9.53	9.27	172.80	17.48	9.27	308.00	12.70	12.70	204.50	30.96	15.09	452.00				
12"	323.9			9.53	172.80		10.31	308.00		12.70	204.50		17.48	452.00				
14"	355.6			9.53	172.80		11.13	309.00		12.70	204.50		19.05	490.00				
16"	406.4			9.53	172.80		12.70	309.00		12.70	204.50		21.44	490.00				
18"	457.2			9.53	186.30		14.27	390.00		12.70	232.00		23.88	533.00				
20"	508.0			9.53	186.30		15.09	390.00		12.70	232.00		26.19	606.00				
22"	559.0			9.53	186.30		-			12.70	232.00		28.58	675.00				

\* All dimensions in mm.

\* All weights indicated are approximate.  
Other sizes available on request.

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## REDUCING TEES

Nominal Pipe Size (NPS)	Outside Diameter mm		SCH STD			SCH XS		
			Wall thk.		Weight	Wall thk.		Weight
			T	T1	kg	T	T1	kg
26" x 12"	660.0	324.0	9.52	9.52	231.00	12.70	12.70	293.00
14"		356.0		9.52	239.00		12.70	300.00
16"		406.0		9.52	247.00		12.70	309.00
18"		457.0		9.52	255.00		12.70	323.00
20"		508.0		9.52	264.00		12.70	330.00
22"		559.0		9.52	272.00		12.70	340.00
24"		610.0		9.52	280.00		12.70	340.00
28" x 12"	711.0	324.0	9.52	9.52		12.70	12.70	
14"		356.0		9.52			12.70	
16"		406.0		9.52			12.70	
18"		457.0		9.52			12.70	
20"		508.0		9.52			12.70	
22"		559.0		9.52			12.70	
24"		610.0		9.52			12.70	
26"		660.0		9.52			12.70	
30" x 10"	762.0	273.0	9.52	9.52	296.00	12.70	12.70	377.00
12"		324.0		9.52	304.00		12.70	385.00
14"		356.0		9.52	312.00		12.70	395.00
16"		406.0		9.52	321.00		12.70	405.00
18"		457.0		9.52	330.00		12.70	417.00
20"		508.0		9.52	340.00		12.70	429.00
22"		559.0		9.52	351.00		12.70	441.00
24"		610.0		9.52	361.00		12.70	452.00
26"		660.0		9.52	372.00		12.70	463.00
28"		711.0		9.52	380.00		12.70	475.00
32" x 14"	813.0	356.0	9.52	9.52	415.00	12.70	12.70	523.00
16"		406.0		9.52	425.00		12.70	535.00
18"		457.0		9.52	436.00		12.70	547.00
20"		508.0		9.52	448.00		12.70	562.00
22"		559.0		9.52	460.00		12.70	577.00
24"		610.0		9.52	472.00		12.70	591.00
26"		660.0		9.52	482.00		12.70	605.00
28"		711.0		9.52	493.00		12.70	616.00
30"		762.0		9.52	506.00		12.70	628.00

Nominal Pipe Size (NPS)	Outside Diameter mm		SCH STD			SCH XS		
			Wall thk.		Weight	Wall thk.		Weight
			T	T1	kg	T	T1	kg
34" x 16"	864.0	406.0	9.52	9.52	415.00	12.70	12.70	523.00
18"		457.0		9.52	425.00		12.70	535.00
20"		508.0		9.52	436.00		12.70	547.00
22"		559.0		9.52	448.00		12.70	562.00
24"		610.0		9.52	460.00		12.70	577.00
26"		660.0		9.52	472.00		12.70	591.00
28"		711.0		9.52	482.00		12.70	605.00
30"		762.0		9.52	493.00		12.70	616.00
32"		813.0		9.52	506.00		12.70	628.00
36" x 16"	914.0	406.0	9.52	9.52	472.00	12.70	12.70	602.00
18"		457.0		9.52	483.00		12.70	611.00
20"		508.0		9.52	493.00		12.70	621.00
22"		559.0		9.52	502.00		12.70	622.00
24"		610.0		9.52	513.00		12.70	643.00
26"		660.0		9.52	526.00		12.70	654.00
28"		711.0		9.52	537.00		12.70	670.00
30"		762.0		9.52	548.00		12.70	685.00
32"		813.0		9.52	561.00		12.70	700.00
34"		864.0		9.52	574.00		12.70	715.00
40" x 18"	1016.0	457.0	9.52	9.52	540.00	12.70	12.70	650.00
20"		508.0		9.52	552.00		12.70	665.00
22"		559.0		9.52	565.00		12.70	682.00
24"		610.0		9.52	582.00		12.70	700.00
26"		660.0		9.52	595.00		12.70	723.00
28"		711.0		9.52	611.00		12.70	740.00
30"		762.0		9.52	627.00		12.70	763.00
32"		813.0		9.52	643.00		12.70	802.00
34"		864.0		9.52	659.00		12.70	840.00
36"		914.0		9.52	659.00		12.70	840.00
38"		965.0		9.52	664.00		12.70	875.00

\* All dimensions in mm.  
\* All weights indicated are approximate.  
Other sizes available on request.

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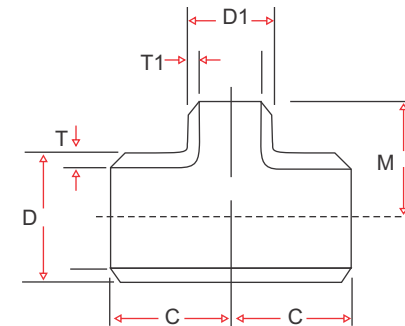
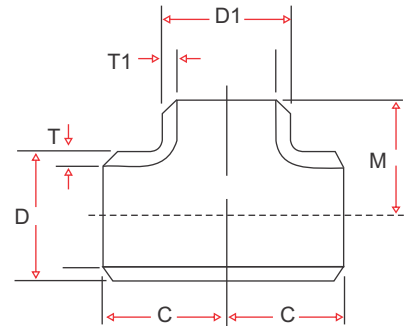




## DIMENSIONS OF EQUAL AND REDUCING TEES

Nominal Pipe Size (NPS)	Outside Diameter at Bevel		Center - to - End	
	Run D	Outlet D <sub>1</sub>	Run C	Outlet (I) M
½" x ½"	21.3	21.3	25.4	25.4
¾" x ¾"	26.7	26.7	28.4	28.4
x ½"		21.3		28.4
1" x 1"	33.4	33.4	38.1	38.1
x ¾"		26.7		38.1
x ½"		21.3		38.1
1¼" x 1¼"	42.2	42.2	47.8	47.8
x 1"		33.4		47.8
x ¾"		26.7		47.8
x ½"		21.3		47.8
1½" x 1½"	48.3	48.3	57.2	57.2
x 1¼"		42.2		57.2
x 1"		33.4		57.2
x ¾"		26.7		57.2
x ½"		21.3		57.2
2" x 2"	60.3	60.3	63.5	63.5
x 1½"		48.3		60.5
x 1¼"		42.2		57.2
x 1"		33.4		50.8
x ¾"		26.7		44.4
x ½"		21.3		44.4
2½" x 2½"	73	73	76.2	76.2
x 2"		60.3		69.8
x 1½"		48.3		67
x 1¼"		42.2		63.5
x 1"		33.4		57.2

Nominal Pipe Size (NPS)	Outside Diameter at Bevel		Center - to - End	
	Run D	Outlet D <sub>1</sub>	Run C	Outlet (I) M
3" x 3"	88.9	88.9	85.9	85.9
x 2½"		73		82.6
x 2"		60.3		76.2
x 1½"		48.3		73.2
x 1¼"		42.2		69.8
x 1"		33.4		69.8
4" x 4"	114.3	114.3	104.6	104.6
x 3½"		101.6		101.6
x 3"		88.9		98.6
x 2½"		73		95.2
x 2"		60.3		88.9
x 1½"		48.3		85.9
x 1¼"		42.2		85.9
x 1"		33.5		85
5" x 5"	141.3	141.3	124	124
x 4"		114.3		117.3
x 3½"		101.6		114.3
x 3"		88.9		111.3
x 2½"		73		108
x 2"		60.3		104.6
6" x 6"	168.3	168.3	142.7	142.7
x 5"		141.3		136.7
x 4"		114.3		130
x 3½"		101.6		127
x 3"		88.9		124
x 2½"		73		120.6
x 2"		60.3		121



\* All dimensions in mm.  
\* All weights indicated are approximate.  
Other sizes available on request.

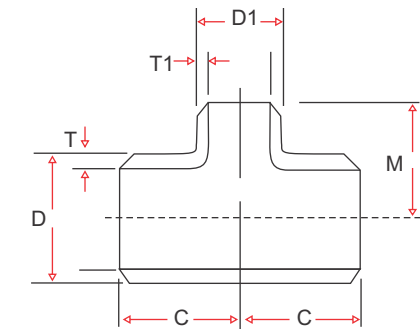
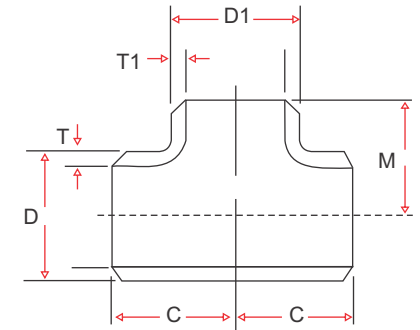
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## DIMENSIONS OF EQUAL AND REDUCING TEES

Nominal Pipe Size (NPS)	Outside Diameter at Bevel		Center - to - End	
	Run D	Outlet D <sub>1</sub>	Run C	Outlet (1) M
8" x 8"	219.1	219.1	177.8	177.8
x 6"		168.3		168.1
x 5"		141.3		162.1
x 4"		114.3		155.4
x 3½"		101.6		152.4
x 3"		88.9		152
10" x 10"	273.1	273.1	215.9	215.9
x 8"		219.1		203.2
x 6"		168.3		193.5
x 5"		141.3		190.5
x 4"		114.3		184.2
x 3"		88.9		184.2
12" x 12"	323.9	323.9	254	254
x 10"		273.1		241.3
x 8"		219.1		228.6
x 6"		168.3		218.9
x 5"		141.3		215.9
x 4"		114.3		215.9
14" x 14"	355.6	355.6	279.4	279.4
x 12"		323.9		269.7
x 10"		273.1		257
x 8"		219.1		247.6
x 6"		168.3		238.3
16" x 16"	406.4	406.4	304.8	304.8
x 14"		355.6		304.8
x 12"		323.9		295.1
x 10"		273.1		282.4
x 8"		219.1		273
x 6"		168.3		263.7

Nominal Pipe Size (NPS)	Outside Diameter at Bevel		Center - to - End	
	Run D	Outlet D <sub>1</sub>	Run C	Outlet (1) M
18" x 18"	457.2	457.2	342.9	342.9
x 16"		406.4		330.2
x 14"		355.6		330.2
x 12"		323.9		320.5
x 10"		273.1		307.8
x 8"		219.1		298.4
20" x 20"	508	508	381	381
x 18"		457.2		369.3
x 16"		406.4		355.6
x 14"		355.6		355.6
x 12"		323.9		345.9
x 10"		273.1		333.2
x 8"		219.1		323.8
22" x 22"	558.8	558.8	419.1	419.1
x 20"		508		406.4
x 18"		457.2		393.7
x 16"		406.4		381
x 14"		355.6		381
x 12"		323.8		371.3
x 10"		273.1		358.6
24" x 24"	609.6	609.6	431.8	431.8
x 22"		558.8		431.8
x 20"		508		431.8
x 18"		457.2		419.1
x 16"		406.4		406.4
x 14"		355.6		406.4
x 12"		323.9		396.7
x 10"		273.1		384



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## DIMENSIONS OF EQUAL AND REDUCING TEES

Nominal Pipe Size (NPS)	Outside Diameter at Bevel		Center - to - End	
	Run D	Outlet D <sub>1</sub>	Run C	Outlet (1) M
26" x 26"	660	660	495	495
x 24"		610		483
x 22"		559		470
x 20"		508		457
x 18"		457		444
x 16"		406		432
x 14"		356		432
x 12"		324		422
28" x 28"	711	711	521	521
x 26"		660		521
x 24"		610		508
x 22"		559		495
x 20"		508		483
x 18"		457		470
x 16"		406		457
x 14"		356		457
x 12"		324		448
30" x 30"	762	762	559	559
x 28"		711		546
x 26"		660		546
x 24"		610		533
x 22"		559		521
x 20"		508		508
x 18"		457		495
x 16"		406		483
x 14"		356		483
x 12"		324		473
x 10"		273		460
32" x 32"	813	813	597	597
x 28"		711		572
x 26"		660		572
x 24"		610		559
x 22"		559		546
x 20"		508		533
x 18"		457		521
x 16"		406		508
x 14"		356		508

Nominal Pipe Size (NPS)	Outside Diameter at Bevel		Center - to - End	
	Run D	Outlet D <sub>1</sub>	Run C	Outlet (1) M
34" x 34"	864	864	635	635
x 32"		813		622
x 30"		762		610
x 28"		711		597
x 26"		660		597
x 24"		610		584
x 22"		559		572
x 20"		508		559
x 18"		457		546
x 16"		406		533
36" x 36"	914	914	673	673
x 34"		864		660
x 32"		813		648
x 30"		762		635
x 28"		711		622
x 26"		660		622
x 24"		610		610
x 22"		559		597
x 20"		508		584
x 18"		457		572
x 16"		406		559
40" x 40"	1016	1016	749	749
x 38"		965		749
x 36"		914		737
x 34"		864		724
x 32"		813		711
x 30"		762		698
x 28"		711		673
x 26"		660		673
x 24"		610		660
x 22"		559		648
x 20"		508		635
x 18"		457		622

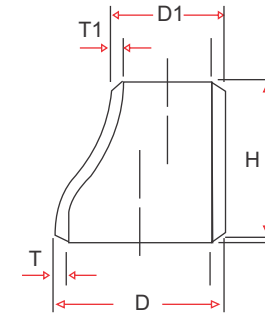
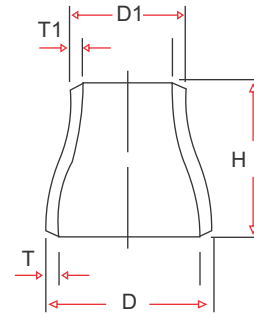
Nominal Pipe Size (NPS)	Outside Diameter at Bevel		Center - to - End	
	Run D	Outlet D <sub>1</sub>	Run C	Outlet (1) M
42" x 42"	1067	1067	762	762
x 40"		1016		711
x 38"		965		711
x 36"		914		711
x 34"		864		711
x 32"		813		711
x 30"		762		711
x 28"		711		698
x 26"		660		698
x 24"		610		660
x 22"		559		660
x 20"		508		660
x 18"		457		648
x 16"		406		635
48" x 48"	1219	1219	889	889
x 46"		1168		838
x 44"		1118		838
x 42"		1067		813
x 40"		1016		813
x 38"		965		813
x 36"		914		787
x 34"		864		787
x 32"		813		787
x 30"		762		762
x 28"		711		762
x 26"		660		762
x 24"		610		737
x 22"		559		737

\* All dimensions in mm.  
\* All weights indicated are approximate.  
Other sizes available on request.

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## CONCENTRIC & ECCENTRIC REDUCERS



### ASME B16.9

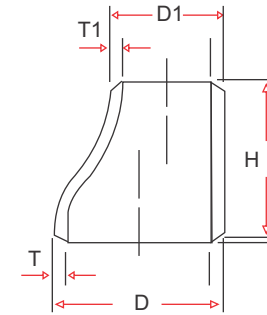
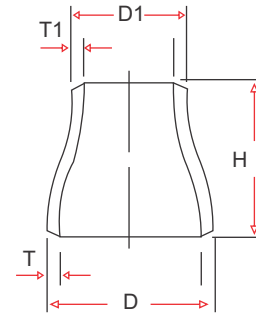
Nominal Pipe Size (NPS)	Outside Diameter mm		SCH STD			SCH 40			SCH XS			SCH 80		
			Wall thk.		Weight	Wall thk.		Weight	Wall thk.		Weight	Wall thk.		Weight
			T	T1	kg	T	T1	kg	T	T1	kg	T	T1	kg
3/4" x 1/2"	26.7	21.3	2.87	2.77	0.06	2.87	2.77	0.06	3.91	3.73	0.08	3.91	3.73	0.08
1" x 1/2"	33.4	21.3	3.38		0.13	3.38	2.77	0.13	4.55	3.73	0.16	4.55	3.73	0.16
1" x 3/4"		26.7		2.87	0.12		2.87	0.12		3.91	0.15		3.91	0.15
1 1/4" x 1/2"	42.2	21.3	3.56	2.77	0.18	3.56	2.77	0.18	4.85	3.73	0.23	4.85	3.73	0.23
1 1/4" x 3/4"		26.7		2.87	0.17		2.87	0.17		3.91	0.22		3.91	0.22
1 1/4" x 1"		33.4		3.38	0.16		3.38	0.16		4.55	0.21		4.55	0.21
1 1/2" x 1/2"	48.3	21.3	3.68	2.77	0.28	3.68	2.77	0.28	5.08	3.73	0.65	5.08	3.73	0.65
1 1/2" x 3/4"		26.7		2.87	0.27		2.87	0.27		3.91	0.63		3.91	0.63
1 1/2" x 1"		33.4		3.38	0.26		3.38	0.26		4.55	0.60		4.55	0.60
1 1/2" x 1 1/4"		42.2		3.56	0.25		3.56	0.25		4.85	0.33		4.85	0.33
2" x 1/2"	60.3	21.3	3.91	2.77	0.42	3.91	2.77	0.42	5.54	3.73	0.58	5.54	3.73	0.58
2" x 3/4"		26.7		2.87	0.41		2.87	0.41		3.91	0.55		3.91	0.55
2" x 1"		33.4		3.38	0.40		3.38	0.40		4.55	0.54		4.55	0.54
2" x 1 1/4"		42.2		3.56	0.38		3.56	0.38		4.85	0.51		4.85	0.51
2" x 1 1/2"		48.3		3.68	0.38		3.68	0.38		5.08	0.51		5.08	0.51
2 1/2" x 1"	73.0	33.4	5.16	3.38	0.76	5.16	3.38	0.76	7.01	4.55	0.99	7.01	4.55	0.99
2 1/2" x 1 1/4"		42.2		3.56	0.74		3.56	0.74		4.85	0.95		4.85	0.95
2 1/2" x 1 1/2"		48.3		3.68	0.71		3.68	0.71		5.08	0.92		5.08	0.92
2 1/2" x 2"		60.3		3.91	0.73		3.91	0.73		5.54	0.95		5.54	0.95

\* All dimensions in mm.

\* All weights indicated are approximate.  
Other sizes available on request.



## CONCENTRIC & ECCENTRIC REDUCERS



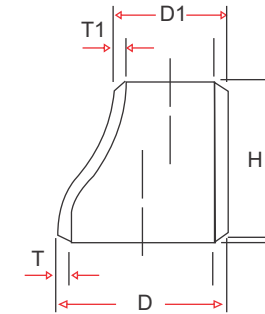
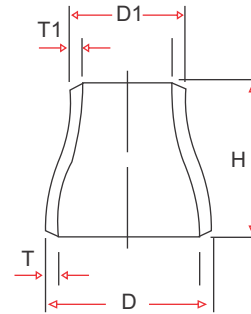
### ASME B16.9

Nominal Pipe Size (NPS)	Outside Diameter mm		SCH STD			SCH 40			SCH XS			SCH 80		
			Wall thk.		Weight	Wall thk.		Weight	Wall thk.		Weight	Wall thk.		Weight
			T	T1	kg	T	T1	kg	T	T1	kg	T	T1	kg
3" x 1"	88.9	33.4	5.49	3.38	0.99	5.49	3.38	0.99	7.62	4.55	1.34	7.62	4.55	1.34
		42.2		3.56	0.96		3.56	0.96		4.85	1.30		4.85	1.30
		48.3		3.68	0.92		3.68	0.92		5.08	1.24		5.08	1.24
		60.3		3.91	0.89		3.91	0.89		5.54	1.21		5.54	1.21
		73.0		5.16	0.94		5.16	0.94		7.01	1.25		7.01	1.25
4" x 1"	114.3	33.4	6.02	3.38	1.61	6.02	3.38	1.61	8.56	4.55	2.22	8.56	4.55	2.22
		42.2		3.56	1.58		3.56	1.58		4.85	2.19		4.85	2.19
		48.3		3.68	1.54		3.68	1.54		5.08	2.13		5.08	2.13
		60.3		3.91	1.48		3.91	1.48		5.54	2.04		5.54	2.04
		73.0		5.16	1.44		5.16	1.44		7.01	2.00		7.01	2.00
5" x 2"	141.3	60.3	6.55	3.91	2.10	6.55	3.91	2.10	9.53	5.54	2.98	9.53	5.54	2.98
		73.0		5.16	2.16		5.16	2.16		7.01	3.02		7.01	3.02
		88.9		5.49	2.27		5.49	2.27		7.62	3.18		7.62	3.18
		114.3		6.02	2.50		6.02	2.50		8.56	3.52		8.56	3.52
		168.3	60.3	7.11	3.91	3.17	7.11	3.91	3.17	10.97	5.54	4.77	10.97	5.54
6" x 2"	168.3	73.0		5.16	3.07		5.16	3.07		7.01	4.62		7.01	4.62
		88.9		5.49	3.04		5.49	3.04		7.62	4.56		7.62	4.56
		114.3		6.02	3.30		6.02	3.30		8.56	4.96		8.56	4.96
		141.3		6.55	3.57		6.55	3.57		9.53	5.38		9.53	5.38
		168.3	60.3	7.11	3.91	3.17	7.11	3.91	3.17	10.97	5.54	4.77	10.97	5.54

\* All dimensions in mm.  
\* All weights indicated are approximate.  
Other sizes available on request.



## CONCENTRIC & ECCENTRIC REDUCERS



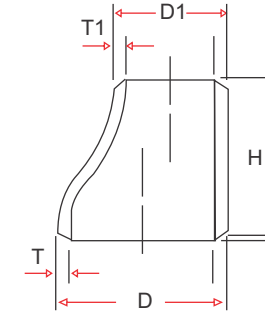
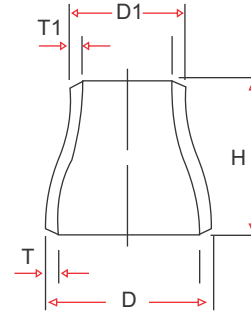
### ASME B16.9

Nominal Pipe Size (NPS)	Outside Diameter mm		SCH STD			SCH 40			SCH XS			SCH 80		
			Wall thk.		Weight	Wall thk.		Weight	Wall thk.		Weight	Wall thk.		Weight
			T	T1	kg	T	T1	kg	T	T1	kg	T	T1	kg
8" x 3"	219.1	88.9	8.18	5.49	5.06	8.18	5.49	5.06	12.70	7.62	7.70	12.70	7.62	7.70
		114.3		6.02	5.10		6.02	5.10		8.56	7.68		8.56	7.68
		141.3		6.55	5.40		6.55	5.40		9.53	8.14		9.53	8.14
		168.3		7.11	5.71		7.11	5.71		10.97	8.63		10.97	8.63
10" x 4"	273.1	114.3	9.27	6.02	9.73	9.27	6.02	9.73	12.70	8.56	13.15	15.09	8.56	17.00
		141.3		6.55	9.51		6.55	9.51		9.53	12.84		9.53	17.00
		168.3		7.11	8.82		7.11	8.82		10.97	11.93		10.97	17.00
		219.1		8.18	9.58		8.18	9.58		12.70	12.90		12.70	17.00
12" x 4"	323.9	114.1	9.53	6.02	14.12	10.31	6.02		12.70	8.56	18.63	17.48	8.56	
		141.3		6.55	13.57		6.55	16.30		9.53	17.91		9.53	26.80
		168.1		7.11	13.02		7.11	16.30		10.97	17.17		10.97	26.80
		219.1		8.18	12.70		8.18	16.30		12.70	16.70		12.70	26.80
14" x 6"	355.6	168.3	9.53	7.11	22.81	11.13	7.11	31.10	12.70	10.97	30.14	19.05	10.97	52.20
		219.1		8.18	22.49		8.18	31.10		12.70	29.72		12.70	52.20
		273.0		9.27	23.60		9.27	31.10		12.70	31.20		15.09	52.20
		323.9		9.53	25.40		10.31	31.10		12.70	33.60		17.48	52.20
16" x 6"	406.4	168.3	9.53	7.11	29.83	12.70	7.11		12.70	10.97	39.43	21.44	10.97	
		219.1		8.18	28.34		8.18	43.80		12.70	37.46		12.70	72.20
		273.0		9.27	27.96		9.27	43.80		12.70	36.96		15.09	72.20
		323.9		9.53	29.60		10.31	43.80		12.70	39.20		17.48	72.20
	355.6		9.53	31.00		11.13	43.80		12.70	41.10		19.05	72.20	

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Other sizes available on request.



## CONCENTRIC & ECCENTRIC REDUCERS



### ASME B16.9

Nominal Pipe Size (NPS)	Outside Diameter mm		SCH STD			SCH 40			SCH XS			SCH 80		
			Wall thk.		Weight	Wall thk.		Weight	Wall thk.		Weight	Wall thk.		Weight
			T	T1	kg	T	T1	kg	T	T1	kg	T	T1	kg
18" x 8"	457.2	219.1	9.53	8.18	37.30	14.27	8.18		12.70	12.70	49.40	23.88	12.70	
		273.0		9.27	36.40		9.27	59.00		12.70	48.20		15.09	96.70
		323.9		9.53	35.60		10.31	59.00		12.70	47.10		17.48	96.70
		355.6		9.53	35.70		11.13	59.00		12.70	47.40		19.05	96.70
		406.4		9.53	37.80		12.70	59.00		12.70	50.10		21.44	96.70
20" x 8"	508.0	219.1	9.53	8.18	55.00	15.09	8.18		12.70	12.70	72.90	26.19	12.70	
		273.0		9.27	54.00		9.27			12.70	71.60		15.09	
		323.9		9.53	53.10		10.31	93.00		12.70	70.30		17.48	158.00
		355.6		9.53	52.20		11.13	93.00		12.70	69.00		19.05	158.00
		406.4		9.53	53.50		12.70	93.00		12.70	71.10		21.44	158.00
		457.2		9.53	56.40		14.27	93.00		12.70	74.90		23.88	158.00
22" x 10"	559.0	273.0	9.53	9.27	60.70	-			12.70	12.70	80.40	28.58	15.09	
		323.9		9.53	59.60					12.70	79.00		17.48	
		355.6		9.53	58.60					12.70	77.60		19.05	188.00
		406.4		9.53	57.50					12.70	76.20		21.44	188.00
		457.2		9.53	59.40					12.70	78.90		23.88	188.00
		508.0		9.53	62.40					12.70	82.90		26.19	188.00
24" x 10"	610.0	273.0	9.53	9.27	67.50	17.48	9.27		12.70	12.70	89.40	30.96	15.09	
		323.9		9.53	66.30		10.31			12.70	87.90		17.48	
		355.6		9.53	65.20		11.13			12.70	86.30		19.05	
		406.4		9.53	64.00		12.70	129.00		12.70	84.80		21.44	228.00
		457.2		9.53	63.00		14.27	129.00		12.70	83.30		23.88	228.00
		508.0		9.53	65.70		15.09	129.00		12.70	87.30		26.19	228.00
		559.0		9.53	68.40		-			12.70	91.00		28.58	228.00

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## CONCENTRIC & ECCENTRIC REDUCERS

Nominal Pipe Size (NPS)	Outside Diameter mm		SCH STD			SCH XS		
			Wall thk.		Weight	Wall thk.		Weight
			T	T1	kg	T	T1	kg
26" x 18"	660.0	457.0		9.53	91.00		12.70	115.00
		508.0		9.53	91.00		12.70	115.00
		559.0		9.53	91.00		12.70	125.00
		610.0	9.53	9.53	91.00	12.70	12.70	125.00
28" x 18"	711.0	457.0		9.53			12.70	
		508.0		9.53			12.70	
		610.0		9.53			12.70	
		660.0	9.53	9.53		12.70	12.70	
30" x 20"	762.0	508.0		9.53	100.00		12.70	143.00
		610.0		9.53	100.00		12.70	143.00
		660.0		9.53			12.70	143.00
		711.0	9.53	9.53	100.00	12.70	12.70	143.00
32" x 24"	813.0	610.0		9.53			12.70	
		660.0		9.53			12.70	
		711.0		9.53			12.70	
		762.0	9.53	9.53		12.70	12.70	
		813.0	9.53	9.53	123.00		12.70	162.00
34" x 24"	864.0	610.0		9.53	123.00		12.70	162.00
		711.0		9.53	123.00		12.70	162.00
		762.0		9.53	123.00		12.70	162.00
		813.0	9.53	9.53	123.00	12.70	12.70	162.00

Nominal Pipe Size (NPS)	Outside Diameter mm		SCH STD			SCH XS		
			Wall thk.		Weight	Wall thk.		Weight
			T	T1	kg	T	T1	kg
36" x 24"	914.0	610.0		9.53	145.00		12.70	160.00
		660.0		9.53	150.00		12.70	160.00
		762.0		9.53	154.00		12.70	165.00
		813.0		9.53	154.00		12.70	165.00
		864.0	9.53	9.53	154.00	12.70	12.70	165.00
40" x 30"	1,016.0	762.0		9.53	168.00		12.70	175.00
		813.0		9.53	168.00		12.70	175.00
		864.0		9.53	168.00		12.70	175.00
		914.0		9.53	177.00		12.70	196.00
		965.0	9.53	9.53	177.00	12.70	12.70	196.00
42" x 30"	1,067.0	762.0		9.53	191.00		12.70	209.00
		813.0		9.53	191.00		12.70	209.00
		864.0		9.53	191.00		12.70	209.00
		914.0		9.53	202.00		12.70	222.00
		965.0		9.53	202.00		12.70	222.00
48" x 40"	1,219.0	1,016.0	9.53	9.53	202.00	12.70	12.70	222.00
		1,067.0		9.53	241.00		12.70	266.00
		1,118.0		9.53	241.00		12.70	266.00
		1,168.0		9.53	241.00	12.70	12.70	266.00
		1,219.0	9.53	9.53	241.00	12.70	12.70	266.00

\* All dimensions in mm.

\* All weights indicated are approximate.  
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## DIMENSIONS OF CONCENTRIC & ECCENTRIC REDUCERS

Nominal Pipe Size (NPS)	Outside Diameter at Bevel		End - to - End
	D	D <sub>1</sub>	
¾" x ½"	26.7	21.3	38.1
1" x ¾"	33.4	26.7	50.8
x ½"		21.3	
1¼" x 1"	42.2	33.4	50.8
x ¾"		26.7	
x ½"		21.3	
1½" x 1¼"	48.3	42.2	63.5
x 1"		33.4	
x ¾"		26.7	
x ½"		21.3	
2" x 1½"	60.3	48.3	76.2
x 1¼"		42.2	
x 1"		33.4	
x ¾"		26.7	
2½" x 2"	73	60.3	88.9
x 1½"		48.3	
x 1¼"		42.2	
x 1"		33.4	
3" x 2½"	88.9	73	88.9
x 2"		60.3	
x 1½"		48.3	
x 1¼"		42.2	
x 1"		33.4	
4" x 3½"	114.3	101.6	101.6
x 3"		88.9	
x 2½"		73	
x 2"		60.3	
x 1½"		48.3	
x 1¼"		42.2	
x 1"		33.4	

Nominal Pipe Size (NPS)	Outside Diameter at Bevel		End - to - End
	D	D <sub>1</sub>	
5" x 4"	141.3	114.3	127
x 3½"		101.6	
x 3"		88.9	
x 2½"		73	
x 2"		60.3	
6" x 5"	168.3	141.3	139.7
x 4"		114.3	
x 3½"		101.6	
x 3"		88.9	
x 2½"		73	
x 2"		60.3	
8" x 6"	219.1	168.3	152.4
x 5"		141.3	
x 4"		114.3	
x 3½"		101.6	
x 3"		88.9	
10" x 8"	273.1	219.1	177.8
x 6"		168.3	
x 5"		141.3	
x 4"		114.3	
12" x 10"	323.9	273.1	203.2
x 8"		219.1	
x 6"		168.3	
x 5"		141.3	
x 4"		114.3	
14" x 12"	355.6	323.9	330.2
x 10"		273.1	
x 8"		219.1	
x 6"		168.3	

Nominal Pipe Size (NPS)	Outside Diameter at Bevel		End - to - End
	D	D <sub>1</sub>	
16" x 14"	406.4	355.6	355.6
x 12"		323.9	
x 10"		273.1	
x 8"		219.1	
x 6"		168.3	
18" x 16"	457.2	406.4	381
x 14"		355.6	
x 12"		323.9	
x 10"		273.1	
x 8"		219.1	
20" x 18"	508	457.2	508
x 16"		406.4	
x 14"		355.6	
x 12"		323.9	
x 10"		273.1	
x 8"		219.1	
22" x 20"	558.8	508	508
x 18"		457.2	
x 16"		406.4	
x 14"		355.6	
x 12"		323.9	
x 10"		273.1	
24" x 22"	609.6	558.8	508
x 20"		508	
x 18"		457.2	
x 16"		406.4	
x 14"		355.6	
x 12"		323.9	
x 10"		273.1	

\* All dimensions in mm.  
\* All weights indicated are approximate.  
Other sizes available on request.

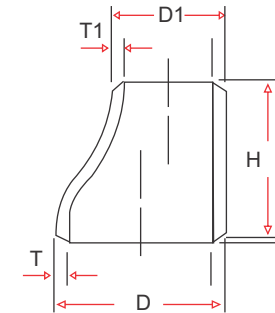
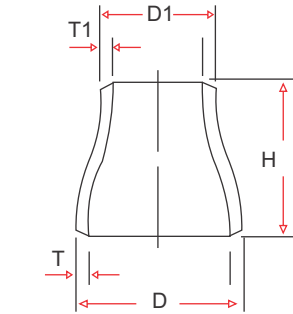
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## DIMENSIONS OF CONCENTRIC & ECCENTRIC REDUCERS

Nominal Pipe Size (NPS)	Outside Diameter at Bevel		End - to - End
	D	D <sub>1</sub>	
26" x 24"	660	610	610
x 22"		559	
x 20"		508	
x 18"		457	
28" x 26"	711	660	610
x 24"		610	
x 20"		508	
x 18"		457	
30" x 28"	762	711	610
x 26"		660	
x 24"		610	
x 20"		508	
32" x 30"	813	762	610
x 28"		711	
x 26"		660	
x 24"		610	
34" x 32"	864	813	610
x 30"		762	
x 28"		711	
x 24"		610	

Nominal Pipe Size (NPS)	Outside Diameter at Bevel		End - to - End
	D	D <sub>1</sub>	
36" x 34"	914	864	610
x 32"		813	
x 30"		762	
x 26"		660	
x 24"		610	
40" x 38"	1016	965	610
x 36"		914	
x 34"		864	
x 32"		813	
x 30"		762	
42" x 40"	1067	1016	610
x 38"		965	
x 36"		914	
x 34"		864	
x 32"		813	
48" x 46"	1219	1168	711
x 44"		1118	
x 42"		1067	
x 40"		1016	

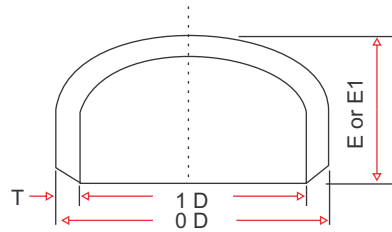


\* All dimensions in mm.  
\* All weights indicated are approximate.  
Other sizes available on request.

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**CAPS**



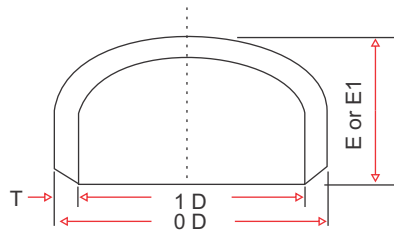
**ASME B16.9**

Nominal Pipe Size (NPS)	Outside Diameter at Bevel	SCH STD		SCH 40		SCH XS		SCH 80		SCH 120		SCH 160		SCH XXS	
		Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg	Wall thk.	Weight kg
1/2"	21.3	2.77	0.04	2.77	0.04	3.73	0.05	3.73	0.05			4.78			
3/4"	26.7	2.87	0.05	2.87	0.05	3.91	0.07	3.91	0.07			5.56			
1"	33.4	3.38	0.11	3.38	0.11	4.55	0.15	4.55	0.15			6.35	0.15	9.09	0.20
1 1/4"	42.2	3.56	0.18	3.56	0.18	4.85	0.24	4.85	0.24			6.35	0.23	9.70	0.28
1 1/2"	48.3	3.68	0.22	3.68	0.22	5.08	0.30	5.08	0.30			7.14	0.30	10.16	0.36
2"	60.3	3.91	0.26	3.91	0.26	5.54	0.33	5.54	0.33			8.74	0.55	11.07	0.59
2 1/2"	73.0	5.16	0.42	5.16	0.42	7.01	0.57	7.01	0.57			9.53	0.90	14.02	1.00
3"	88.9	5.49	0.67	5.49	0.67	7.62	0.92	7.62	0.92			11.13	1.40	15.24	1.78
4"	114.3	6.02	1.33	6.02	1.33	8.56	1.76	8.56	1.76	11.13	2.31	13.49	2.75	17.12	3.17
5"	141.3	6.55	1.99	6.55	1.99	9.53	2.73	9.53	2.73	12.70	3.89	15.88	5.00	19.05	5.50
6"	168.3	7.11	3.00	7.11	3.00	10.97	4.40	10.97	4.40	14.27	6.02	18.26	7.50	21.95	8.10
8"	219.1	8.18	5.43	8.18	5.43	12.70	7.91	12.70	7.91	18.26	15.50	23.01	20.00	22.22	19.50
10"	273.1	9.27	8.92	9.27	8.92	12.70	12.20	15.09	16.20	21.44	24.00	28.58	30.00		
12"	323.9	9.53	13.10	10.31	19.00	12.70	17.40	17.48	26.90	25.40	41.00	33.32	44.50		
14"	355.6	9.53	15.90	11.13	23.00	12.70	21.20	19.05	34.70	27.79	47.00	35.71	60.00		
16"	406.4	9.53	20.00	12.70	26.70	12.70	26.70	21.44	43.50	30.96	64.00	40.49	79.00		
18"	457.0	9.53	27.65	14.27	39.00	12.70	36.52	23.88	72.50	34.93	88.00	45.24	104.00		
20"	508.0	9.53	35.60	15.09	66.70	12.70	46.98	26.19	98.50	38.10	105.00	50.01	170.00		
22"	559.0	9.53	39.00	-		12.70	56.60	28.58	120.00	41.28	150.00	53.98	220.00		
24"	610.0	9.53	46.00	17.48	93.00	12.70	64.60	30.96	150.00	46.02	200.00	59.54	285.00		

\* All dimensions in mm.  
 \* All weights indicated are approximate.  
 Other sizes available on request.



# CAPS



## ASME B16.9

Nominal Pipe Size (NPS)	Outside Diameter at Bevel	SCH STD		SCH XS	
		Wall thk.	Weight kg	Wall thk.	Weight kg
26"	660.0	9.53	50.00	12.70	66.00
28"	711.0	9.53	56.00	12.70	74.80
30"	762.0	9.53	60.00	12.70	79.00
32"	813.0	9.53	68.00	12.70	93.40
34"	864.0	9.53	72.60	12.70	96.91
36"	914.0	9.53	87.00	12.70	107.00
38"	965.0	9.53	86.20	12.70	124.70
40"	1016.0	9.53	95.30	12.70	129.30
42"	1067.0	9.53	102.00	12.70	134.00
44"	1118.0	9.53	120.20	12.70	167.80
46"	1168.0	9.53	136.00	12.70	186.00
48"	1219.0	9.53	159.00	12.70	215.50

\* All dimensions in mm.  
\* All weights indicated are approximate.  
Other sizes available on request.

HIGHER  
W.T.  
ON REQUEST

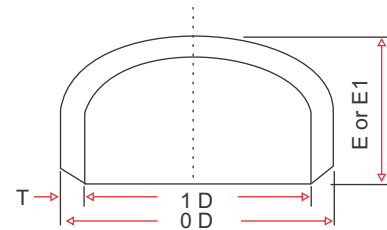


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## DIMENSIONS OF CAPS

Nominal Pipe Size (NPS)	Outside Diameter at Bevel	Length (1) E	Limiting Wall Thickness for Length E	Length (2) E <sub>1</sub>
½"	21.3	25.4	4.6	25.4
¾"	26.7	25.4	3.8	25.4
1"	33.4	38.1	4.6	38.1
1¼"	42.2	38.1	4.8	38.1
1½"	48.3	38.1	5.1	38.1
2"	60.3	38.1	5.6	44.4
2½"	73	38.1	7.1	50.8
3"	88.9	50.8	7.6	63.5
4"	114.3	63.5	8.6	76.2
5"	141.3	76.2	9.7	88.9
6"	168.3	88.9	10.9	101.6
8"	219.1	101.6	12.7	127
10"	273.1	127	12.7	152.4
12"	323.9	152.4	12.7	177.8
14"	355.6	165.1	12.7	190.5
16"	406.4	177.8	12.7	203.2
18"	457.2	203.2	12.7	228.6
20"	508	228.6	12.7	254
22"	558.8	254	12.7	254
24"	609.6	266.7	12.7	304.8
26"	660	267		
28"	711	267		
30"	762	267		
32"	813	267		
34"	864	267		
36"	914	267		
40"	1016	305		
42"	1067	305		
48"	1219	343		

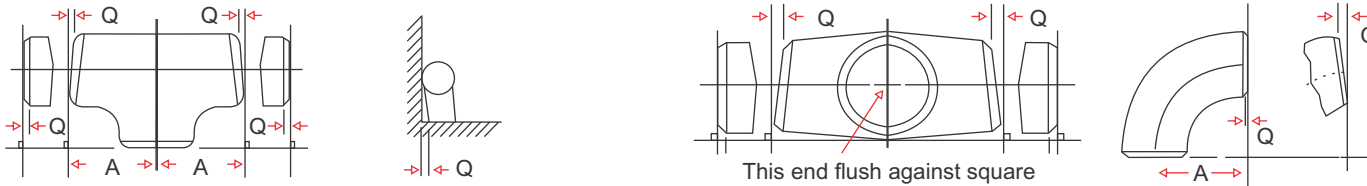


\* All dimensions in mm.  
\* All weights indicated are approximate.  
Other sizes available on request.

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# ASME B16.9 DIMENSIONS TOLERANCE



Nominal Pipe Size (NPS)	All Fittings						Center to End Dimension		Overall Length	
	Outside Diameter at Bevel (Notes : 1 & 2)	Inside Diameter at End (Notes : 1, 3 & 4)	Wall Thickness (Note 3)	Overall Length of Cap E	Angularity		90°, 45° Long and Short Radius Elbows A, B	Tees C, M	Reducers H	Caps E
					Off Angle Q	Off Plane P				
½" - 2½"	+1.6, -0.8	±0.8	Not Less than 87.5% of Nominal Thickness Marked on Fittings	±3	±1	±2	±2	±2	±2	±3
3" - 4"	±1.6	±1.6		±3	±1	±2	±2	±2	±2	±3
5" - 8"	+2.4, -1.6	±1.6		±6	±2	±4	±2	±2	±2	±6
10" - 12"	+4.0, -3.2	±3.2		±6	±3	±5	±2	±2	±2	±6
14" - 16"	+4.0, -3.2	±3.2		±6	±3	±6	±2	±2	±2	±6
18"	+4.0, -3.2	±3.2		±6	±4	±10	±2	±2	±2	±6
20" - 24"	+6.4, -4.8	±4.8		±6	±4	±10	±2	±2	±2	±6

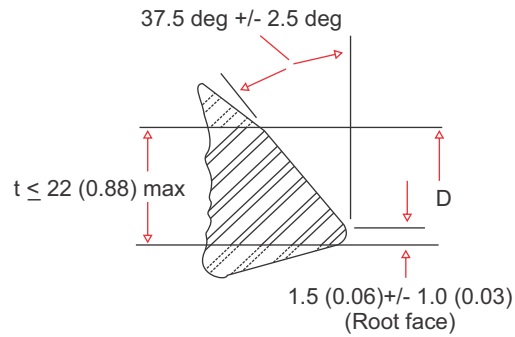
\* All dimensions are in mm. Tolerances are equal plus and minus except as noted.

Notes:

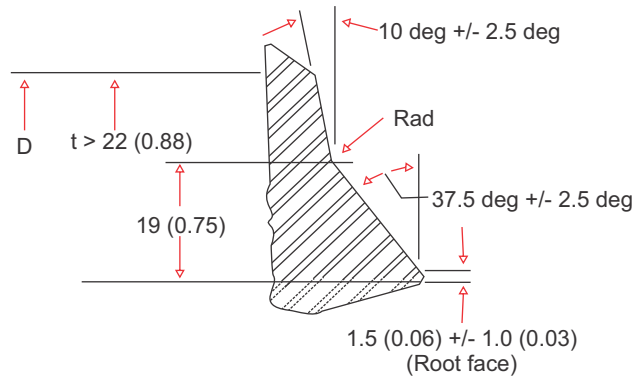
- 1.) Out-of-round is the sum of absolute values of plus and minus tolerance.
- 2.) The inside diameter and the nominal wall thicknesses at ends are to be specified by the Purchaser. Wall thickness tolerance applies throughout the Fittings.
- 3.) Unless otherwise specified by the Purchaser, these tolerances apply to the nominal inside diameter, which equals the difference between the nominal outside diameter and twice the nominal wall thickness.



# ASME B16.9 WELDING END PREPARATIONS



(a) Plain Bevel



(b) Compound Bevel

Nominal Wall Thickness, t	End Preparation
Less than x (Note)	Cut square or slightly chamfer, at Manufacturer's option (not illustrated)
x to 22 (0.88), inclusive	Plain bevel as in sketch (a) above.
More than 22 (0.88)	Compound bevel as in sketch (b) above.

\* Dimensions in parenthesis are in inches.  
\* Other dimensions are in mm.

Note : x = 5 (0.19) for Carbon Steel or Ferritic Alloy Steel.



# STEEL PIPE, BUTTWELD FITTINGS & FLANGE TO ASME STANDARDS

ASME B36.10 STEEL PIPE DIMENSIONS				PIPE				BUTTWELD FITTINGS				APPROXIMATE MASS OF POPULAR SIZES							
NOMINAL SIZE	Outside Diam. mm	Inside Diam. mm	Identification		Steel Pipe kg/m	90° LR Elbows kg/ea	Tees Equal kg/ea	Con. & Ecc. Red. kg/ea	#150 (PN20)		#300 (PN50)		#400 (PN100)	#900 (PN150)					
			Std.	Sch. No.					SOW/SW Threded kg/ea	W/N kg/ea	Blind kg/ea	SOW/SW Threded kg/ea			W/N kg/ea	Blind kg/ea			
1/2"	15	15.8	Std.	40	1.27	0.08	0.16	-	.45	.79	.57	.73	.91	.79	2.00				
		13.9	XS	80	1.62	0.10	0.21	-	.68	.86	.91	1.25	1.41	1.13	2.72				
3/4"	20	20.9	Std.	40	1.69	0.08	0.21	0.07	.95	1.09	1.09	1.36	1.81	1.77	3.86				
		18.9	XS	80	2.20	0.11	0.27	0.10	1.13	1.41	1.25	2.04	2.27	2.68	4.54				
1"	25	26.6	Std.	40	2.50	0.17	0.34	0.14	1.36	1.81	1.70	2.81	3.06	2.83	6.35				
		24.3	XS	80	3.24	0.21	0.43	0.18	2.22	2.83	2.77	3.13	3.74	3.52	10.89				
1-1/4"	32	35.1	Std.	40	3.39	0.28	0.64	0.18	3.82	4.42	4.04	4.54	5.56	5.44	16.33				
		32.5	XS	80	4.47	0.39	0.75	0.23	4.08	5.22	5.44	6.12	7.37	7.26	14.51				
1-1/2"	40	40.9	Std.	40	4.05	0.39	0.95	0.27	4.99	5.44	6.35	7.71	9.53	9.98	-				
		38.1	XS	80	5.41	0.50	1.13	0.32	5.94	7.48	7.37	9.53	11.79	11.79	23.13				
2"	50	52.5	Std.	40	5.44	0.68	1.45	0.41	6.12	9.53	9.07	12.70	15.42	15.88	39.01				
		49.2	XS	80	7.48	1.00	1.72	0.54	8.16	11.34	12.70	16.33	19.96	20.87	49.90				
2-1/2"	65	62.7	Std.	40	8.63	1.36	2.45	0.68	12.70	19.05	21.77	25.40	32.21	38.10	84.82				
		59.0	XS	80	11.41	1.82	2.95	0.91	17.24	25.40	31.75	35.38	44.00	53.34	121.56				
3"	80	77.9	Std.	40	11.29	2.18	3.45	0.91	27.22	38.10	45.36	50.80	64.41	86.18	168.74				
		73.7	XS	80	15.27	2.86	4.30	1.27	35.38	51.26	56.97	74.39	84.37	107.05	254.92				
3-1/2"	90	90.1	Std.	40	13.57	3.05	4.5	1.36	42.18	63.50	77.11	101.60	111.58	145.15	310.71				
		85.4	XS	80	18.63	4.1	5.9	1.81	52.62	81.65	102.51	126.10	138.35	181.89	419.12				
4"	100	102.3	Std.	40	16.07	4.2	5.7	1.59	65.32	91.63	123.38	149.69	174.63	231.33	527.98				
		97.2	XS	80	22.32	5.7	7.3	2.18	81.65	118.84	203.21	222.26	247.21	342.92	680.39				
5"	125	128.2	Std.	40	21.77	6.8	9.1	2.7	91.63	142.88	326.59	367.41	421.84	680.39	975.22				
		122.3	XS	80	30.97	10.0	11.8	3.8	121.72	235.87	510.29	544.31	589.67	931.92	1564.89				
6"	150	154.1	Std.	40	28.26	10.9	13.6	3.9	158.84	326.59	731	816	916	1188	2549				
		146.3	XS	80	42.56	16.3	19.0	5.4	217.7	510.29	1188	1261	1383	1819	4191				
8"	200	202.7	Std.	40	42.55	21.8	25	5.9	326.59	510.29	1188	1261	1383	1819	4191				
		193.7	XS	80	64.64	33.1	33.5	8.6	510.29	731	1633	1724	1845	2492	5572				
10"	250	254.5	Std.	40	60.31	38.6	41	10	731	1188	2722	3038	3335	4392	10000				
		247.7	XS	60	81.55	52	54	14	1188	1633	3658	4191	4515	5927	14689				
12"	300	304.8	Std.	-	73.88	57	57	15	1633	2492	5572	6351	6927	9000	22500				
		298.5	XS	-	97.46	75	77	20	2492	3658	8437	9627	10415	13689	34492				
14"	350	336.6	Std.	30	81.33	73	73	28	3658	5126	1188	1368	1496	1968	4968				
		330.2	XS	-	107.39	97	93	37	5126	731	1633	1845	2000	2649	6689				
16"	400	387.4	Std.	30	93.27	98	91	35	731	1188	2722	3038	3335	4392	11000				
		381.0	XS	40	123.30	130	120	46	1188	1633	3658	4191	4515	5927	14689				
18"	450	438.2	Std.	-	105.16	120	135	40	1633	2492	5572	6351	6927	9000	22500				
		431.8	XS	-	139.15	165	190	53	2492	3658	8437	9627	10415	13689	34492				
20"	500	489.0	Std.	20	117.15	150	168	61	3658	5126	1188	1368	1496	1968	4968				
		482.6	XS	30	155.12	200	245	82	5126	731	1633	1845	2000	2649	6689				
24"	600	590.6	Std.	20	141.12	220	240	77	731	1188	2722	3038	3335	4392	11000				
		584.2	XS	-	187.06	280	350	95	1188	1633	3658	4191	4515	5927	14689				
30"	750	743.0	Std.	-	176.84	332	388	107	2492	3658	8437	9627	10415	13689	34492				
		736.6	XS	20	234.67	440	484	143	3658	5126	1188	1368	1496	1968	4968				
36"	900	895.4	Std.	-	212.56	481	588	129	5126	731	1633	1845	2000	2649	6689				
		889.0	XS	20	282.27	638	731	172	731	1188	2722	3038	3335	4392	11000				

← DIMENSIONS →      ← MASS IN KILOGRAMS - kg. →

APPROXIMATE MASS PER UNIT FOR AUSTENITIC STAINLESS STEEL PIPE AND FITTINGS CAN BE OBTAINED BY APPLYING A FACTOR OF 1.015





## ASTM STANDARDS

Summary of the main ASTM Standards generally used in the petroleum industries.

ASTM	Grade	UNS Designation	CHEMICAL REQUIREMENTS %										MECHANICAL REQUIREMENTS							
			C	Mn	Pmax	Smax	Si	Ni	Cr	Mo	Others	Tensile Strength		Yield Strength		Elongation min%	Red. of Area min. %	Hardness	Impact Test at	
												Min. MPa	Min. ksi	Min. MPa	Min. ksi				°C	°F
A105			0.35 max	0.60-1.05	0.040	0.050	0.35 max	0.40 max	0.30 max	0.12 max	Cu<0.40 - V<0.03 Cb<0.02	485	70	250	36	22	30	137-187HB		
A106	B		0.30 max	0.29-1.06	0.035	0.035	0.10 min	0.40 max	0.40 max	0.15 max	Cu<0.40 - V<0.08	415	60	240	35	L30T16.5				
A182	F5a	K42544	0.25 max	0.60 max	0.040	0.030	0.50 max	0.50 max	4.0-6.0	0.44-0.55		620	90	450	65	22	50	187-248HB		
	F11	K11572	0.10-0.20	0.30-0.8	0.040	0.040	0.50-1.00		1.0-1.50	0.44-0.65		485	70	275	40	20	30	143-207HB		
	F22	K21590	0.05-0.15	0.30-0.6	0.040	0.040	0.50 max		2.0-2.50	0.87-1.13		515	75	310	45	20	30	156-207HB		
	F304	S30400	0.08 max	2.00 max	0.040	0.030	1.00 max	8.0-11.0	18.0-20.0			515	75	205	30	30	50			
	F304L	S30403	0.035 max	2.00 max	0.040	0.030	1.00 max	8.0-13.0	18.0-20.0			485	70	170	25	30	50			
	F316	S31600	0.08 max	2.00 max	0.040	0.030	1.00 max	10.0-14.0	16.0-18.0	2.00-3.00		515	75	205	30	30	50			
	F316L	S31603	0.035 max	2.00 max	0.040	0.030	1.00 max	10.0-15.0	16.0-18.0	2.00-3.00		485	70	170	25	30	50			
	F321	S32100	0.08 max	2.00 max	0.040	0.030	1.00 max	9.0-12.0	17.0 min		5C<Ti<0.70%	515	75	205	30	30	50			
	F347	S34700	0.08 max	2.00 max	0.040	0.030	1.00 max	9.0-13.0	17.0-20.0		10C<Cb+Ta<1.10%	515	75	205	30	30	50			
F51	S31803	0.03 max	2.00 max	0.030	0.020	1.00 max	4.5-6.5	21.0-23.0	2.5-3.5	N0.08-0.20	620	90	450	65	25	45				
A312	TP304	S30400	0.08 max	2.00 max	0.040	0.030	0.75 max	8.0-11.0	18.0-20.0			515	75	205	30	L35T25				
	TP304L	S30403	0.035 max	2.00 max	0.040	0.030	0.75 max	8.0-13.0	18.0-20.0			485	70	170	25	L35T25				
	TP316	S31600	0.08 max	2.00 max	0.040	0.030	0.75 max	11.0-14.0	16.0-18.0	2.00-3.00		515	75	205	30	L35T25				
	TP316L	S31603	0.035 max	2.00 max	0.040	0.030	0.75 max	10.0-15.0	16.0-18.0	2.00-3.00		485	70	170	25	L35T25				
	TP321	S32100	0.08 max	2.00 max	0.040	0.030	0.75 max	9.0-13.0	17.0-20.0		5C<Ti<0.70%	515	75	205	30	L35T25				
	TP347	S34700	0.08 max	2.00 max	0.040	0.030	0.75 max	9.0-13.0	17.0-20.0		10C<Cb+Ta<1%	515	75	205	30	L35T25				
A333	6		0.30 max	0.29-1.06	0.025	0.025	0.10 min				415	60	240	35	L30T16.5			-45	-50	
A335	P5	K41545	0.15 max	0.30-0.60	0.025	0.025	0.50 max		4.00-6.00	0.45-0.65		415	60	205	30	L30T20				
	P11	K11597	0.05-0.15	0.30-0.60	0.025	0.025	0.50-1.00		1.00-1.50	0.44-0.65		415	60	205	30	L30T20				
	P22	K21590	0.05-0.15	0.30-0.60	0.025	0.025	0.50 max		1.90-2.60	0.87-1.13		415	60	205	30	L30T20			max197HB	
A350	LF2		0.30 max	1.35 max	0.035	0.040	0.15-0.30	0.40 max	0.30 max	0.12 max	Cu<0.40 Cb<0.02 V<0.03	485-655	70-95	250	36	22	30		-45.6	-50
A420	WPL6		0.30 max	0.39-1.06	0.030	0.030	0.10 min					415-585	60-85	240	35	L30T16.5			-45.6	-50
A403	WP304		0.08 max	2.00 max	0.045	0.030	1.00 max	8.0-11.00	18.0-20.0			515	75	205	30	L28T20				
	WP304L		0.035 max	2.00 max	0.045	0.030	1.00 max	8.0-13.00	18.0-20.0			485	70	170	25	L28T20				
	WP347		0.08 max	2.00 max	0.045	0.030	1.00 max	9.0-13.00	17.0-20.0		a)	515	75	205	30	L28T20				
	WP316		0.08 max	2.00 max	0.045	0.030	1.00 max	10.0-14.00	16.0-18.0	2.00-3.00		515	75	205	30	L28T20				
	WP316L		0.035 max	2.00 max	0.045	0.030	1.00 max	10.0-15.00	16.0-18.0	2.00-3.00		485	70	170	25	L28T20				
	WP321		0.08 max	2.00 max	0.045	0.030	1.00 max	9.0-13.00	17.0-20.0		b)	515	75	205	30	L28T20				

a) Niobium + Tantalum content must be : not 10 times minus than Carbon content and not 1.10% more.

b) Titanium content must be : not 5 times minus than Carbon content and not 0.70% more.



# PIPE SCHEDULE

Nominal Pipe Size inches	OD mm	10	20	30	STD	40	60	XS	80	100	120	140	160	XXS	VOL.	
1/8"	10.30				1.73 0.37			2.41 0.47	← SAME AS EXTRA STRONG W.T. (XS) →							0.0001
1/4"	13.70				2.24 0.63		3.02 0.80									
3/8"	17.10				2.31 0.84			3.20 1.10							0.0003	
1/2"	21.30				2.77 1.27			3.73 1.62					4.78 1.95	7.47 2.55	0.0004	
3/4"	26.70				2.87 1.69			3.91 2.20					5.56 2.90	7.82 3.64	0.0007	
1"	33.40				3.38 2.50			4.55 3.24					6.35 4.24	9.09 5.45	0.0011	
1-1/4"	42.20				3.56 3.39			4.85 4.47					6.35 5.61	9.70 7.77	0.0018	
1-1/2"	48.30				3.68 4.05			5.08 5.41					7.14 7.25	10.15 9.56	0.0023	
2"	60.30				3.91 5.44			5.54 7.48					8.74 11.11	11.07 13.44	0.0036	
2-1/2"	73.00				5.16 8.63			7.01 11.41					9.53 14.92	14.02 20.39	0.0053	
3"	88.90				5.49 11.29			7.62 15.27					11.13 21.35	15.24 27.66	0.0079	
3-1/2"	101.60				5.74 13.57			8.08 18.63					13.49 33.54	17.12 41.03	0.0103	
4"	114.30				6.02 16.07			8.56 22.32					15.88 33.54	19.05 41.03	0.0130	
5"	141.30				6.55 21.77			9.53 30.97					15.88 33.54	19.05 41.03	0.0199	
6"	168.30				7.11 28.26			10.97 42.56					18.26 67.56	21.95 79.22	0.028	
8"	219.10		6.35 33.31	7.04 36.81	8.18 42.55		10.31 53.08	12.70 64.64	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	0.048	
10"	273.10		6.35 41.77	8.38 51.03	9.53 60.31	10.31 60.31	12.70 60.31	12.70 60.31	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	0.074	
12"	323.90		6.35 49.73	8.38 65.20	9.53 73.88	10.31 73.88	12.70 73.88	12.70 73.88	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	0.104	
14"	355.60		6.35 67.90	7.92 81.33	9.53 81.33	11.13 94.55	12.70 107.39	12.70 107.39	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	0.126	
16"	406.40		6.35 77.83	7.92 81.33	9.53 81.33	12.70 107.39	12.70 107.39	12.70 107.39	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	0.165	
18"	457.00		6.35 87.71	7.92 81.33	9.53 81.33	12.70 107.39	12.70 107.39	12.70 107.39	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	0.208	
20"	508.00		6.35 117.15	7.92 81.33	9.53 81.33	12.70 107.39	12.70 107.39	12.70 107.39	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	0.258	
22"	559.00		6.35 129.13	7.92 81.33	9.53 81.33	12.70 107.39	12.70 107.39	12.70 107.39	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	0.312	
24"	610.00		6.35 141.12	7.92 81.33	9.53 81.33	12.70 107.39	12.70 107.39	12.70 107.39	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	0.372	
26"	660.00		7.92 127.36	7.92 81.33	9.53 81.33	12.70 107.39	12.70 107.39	12.70 107.39	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	0.435	
28"	711.00		7.92 137.32	7.92 81.33	9.53 81.33	12.70 107.39	12.70 107.39	12.70 107.39	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	0.505	
30"	762.00		7.92 147.28	7.92 81.33	9.53 81.33	12.70 107.39	12.70 107.39	12.70 107.39	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	0.580	
32"	813.00		7.92 157.24	7.92 81.33	9.53 81.33	12.70 107.39	12.70 107.39	12.70 107.39	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	0.660	
34"	864.00		7.92 167.20	7.92 81.33	9.53 81.33	12.70 107.39	12.70 107.39	12.70 107.39	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	0.746	
36"	914.00		7.92 176.96	7.92 81.33	9.53 81.33	12.70 107.39	12.70 107.39	12.70 107.39	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	0.835	
38"	965.00		7.92 186.92	7.92 81.33	9.53 81.33	12.70 107.39	12.70 107.39	12.70 107.39	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	0.931	
40"	1016.00		7.92 196.88	7.92 81.33	9.53 81.33	12.70 107.39	12.70 107.39	12.70 107.39	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	1.032	
42"	1067.00		7.92 206.84	7.92 81.33	9.53 81.33	12.70 107.39	12.70 107.39	12.70 107.39	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	1.138	
44"	1118.00		7.92 216.80	7.92 81.33	9.53 81.33	12.70 107.39	12.70 107.39	12.70 107.39	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	1.249	
46"	1168.00		7.92 226.76	7.92 81.33	9.53 81.33	12.70 107.39	12.70 107.39	12.70 107.39	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	1.364	
48"	1219.00		7.92 236.72	7.92 81.33	9.53 81.33	12.70 107.39	12.70 107.39	12.70 107.39	15.09 75.92	18.26 90.44	21.44 100.92	25.40 111.27	28.58 127.33	25.40 155.15	1.485	

← SAME AS STANDARD W.T. (Std. W.T.) →

← SAME AS EXTRA STRONG W.T. (XS) →

Wall Thickness = MM      Weight = Kg/Meter      Volume = m<sup>3</sup> / m





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