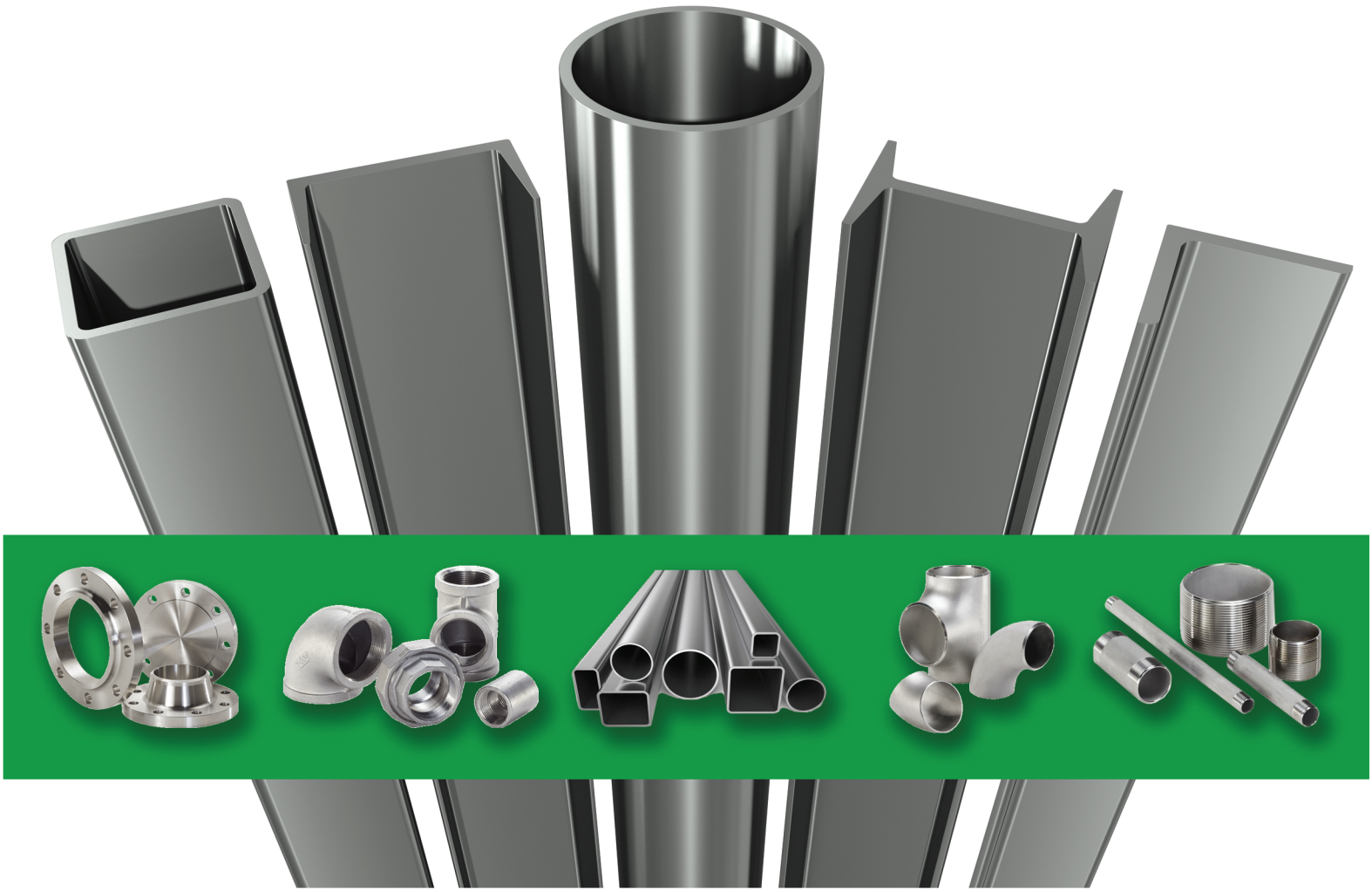
SHAW

STAINLESS & ALLOY

Since 1979

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Since 1979

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Marietta, GA 30060
Phone 770-427-0402
Toll Free 800-282-9694
sales@shawstainless.com
www.stainlessandalloy.com

Pipe
Types: Welded • Seamless
Sizes: 1/8” - 36” +
Wall Thicknesses: S/5s - XXH

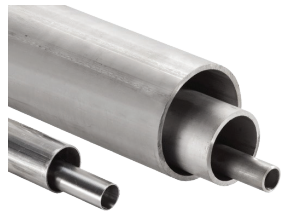
Valves
Types: Ball • Butterfly • Check
Gate • Globe • Y-Strainer
Sizes: 1/8” - 30”
Pressures: 125# • 150# • 300# • 600#
800# • 900# • 1000# • 1500#

Butt Weld Fittings
Types: Elbows • Tees • Crosses
Caps • Reducers • Stub Ends
Sizes: 1/2” - 36” +
Wall Thicknesses: S/5s - XXH

Threaded & Socket Weld Fittings
Types: Elbows • Tees • Caps
Couplings • Crosses • O-Lets
Inserts • Bushings • Unions
Sizes: 1/8” - 6”
Pressures: 150# • 3000# • 6000#

Nipples
Types: Welded • Seamless
Nominal Pipe Sizes: 1/8” - 8”
Lengths: Close - 12” + Custom
Schedules: S/40s - XXH

Flanges
Types: Weld Neck • Slip-On
Blind • Socket Weld • Threaded
Lap Joint • Back-Up • RTJ
Reducing • Orifice • Plate
Sizes: 1/2” - 36” +
Bores: S/5s - XXH
Pressures: 150# • 300# • 600#
900# • 1500# • 2500#











Tubing
Types: Welded • Seamless
Round • Rectangle • Square
Sizes: 1/16” - 16”
Wall Thicknesses: .010” - 2”

Structural
Types: Angle • Channel • I-Beam

Bar
Types: Flat • Hex • Round • Square

Plate & Sheet
Sizes: Standard • Custom Cut
Thicknesses: 3/16” - 6” & 24GA - 7GA

Sanitary
Types: Tube • Fittings • Valves
Sizes: 1/2” - 12”
End Types: Weld • E Line • Bevel • Clamp

Accessories
Types: Tube Fittings • Hangers
Gaskets • Cam & Groove Fittings

Alloys
Stainless Steel: 304/L • 310 • 316/L
317L • 321/H • 347/H • 410S • 904L
2205 • 2207 • 254 SMO • 17-4 PH
Carbon Steel: A105 • A106 • A234
Aluminum: 6061 T6 • 6063 T6
Chrome Moly: 11 • 22 • 5 • 9 • 91
Nickel Alloys: Alloy C276 • Alloy 20
Alloy 200/201 • Alloy 400 • Alloy 600
Alloy 625 • Alloy 800 • Alloy 825

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Electropolishing • Mechanical Polishing
Laser • Precision Saw • Waterjet Cutting
Bending • Grooving • Threading

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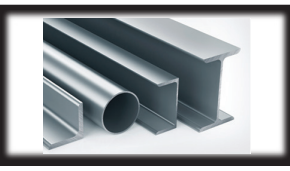
SHAW STAINLESS & ALLOY Since 1979

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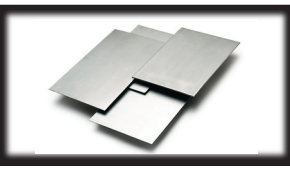


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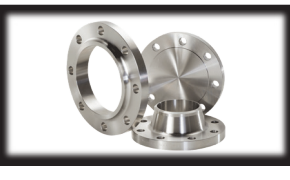
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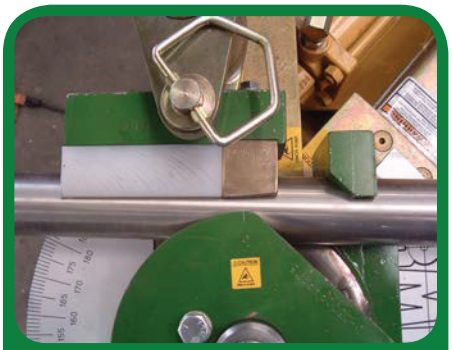
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VALUE-ADDED SERVICES



Bending



Custom Fabrication



Electropolishing



Forming



Grooving



Laser Cutting



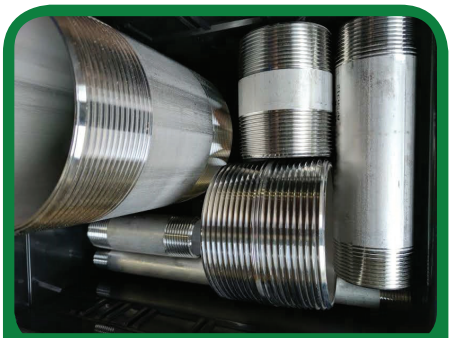
Pipe Fabrication



Polishing



Sawcutting



Threading



Waterjet Cutting



Welding

GRADE	PIPE	TUBE	FITTINGS	FLANGES	PLATE	BAR	FORGINGS	UNS #
Stainless 304	A312	A213/249/269	A403	A182 F304	A240	A276/479	A182	S30400
Stainless 316	A312	A213/249/269	A403	A182 F316	A240	A276/479	A182	S31600
Stainless 317	A312	A213/249/269	A403	A182 F317	A240	A276/479	A182	S31700
Stainless 310	A312	A213/249/269	A403	A182 F310	A240	A276/479	A182	S31000
Stainless 321	A312	A213/249/269	A403	A182 F321	A240	A276/479	A182	S32100
Stainless 347	A312	A213/249/269	A403	A182 F347	A240	A276/479	A182	S34700
Alloy 20	B/SB729	B/SB729	B/SB366	B/SB462 B16.5	B/SB463	B/SB462 B/SB473	B/SB462	N08020
Duplex 2205	A/SA790	A/SA789	A/SA182 A/SA815	A/SA479 A/SA182	A/SA240	A/SA182 A/SA479 A/SA276 A/SA193	A/SA182	S31803/S 32205
Hastelloy C276	B/SB619 B/SB622	SB-622/SB-516/SB-626	SB-366	B/SB574 B/SB564 B16.5	B/SB575	B/SB574 B/SB564	B/SB-564 B/SB462	N10276
Alloy 200/201	B/SB161	B/SB161 B/SB163	B/SB366	B/SB160 B/SB564 B16.5	B/SB162	B/SB160 B/SB564	B/SB564	N02200/N 02201
Alloy 400	B/SB165	B/SB165	B/SB366	B/SB164 B/SB564 B16.5	B/SB127	B/SB164 B/SB564 QQ-N-281D	SB-564	N04400
Alloy 600	B/SB167	B/SB167	B/SB366	B/SB166 B/SB564 B16.5	B/SB168	B/SB166 B/SB564	B/SB564	N06600
Alloy 625	B/SB444 B705	B/SB444	B/SB366	B/SB444 B/SB564 B16.5	B/SB443	B/SB446 B/SB564	B/SB564	N06625
Alloy 800H/HP	B/SB407	SB-407/SB-829/SB-515/SB-751	B/SB366	B/SB446 B/SB564 B16.5	B/SB409	B/SB408 B/SB564	B/SB564	NO8810/ N08811
Alloy 825	B/SB423	B/SB423	B/SB366	B/SB425 B/SB564 B16.5	B/SB424	B/SB425 B/SB564	B/SB564	N08825
Carbon Steel	A53		A234 WPB	A105	A36		A105	
Carbon Steel	A106B		A234 WPB	A105	A36		A105	
Carbon Steel	A106C		A234 WPB	A105	A36		A105	
Low Temp C.S. Gr. 1	A333 GR. 1	A334 GR. 1	A420 WPL1/6	A350 LF2		A516	A350 LF2	
Low Temp C.S. Gr. 3	A333 GR. 3	A334 GR. 3	A420 WPL3	A350 LF3		A516	A350 LF3	
Low Temp C.S. Gr. 6	A333 GR. 6	A334 GR. 6	A420 WPL6	A350 LF2		A516	A350 LF2	
Cr-Mo Grade 9	A335 P9	A213 T9	A234 WP9	A182 F9		A387 GRADE 9	A182 F9	
Cr-Mo Grade 11	A335 P11	A213 T11	A234 WP11	A182 F11		A387 GRADE 11	A182 F11	
Cr-Mo Grade 22	A335 P22	A213 T22	A234 WP22	A182 F22		A387 GRADE 22	A182 F22	

NOMINAL PIPE SIZE	OUTSIDE DIAMETER (INCHES)	5S	5	10S	10	20	30	40S/ STD	40	60	80S/ XH	80	100	120	140	160	DBL XXH
1/8	0.405		.035 .1383	.049 .1863	.049 .1863			.068 .2447	.068 .2447		.095 .3145	.095 .3145					WALL LBS/FT
1/4	0.540		.049 .2570	.065 .3297	.065 .3297			.088 .4248	.088 .4248		.119 .5351	.119 .5351					
3/8	0.675		.049 .3276	.065 .4235	.065 .4235			.091 .5676	.091 .5676		.126 .7388	.126 .7388					
1/2	0.840	.065 .5383	.065 .5383	.083 .6710	.083 .6710			.109 .8510	.109 .8510		.147 1.088	.147 1.088				.187 1.304	.294 1.714
3/4	1.050	.065 .6838	.065 .6838	.083 .8572	.083 .8572			.113 1.131	.113 1.131		.154 1.474	.154 1.474				.218 1.937	.308 2.441
1	1.315	.065 .8678	.065 .8678	.109 1.404	.109 1.404			.133 1.679	.133 1.679		.179 2.172	.179 2.172				.250 2.844	.358 3.659
1 1/4	1.660	.065 1.107	.065 1.107	.109 1.806	.109 1.806			.140 2.273	.140 2.273		.191 2.997	.191 2.997				.250 3.765	.382 5.214
1 1/2	1.900	.065 .1274	.065 1.274	.109 2.085	.109 2.085			.145 2.718	.145 2.718		.200 3.631	.200 3.631				.281 4.859	.400 6.408
2	2.375	.065 1.604	.065 1.604	.109 2.638	.109 2.638			.154 3.653	.154 3.653		.218 5.002	.218 5.022				.344 7.462	.436 9.029
2 1/2	2.875	.083 2.475	.083 2.475	.120 3.531	.120 3.531			.203 5.793	.203 5.793		.276 7.661	.276 7.661				.375 10.01	.552 13.70
3	3.500	.083 3.029	.083 3.029	.120 4.332	.120 4.332			.216 7.576	.216 7.576		.300 10.25	.300 10.25				.438 14.32	.600 18.58
3 1/2	4.000	.083 3.472	.083 3.472	.120 4.937	.120 4.937			.226 9.109	.226 9.109		.318 12.51	.318 12.51					.636 22.85
4	4.500	.083 3.915	.083 3.915	.120 5.613	.120 5.613			.237 10.790	.237 10.790		.337 14.98	.337 14.98		.438 19.00		.531 22.51	.674 27.54
4 1/2	5.000							.247 12.54			.355 17.61						
5	5.563	.109 6.349	.109 6.349	.134 7.770	.134 7.770			.258 14.62	.258 14.62		.375 20.78	.375 20.78		.500 27.04		.625 32.96	.750 38.55
6	6.625	.109 7.585	.109 7.585	.134 9.289	.134 9.289			.280 18.97	.280 18.97		.432 28.57	.432 28.57		.562 36.39		.719 43.35	.864 53.16
7	7.625							.301 23.54			.500 38.04						.875 63.08
8	8.625	.109 9.914	.109 9.914	.148 13.40	.148 13.40	.250 22.36	.277 24.70	.322 28.55	.322 28.55	.406 35.64	.500 43.39	.500 43.39	.594 50.95	.719 60.71	.812 67.76	.906 74.79	.875 72.42
9	9.625							.342 33.91			.500 48.75						
10	10.75	.134 15.190	.134 15.190	.165 18.65	.165 18.65	.250 28.04	.307 34.24	.365 40.48	.365 40.48	.500 54.74	.500 54.74	.594 64.33	.719 76.93	.844 89.20	1.000 104.1	1.125 115.6	1.000 104.1
11	11.75							.375 45.56			.500 60.06						
12	12.75	.156 21.070	.165 22.180	.180 24.16	.180 24.16	.250 33.38	.330 43.77	.375 49.56	.406 53.52	.562 73.15	.500 65.42	.688 88.63	.844 107.3	1.000 125.5	1.125 136.7	1.312 160.3	1.000 125.5
14	14.00	.156 23.070		.188 27.73	.250 36.71	.312 45.61	.375 54.57	.375 54.57	.438 63.44	.594 85.05	.500 72.09	.750 106.1	.938 130.9	1.093 150.8	1.250 170.2	1.406 189.1	
16	16.00	.165 27.900		.188 31.75	.250 42.05	.312 52.27	.375 62.58	.375 62.58	.500 82.77	.656 107.5	.500 82.77	.844 136.6	1.031 164.8	1.219 192.4	1.438 223.6	1.594 245.3	
18	18.00	.165 31.43		.188 35.76	.250 47.39	.312 58.94	.438 82.15	.375 70.59	.562 104.70	.750 138.2	.500 93.45	.938 170.90	1.156 208.00	1.375 244.10	1.562 274.20	1.781 308.50	
20	20.00	.188 39.78		.218 48.05	.250 52.73	.375 78.60	.500 104.10	.375 78.60	.594 123.10	.812 166.40	.500 104.10	1.031 208.90	1.281 256.10	1.500 296.40	1.750 341.10	1.969 379.20	
24	24.00	.218 55.37		.250 63.41	.250 63.41	.375 96.42	.562 140.70	.375 94.62	.688 171.30	.969 234.40	.500 125.50	1.219 296.60	1.531 367.40	1.812 429.40	2.062 483.10	2.344 542.10	
26	26.00				.312 85.60	.500 136.17		.375 102.63			.500 136.17						
28	28.00				.312 92.26	.500 146.85	.625 182.73	.375 110.64					Weight Factor for Other Alloys				
30	30.00	.250 79.43		.312 98.93	.312 98.93	.500 157.53	.625 196.06	.375 118.65			.500 157.53		Carbon Steel			0.993	
32	32.00				.312 105.59	.500 168.21	.625 209.43	.375 126.66	.688 230.08		.500 168.21		Alloy 600			1.074	
34	34.00				.312 112.25	.500 178.89	.625 222.78	.375 134.67	.688 244.77		.500 178.89		Alloy 800			1.025	
36	36.00				.312 118.92		.625 236.13	.375 142.68	.750 282.35		.500 189.57		Hastalloy C276			1.129	
40	40.00							.375 158.70			.500 210.93		Duplex 2205			0.997	
44	44.00							.375 174.72			.500 232.29		Weight per Foot = (Diameter - Wall) x (Wall x 10.68)				
48	48.00							.375 190.74			.500 253.65						

TUBE

OD	WALL	ID	LBS/FT	304/L	316/L
1/16	.010	.043	.0057	S-AP	S-AP
	.012	.039	.0065	S-AP	-
	.016	.031	.0080	S-AP	S-AP
	.020	.023	.0092	S-AP	S-AP
	.028	.007	.0105	S-AP	-
3/32	.020	.054	.0158	S-AP	-
	.028	.038	.0197	S-AP	-
1/8	.010	.105	.0123	S-AP	S-AP
	.012	.101	.0145	S-AP	-
	.016	.093	.0186	S-AP	S-AP
	.020	.085	.0224	W-BA*	W-BA*
	.020	.085	.0224	S-AP	S-AP
	.028	.069	.0290	W-BA*	W-BA*
	.028	.069	.0290	S-AP	S-AP
	.035	.055	.0336	W-BA*	W-BA*
	.035	.055	.0336	S-AP	S-AP
	.049	.027	.0398	S-AP	S-AP
5/32	.016	.125	.0239	S-AP	-
	.020	.117	.0290	S-AP	-
	.028	.101	.0383	S-AP	S-AP
	.035	.087	.0452	W-BA*	-
	.035	.087	.0452	S-AP	-
	.049	.059	.0560	S-AP	-
3/16	.010	.168	.0190	S-AP	S-AP
	.016	.156	.0294	S-AP	S-AP
	.020	.148	.0359	W-BA*	W-BA*
	.020	.148	.0359	S-AP	S-AP
	.028	.132	.0478	W-BA*	W-BA*
	.028	.132	.0478	S-AP	S-AP
	.035	.118	.0572	W-BA*	W-BA*
	.035	.118	.0572	S-AP	S-AP
	.049	.090	.0727	W-BA*	-
	.049	.090	.0727	S-AP	S-AP
	.065	.058	.0854	S-AP	S-AP
1/4	.010	.230	.0256	W-BA*	-
	.010	.230	.0256	S-AP	S-AP
	.012	.226	.0305	S-AP	-
	.016	.218	.0400	S-AP	S-AP
	.020	.210	.0491	W-BA*	W-BA*
	.020	.210	.0491	S-AP	S-AP
	.028	.194	.0664	W-BA*	W-BA*
	.028	.194	.0664	S-AP	S-AP
	.035	.180	.0804	W-BA*	W-BA*

OD	WALL	ID	LBS/FT	304/L	316/L
1/4	.035	.180	.0804	S-AP	S-AP
	.035	.180	.0804	S-BA*	S-BA*
	.049	.152	.1052	W-BA*	W-BA*
	.049	.152	.1052	S-AP	S-BA*
	.049	.152	.1052	S-BA*	S-BA*
	.058	.134	.1189	S-AP	S-AP
	.065	.120	.1284	W-BA*	W-BA*
	.065	.120	.1284	S-AP	S-BA*
	.083	.084	.1480	S-AP	S-AP
	.095	.060	.1573	S-AP	S-AP
5/16	.016	.281	.0508	S-AP	-
	.020	.273	.0626	W-BA*	W-BA*
	.020	.273	.0626	S-AP	S-AP
	.028	.257	.0852	W-BA*	W-BA*
	.028	.257	.0852	S-AP	S-AP
	.035	.243	.1039	W-BA*	W-BA*
	.035	.243	.1039	S-AP	S-AP
	.049	.215	.1382	W-BA*	W-BA*
	.049	.215	.1382	S-AP	S-AP
	.065	.183	.1722	W-BA*	W-BA*
	.065	.183	.1722	S-AP	S-AP
	.083	.147	.2039	S-AP	-
	.095	.123	.2212	S-AP	S-AP
	.120	.072	.2470	S-AP	-
	.156	.250	.6840	S-AP	-
3/8	.010	.355	.0390	S-AP	-
	.016	.343	.0613	S-AP	S-AP
	.020	.335	.0758	W-BA*	W-BA*
	.020	.335	.0758	S-AP	S-AP
	.028	.319	.1038	W-BA*	W-BA*
	.028	.319	.1038	S-AP	S-AP
	.035	.305	.1271	W-BA*	W-BA*
	.035	.305	.1271	S-AP	S-AP
	.035	.305	.1271	S-BA*	S-BA*
	.049	.277	.1706	W-BA*	W-BA*
	.049	.277	.1706	S-AP	S-AP
	.049	.277	.1706	S-BA*	S-BA*
	.058	.259	.1960	S-AP	-
	.065	.245	.2152	W-BA*	W-BA*
	.065	.245	.2152	S-BA*	S-BA*
	.065	.245	.2152	S-BA*	S-BA*
	.083	.209	.2588	S-AP	S-AP
	.095	.185	.2841	S-AP	S-AP

W = WELDED | S = SEAMLESS | SMT = SEAMLESS MECHANICAL TUBING
AP = ANNEALED & PICKLED | BA = BRIGHT ANNEALED | * = DOMESTIC/DFARS

OD	WALL	ID	LBS/FT	304/L	316/L
3/8	.120	.135	.3268	S-AP	S-AP
7/16	.016	.406	.0719	S-AP	-
	.020	.398	.0892	S-AP	-
	.028	.382	.1226	W-BA*	S-AP
	.035	.368	.1505	W-BA*	W-BA*
	.035	.368	.1505	S-AP	S-AP
	.049	.340	.2036	W-BA*	W-BA*
	.049	.340	.2036	S-AP	S-AP
	.065	.308	.2589	W-BA*	W-BA*
	.065	.308	.2589	S-AP	S-AP
	.083	.272	.3147	S-AP	-
	.095	.248	.3475	S-AP	S-AP
	.120	.198	.4069	S-AP	-
1/2	.016	.468	.0827	S-AP	-
	.020	.460	.1025	W-BA*	W-BA*
	.020	.460	.1025	S-AP	S-AP
	.028	.444	.1411	W-BA*	W-BA*
	.028	.444	.1411	S-AP	S-AP
	.035	.430	.1738	W-BA*	W-BA*
	.035	.430	.1738	S-AP	S-AP
	.035	.430	.1738	S-BA*	S-BA*
	.049	.402	.2360	W-BA*	W-BA*
	.049	.402	.2360	S-AP	S-AP
	.049	.402	.2360	S-BA*	S-BA*
	.058	.384	.2738	S-AP	-
	.065	.370	.3020	W-BA*	W-BA*
	.065	.370	.3020	S-AP	S-AP
	.065	.370	.3020	-	S-BA*
	.083	.334	.3696	S-AP	S-AP
	.095	.310	.4109	S-AP	S-AP
	.109	.282	.4552	S-AP	-
	.120	.260	.4870	S-AP	S-AP
	.134	.232	.5238	S-AP	-
	.156	.188	.5731	S-AP	S-AP
	.188	.124	.6264	SMT-AP	SMT-AP
9/16	.028	.507	.1600	S-AP	S-AP
	.035	.493	.1974	W-BA*	-
	.035	.493	.1974	S-AP	S-AP
	.049	.465	.2690	W-BA*	-
	.049	.465	.2690	S-AP	S-AP
	.065	.433	.3457	W-BA*	-
	.065	.433	.3457	S-AP	S-AP
	.083	.396	.4250	S-AP	-
9/16	.095	.373	.4430	W-BA*	-
	.095	.373	.4430	S-AP	-
	.120	.323	.5671	S-AP	S-AP
	.156	.250	.6840	S-AP	-
	.188	.187	.7519	SMT-AP	SMT-AP
5/8	.020	.585	.1292	W-BA*	-
	.020	.585	.1292	S-AP	S-AP
	.028	.569	.1785	W-BA*	W-BA*
	.028	.569	.1785	S-AP	S-AP
	.035	.555	.2205	W-BA*	W-BA*
	.035	.555	.2205	S-AP	S-AP
	.049	.527	.3014	W-BA*	W-BA*
	.049	.527	.3014	S-AP	S-AP
	.049	.527	.3014	-	S-BA*
	.058	.509	.3512	W-BA*	-
	.058	.509	.3512	S-AP	-
	.065	.495	.3888	W-BA*	W-BA*
	.065	.495	.3888	S-AP	S-AP
	.065	.495	.3888	-	S-BA*
	.083	.459	.4805	W-BA*	W-BA*
	.083	.459	.4805	S-AP	S-AP
	.095	.435	.5377	S-AP	S-AP
	.109	.407	.6060	S-AP	-
	.120	.385	.6472	S-AP	S-AP
	.134	.357	.7027	S-AP	-
	.156	.313	.7814	S-AP	S-AP
	.188	.249	.8774	SMT-AP	SMT-AP
7/8	.083	.709	.7021	W-BA*	W-BA*
	.083	.709	.7021	S-AP	S-AP
	.095	.685	.7914	W-BA*	-
	.095	.685	.7914	S-AP	S-AP
	.120	.635	.9676	W-BA*	W-BA*
	.120	.635	.9676	S-AP	S-AP
	.156	.563	1.198	S-AP	-
	.188	.499	1.379	SMT-AP	SMT-AP
	.250	.375	1.669	SMT-AP	-
11/16	.035	.618	.2441	S-AP	-
	.049	.590	.3344	W-BA*	-
	.049	.590	.3344	S-AP	S-AP
	.065	.558	.4325	S-AP	S-AP
	.120	.448	.7273	S-AP	-
3/4	.020	.710	.1559	S-AP	S-AP
	.028	.694	.2159	W-BA*	-

W = WELDED | S = SEAMLESS | SMT = SEAMLESS MECHANICAL TUBING
AP = ANNEALED & PICKLED | BA = BRIGHT ANNEALED | * = DOMESTIC/DFARS

TUBE

OD	WALL	ID	LBS/FT	304/L	316/L
3/4	.028	.694	.2159	S-AP	*
	.035	.680	.2673	W-BA*	W-BA*
	.035	.680	.2673	S-AP	S-AP
	.049	.652	.3668	W-BA*	W-BA*
	.049	.652	.3668	S-AP	S-AP
	.049	.652	.3668	S-BA*	S-BA*
	.058	.634	.4280	S-AP	S-AP
	.065	.620	.4755	W-BA*	W-BA*
	.065	.620	.4755	S-AP	S-AP
	.065	.620	.4755	-	S-BA*
	.083	.584	.5913	W-BA*	W-BA*
	.083	.584	.5913	S-AP	S-BA*
	.095	.560	.6646	W-BA*	W-BA*
	.095	.560	.6646	S-AP	S-AP
	.109	.532	.7462	S-AP	S-AP*
	.120	.510	.8074	S-AP	S-AP
	.120	.510	.8074	-	S-BA*
	.134	.482	.8816	S-AP	S-AP
	.156	.438	.9897	S-AP	S-AP
	.188	.374	1.128	SMT-AP	SMT-AP
	.250	.250	1.335	SMT-AP	SMT-AP
13/16	.035	.743	.2908	W-BA*	-
	.035	.743	.2908	S-AP	-
	.049	.715	.3396	S-AP	-
	.065	.683	.5189	S-AP	S-AP
7/8	.028	.819	.2533	S-AP	-
	.035	.805	.3140	W-BA*	W-BA*
	.035	.805	.3140	S-AP	S-AP
	.049	.777	.4323	W-BA*	W-BA*
	.049	.777	.4323	S-AP	S-AP
	.065	.745	.5623	W-BA*	W-BA*
	.065	.745	.5623	S-AP	S-AP
1	.020	.960	.2093	W-BA*	-
	.020	.960	.2093	S-AP	S-AP
	.028	.944	.2907	W-BA*	W-BA*
	.028	.944	.2907	S-AP	S-AP
	.035	.930	.3607	W-BA*	W-BA*
	.035	.930	.3607	S-AP	S-AP
	.049	.902	.4977	W-BA*	W-BA*
	.049	.902	.4977	S-AP	S-AP
	.049	.902	.4977	-	S-BA
	.058	.884	.5841	S-AP	-
	.065	.870	.6491	W-BA*	W-BA*
1	.065	.870	.6491	S-AP	S-AP*
	.065	.870	.6491	-	S-BA*
	.083	.834	.8129	W-BA*	W-BA*
	.083	.834	.8129	S-AP	S-BA*
	.095	.810	.9182	W-BA*	W-BA*
	.095	.810	.9182	S-AP	S-AP
	.109	.782	1.037	W-BA*	W-BA*
	.109	.782	1.037	S-AP	S-AP
	.109	.782	1.037	-	S-BA*
	.120	.760	1.128	W-BA*	W-BA*
	.120	.760	1.128	S-AP	S-AP
	.120	.760	1.128	-	S-BA*
	.134	.732	1.239	S-AP	S-AP
	.156	.688	1.406	S-AP	S-AP
	.188	.624	1.630	SMT-AP	SMT-AP
	.250	.500	2.003	SMT-AP	SMT-AP
	.313	.374	2.296	SMT-AP	SMT-AP
1 1/16	.035	.993	.3841	S-AP	-
	.065	.933	.6925	S-AP	-
1 1/8	.020	1.085	.2294	S-AP	-
	.035	1.055	.4074	W-BA*	W-BA*
	.035	1.055	.4074	S-AP	S-AP
	.049	1.027	.5631	W-BA*	W-BA*
	.049	1.027	.5631	S-AP	S-AP
	.065	.995	.7359	W-BA*	W-BA*
	.065	.995	.7359	S-AP	S-AP
	.083	.959	.9237	W-BA*	-
	.083	.959	.9237	S-AP	-
	.095	.935	1.045	W-BA*	-
	.095	.935	1.045	S-AP	S-AP
	.120	.885	1.288	W-BA*	-
	.120	.885	1.288	S-AP	S-AP
	.188	.749	1.881	SMT-AP	SMT-AP
	.250	.625	2.336	SMT-AP	SMT-AP
1 3/16	.035	1.118	.4310	S-AP	S-AP
	.065	1.058	.7792	S-AP	S-AP
1 1/4	.028	1.194	.3654	S-AP	-
	.035	1.180	.4542	W-BA*	W-BA*
	.035	1.180	.4542	S-AP	S-AP
	.049	1.152	.6285	W-BA*	W-BA*
	.049	1.152	.6285	S-AP	S-AP
	.065	1.120	.8226	W-BA*	W-BA*
	.065	1.120	.8226	S-AP	S-AP

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OD	WALL	ID	LBS/FT	304/L	316/L
1 1/4	.083	1.084	1.034	W-BA*	W-BA*
	.083	1.084	1.034	S-AP	S-AP
	.095	1.060	1.172	W-BA*	W-BA*
	.095	1.060	1.172	S-AP	S-AP
	.109	1.032	1.328	S-AP	S-AP
	.120	1.010	1.448	W-BA*	W-BA*
	.120	1.010	1.448	S-AP	S-AP
	.120	1.010	1.448	-	S-BA*
	.134	.982	1.597	-	S-AP
	.156	.938	1.823	S-AP	S-AP
	.188	.874	2.132	SMT-AP	SMT-AP*
	.250	.750	2.670	SMT-AP	SMT-AP
	.313	.624	3.132	SMT-AP	-
	.375	.500	3.504	SMT-AP	SMT-AP
1 5/16	.065	.183	.8660	S-AP	-
1 3/8	.035	1.305	.5009	W-BA*	-
	.035	1.305	.5009	S-AP	-
	.049	1.277	.6939	W-BA*	W-BA*
	.049	1.277	.6939	S-AP	S-AP
	.065	1.245	.9094	W-BA*	W-BA*
	.065	1.245	.9094	S-AP	S-AP
	.083	1.209	1.145	S-AP	-
	.095	1.185	1.299	W-BA*	-
	.095	1.185	1.299	S-AP	S-AP
	.120	1.135	1.608	W-BA*	-
	.120	1.135	1.608	S-AP	S-AP
	.188	.999	2.383	SMT-AP	SMT-AP*
	.250	.875	3.004	SMT-AP*	SMT-AP
	.313	.751	3.550	SMT-AP	-
	.375	.625	4.005	SMT-AP	-
1 1/2	.035	1.430	.5476	W-BA*	W-BA*
	.035	1.430	.5476	S-AP	S-AP
	.049	1.402	.7593	W-BA*	W-BA*
	.049	1.402	.7593	S-AP	S-AP
	.065	1.370	.9962	W-BA*	W-BA*
	.065	1.370	.9962	S-AP	S-AP
	.065	1.370	.9962	-	S-BA*
	.083	1.334	1.256	W-BA*	W-BA*
	.083	1.334	1.256	S-AP	S-AP
	.095	1.310	1.426	W-BA*	W-BA*
	.095	1.310	1.426	S-AP	S-AP
	.109	1.282	1.619	W-BA*	W-BA*
	.109	1.282	1.619	S-AP	S-AP
1 1/2	.120	1.260	1.769	W-BA*	W-BA*
	.120	1.260	1.769	S-AP	S-AP
	.120	1.260	1.769	-	S-BA*
	.120	1.260	1.769	-	S-BA*
	.134	1.232	1.955	S-AP	S-AP
	.156	1.188	2.239	S-AP	S-AP
	.188	1.124	2.634	SMT-AP	SMT-AP*
	.250	1.000	3.338	SMT-AP	SMT-AP*
	.313	.874	3.968	SMT-AP*	-
	.375	.750	4.506	SMT-AP	SMT-AP
	.437	.626	4.971	SMT-AP	-
	.500	.500	5.340	SMT-AP*	SMT-AP*
1 5/8	.035	1.555	.5943	W-BA*	-
	.049	1.527	.8248	W-BA*	-
	.049	1.527	.8248	S-AP	S-AP
	.065	1.495	1.083	W-BA*	W-BA*
	.065	1.495	1.083	S-AP	S-AP
	.083	1.459	1.367	W-BA*	-
	.095	1.435	1.552	S-AP	-
	.120	1.385	1.929	W-BA*	W-BA*
	.120	1.385	1.929	S-AP	S-AP
	.188	1.249	2.885	SMT-AP	SMT-AP
	.250	1.125	3.671	SMT-AP	SMT-AP*
	.313	.999	4.386	SMT-AP*	-
	.375	.875	5.006	SMT-AP	SMT-AP*
1 3/4	.035	1.680	.6411	W-BA*	-
	.035	1.680	.6411	S-AP	S-AP
	.049	1.652	.8902	W-BA*	-
	.049	1.652	.8902	S-AP	S-AP
	.065	1.620	1.170	W-BA*	W-BA*
	.065	1.620	1.170	S-AP	S-AP
	.083	1.584	1.478	W-BA*	-
	.083	1.584	1.478	S-AP	S-AP
	.095	1.560	1.679	W-BA*	W-BA*
	.095	1.560	1.679	S-AP	S-AP
	.109	1.532	1.910	S-AP	-
	.120	1.510	2.089	W-BA*	W-BA*
	.120	1.510	2.089	S-AP	S-AP
	.188	1.374	3.136	SMT-AP	SMT-AP*
	.250	1.250	4.005	SMT-AP	SMT-AP
	.313	1.124	4.804	SMT-AP	-
	.375	1.000	5.507	SMT-AP	SMT-AP
	.500	.750	6.675	SMT-AP*	SMT-AP*

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TUBE

OD	WALL	ID	LBS/FT	304/L	316/L
1 7/8	.035	1.805	.6878	W-BA*	-
	.049	1.777	.9556	W-BA	-
	.049	1.777	.9556	S-AP	-
	.065	1.745	1.257	W-BA*	-
	.065	1.745	1.257	S-AP	S-AP
	.095	1.685	1.806	S-AP	-
	.120	1.635	2.249	S-AP	-
	.188	1.499	3.387	SMT-AP	SMT-AP
	.250	1.375	4.339	SMT-AP	SMT-AP
	.375	1.125	6.007	SMT-AP	-
2	.035	1.930	.7345	W-BA*	W-BA*
	.035	1.930	.7345	S-AP	-
	.049	1.902	1.021	W-BA*	W-BA*
	.049	1.902	1.021	S-AP	S-AP
	.065	1.870	1.343	W-BA*	W-BA*
	.065	1.870	1.343	S-AP	S-AP
	.083	1.834	1.699	W-BA*	W-BA*
	.083	1.834	1.699	S-AP	S-AP
	.095	1.810	1.933	W-BA*	W-BA*
	.095	1.810	1.933	S-AP	S-AP
	.109	1.782	2.201	W-BA*	W-BA*
	.109	1.782	2.201	S-AP	S-AP
	.120	1.760	2.409	W-BA*	W-BA*
	.120	1.760	2.409	S-AP	S-AP
	.134	1.732	2.670	S-AP	-
	.156	1.688	3.072	S-AP	S-AP
	.188	1.624	3.638	SMT-AP	SMT-AP
	.250	1.500	4.673	SMT-AP	SMT-AP*
	.313	1.374	5.639	SMT-AP	SMT-AP
	.375	1.250	6.508	SMT-AP	SMT-AP*
	.500	1.000	8.010	SMT-AP*	SMT-AP*
	.625	.750	9.178	SMT-AP*	SMT-AP*
2 1/8	.035	2.055	.7940	W-BA*	-
	.049	2.027	1.086	W-BA*	-
	.049	2.027	1.086	S-AP	S-AP
	.065	1.995	1.430	W-BA*	-
	.065	1.995	1.430	S-AP	S-AP
	.095	1.935	2.060	S-AP	-
	.120	1.885	2.570	W-BA*	-
	.120	1.885	2.570	S-AP	S-AP
	.188	1.749	3.889	SMT-AP	SMT-AP
	.250	1.625	5.006	SMT-AP*	SMT-AP*
	.375	1.375	7.009	SMT-AP	SMT-AP*
2 1/8	.500	1.125	8.678	SMT-AP*	-
2 1/4	.035	2.180	.8280	W-BA*	-
	.049	2.152	1.152	W-BA*	-
	.049	2.152	1.152	S-AP	S-AP
	.065	2.120	1.517	W-BA*	W-BA*
	.065	2.120	1.517	S-AP	S-AP
	.083	2.084	1.921	W-BA*	W-BA*
	.095	2.060	2.207	S-AP	-
	.120	2.010	2.730	W-BA*	W-BA*
	.120	2.010	2.730	S-AP	S-AP
	.188	1.874	4.144	SMT-AP	SMT-AP
	.250	1.750	5.345	SMT-AP*	SMT-AP*
	.313	1.624	6.472	SMT-AP	-
	.375	1.500	7.509	SMT-AP	SMT-AP
	.500	1.250	9.345	SMT-AP	SMT-AP*
	.625	1.000	10.850	SMT-AP*	SMT-AP*
2 3/8	.049	2.277	1.217	W-BA*	-
	.049	2.277	1.217	S-AP	-
	.065	2.245	1.604	W-BA*	-
	.065	2.245	1.604	S-AP	S-AP
	.083	2.209	2.032	W-BA*	-
	.083	2.209	2.032	S-AP	-
	.120	2.135	2.890	S-AP	-
	.188	1.999	4.391	SMT-AP	SMT-AP*
	.250	1.875	5.674	SMT-AP	SMT-AP
	.375	1.625	8.010	SMT-AP	SMT-AP
	.500	.938	10.010	SMT-AP	-
2 1/2	.035	2.430	.9214	W-BA*	-
	.049	2.402	1.283	W-BA*	W-BA*
	.049	2.402	1.283	S-AP	-
	.065	2.370	1.690	W-BA*	W-BA*
	.065	2.370	1.690	S-AP	S-AP
	.083	2.334	2.143	W-BA*	W-BA*
	.083	2.334	2.143	S-AP	S-AP
	.095	2.310	2.440	W-BA*	-
	.095	2.310	2.440	S-AP	-
	.120	2.260	3.050	W-BA*	W-BA*
	.120	2.260	3.050	S-AP	S-AP
	.188	2.124	4.642	SMT-AP	SMT-AP*
	.250	2.000	6.008	SMT-AP	SMT-AP*
	.313	1.874	7.311	SMT-AP	-
	.375	1.750	8.511	SMT-AP	SMT-AP
	.500	1.500	10.680	SMT-AP	SMT-AP

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AP = ANNEALED & PICKLED | BA = BRIGHT ANNEALED | * = DOMESTIC/DFARS

OD	WALL	ID	LBS/FT	304/L	316/L
2 1/2	.625	1.250	12.520	SMT-AP	SMT-AP
	.750	1.000	14.010	SMT-AP	SMT-AP
2 5/8	.065	2.495	1.777	W-BA*	W-BA*
	.065	2.495	1.777	S-AP	S-AP
	.120	2.385	3.210	S-AP	S-AP
	.188	2.249	4.893	SMT-AP	SMT-AP
	.250	2.125	6.341	SMT-AP	-
	.313	2.000	7.729	SMT-AP	-
	.375	1.875	9.001	SMT-AP	SMT-AP
	.500	1.625	11.348	SMT-AP	SMT-AP
2 3/4	.049	2.652	1.414	W-BA*	-
	.049	2.652	1.414	S-AP	-
	.065	2.620	1.864	W-BA*	W-BA*
	.065	2.620	1.864	S-AP	-
	.083	2.584	2.364	S-AP	-
	.120	2.510	3.371	W-BA*	W-BA*
	.120	2.510	3.371	S-AP	S-AP
	.188	2.374	5.144	SMT-AP	SMT-AP
	.250	2.250	6.675	SMT-AP	SMT-AP*
	.375	2.000	9.512	SMT-AP	SMT-AP*
	.500	1.750	12.020	SMT-AP*	SMT-AP*
	.625	1.500	14.180	SMT-AP*	SMT-AP*
	.750	1.250	16.020	SMT-AP*	SMT-AP*
2 7/8	.065	2.745	1.951	S-AP	-
	.120	2.635	3.531	S-AP	S-AP
	.188	2.499	5.400	SMT-AP	-
	.250	2.375	7.009	SMT-AP	-
	.375	2.125	10.010	SMT-AP	SMT-AP
3	.049	2.902	1.544	W-BA*	W-BA*
	.065	2.870	2.037	W-BA*	W-BA*
	.065	2.870	2.037	S-AP	S-AP
	.083	2.834	2.586	W-BA*	W-BA*
	.083	2.834	2.586	S-AP	S-AP
	.095	2.810	2.947	S-AP	-
	.109	2.782	3.365	W-AP*	W-AP*
	.109	2.782	3.365	-	S-AP
	.120	2.760	3.691	W-BA*	W-BA*
	.120	2.760	3.691	S-AP	S-AP
	.156	2.688	4.738	S-AP	-
	.188	2.624	5.646	SMT-AP	SMT-AP*
	.250	2.500	7.343	SMT-AP	SMT-AP*
	.313	2.374	8.982	SMT-AP	SMT-AP
	.375	2.250	10.510	SMT-AP	SMT-AP
3	.500	2.000	13.350	SMT-AP*	SMT-AP*
	.625	1.750	15.850	SMT-AP*	SMT-AP*
	.750	1.500	18.020	SMT-AP*	SMT-AP*
	1.000	1.000	21.360	SMT-AP*	SMT-AP*
3 1/8	.065	2.995	2.124	S-AP	-
	.120	2.885	3.851	S-AP	-
	.188	2.749	5.897	SMT-AP	SMT-AP
	.250	2.625	7.676	SMT-AP	-
	.375	2.375	11.010	SMT-AP*	-
	.500	2.125	14.020	SMT-AP*	-
3 1/4	.049	3.152	1.677	W-BA*	-
	.065	3.120	2.211	W-BA*	-
	.065	3.120	2.211	S-AP	-
	.083	3.084	2.834	S-AP	-
	.109	3.032	3.657	W-BA*	-
	.120	3.010	4.011	W-BA*	-
	.120	3.010	4.011	S-AP	S-AP
	.188	2.874	6.148	SMT-AP*	SMT-AP
	.250	2.750	8.018	SMT-AP	SMT-AP
	.375	2.500	11.510	SMT-AP	SMT-AP
	.500	2.250	14.690	SMT-AP*	SMT-AP*
	.625	2.000	17.520	SMT-AP*	SMT-AP*
	.750	1.750	20.030	SMT-AP*	SMT-AP*
3 3/8	.065	3.245	2.298	S-AP	-
	.250	2.875	8.344	SMT-AP*	-
3 1/2	.065	3.370	2.385	W-AP*	W-BA*
	.065	3.370	2.385	S-AP	S-AP
	.083	3.334	3.029	W-BA*	W-BA*
	.083	3.334	3.029	S-AP	-
	.120	3.260	4.332	W-BA*	-
	.120	3.260	4.332	S-AP	S-AP
	.188	3.124	6.650	SMT-AP*	SMT-AP*
	.250	3.000	8.678	SMT-AP	SMT-AP*
	.375	2.750	12.520	SMT-AP	SMT-AP*
	.500	2.500	16.020	SMT-AP*	SMT-AP*
	.625	2.250	19.190	SMT-AP*	SMT-AP*
	.750	2.000	22.030	SMT-AP*	SMT-AP*
	1.000	1.500	26.700	SMT-AP*	SMT-AP*
3 5/8	.250	3.125	9.090	SMT-AP	-
3 3/4	.120	3.510	4.652	S-AP	S-AP
	.188	3.374	7.151	SMT-AP*	SMT-AP*
	.250	3.250	9.345	SMT-AP	SMT-AP*
	.375	3.000	13.520	SMT-AP	SMT-AP*

W = WELDED | S = SEAMLESS | SMT = SEAMLESS MECHANICAL TUBING
AP = ANNEALED & PICKLED | BA = BRIGHT ANNEALED | * = DOMESTIC/DFARS

TUBE

OD	WALL	ID	LBS/FT	304/L	316/L
3 3/4	.500	2.750	17.360	SMT-AP*	SMT-AP*
	.625	2.500	20.860	SMT-AP*	SMT-AP*
	.750	2.250	24.030	SMT-AP*	SMT-AP*
	1.000	1.750	29.370	SMT-AP*	SMT-AP*
4	.065	3.870	2.732	W-BA*	W-BA*
	.065	3.870	2.732	S-AP	S-AP
	.083	3.834	3.472	W-BA*	W-BA*
	.083	3.834	3.472	S-AP	S-AP
	.120	3.760	4.973	W-BA*	W-BA*
	.120	3.760	4.973	S-AP	S-AP
	.188	3.624	7.654	SMT-AP	SMT-AP*
	.250	3.500	10.010	SMT-AP	SMT-AP*
	.313	3.374	12.340	SMT-AP	-
	.375	3.250	14.520	SMT-AP*	SMT-AP*
	.500	3.000	18.690	SMT-AP	SMT-AP*
	.625	2.750	22.530	SMT-AP*	SMT-AP*
	.688	2.624	24.340	SMT-AP	-
	.750	2.500	26.030	SMT-AP*	SMT-AP*
	.875	2.250	29.200	SMT-AP*	-
	1.000	2.000	32.040	SMT-AP*	SMT-AP*
	1.250	1.500	36.710	SMT-AP*	-
4 1/4	.120	4.010	5.293	S-AP	S-AP
	.156	3.938	6.821	S-AP	-
	.188	3.874	8.156	SMT-AP	SMT-AP
	.250	3.750	10.680	SMT-AP	SMT-AP
	.313	3.624	13.160	SMT-AP	-
	.375	3.500	15.520	SMT-AP	SMT-AP
	.500	3.250	20.030	SMT-AP*	SMT-AP*
	.625	3.000	24.200	SMT-AP*	SMT-AP*
	.750	2.750	28.040	SMT-AP*	SMT-AP*
	1.000	2.250	34.710	SMT-AP*	SMT-AP*
4 1/2	.065	4.370	3.079	W-AP*	-
	.065	4.370	3.079	W-BA*	-
	.065	4.370	3.079	S-AP	-
	.083	4.334	3.915	W-AP*	-
	.120	4.260	5.613	S-AP	S-AP
	.188	4.124	8.658	SMT-AP	SMT-AP
	.250	4.000	11.350	SMT-AP*	SMT-AP*
	.375	3.750	16.520	SMT-AP*	SMT-AP*
	.438	3.624	19.000	SMT-AP	-
	.500	3.500	21.360	SMT-AP*	SMT-AP*
	.625	3.250	25.870	SMT-AP*	SMT-AP*
	.750	3.000	30.040	SMT-AP*	SMT-AP*
4 1/2	.875	2.750	33.880	SMT-AP*	-
	1.000	2.500	37.380	SMT-AP*	SMT-AP*
	1.250	2.000	43.430	SMT-AP*	-
4 3/4	.120	4.510	5.934	S-AP	S-AP
	.188	4.374	9.168	SMT-AP	SMT-AP
	.250	4.250	12.020	SMT-AP*	SMT-AP*
	.375	4.000	17.520	SMT-AP*	SMT-AP*
	.500	3.750	22.070	SMT-AP*	SMT-AP*
	.625	3.500	27.530	SMT-AP*	SMT-AP*
	.750	3.250	32.040	SMT-AP*	SMT-AP*
	.875	3.000	36.210	-	SMT-AP*
	1.000	2.750	40.050	SMT-AP*	SMT-AP*
5	.065	4.870	3.426	-	S-AP
	.065	4.870	3.426	W-AP*	-
	.083	4.834	4.359	W-AP*	W-AP*
	.109	4.782	5.694	-	S-AP
	.120	4.760	6.254	W-AP*	W-AP*
	.120	4.760	6.254	S-AP	S-AP
	.188	4.624	9.662	SMT-AP	SMT-AP
	.250	4.500	12.680	SMT-AP*	SMT-AP*
	.375	4.250	18.520	SMT-AP*	SMT-AP*
	.500	4.000	24.030	SMT-AP*	SMT-AP*
	.625	3.750	29.230	SMT-AP*	SMT-AP*
	.750	3.500	34.040	SMT-AP*	SMT-AP*
	1.000	3.000	42.720	SMT-AP*	SMT-AP*
	1.250	2.500	50.060	SMT-AP*	SMT-AP*
	1.500	2.000	56.070	SMT-AP*	SMT-AP*
5 1/4	.120	5.010	6.575	S-AP	-
	.250	4.750	13.350	SMT-AP	SMT-AP*
	.375	4.500	19.520	SMT-AP*	SMT-AP*
	.500	4.250	25.370	SMT-AP*	SMT-AP*
	.625	4.000	30.870	SMT-AP*	SMT-AP*
	.750	3.750	36.050	SMT-AP*	SMT-AP*
	1.000	3.250	45.390	SMT-AP*	SMT-AP*
5 1/2	.120	5.260	6.895	S-AP	-
	.188	5.124	10.670	SMT-AP	SMT-AP
	.250	5.000	14.020	SMT-AP*	SMT-AP*
	.375	4.750	20.530	SMT-AP*	SMT-AP*
	.500	4.500	26.730	SMT-AP*	SMT-AP*
	.625	4.000	32.540	SMT-AP*	SMT-AP*
	.750	4.000	38.050	SMT-AP*	SMT-AP*
	.875	3.750	43.220	SMT-AP*	-
	1.000	3.500	48.060	SMT-AP*	SMT-AP*

W = WELDED | S = SEAMLESS | SMT = SEAMLESS MECHANICAL TUBING
AP = ANNEALED & PICKLED | BA = BRIGHT ANNEALED | * = DOMESTIC/DFARS

OD	WALL	ID	LBS/FT	304/L	316/L
5 1/2	1.250	3.000	56.790	SMT-AP*	-
	1.500	2.500	64.080	SMT-AP*	SMT-AP*
5 3/4	.120	5.510	7.222	W-AP*	-
	.250	5.250	14.690	SMT-AP*	SMT-AP*
	.375	5.000	21.530	SMT-AP*	SMT-AP
	.500	4.750	28.040	SMT-AP*	SMT-AP*
	.750	4.250	40.050	SMT-AP*	-
	1.000	3.750	50.730	SMT-AP*	SMT-AP*
6	.065	5.870	4.120	W-AP*	-
	.065	5.870	4.120	-	S-AP
	.083	5.834	5.245	W-AP*	W-AP*
	.109	5.782	6.858	W-AP*	W-AP*
	.120	5.760	7.536	W-AP*	W-AP*
	.120	5.760	7.536	S-AP	S-AP
	.134	5.732	8.403	W-AP*	-
	.134	5.732	8.403	S-AP	-
	.188	5.624	11.670	W-AP*	W-AP*
	.188	5.624	11.670	SMT-AP*	SMT-AP*
	.250	5.500	15.350	W-AP*	-
	.250	5.500	15.350	SMT-AP*	SMT-AP*
	.375	5.250	22.530	SMT-AP*	SMT-AP*
	.500	5.000	29.370	SMT-AP*	SMT-AP*
	.625	4.750	35.880	SMT-AP*	SMT-AP*
	.750	4.500	42.050	SMT-AP*	SMT-AP*
	.875	4.250	47.890	SMT-AP*	-
	1.000	4.000	53.400	SMT-AP*	SMT-AP*
	1.250	3.500	63.410	SMT-AP*	-
	1.500	3.000	72.090	SMT-AP*	SMT-AP*
	2.000	2.000	85.444	SMT-AP*	SMT-AP*
6 1/4	.120	6.010	7.856	-	S-AP
	.250	5.750	16.020	SMT-AP*	SMT-AP*
	.375	5.500	23.530	SMT-AP*	SMT-AP*
	.500	5.250	30.710	SMT-AP*	SMT-AP*
	.750	4.750	44.060	SMT-AP*	SMT-AP*
	1.000	4.250	56.070	-	SMT-AP*
6 1/2	.120	6.000	8.176	S-AP	-
	.188	6.124	12.673	SMT-AP	-
	.250	6.000	16.690	SMT-AP*	SMT-AP*
	.375	5.750	24.530	SMT-AP*	SMT-AP*
	.500	5.500	32.040	SMT-AP*	SMT-AP*
	.625	5.250	39.220	SMT-AP*	-
	.750	5.000	46.060	SMT-AP*	SMT-AP*
	1.000	4.500	58.740	SMT-AP*	SMT-AP*
6 1/2	1.250	4.000	70.150	SMT-AP*	-
	1.500	3.500	80.100	SMT-AP*	SMT-AP*
6 3/4	.250	6.250	17.360	SMT-AP*	SMT-AP*
	.375	6.000	25.530	SMT-AP*	SMT-AP*
	.500	5.750	33.380	SMT-AP*	SMT-AP*
	.750	5.250	48.060	SMT-AP*	-
	1.000	4.750	61.410	SMT-AP*	SMT-AP*
7	.188	6.624	13.680	SMT-AP	-
	.250	6.500	18.020	SMT-AP*	SMT-AP*
	.375	6.250	26.530	SMT-AP*	SMT-AP*
	.500	6.000	34.710	SMT-AP*	SMT-AP*
	.625	5.750	42.550	SMT-AP*	SMT-AP*
	.750	5.500	50.060	SMT-AP*	SMT-AP*
	1.000	5.000	64.080	SMT-AP*	SMT-AP*
	1.250	4.500	76.760	SMT-AP*	-
	1.500	4.000	88.110	SMT-AP*	SMT-AP*
	2.000	3.000	106.800	SMT-AP*	-
7 1/4	.250	6.750	18.690	SMT-AP	SMT-AP*
	.375	6.500	27.560	SMT-AP*	SMT-AP*
	.500	6.250	36.050	SMT-AP	SMT-AP*
	1.000	5.250	66.750	SMT-AP	SMT-AP
7 1/2	.120	7.260	9.471	W-AP*	-
	.250	7.000	19.360	SMT-AP*	SMT-AP*
	.375	6.750	28.540	SMT-AP*	SMT-AP*
	.500	6.500	37.380	SMT-AP*	SMT-AP*
	.625	6.250	45.890	-	SMT-AP*
	.750	6.000	54.070	SMT-AP*	SMT-AP*
	1.000	5.500	69.420	SMT-AP*	SMT-AP*
	1.500	4.500	96.210	SMT-AP*	SMT-AP*
7 3/4	.250	6.500	20.213	SMT-AP	SMT-AP*
	.375	7.000	29.560	SMT-AP	SMT-AP
	.500	6.750	38.720	SMT-AP*	SMT-AP*
	.750	6.250	56.070	SMT-AP*	-
8	.065	7.870	5.508	W-AP*	W-AP*
	.083	7.834	7.018	W-AP*	-
	.109	7.782	9.186	W-AP*	W-AP*
	.120	7.760	10.100	W-AP*	W-AP*
	.120	7.760	10.100	S-AP	S-AP
	.188	7.624	15.690	SMT-AP	SMT-AP
	.250	7.500	20.690	SMT-AP	SMT-AP*
	.375	7.250	30.540	SMT-AP*	SMT-AP*
	.500	7.000	40.050	SMT-AP*	SMT-AP*
	.625	6.750	49.230	SMT-AP*	SMT-AP*

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TUBE

OD	WALL	ID	LBS/FT	304/L	316/L
8	.750	6.500	58.070	SMT-AP*	SMT-AP*
	1.000	6.000	74.760	SMT-AP*	SMT-AP*
	1.500	5.000	104.130	SMT-AP*	SMT-AP*
	2.000	4.000	128.160	SMT-AP*	SMT-AP*
8 1/4	.250	7.750	21.360	SMT-AP	-
	.375	7.500	31.540	SMT-AP	-
	.500	7.250	41.390	SMT-AP	SMT-AP
	.750	6.750	60.080	SMT-AP*	SMT-AP*
	1.000	6.250	78.155	SMT-AP*	*
8 1/2	.250	8.000	22.030	SMT-AP	SMT-AP
	.375	7.750	32.570	SMT-AP*	-
	.500	7.500	42.720	SMT-AP*	SMT-AP*
	.750	7.000	62.080	SMT-AP*	SMT-AP*
	1.000	6.500	80.100	SMT-AP*	SMT-AP*
	1.500	5.500	112.250	SMT-AP*	-
8 3/4	.250	8.250	22.700	SMT-AP*	-
	.500	7.750	44.060	SMT-AP*	-
9	.120	8.760	11.400	W-AP*	-
	.250	8.500	23.360	SMT-AP	SMT-AP
	.375	8.250	34.540	SMT-AP	-
	.500	8.000	45.390	SMT-AP*	SMT-AP*
	.750	7.500	66.080	SMT-AP*	SMT-AP*
	1.000	7.000	85.440	SMT-AP*	SMT-AP*
	1.500	6.000	120.150	SMT-AP*	SMT-AP*
	2.000	5.000	149.520	SMT-AP*	SMT-AP*
9 1/4	.500	8.250	47.162	-	SMT*
9 1/2	.250	9.000	24.700	SMT-AP	SMT-AP
	.375	8.750	36.580	SMT-AP	-
	.500	8.500	48.060	SMT-AP*	SMT-AP*
	.750	8.000	70.090	SMT-AP*	SMT-AP*
	1.000	7.500	90.780	SMT-AP*	SMT-AP*
	1.500	8.500	129.360	SMT-AP*	*
10	.078	9.844	8.798	W-AP*	-
	.120	9.760	12.670	W-AP*	W-AP*
	.134	9.732	14.120	W-AP*	-
	.188	9.624	19.700	SMT-AP	SMT-AP
	.250	9.500	26.030	SMT-AP	SMT-AP
	.375	9.250	38.550	W-AP*	-
	.375	9.250	38.550	SMT-AP	SMT-AP
	.500	9.000	50.730	-	W-AP*
	.500	9.000	50.730	SMT-AP	SMT-AP
	.750	8.500	74.090	SMT-AP	SMT-AP
	1.000	8.000	96.120	W-AP*	W-AP*

OD	WALL	ID	LBS/FT	304/L	316/L
10	1.000	8.000	96.120	SMT-AP	SMT-AP
	1.500	7.000	136.200	SMT-AP	-
	2.000	6.000	170.880	SMT-AP*	-
10 1/2	.250	10.000	27.360	W-AP*	-
	.250	10.000	27.360	SMT-AP	-
	.500	9.500	53.400	W-AP*	-
	.500	9.500	53.400	SMT-AP	-
	1.000	8.500	101.460	SMT-AP	SMT-AP
11	.250	10.500	28.700	SMT-AP	-
	.500	10.000	56.070	W-AP*	-
	.500	10.000	56.070	SMT-AP	SMT-AP
	.750	9.500	82.190	W-AP*	-
	1.000	9.000	106.800	W-AP*	W-AP*
	1.000	9.000	106.800	SMT-AP	-
12	.120	11.760	15.230	W-AP*	W-AP*
	.134	11.732	16.980	W-AP*	-
	.188	11.624	23.720	SMT-AP	SMT-AP
	.250	11.500	31.370	W-AP*	W-AP*
	.250	11.500	31.370	SMT-AP	SMT-AP
	.375	11.250	46.560	W-AP*	-
	.375	11.250	46.560	SMT-AP	SMT-AP
	.500	11.000	61.410	W-AP*	W-AP*
	.500	11.000	61.410	W-AP*	W-AP*
	.500	11.000	61.410	SMT-AP	SMT-AP
	.750	10.500	90.110	SMT-AP	-
	1.000	10.000	117.480	SMT-AP	SMT-AP
13	.500	12.000	66.750	SMT-AP	-
	1.000	11.000	128.160	SMT-AP	SMT-AP
14	.250	13.500	36.710	SMT-AP	-
	.500	13.000	72.765	-	SMT-AP
	.750	12.500	106.100	SMT-AP	-
	1.000	12.000	138.970	SMT-AP	-
15	.500	14.000	77.430	-	SMT-AP
	1.000	13.000	149.520	-	SMT-AP
16	.500	15.000	82.770	SMT-AP	-
	1.000	14.000	164.800	SMT-AP	-

W = WELDED | S = SEAMLESS | SMT = SEAMLESS MECHANICAL TUBING
AP = ANNEALED & PICKLED | BA = BRIGHT ANNEALED | * = DOMESTIC/DFARS

SQUARE & RECTANGULAR TUBE

SQUARE

OD		OD		WALL	LBS/FT
1/2	x	1/2	x	.065	.385
5/8	x	5/8	x	.065	.495
3/4	x	3/4	x	.065	.606
3/4	x	3/4	x	.120	.950
1	x	1	x	.049	.634
1	x	1	x	.065	.827
1	x	1	x	.083	1.035
1	x	1	x	.120	1.321
1 1/4	x	1 1/4	x	.065	1.048
1 1/4	x	1 1/4	x	.083	1.317
1 1/4	x	1 1/4	x	.120	1.844
1 1/2	x	1 1/2	x	.065	1.270
1 1/2	x	1 1/2	x	.083	1.610
1 1/2	x	1 1/2	x	.120	2.255
1 1/2	x	1 1/2	x	.180	3.630
1 3/4	x	1 3/4	x	.083	1.880
1 3/4	x	1 3/4	x	.120	2.660
2	x	2	x	.065	1.710
2	x	2	x	.083	2.164
2	x	2	x	.120	3.068
2	x	2	x	.180	4.455
2	x	2	x	.188	4.460
2	x	2	x	.250	6.010
2 1/2	x	2 1/2	x	.120	3.884
2 1/2	x	2 1/2	x	.180	5.679
2 1/2	x	2 1/2	x	.250	7.650
3	x	3	x	.083	3.293
3	x	3	x	.120	4.700
3	x	3	x	.180	6.903
3	x	3	x	.188	6.900
3	x	3	x	.250	10.000
4	x	4	x	.120	6.260
4	x	4	x	.180	9.270
4	x	4	x	.188	9.270
4	x	4	x	.250	12.680
4	x	4	x	.375	18.475
5	x	5	x	.250	16.150
6	x	6	x	.180	14.247
6	x	6	x	.250	19.550
6	x	6	x	.375	27.660
8	x	8	x	.250	26.350
8	x	8	x	.375	38.890
10	x	10	x	.250	33.150

RECTANGULAR

OD		OD		WALL	LBS/FT
1/2	x	1	x	.065	.606
1/2	x	1 1/2	x	.065	.827
3/4	x	2	x	.065	1.158
1	x	1 1/2	x	.065	1.048
1	x	1 1/2	x	.120	1.929
1	x	2	x	.065	1.270
1	x	2	x	.083	1.600
1	x	2	x	.120	2.252
1	x	3	x	.065	1.711
1	x	3	x	.120	3.068
1 1/2	x	2	x	.065	1.490
1 1/2	x	2	x	.120	2.660
1 1/2	x	3	x	.065	1.932
1 1/2	x	3	x	.120	3.476
2	x	3	x	.120	3.884
2	x	3	x	.180	5.679
2	x	3	x	.250	7.650
2	x	4	x	.120	4.700
2	x	4	x	.180	6.903
2	x	4	x	.250	9.350
2	x	6	x	.120	6.332
2	x	6	x	.180	9.351
2	x	6	x	.250	12.750
3	x	4	x	.120	5.516
3	x	4	x	.180	8.127
3	x	4	x	.250	11.050
3	x	5	x	.180	9.270
3	x	5	x	.250	12.680
3	x	6	x	.180	10.520
3	x	6	x	.250	14.450
4	x	6	x	.180	11.900
4	x	6	x	.250	16.350
4	x	8	x	.250	18.770
4	x	10	x	.250	22.950
4	x	12	x	.250	26.350
6	x	8	x	.250	22.950
6	x	10	x	.250	26.350

FLANGE			STEM			THICKNESS	LBS/FT
3/4		x	3/4		x	1/8	.59
1		x	1		x	1/8	.80
1		x	1		x	3/16	1.16
1		x	1		x	1/4	1.49
1	1/4	x	1	1/4	x	1/8	1.01
1	1/4	x	1	1/4	x	3/16	1.48
1	1/4	x	1	1/4	x	1/4	1.92
1	1/2	x	1	1/2	x	1/8	1.23
1	1/2	x	1	1/2	x	3/16	1.80
1	1/2	x	1	1/2	x	1/4	2.34
2		x	1		x	1/4	2.40
2		x	2		x	1/8	1.65
2		x	2		x	3/16	2.44
2		x	2		x	1/4	3.19
2		x	2		x	3/8	4.70
2	1/2	x	2	1/2	x	3/16	3.10
2	1/2	x	2	1/2	x	1/4	4.10
2	1/2	x	2	1/2	x	3/8	5.90
3		x	1	1/2	x	1/4	3.60
3		x	2		x	3/16	3.10
3		x	2		x	1/4	4.10
3		x	2		x	3/8	5.90
3		x	3		x	3/16	3.71
3		x	3		x	1/4	4.90
3		x	3		x	3/8	7.20
3		x	3		x	1/2	9.55
3	1/2	x	3	1/2	x	1/4	5.98
3	1/2	x	3	1/2	x	3/8	8.67
4		x	3		x	1/4	5.80
4		x	3		x	3/8	8.50
4		x	4		x	1/4	6.60
4		x	4		x	3/8	9.80
4		x	4		x	1/2	12.80
5		x	3		x	1/4	6.60
5		x	3		x	3/8	9.80
5		x	5		x	3/8	12.40
5		x	5		x	1/2	16.30
6		x	3		x	1/4	7.40
6		x	3		x	3/8	11.10
6		x	4		x	1/4	8.30
6		x	4		x	3/8	12.40
6		x	4		x	1/2	16.30
6		x	6		x	1/4	10.10
6		x	6		x	3/8	14.90
6		x	6		x	1/2	19.70
8		x	4		x	1/2	19.55
8		x	8		x	1/2	26.50

CHANNEL					
DEPTH		FLANGE WIDTH		WEB THICKNESS	LBS/FT
1 1/2	x	3/4	x	1/8	1.17
2	x	1	x	1/8	1.59
2	x	1	x	3/16	2.32
2	x	1	x	1/4	2.88
3	x	1 3/8	x	3/16	3.55
3	x	1 1/2	x	3/16	3.70
3	x	1 1/2	x	1/4	4.90
4	x	1 3/4	x	1/4	6.05
6	x	3	x	1/4	10.00
6	x	3	x	3/8	14.50
8	x	4	x	1/4	13.70
8	x	4	x	3/8	19.70

MC CHANNEL					
DEPTH		FLANGE WIDTH		WEB THICKNESS	LBS/FT
MC 3 x 3.5	x	1 3/8	x	3/16	3.50
MC 3 x 3.6	x	1 1/2	x	3/16	3.60
MC 3 x 4.9	x	1 1/2	x	1/4	4.90
MC 4 x 6.05	x	1 3/4	x	1/4	6.05
MC 4 x 6.5	x	2	x	1/4	6.50
MC 6 x 10	x	3	x	1/4	10.00
MC 6 x 14.4	x	3	x	3/8	14.40
MC 8 x 13.7	x	4	x	1/4	13.70
MC 8 x 19.7	x	4	x	3/8	19.70

C CHANNEL					
DEPTH		FLANGE WIDTH		WEB THICKNESS	LBS/FT
C 3 x 4.1	x	1.410	x	.170	4.10
C 4 x 5.4	x	1.584	x	.184	5.40
C 4 x 7.25	x	1.721	x	.321	7.25
C 5 x 6.7	x	1.750	x	.190	6.70
C 5 x 9.0	x	1.885	x	.325	9.00
C 6 x 8.2	x	1.920	x	.200	8.20
C 6 x 10.5	x	2.034	x	.314	10.50
C 6 x 13.0	x	2.157	x	.437	13.00
C 8 x 11.5	x	2.260	x	.220	11.50
C 8 x 13.75	x	2.343	x	.330	13.75
C 8 x 18.75	x	2.527	x	.487	18.75
C 10 x 15.3	x	2.600	x	.240	15.30
C 10 x 20.0	x	2.739	x	.379	20.00
C 10 x 25.0	x	2.886	x	.526	25.00
C 10 x 30.0	x	3.033	x	.673	30.00
C 12 x 20.7	x	2.942	x	.282	20.70
C 12 x 30.0	x	3.170	x	.510	30.00

TAPERED BEAM		
DEPTH		LBS/FT
S3	x	5.7
S4	x	7.7
S5	x	10
S6	x	12.5

NON-TAPERED BEAM		
DEPTH		LBS/FT
W6	x	15
W6	x	16
W6	x	20
W6	x	25
W6	x	9
W8	x	13
W8	x	15
W8	x	18
W8	x	18.4
W8	x	28
W8	x	31
W10	x	17
W10	x	26
W12	x	22

SIZE	LBS/FT	SIZE	LBS/FT	SIZE	LBS/FT
1/16	.010	1 1/2	6.014	4 7/8	63.450
5/64	.016	1 9/16	6.526	5	66.820
3/32	.023	1 5/8	7.058	5 1/4	73.670
7/64	.032	1 11/16	7.604	5 1/2	80.860
1/8	.042	1 3/4	8.186	5 3/4	88.370
9/64	.053	1 13/16	8.773	6	96.120
5/32	.065	1 7/8	9.397	6 1/4	100.20
11/64	.079	2	10.690	6 1/2	104.30
3/16	.094	2 1/16	11.360	6 3/4	121.70
1/4	.167	2 1/8	12.070	7	130.80
9/32	.211	2 3/16	12.790	7 1/4	140.40
5/16	.261	2 1/4	13.530	7 1/2	150.20
11/32	.316	2 3/8	15.080	7 3/4	160.40
3/8	.376	2 1/2	16.710	8	170.90
7/16	.511	2 5/8	18.420	8 1/4	181.70
1/2	.668	2 11/16	19.290	8 1/2	192.90
9/16	.845	2 3/4	20.210	8 3/4	204.50
5/8	1.044	2 7/8	22.090	9	216.30
11/16	1.263	3	24.060	9 1/4	228.50
3/4	1.504	3 1/8	26.100	9 1/2	241.00
13/16	1.765	3 3/16	27.130	9 3/4	253.80
7/8	2.046	3 1/4	28.230	10	267.00
15/16	2.349	3 3/8	30.420	10 1/2	294.40
1	2.673	3 7/16	31.550	11	324.00
1 1/16	3.017	3 1/2	32.740	11 1/2	354.00
1 1/8	3.383	3 5/8	35.120	12	384.48
1 9/64	3.470	3 11/16	36.310	12 1/2	417.20
1 5/32	3.570	3 3/4	37.590	13	451.23
1 3/16	3.769	4	42.770	13 1/2	487.00
1 1/4	4.176	4 1/8	45.430	14	523.32
1 9/32	4.384	4 1/4	48.280	15	501.00
1 5/16	4.604	4 3/8	51.160	16	684.00
1 3/8	5.053	4 1/2	54.130	18	865.05
1 7/16	5.523	4 3/4	60.310	20	1068.00

HEX	
SIZE	LBS/FT
1/8	.046
5/32	.072
3/16	.104
7/32	.140
1/4	.184
9/32	.232
5/16	.288
11/32	.348
3/8	.414
13/32	.486
7/16	.564
1/2	.736
9/16	.932
5/8	1.150
11/16	1.392
3/4	1.656
13/16	1.944
7/8	2.254
15/16	2.588
1	2.945
1 1/16	3.324
1 1/8	3.727
1 3/16	4.152
1 1/4	4.601
1 5/16	5.072
1 3/8	5.567
1 7/16	6.085
1 1/2	6.625
1 5/8	7.775
1 11/16	8.385
1 3/4	9.019
1 3/16	9.673
1 7/8	10.350
2	11.780
2 1/8	13.300
2 3/16	14.090
2 1/4	14.910
2 3/8	16.610
2 1/2	18.400
2 5/8	20.290
2 3/4	22.270
2 7/8	24.330
3	26.500
3 1/2	36.070
4	47.120

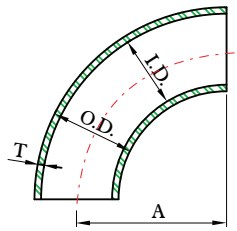
SQUARE	
SIZE	LBS/FT
1/8	.053
5/32	.083
3/16	.120
1/4	.213
5/16	.332
3/8	.479
7/16	.651
1/2	.851
9/16	1.076
5/8	1.329
11/16	1.607
3/4	1.913
13/16	2.245
7/8	2.606
15/16	2.988
1	3.403
1 1/16	3.840
1 1/8	4.303
1 3/16	4.795
1 1/4	5.313
1 5/16	5.857
1 3/8	6.428
1 1/2	7.650
1 5/8	8.980
1 3/4	10.410
1 7/8	11.950
2	13.600
2 1/8	13.353
2 1/4	17.210
2 3/8	19.180
2 1/2	21.250
2 3/4	25.720
3	30.600
3 1/2	41.650
4	54.400
4 1/2	68.850
5	85.000
5 1/2	102.900
6	122.400

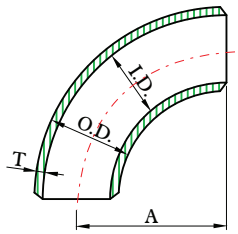
SIZE	LBS/FT	SIZE	LBS/FT	SIZE	LBS/FT
1/8 x 1/2	.213	5/16 x 3/4	.800	5/8 x 3	6.381
1/8 x 3/4	.319	5/16 x 1	1.060	5/8 x 4	8.510
1/8 x 1	.425	5/16 x 1 1/2	1.718	5/8 x 5	10.640
1/8 x 1 1/4	.532	5/16 x 2	1.600	5/8 x 6	12.760
1/8 x 1 1/2	.638	5/16 x 2 1/2	2.660	3/4 x 1	2.552
1/8 x 2	.851	5/16 x 3	3.190	3/4 x 1 1/4	3.190
1/8 x 2 1/2	1.064	5/16 x 4	4.250	3/4 x 1 1/2	3.829
1/8 x 3	1.276	5/16 x 5	5.300	3/4 x 1 3/4	4.470
1/8 x 3 1/2	1.276	5/16 x 6	6.360	3/4 x 2	5.105
1/8 x 4	1.490	3/8 x 3/4	.960	3/4 x 2 1/4	5.738
1/8 x 5	2.100	3/8 x 1	1.276	3/4 x 2 1/2	6.381
1/8 x 6	2.550	3/8 x 1 1/4	1.595	3/4 x 3	7.657
3/16 x 1/2	.320	3/8 x 1 1/2	1.914	3/4 x 4	10.210
3/16 x 3/4	.479	3/8 x 2	2.552	3/4 x 5	12.750
3/16 x 1	.638	3/8 x 2 1/2	3.191	3/4 x 6	15.310
3/16 x 1 1/4	.798	3/8 x 3	3.829	1 x 1 1/4	4.250
3/16 x 1 1/2	.957	3/8 x 3 1/2	4.470	1 x 1 1/2	5.105
3/16 x 1 3/4	1.117	3/8 x 4	5.105	1 x 1 3/4	5.960
3/16 x 2	1.276	3/8 x 5	6.375	1 x 2	6.806
3/16 x 2 1/2	1.595	3/8 x 6	7.657	1 x 2 1/4	7.65
3/16 x 3	1.914	1/2 x 3/4	1.280	1 x 2 1/2	8.508
3/16 x 3 1/2	2.231	1/2 x 1	1.702	1 x 3	10.210
3/16 x 4	2.550	1/2 x 1 1/4	2.127	1 x 3 1/2	11.910
3/16 x 5	3.188	1/2 x 1 1/2	2.552	1 x 4	13.610
3/16 x 6	3.825	1/2 x 1 3/4	2.980	1 x 5	17.020
1/4 x 1/2	.425	1/2 x 2	3.403	1 x 6	20.420
1/4 x 3/4	.638	1/2 x 2 1/2	4.254	1 1/4 x 1 1/2	6.381
1/4 x 1	.851	1/2 x 3	5.105	1 1/4 x 2	8.510
1/4 x 1 1/4	1.064	1/2 x 3 1/2	5.950	1 1/4 x 2 1/2	10.640
1/4 x 1 1/2	1.276	1/2 x 4	6.806	1 1/4 x 3	12.760
1/4 x 1 3/4	1.489	1/2 x 5	8.508	1 1/4 x 4	17.020
1/4 x 2	1.702	1/2 x 6	10.210	1 1/2 x 2	10.210
1/4 x 2 1/2	2.127	5/8 x 3/4	1.595	1 1/2 x 2 1/2	12.760
1/4 x 3	2.130	5/8 x 1	2.127	1 1/2 x 3	15.300
1/4 x 3 1/2	2.950	5/8 x 1 1/4	2.660	1 1/2 x 4	20.400
1/4 x 4	3.403	5/8 x 1 1/2	3.191	1 1/2 x 6	30.600
1/4 x 5	4.250	5/8 x 1 3/4	3.719	2 x 2 1/2	17.000
1/4 x 6	5.105	5/8 x 2	4.254	2 x 3	20.420
1/4 x 8	6.800	5/8 x 2 1/2	5.320	2 x 4	27.200

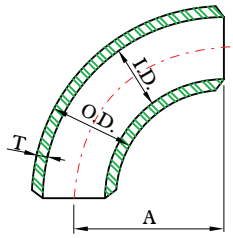
STAINLESS STEEL PLATE							
THICKNESS	3/16	1/4	5/16	3/8	1/2	5/8	3/4
DECIMAL	.187	.250	.312	.375	.500	.625	.750
LBS / SQ FT	8.579	11.162	13.740	16.496	21.831	26.831	32.123
SIZE	PLATE WEIGHT (LBS)						
48 x 96	274.53	357.18	439.87	527.87	693.22	858.59	1027.94
48 x 120	343.16	446.48	549.84	659.84	866.52	1073.24	1284.92
48 x 144	411.79	535.78	659.81	791.81	1039.82	1287.89	1541.90
48 x 240	685.32	892.96	1099.68	1319.68	1733.00	2146.48	2569.84
60 x 120	428.95	558.10	687.00	824.80	1083.15	1341.55	1606.15
60 x 144	514.74	669.72	824.76	989.76	1299.78	1609.86	1927.38
60 x 240	857.90	1116.20	1374.60	1649.60	2166.30	2683.10	3212.30
72 x 120	514.74	669.72	824.76	989.76	1299.78	1609.86	1927.38
72 x 144	617.69	803.66	989.71	1187.71	1559.74	1931.83	2312.86
72 x 240	1029.48	1339.44	1648.52	1979.52	2599.56	3219.72	3854.76
96 x 240	1372.64	1785.92	2199.36	2639.36	3466.08	4292.96	5139.68
THICKNESS	1	1 1/4	1 1/2	2	2 1/2	3	4
DECIMAL	1.00	1.25	1.50	2.00	2.50	3.00	4.00
LBS / SQ FT	42.665	53.001	63.337	84.008	105.100	126.300	167.600
SIZE	PLATE WEIGHT (LBS)						
48 x 96	1365.28	1696.03	2026.78	2688.26	3363.20	4041.60	5363.20
48 x 120	1706.60	2120.04	2533.48	3360.32	4204.00	5052.00	6704.00
48 x 144	2047.92	2544.05	3040.18	4032.38	5044.80	6062.40	8044.80
48 x 240	3413.20	4240.08	5066.96	6720.64	8408.00	10104.00	13408.00
60 x 120	2133.25	2650.05	3166.85	4200.40	5255.00	6315.00	8380.00
60 x 144	2559.90	3180.06	3800.22	5040.48	6306.00	7578.00	10056.00
60 x 240	4266.50	5300.10	6333.70	8400.80	10510.00	12630.00	16760.00
72 x 120	2559.90	3180.06	3800.22	5040.48	6306.00	7578.00	10056.00
72 x 144	3071.88	3816.07	4560.26	6048.58	7567.20	9093.60	12067.20
72 x 240	5119.80	6360.12	7600.44	10080.96	12612.00	15156.00	20112.00
96 x 240	6826.40	8480.16	10133.92	13441.28	16816.00	20208.00	26816.00

STAINLESS STEEL SHEET						
GAUGE	7	10	11	12	14	16
DECIMAL	.187	.135	.120	.105	.075	.060
LBS / SQ FT	7.871	5.670	5.040	4.427	3.154	2.499
SIZE	SHEET WEIGHT (LBS)					
36 x 96	-	136.08	120.96	106.25	75.70	59.98
36 x 120	236.13	170.10	151.20	132.81	94.62	74.97
36 x 144	-	204.12	181.44	159.37	113.54	89.96
48 x 96	-	181.44	161.28	141.66	100.93	79.97
48 x 120	314.84	226.80	201.60	177.08	126.16	99.96
48 x 144	377.81	272.16	241.92	212.50	151.39	119.95
48 x 240	-	453.60	403.20	354.16	252.32	199.92
60 x 96	-	226.80	201.60	177.08	126.16	99.96
60 x 120	393.55	283.50	252.00	221.35	157.70	124.95
60 x 144	472.26	340.20	302.40	265.62	189.24	149.94
60 x 240	-	567.00	504.00	442.70	315.40	249.90
72 x 120	472.26	340.20	302.40	265.62	189.24	149.94
72 x 144	-	408.24	362.88	318.74	227.09	179.93
72 x 240	-	680.40	604.80	531.24	378.48	299.88
GAUGE	18	20	22	24	26	28
DECIMAL	.048	.036	.030	.024	.018	.015
LBS / SQ FT	2.016	1.491	1.231	.9870	.7476	.6342
SIZE	SHEET WEIGHT (LBS)					
36 x 96	48.38	35.78	29.54	23.69	17.94	-
36 x 120	60.48	44.73	36.93	29.61	22.43	19.03
36 x 144	72.58	53.68	44.32	35.53	26.91	-
48 x 96	64.51	47.71	39.39	31.58	23.92	-
48 x 120	80.64	59.64	49.24	39.48	29.90	25.37
48 x 144	96.77	71.57	59.09	47.38	35.88	-
48 x 240	-	-	-	-	-	-
60 x 96	80.64		-	-	-	-
60 x 120	100.80	74.55	-	-	-	-
60 x 144	120.96	89.46	-	-	-	-
60 x 240	-	-	-	-	-	-
72 x 120	-	-	-	-	-	-
72 x 144	-	-	-	-	-	-
72 x 240	-	-	-	-	-	-







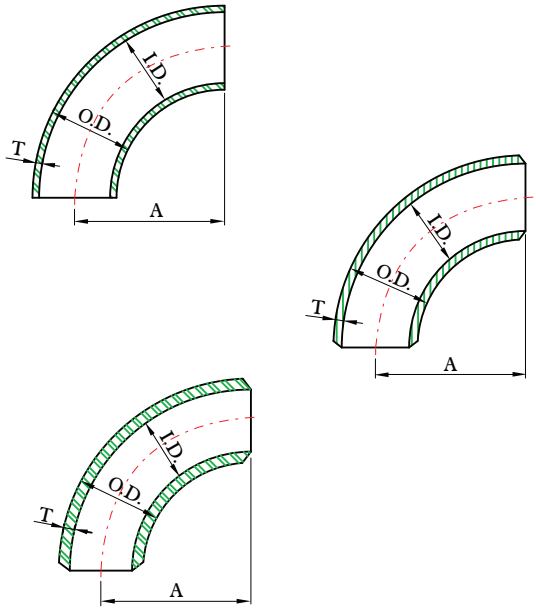


DIMENSIONS

unit : inch

Nominal pipe size	Outside diameter (O.D.)	Center to face (A)	Schedule 5S			Schedule 10S			Schedule 40S		
			Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *	Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *	Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *
1/2	.840	1–1/2	.710	.065	.12	.674	.083	.14	.622	.109	.18
3/4	1.050	1–1/2	.920	.065	.13	.884	.083	.15	.824	.113	.19
1	1.315	1–1/2	1.185	.065	.19	1.097	.109	.30	1.049	.133	.35
1–1/4	1.660	1–7/8	1.530	.065	.31	1.442	.109	.50	1.380	.140	.56
1–1/2	1.900	2–1/4	1.770	.065	.38	1.682	.109	.69	1.610	.145	.88
2	2.375	3	2.245	.065	.64	2.157	.109	1.13	2.067	.154	1.56
2–1/2	2.875	3–3/4	2.709	.083	1.50	2.635	.120	1.88	2.469	.203	3.00
3	3.500	4–1/2	3.334	.083	2.00	3.260	.120	2.69	3.068	.216	4.81
3–1/2	4.000	5–1/4	3.834	.083	2.62	3.760	.120	3.75	3.548	.226	6.25
4	4.500	6	4.334	.083	3.31	4.260	.120	4.75	4.026	.237	9.19
5	5.563	7–1/2	5.345	.109	6.50	5.295	.134	8.00	5.047	.258	15.13
6	6.625	9	6.407	.109	10.00	6.357	.134	12.00	6.065	.280	24.00
8	8.625	12	8.407	.109	17.30	8.329	.148	23.50	7.981	.322	47.50
10	10.750	15	10.482	.134	32.00	10.420	.165	43.00	10.020	.365	85.00
12	12.750	18	12.438	.156	51.00	12.390	.180	60.00	12.000	.375	131.00
14	14.000	21	13.688	.156	68.00	13.624	.188	80.00	13.250	.375	155.00
16	16.000	24	15.670	.165	100.00	15.624	.188	105.00	15.250	.375	202.00
18	18.000	27	17.670	.165	125.00	17.624	.188	132.00	17.250	.375	269.00
20	20.000	30	19.624	.188	165.00	19.564	.218	220.00	19.250	.375	330.00
24	24.000	36	23.564	.218	280.00	23.500	.250	310.00	23.250	.375	464.00



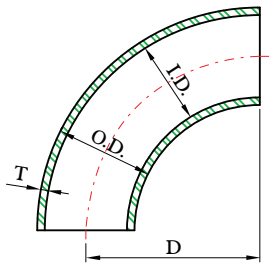


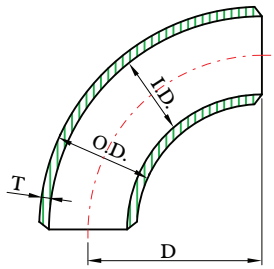
DIMENSIONS

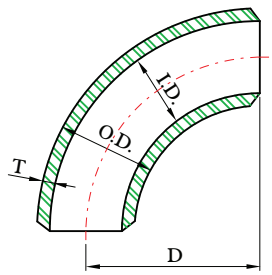
unit : inch / lb

Nominal pipe size	Outside diameter (O.D.)	Center to face (A)	Schedule 80S			Schedule 160			XX Strong Wall		
			Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *	Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *	Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *
1/2	.840	1-1/2	.546	.147	.23	.464	.188	.29	.252	.294	.46
3/4	1.050	1-1/2	.742	.154	.25	.612	.219	.35	.434	.308	.50
1	1.315	1-1/2	.957	.179	.48	.815	.250	.67	.599	.358	.96
1-1/4	1.660	1-7/8	1.278	.191	.88	1.160	.250	1.15	.896	.382	1.76
1-1/2	1.900	2-1/4	1.500	.200	1.13	1.338	.281	1.59	1.100	.400	2.26
2	2.375	3	1.939	.218	2.00	1.689	.343	3.14	1.503	.436	4.00
2-1/2	2.875	3-3/4	2.323	.276	4.00	2.125	.375	5.44	1.771	.552	8.00
3	3.500	4-1/2	2.900	.300	6.56	2.624	.438	9.58	2.300	.600	13.12
3-1/2	4.000	5-1/4	3.364	.318	8.80	------	------	------	2.728	.636	17.60
4	4.500	6	3.826	.337	13.63	3.438	.531	21.53	3.152	.674	27.26
5	5.563	7-1/2	4.813	.375	21.13	4.313	.625	35.29	4.063	.750	42.26
6	6.625	9	5.761	.432	36.00	5.187	.719	59.76	4.897	.864	72.00
8	8.625	12	7.625	.500	73.00	6.813	.906	132.00	6.875	.875	127.00
10	10.750	15	9.750	.500	114.00	8.500	1.125	256.00	------	------	------
12	12.750	18	11.750	.500	175.00	10.126	1.312	458.00	------	------	------
14	14.000	21	13.000	.500	206.00	11.188	1.406	-------	------	------	------
16	16.000	24	15.000	.500	269.00	12.812	1.594	------	------	------	------
18	18.000	27	17.000	.500	350.00	14.438	1.781	------	------	------	------
20	20.000	30	19.000	.500	439.00	16.062	1.969	------	------	------	------
24	24.000	36	23.000	.500	617.00	19.312	2.344	------	------	------	------







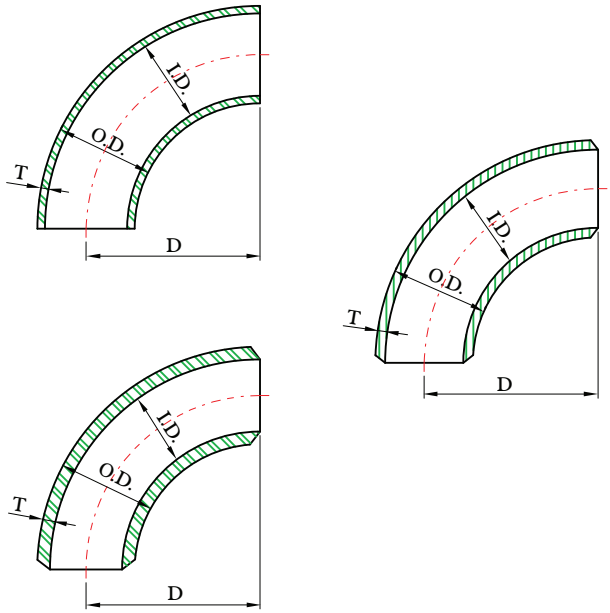


DIMENSIONS

unit : inch / lb

Nominal pipe size	Outside diameter (O.D.)	Center to face (D)	Schedule 5S			Schedule 10S			Schedule 40S		
			Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *	Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *	Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *
1	1.315	1	1.185	.065	.17	1.097	.109	.23	1.049	.133	.26
1-1/4	1.660	1-1/4	1.530	.065	.31	1.442	.109	.38	1.380	.140	.45
1-1/2	1.900	1-1/2	1.770	.065	.43	1.682	.109	.49	1.610	.145	.63
2	2.375	2	2.245	.065	.63	2.157	.109	.81	2.067	.154	1.13
2-1/2	2.875	2-1/2	2.709	.083	1.25	2.635	.120	1.36	2.469	.203	2.25
3	3.500	3	3.334	.083	1.75	3.260	.120	2.17	3.068	.216	3.31
3-1/2	4.000	3-1/2	3.834	.083	2.35	3.760	.120	3.05	3.548	.226	4.54
4	4.500	4	4.334	.083	3.12	4.260	.120	3.79	4.026	.237	6.88
5	5.563	5	5.345	.109	4.94	5.295	.134	6.12	5.047	.258	11.63
6	6.625	6	6.407	.109	7.75	6.357	.134	9.15	6.065	.280	17.50
8	8.625	8	8.407	.109	15.44	8.329	.148	17.63	7.981	.322	37.60
10	10.750	10	10.482	.134	27.40	10.420	.165	35.00	10.020	.365	63.00
12	12.750	12	12.438	.156	35.00	12.390	.180	40.00	12.000	.375	80.00
14	14.000	14	13.688	.156	44.00	13.624	.188	52.00	13.250	.375	101.00
16	16.000	16	15.670	.165	65.00	15.624	.188	68.00	15.250	.375	131.00
18	18.000	18	17.670	.165	81.00	17.624	.188	86.00	17.250	.375	175.00
20	20.000	20	19.624	.188	107.00	19.564	.218	143.00	19.250	.375	215.00
24	24.000	24	23.564	.218	182.00	23.500	.250	202.00	23.250	.375	302.00



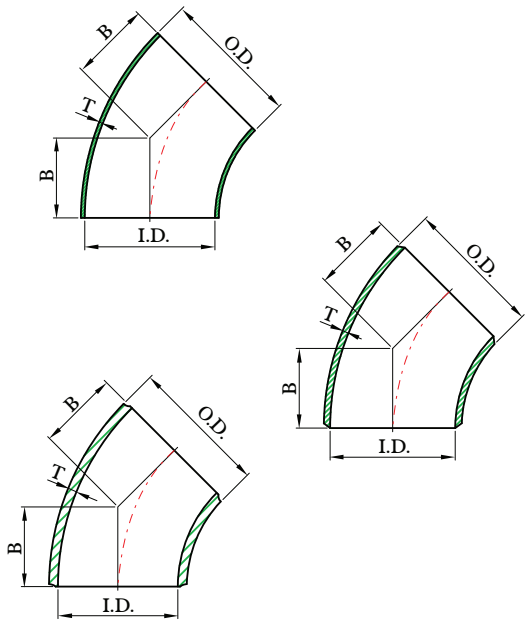


DIMENSIONS

unit : inch / lb

Nominal pipe size	Outside diameter (O.D.)	Center to face (D)	Schedule 80S			Schedule 160			XX Strong Wall		
			Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *	Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *	Inside diameter (I.D.)	Wall thickness (T)	Appr ox. weight * *
1	1.315	1	.957	.179	.38	.815	.250	.53	.599	.358	.76
1-1/4	1.660	1-1/4	1.278	.191	.63	1.160	.250	.82	.896	.382	1.26
1-1/2	1.900	1-1/2	1.500	.200	.88	1.338	.281	1.23	1.100	.400	1.76
2	2.375	2	1.939	.218	1.55	1.689	.343	2.43	1.503	.436	3.10
2-1/2	2.875	2-1/2	2.323	.276	2.88	2.125	.375	3.88	1.771	.552	5.76
3	3.500	3	2.900	.300	4.20	2.624	.438	6.09	2.300	.600	8.40
3-1/2	4.000	3-1/2	3.364	.318	5.35	-----	-----	-----	2.728	.636	10.70
4	4.500	4	3.826	.337	9.06	3.438	.531	14.22	3.152	.674	18.12
5	5.563	5	4.813	.375	16.10	4.313	.625	26.72	4.063	.750	32.20
6	6.625	6	5.761	.432	26.00	5.187	.719	43.16	4.897	.864	52.00
8	8.625	8	7.625	.500	54.80	6.813	.906	99.18	6.875	.875	109.00
10	10.750	10	9.750	.500	99.80	8.500	1.125	224.00	------	------	------
12	12.750	12	11.750	.500	125.00	10.126	1.312	327.00	------	------	------
14	14.000	14	13.000	.500	135.00	11.188	1.406	------	------	------	------
16	16.000	16	15.000	.500	175.00	12.812	1.594	------	------	------	------
18	18.000	18	17.000	.500	228.00	14.438	1.781	------	------	------	------
20	20.000	20	19.000	.500	285.00	16.062	1.969	------	------	------	------
24	24.000	24	23.000	.500	401.00	19.312	2.344	------	------	------	------



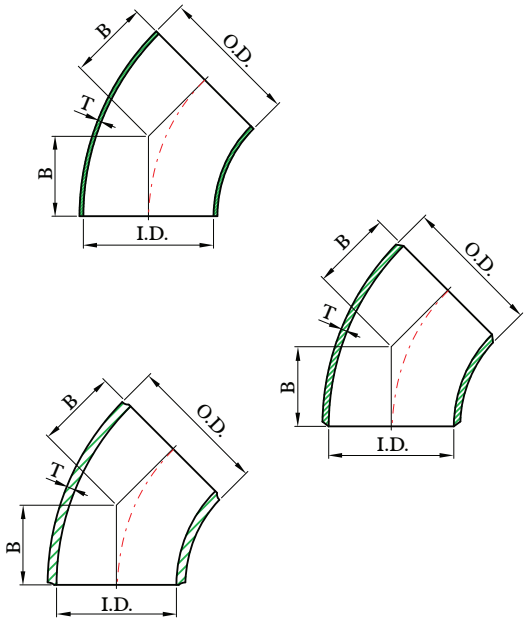


DIMENSIONS

unit : inch / lb

Nominal pipe size	Outside diameter (O.D.)	Center to face (B)	Schedule 5S			Schedule 10S			Schedule 40S		
			Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *	Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *	Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *
1/2	.840	5/8	.710	.065	.06	.674	.083	.07	.622	.109	.09
3/4	1.050	7/16	.920	.065	.06	.884	.083	.07	.824	.113	.09
1	1.315	7/8	1.185	.065	.12	1.097	.109	.19	1.049	.133	.25
1-1/4	1.660	1	1.530	.065	.19	1.442	.109	.25	1.380	.140	.38
1-1/2	1.900	1-1/8	1.770	.065	.25	1.682	.109	.38	1.610	.145	.50
2	2.375	1-3/8	2.245	.065	.31	2.157	.109	.56	2.067	.154	.88
2-1/2	2.875	1-3/4	2.709	.083	.75	2.635	.120	1.06	2.469	.203	1.69
3	3.500	2	3.334	.083	1.06	3.260	.120	1.38	3.068	.216	2.38
3-1/2	4.000	2-1/4	3.834	.083	1.16	3.760	.120	1.66	3.548	.226	3.13
4	4.500	2-1/2	4.334	.083	1.66	4.260	.120	2.38	4.026	.237	4.60
5	5.563	3-1/8	5.345	.109	3.25	5.295	.134	4.00	5.047	.258	7.57
6	6.625	3-3/4	6.407	.109	5.00	6.357	.134	6.00	6.065	.280	12.00
8	8.625	5	8.407	.109	8.65	8.329	.148	11.75	7.981	.322	23.75
10	10.750	6-1/4	10.482	.134	16.00	10.420	.165	21.50	10.020	.365	42.50
12	12.750	7-1/2	12.438	.156	25.50	12.390	.180	30.00	12.000	.375	65.50
14	14.000	8-3/4	13.688	.156	34.00	13.624	.188	40.00	13.250	.375	77.50
16	16.000	10	15.670	.165	50.00	15.624	.188	52.50	15.250	.375	101.00
18	18.000	11-1/4	17.670	.165	62.50	17.624	.188	66.00	17.250	.375	131.00
20	20.000	12-1/2	19.624	.188	82.50	19.564	.218	110.00	19.250	.375	165.00
24	24.000	15	23.564	.218	140.00	23.500	.250	155.00	23.250	.375	232.00



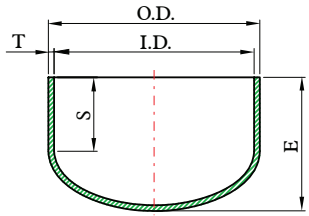


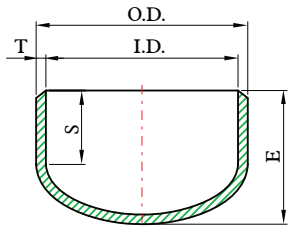
DIMENSIONS

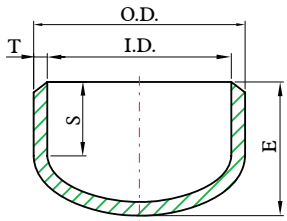
unit : inch / lb

Nominal pipe size	Outside diameter (O.D.)	Center to face (B)	Schedule 80S			Schedule 160			XX Strong Wall		
			Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *	Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *	Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *
1/2	.840	5/8	.546	.147	.12	.464	.188	.16	.252	.294	.24
3/4	1.050	7/16	.742	.154	.12	.612	.219	.16	.434	.308	.24
1	1.315	7/8	.957	.179	.31	.815	.250	.43	.599	.358	.62
1-1/4	1.660	1	1.278	.191	.50	1.160	.250	.85	.896	.382	1.00
1-1/2	1.900	1-1/8	1.500	.200	.63	1.338	.281	.88	1.100	.400	1.26
2	2.375	1-3/8	1.939	.218	1.13	1.689	.343	1.77	1.503	.436	2.26
2-1/2	2.875	1-3/4	2.323	.276	2.19	2.125	.375	2.95	1.771	.552	4.38
3	3.500	2	2.900	.300	3.31	2.624	.438	4.80	2.300	.600	6.62
3-1/2	4.000	2-1/4	3.364	.318	4.40	------	------	------	2.728	.636	8.80
4	4.500	2-1/2	3.826	.337	6.82	3.438	.531	10.87	3.152	.674	13.64
5	5.563	3-1/8	4.813	.375	10.56	4.313	.625	17.52	4.063	.750	21.12
6	6.625	3-3/4	5.761	.432	18.00	5.187	.719	20.88	4.897	.864	36.00
8	8.625	5	7.625	.500	36.50	6.813	.906	64.24	6.875	.875	63.87
10	10.750	6-1/4	9.750	.500	57.00	8.500	1.125	127.00	------	------	------
12	12.750	7-1/2	11.750	.500	87.50	10.126	1.312	229.00	------	------	------
14	14.000	8-3/4	13.000	.500	103.00	11.188	1.406	------	------	------	------
16	16.000	10	15.000	.500	134.00	12.812	1.594	------	------	------	------
18	18.000	11-1/4	17.000	.500	175.00	14.438	1.781	------	------	------	------
20	20.000	12-1/2	19.000	.500	219.00	16.062	1.969	------	------	------	------
24	24.000	15	23.000	.500	308.00	19.312	2.344	------	------	------	------







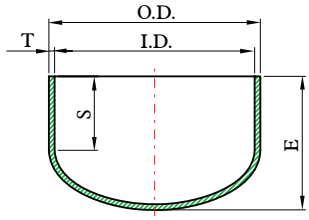


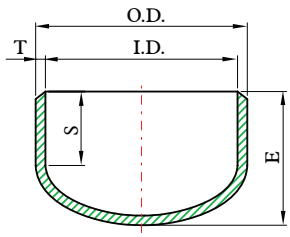
DIMENSIONS

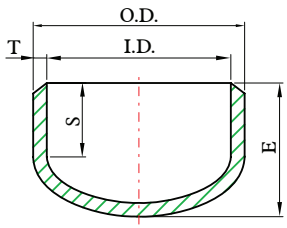
unit : inch / lb

Nominal pipe size	Outside diameter (O.D.)	Length (E)	Tangent Length (S)	Schedule 5S			Schedule 10S			Schedule 40S		
				Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *	Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *	Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *
1/2	.840	1	.74	.710	.065	.08	.674	.083	.09	.622	.109	.10
3/4	1.050	1	.68	.920	.065	.11	.884	.083	.12	.824	.113	.13
1	1.315	1–1/2	1.10	1.185	.065	.18	1.097	.109	.19	1.049	.133	.28
1–1/4	1.660	1–1/2	1.02	1.530	.065	.20	1.442	.109	.28	1.380	.140	.38
1–1/2	1.900	1–1/2	.95	1.770	.065	.22	1.682	.109	.31	1.610	.145	.50
2	2.375	1–1/2	.83	2.245	.065	.36	2.157	.109	.38	2.067	.154	.60
2–1/2	2.875	1–1/2	.68	2.709	.083	.50	2.635	.120	.56	2.469	.203	1.00
3	3.500	2	1.02	3.334	.083	.86	3.260	.120	.88	3.068	.216	1.56
3–1/2	4.000	2–1/2	1.40	3.834	.083	1.20	3.760	.120	1.25	3.548	.226	2.25
4	4.500	2–1/2	1.26	4.334	.083	1.25	4.260	.120	1.44	4.026	.237	2.69
5	5.563	3	1.48	5.345	.109	2.00	5.295	.134	2.25	5.047	.258	4.06
6	6.625	3–1/2	1.70	6.407	.109	2.75	6.357	.134	3.00	6.065	.280	7.12
8	8.625	4	1.68	8.407	.109	4.50	8.329	.148	5.50	7.981	.322	12.50
10	10.750	5	2.13	10.482	.134	9.50	10.420	.165	10.80	10.020	.365	20.30
12	12.750	6	2.63	12.438	.156	14.00	12.390	.180	14.40	12.000	.375	28.80
14	14.000	6–1/2	2.81	13.688	.156	17.00	13.624	.188	18.00	13.250	.375	35.70
16	16.000	7	2.81	15.670	.165	30.00	15.624	.188	32.00	15.250	.375	48.50
18	18.000	8	3.31	17.670	.165	38.00	17.624	.188	39.60	17.250	.375	59.40
20	20.000	9	3.81	19.624	.188	55.00	19.564	.218	60.00	19.250	.375	75.00
24	24.000	10–1/2	4.31	23.564	.218	75.00	23.500	.250	76.00	23.250	.375	98.00







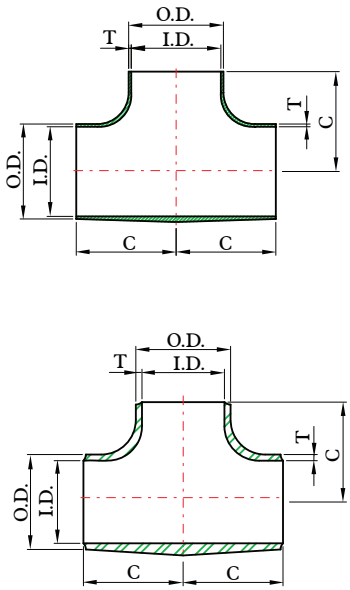


DIMENSIONS

unit : inch / lb

Nominal pipe size	Outside diameter (O.D.)	Length (E) Tangent Length (S)	Length (E1) Tangent Length (S)	Schedule 80S			Schedule 160			XX Strong Wall		
				Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *	Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *	Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *
1/2	.840	E 1 S .72	E1 1 S .64	.546	.147	.11	.464	.188	.14	.252	.294	.22
3/4	1.050	E 1 S .66	E1 1 S .58	.742	.154	.14	.612	.219	.20	.434	.308	.28
1	1.315	E 1-1/2 S 1.08	E1 1-1/2 S .99	.957	.179	.29	.815	.250	.40	.599	.358	.58
1–1/4	1.660	E 1-1/2 S .99	E1 1-1/2 S .89	1.278	.191	.39	1.160	.250	.50	.896	.382	.78
1–1/2	1.900	E 1-1/2 S .93	E1 1-1/2 S .83	1.500	.200	.54	1.338	.281	.75	1.100	.400	1.08
2	2.375	E 1-1/2 S .80	E1 1-3/4 S .95	1.939	.218	.75	1.689	.343	1.17	1.503	.436	1.50
2–1/2	2.875	E 1-1/2 S .64	E1 2 S 1.01	2.323	.276	1.12	2.125	.375	1.48	1.771	.552	2.24
3	3.500	E 2 S .98	E1 2-1/2 S 1.32	2.900	.300	1.87	2.624	.438	2.71	2.300	.600	3.74
3–1/2	4.000	E 2-1/2 S 1.34	E1 3 S 1.70	3.364	.318	2.50	------	-----	-----	2.728	.636	5.00
4	4.500	E 2-1/2 S 1.21	E1 3 S 1.60	3.826	.337	3.54	3.438	.531	5.55	3.152	.674	7.08
5	5.563	E 3 S 1.42	E1 3-1/2 S 1.73	4.813	.375	5.63	4.313	.625	9.34	4.063	.750	11.26
6	6.625	E 3-1/2 S 1.63	E1 4 S 1.91	5.761	.432	10.00	5.187	.719	16.00	4.897	.864	20.00
8	8.625	E 4 S 1.59	E1 5 S 2.41	7.625	.500	16.38	6.813	.906	29.64	6.875	.875	22.76
10	10.750	E 5 S 2.06	E1 6 S 2.75	9.750	.500	27.30	8.500	1.125	61.42	-------	--------	-------
12	12.750	E 6 S 2.56	E1 7 S 3.16	11.750	.500	36.60	10.126	1.312	95.00	-------	--------	-------
14	14.000	E 6-1/2 S 2.75	-------	13.000	.500	48.00	11.188	1.406	-------	-------	--------	-------
16	16.000	E 7 S 2.75	-------	15.000	.500	65.00	12.812	1.594	-------	-------	--------	-------
18	18.000	E 8 S 3.25	-------	17.000	.500	79.20	14.438	1.781	-------	-------	--------	-------
20	20.000	E 9 S 3.75	-------	19.000	.500	88.00	16.062	1.969	-------	-------	--------	-------
24	24.000	E 10-1/2 S 4.25	-------	23.000	.500	135.00	19.312	2.344	-------	-------	--------	-------



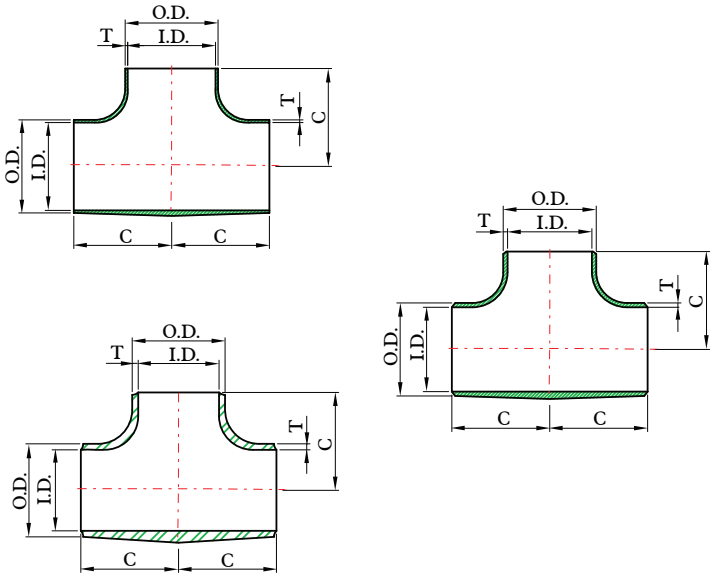


DIMENSIONS

unit : inch / lb

Nominal pipe size	Outside diameter (O.D.)	Center to end (C)	Schedule 5S			Schedule 10S			Schedule 40S		
			Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *	Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *	Inside diameter (I.D.)	Wall thickness (T)	Approx. weight * *
1/2	.840	1	.710	.065	.19	.674	.083	.21	.622	.109	.23
3/4	1.050	1-1/8	.920	.065	.22	.884	.083	.28	.824	.113	.38
1	1.315	1-1/2	1.185	.065	.40	1.097	.109	.63	1.049	.133	.65
1-1/4	1.660	1-7/8	1.530	.065	.75	1.442	.109	1.10	1.380	.140	1.31
1-1/2	1.900	2-1/4	1.770	.065	.95	1.682	.109	1.50	1.610	.145	1.90
2	2.375	2-1/2	2.245	.065	1.20	2.157	.109	1.87	2.067	.154	2.83
2-1/2	2.875	3	2.709	.083	2.15	2.635	.120	3.10	2.469	.203	4.85
3	3.500	3-3/8	3.334	.083	3.40	3.260	.120	3.90	3.068	.216	7.30
3-1/2	4.000	3-3/4	3.834	.083	5.50	3.760	.120	5.88	3.548	.226	9.00
4	4.500	4-1/8	4.334	.083	7.20	4.260	.120	7.63	4.026	.237	11.63
5	5.563	4-7/8	5.345	.109	13.00	5.295	.134	13.45	5.047	.258	20.75
6	6.625	5-5/8	6.407	.109	17.20	6.357	.134	17.80	6.065	.280	24.25
8	8.625	7	8.407	.109	31.00	8.329	.148	34.50	7.981	.322	46.10
10	10.750	8-1/2	10.482	.134	55.00	10.420	.165	59.00	10.020	.365	78.00
12	12.750	10	12.438	.156	83.00	12.390	.180	87.00	12.000	.375	137.00
14	14.000	11	13.688	.156	89.00	13.624	.188	107.00	13.250	.375	175.00
16	16.000	12	15.670	.165	115.00	15.624	.188	130.00	15.250	.375	220.00
18	18.000	13-1/2	17.670	.165	149.00	17.624	.188	169.00	17.250	.375	286.00
20	20.000	15	19.624	.188	171.00	19.564	.218	228.00	19.250	.375	358.00
24	24.000	17	23.564	.218	298.00	23.500	.250	343.00	23.250	.375	498.00



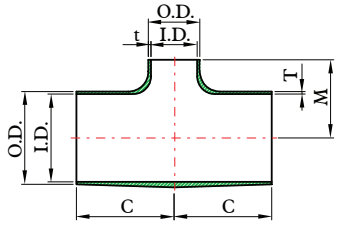


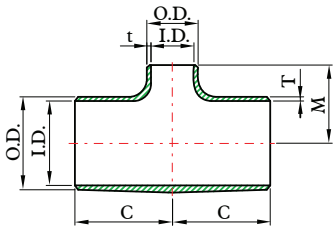
DIMENSIONS

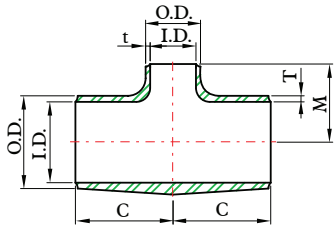
unit : inch / lb

Nominal pipe size	Outside diameter (O.D.)	Center to end (C)	Schedule 80S			Schedule 160S			XX Strong Wall		
			Inside diameter (I.D.)	Wall thickness (T)	Approx. weight **	Inside diameter (I.D.)	Wall thickness (T)	Approx. weight **	Inside diameter (I.D.)	Wall thickness (T)	Approx. weight **
1/2	.840	1	.546	.147	.30	.464	.188	.38	.252	.294	.60
3/4	1.050	1-1/8	.742	.154	.45	.612	.219	.64	.434	.308	.90
1	1.315	1-1/2	.957	.179	.85	.815	.250	1.19	.599	.358	1.70
1-1/4	1.660	1-7/8	1.278	.191	1.50	1.160	.250	1.97	.896	.382	3.00
1-1/2	1.900	2-1/4	1.500	.200	2.25	1.338	.281	3.15	1.100	.400	4.50
2	2.375	2-1/2	1.939	.218	3.50	1.689	.343	5.50	1.503	.436	7.00
2-1/2	2.875	3	2.323	.276	6.90	2.125	.375	9.38	1.771	.552	13.80
3	3.500	3-3/8	2.900	.300	9.80	2.624	.438	14.31	2.300	.600	19.60
3-1/2	4.000	3-3/4	3.364	.318	12.00	-----	-----	-----	2.728	.636	24.00
4	4.500	4-1/8	3.826	.337	17.00	3.438	.531	26.86	3.152	.674	34.00
5	5.563	4-7/8	4.813	.375	25.00	4.313	.625	41.75	4.063	.750	50.00
6	6.625	5-5/8	5.761	.432	30.00	5.187	.719	49.80	4.897	.864	60.00
8	8.625	7	7.625	.500	62.00	6.813	.906	112.00	6.875	.875	108.00
10	10.750	8-1/2	9.750	.500	110.00	8.500	1.125	247.00	-----	-----	-----
12	12.750	10	11.750	.500	185.00	10.126	1.312	484.00	-----	-----	-----
14	14.000	11	13.000	.500	210.00	11.188	1.406	590.00	-----	-----	-----
16	16.000	12	15.000	.500	265.00	12.812	1.594	812.00	-----	-----	-----
18	18.000	13-1/2	17.000	.500	344.00	14.438	1.781	1097.00	-----	-----	-----
20	20.000	15	19.000	.500	430.00	16.062	1.969	1690.00	-----	-----	-----
24	24.000	17	23.000	.500	600.00	19.312	2.344	2950.00	-----	-----	-----







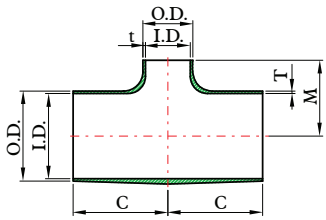


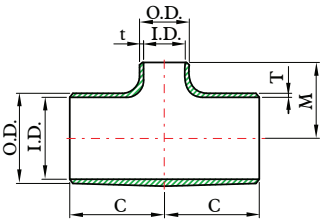
DIMENSIONS

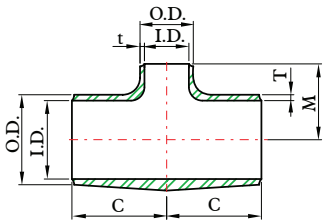
unit : inch / lb

Nominal Pipe Size Run X Outlet	Outside Diameter Run (O.D.)	Outside Diameter Outlet (O.D)	Center to End Run (C)	Center to End Outlet (M)	Schedule 5S					Schedule 10S					Schedule 40S				
					Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (T)	Wall Thickness Outlet (t)	Approx. Weight **	Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (T)	Wall Thickness Outlet (t)	Approx. Weight **	Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (T)	Wall Thickness Outlet (t)	Approx. Weight **
1/2 x1/4	.840	.540	1	1	.710	.410	.065	.065	.16	.674	.410	.083	.065	.18	.622	.364	.109	.088	.20
1/2 x3/8	.840	.675	1	1	.710	.545	.065	.065	.17	.674	.545	.083	.065	.19	.622	.493	.109	.091	.21
3/4 x3/8	1.050	.675	1-1/8	1-1/8	.920	.545	.065	.065	.19	.884	.545	.083	.065	.24	.824	.493	.113	.091	.32
3/4 x1/2	1.050	.840	1-1/8	1-1/8	.920	.710	.065	.065	.20	.884	.674	.083	.083	.25	.824	.622	.113	.109	.34
1 x3/8	1.315	.675	1-1/2	1-1/2	1.185	.545	.065	.065	.34	1.097	.545	.109	.065	.54	1.049	.493	.133	.091	.56
1 x1/2	1.315	.840	1-1/2	1-1/2	1.185	.710	.065	.065	.35	1.097	.674	.109	.083	.55	1.049	.622	.133	.109	.57
1 x3/4	1.315	1.050	1-1/2	1-1/2	1.185	.920	.065	.065	.36	1.097	.884	.109	.083	.56	1.049	.824	.133	.113	.59
1-1/4x 1/2	1.660	.840	1-7/8	1-7/8	1.530	.710	.065	.065	.64	1.442	.674	.109	.083	.95	1.380	.622	.140	.109	1.12
1-1/4x 3/4	1.660	1.050	1-7/8	1-7/8	1.530	.920	.065	.065	.66	1.442	.884	.109	.083	.97	1.380	.824	.140	.113	1.15
1-1/4x 1	1.660	1.315	1-7/8	1-7/8	1.530	1.185	.065	.065	.68	1.442	1.097	.109	.109	.99	1.380	1.049	.140	.133	1.17
1-1/2x 1/2	1.900	.840	2-1/4	2-1/4	1.770	.710	.065	.065	.81	1.682	.674	.109	.083	1.27	1.610	.622	.145	.109	1.61
1-1/2x 3/4	1.900	1.050	2-1/4	2-1/4	1.770	.920	.065	.065	.82	1.682	.884	.109	.083	1.29	1.610	.824	.145	.113	1.63
1-1/2x 1	1.900	1.315	2-1/4	2-1/4	1.770	1.185	.065	.065	.83	1.682	1.097	.109	.109	1.32	1.610	1.049	.145	.133	1.67
1-1/2x 1-1/4	1.900	1.660	2-1/4	2-1/4	1.770	1.530	.065	.065	.85	1.682	1.442	.109	.109	1.35	1.610	1.380	.145	.140	1.71
2 x3/4	2.375	1.050	2-1/2	1-3/4	2.245	.920	.065	.065	1.02	2.157	.884	.109	.083	1.59	2.067	.824	.154	.113	2.40
2 x1	2.375	1.315	2-1/2	2	2.245	1.185	.065	.065	1.03	2.157	1.097	.109	.109	1.60	2.067	1.049	.154	.133	2.43
2 x1-1/4	2.375	1.660	2-1/2	2-1/4	2.245	1.530	.065	.065	1.05	2.157	1.442	.109	.109	1.64	2.067	1.380	.154	.140	2.49
2 x1-1/2	2.375	1.900	2-1/2	2-3/8	2.245	1.770	.065	.065	1.08	2.157	1.682	.109	.109	1.68	2.067	1.610	.154	.145	2.54
2-1/2x 1	2.875	1.315	3	2-1/4	2.709	1.185	.083	.065	1.83	2.635	1.097	.120	.109	2.63	2.469	1.049	.203	.133	4.12
2-1/2x 1-1/4	2.875	1.660	3	2-1/2	2.709	1.530	.083	.065	1.85	2.635	1.442	.120	.109	2.66	2.469	1.380	.203	.140	4.17
2-1/2x 1-1/2	2.875	1.900	3	2-5/8	2.709	1.770	.083	.065	1.89	2.635	1.682	.120	.109	2.73	2.469	1.610	.203	.145	4.27
2-1/2x 2	2.875	2.375	3	2-3/4	2.709	2.245	.083	.065	1.93	2.635	2.157	.120	.109	2.79	2.469	2.067	.203	.154	4.36
3 x1	3.500	1.315	3-3/8	2-5/8	3.334	1.185	.083	.065	2.85	3.260	1.097	.120	.109	3.27	3.068	1.049	.216	.133	6.13
3 x1-1/4	3.500	1.660	3-3/8	2-3/4	3.334	1.530	.083	.065	2.89	3.260	1.442	.120	.109	3.31	3.068	1.380	.216	.140	6.20
3 x1-1/2	3.500	1.900	3-3/8	2-7/8	3.334	1.770	.083	.065	2.93	3.260	1.682	.120	.109	3.35	3.068	1.610	.216	.145	6.28
3 x2	3.500	2.375	3-3/8	3	3.334	2.245	.083	.065	2.99	3.260	2.157	.120	.109	3.43	3.068	2.067	.216	.154	6.42
3 x2-1/2	3.500	2.875	3-3/8	3-1/4	3.334	2.709	.083	.083	3.06	3.260	2.635	.120	.120	3.51	3.068	2.469	.216	.203	6.57
3-1/2x 1-1/2	4.000	1.900	3-3/4	3-1/8	3.834	1.770	.083	.065	4.67	3.760	1.682	.120	.109	4.99	3.548	1.610	.226	.145	7.65
3-1/2x 2	4.000	2.375	3-3/4	3-1/4	3.834	2.245	.083	.065	4.73	3.760	2.157	.120	.109	5.05	3.548	2.067	.226	.154	7.74
3-1/2x 2-1/2	4.000	2.875	3-3/4	3-1/2	3.834	2.709	.083	.083	4.84	3.760	2.635	.120	.120	5.17	3.548	2.469	.226	.203	8.97
3-1/2x 3	4.000	3.500	3-3/4	3-5/8	3.834	3.334	.083	.083	4.95	3.760	3.260	.120	.120	5.29	3.548	3.068	.226	.216	9.10
4 x1-1/2	4.500	1.900	4-1/8	3-3/8	4.334	1.770	.083	.065	6.05	4.260	1.682	.120	.109	6.40	4.026	1.610	.237	.145	9.76
4 x2	4.500	2.375	4-1/8	3-1/2	4.334	2.245	.083	.065	6.12	4.260	2.157	.120	.109	6.48	4.026	2.067	.237	.154	9.88
4 x2-1/2	4.500	2.875	4-1/8	3-3/4	4.334	2.709	.083	.083	6.19	4.260	2.635	.120	.120	6.56	4.026	2.469	.237	.203	10.00
4 x3	4.500	3.500	4-1/8	3-7/8	4.334	3.334	.083	.083	6.33	4.260	3.260	.120	.120	6.71	4.026	3.068	.237	.216	10.23
4 x3-1/2	4.500	4.000	4-1/8	4	4.334	3.834	.083	.083	6.48	4.260	3.760	.120	.120	6.86	4.026	3.548	.237	.226	10.40









DIMENSIONS

unit : inch / lb

Nominal Pipe Size Run X Outlet	Outside Diameter Run (O.D.)	Outside Diameter Outlet (O.D)	Center to End Run (C)	Center to End Outlet (M)	Schedule 80S					Schedule 160					XX Strong Wall				
					Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (T)	Wall Thickness Outlet (t)	Approximate Weight **	Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (T)	Wall Thickness Outlet (t)	Approximate Weight **	Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (T)	Wall Thickness Outlet (t)	Approximate Weight **
1/2 x 1/4	.840	.540	1	1	.546	.302	.147	.119	.25	---	---	---	---	---	---	---	---	---	---
1/2 x 3/8	.840	.675	1	1	.546	.423	.147	.126	.27	---	---	---	---	---	---	---	---	---	---
3/4 x 3/8	1.050	.675	1-1/8	1-1/8	.742	.423	.154	.126	.38	.612	.301	.219	.187	.55	---	---	---	---	---
3/4 x 1/2	1.050	.840	1-1/8	1-1/8	.742	.546	.154	.147	.40	.612	.466	.219	.187	.57	.434	.252	.308	.294	.81
1 x 3/8	1.315	.675	1-1/2	1-1/2	.957	.423	.179	.126	.73	.815	.301	.250	.187	1.02	---	---	---	---	---
1 x 1/2	1.315	.840	1-1/2	1-1/2	.957	.546	.179	.147	.75	.815	.466	.250	.187	1.04	.599	.252	.358	.294	1.49
1 x 3/4	1.315	1.050	1-1/2	1-1/2	.957	.742	.179	.154	.76	.815	.614	.250	.218	1.07	.599	.434	.358	.308	1.53
1-1/4 x 1/2	1.660	.840	1-7/8	1-7/8	1.278	.546	.191	.147	1.29	1.160	.466	.250	.187	1.69	.896	.252	.382	.294	2.58
1-1/4 x 3/4	1.660	1.050	1-7/8	1-7/8	1.278	.742	.191	.154	1.32	1.160	.614	.250	.218	1.73	.896	.434	.382	.308	2.64
1-1/4 x 1	1.660	1.315	1-7/8	1-7/8	1.278	.957	.191	.179	1.35	1.160	.815	.250	.250	1.77	.896	.599	.382	.358	2.70
1-1/2 x 1/2	1.900	.840	2-1/4	2-1/4	1.500	.546	.200	.147	1.91	1.338	.466	.281	.187	2.67	1.100	.252	.400	.294	3.82
1-1/2 x 3/4	1.900	1.050	2-1/4	2-1/4	1.500	.742	.200	.154	1.93	1.338	.614	.281	.218	2.71	1.100	.434	.400	.308	3.87
1-1/2 x 1	1.900	1.315	2-1/4	2-1/4	1.500	.957	.200	.179	1.98	1.338	.815	.281	.250	2.77	1.100	.599	.400	.358	3.96
1-1/2 x 1-1/4	1.900	1.660	2-1/4	2-1/4	1.500	1.278	.200	.191	2.02	1.338	1.160	.281	.250	2.83	1.100	.896	.400	.382	4.05
2 x 3/4	2.375	1.050	2-1/2	1-3/4	1.939	.742	.218	.154	2.97	1.689	.614	.343	.218	4.67	1.503	.434	.436	.308	5 95
2 x 1	2.375	1.315	2-1/2	2	1.939	.957	.218	.179	3.01	1.689	.815	.343	.250	4.73	1.503	.599	.436	.358	6 02
2 x 1-1/4	2.375	1.660	2-1/2	2-1/4	1.939	1.278	.218	.191	3.08	1.689	1.160	.343	.250	4.84	1.503	.896	.436	.382	6.16
2 x 1-1/2	2.375	1.900	2-1/2	2-3/8	1.939	1.500	.218	.200	3.15	1.689	1.338	.343	.281	4.95	1.503	1.100	.436	.400	6 30
2-1/2 x 1	2.875	1.315	3	2-1/4	2.323	.957	.276	.179	5.86	2.125	815	.375	.250	7.97	1.771	.599	.552	.358	11.73
2-1/2 x 1-1/4	2.875	1.660	3	2-1/2	2.323	1.278	.276	.191	5.93	2.125	1.160	.375	.250	8.06	1.771	.896	.552	.382	11.87
2-1/2 x 1-1/2	2.875	1.900	3	2-5/8	2.323	1.500	.276	.200	6.07	2.125	1.338	.375	.281	8.25	1.771	1.100	.552	.400	12.14
2-1/2 x 2	2.875	2.375	3	2-3/4	2.323	1.939	.276	.218	6.21	2.125	1.689	.375	.343	8.44	1.771	1.503	.552	.436	12.42
3 x 1	3.500	1.315	3-3/8	2-5/8	2.900	.957	.300	.179	8.23	2.624	.815	.438	.250	12.02	2.300	.599	.600	.358	16.46
3 x 1-1/4	3.500	1.660	3-3/8	2-3/4	2.900	1.278	.300	.191	8.33	2.624	1.160	.438	.250	12.16	2.300	.896	.600	.382	16.66
3 x 1-1/2	3.500	1.900	3-3/8	2-7/8	2.900	1.500	.300	.200	8.43	2.624	1.338	.438	.281	12.30	2.300	1.100	.600	.400	16.85
3 x 2	3.500	2.375	3-3/8	3	2.900	1.939	.300	.218	8.62	2.624	1.689	.438	.343	12.59	2.300	1.503	.600	.436	17.24
3 x 2-1/2	3.500	2.875	3-3/8	3-1/4	2.900	2.323	.300	.276	8.82	2.624	2.125	.438	.375	12.88	2.300	1.771	.600	.552	17.64
3-1/2 x 1-1/2	4.000	1.900	3-3/4	3-1/8	3.364	1.500	.318	.200	10.20	---	---	---	---	---	2.728	1.100	.636	.400	20.40
3-1/2 x 2	4.000	2.375	3-3/4	3-1/4	3.364	1.939	.318	.218	10.32	---	---	---	---	---	2.728	1.503	.636	.436	20.64
3-1/2 x 2-1/2	4.000	2.875	3-3/4	3-1/2	3.364	2.323	.318	.276	10.56	---	---	---	---	---	2.728	1.771	.636	.552	21.12
3-1/2 x 3	4.000	3.500	3-3/4	3-5/8	3.364	2.900	.318	.300	10.80	---	---	---	---	---	2.728	2.300	.636	.600	21.60
4 x 1-1/2	4.500	1.900	4-1/8	3-3/8	3.826	1.500	.337	.200	14.28	3.438	1.338	.531	.281	22.56	3.152	1.100	.674	.400	28.56
4 x 2	4.500	2.375	4-1/8	3-1/2	3.826	1.939	.337	.218	14.45	3.438	1.689	.531	.343	22.83	3.152	1.503	.674	.436	28.90
4 x 2-1/2	4.500	2.875	4-1/8	3-3/4	3.826	2.323	.337	.276	14.62	3.438	2.125	.531	.375	23.10	3.152	1.771	.674	.552	29.24
4 x 3	4.500	3.500	4-1/8	3-7/8	3.826	2.900	.337	.300	14.96	3.438	2.624	.531	.438	23.63	3.152	2.300	.674	.600	29.92
4 x 3-1/2	4.500	4.000	4-1/8	4	3.826	3.364	.337	.318	15.30	---	---	---	---	---	3.152	2.728	.674	.636	30.60

DIMENSIONS

unit : inch / lb

Nominal Pipe Size Run X Outlet	Outside Diameter Run (O.D.)	Outside Diameter Outlet (O. D)	Center to End Run (C)	Center to End Outlet (M)	Schedule 5S					Schedule 10S					Schedule 40S				
					Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (T)	Wall Thickness Outlet (t)	Approx. Weight **	Inside Diameter Run (I. D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (T)	Wall Thickness Outlet (t)	Approx. Weight**	Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (T)	Wall Thickness Outlet (t)	Approx. Weight **
5 x2	5.563	2.375	4-7/8	4-1/8	5.345	2.245	.109	.065	10.92	5.295	2.157	.134	.109	11.29	5.047	2.067	.258	.154	17.43
5 x2-1/2	5.563	2.875	4-7/8	4-1/4	5.345	2.709	.109	.083	11.05	5.295	2.635	.134	.120	11.43	5.047	2.469	.258	.203	17.63
5 x 3	5.563	3.500	4-7/8	4-3/8	5.345	3.334	.109	.083	11.18	5.295	3.260	.134	.120	11.56	5.047	3.068	.258	.216	17.84
5 x 3-1/2	5.563	4.000	4-7/8	4-1/2	5.345	3.834	.109	.083	11.44	5.295	3.760	.134	.120	11.83	5.047	3.548	.258	.226	18.26
5 x 4	5.563	4.500	4-7/8	4-5/8	5.345	4.334	.109	.083	11.70	5.295	4.260	.134	.120	12.10	5.047	4.026	.258	.237	18.67
6 x 2-1/2	6.625	2.875	5-5/8	4-3/4	6.407	2.709	.109	.083	14.48	6.357	2.635	.134	.120	14.95	6.065	2.469	.280	.203	20.37
6 x 3	6.625	3.500	5-5/8	4-7/8	6.407	3.334	.109	.083	14.62	6.357	3.260	.134	.120	15.13	6.065	3.068	.280	.216	26.32
6 x 3-1/2	6.625	4.000	5-5/8	5	6.407	3.834	.109	.083	14.79	6.357	3.760	.134	.120	15.31	6.065	3.548	.280	.226	20.85
6 x 4	6.625	4.500	5-5/8	5-1/8	6.407	4.334	.109	.083	15.13	6.357	4.260	.134	.120	15.66	6.065	4.026	.280	.237	21.34
6 x 5	6.625	5.563	5-5/8	5-3/8	6.407	5.345	.109	.109	15.48	6.357	5.295	.134	.134	16.02	6.065	5.047	.280	.258	21.82
8 x3	8.625	3.500	7	6	8.407	3.334	.109	.083	26.04	8.329	3.260	.148	.120	29.00	7.981	3.068	.322	.216	38.72
8 x 3-1/2	8.625	4.000	7	6	8.407	3.834	.109	.083	26.35	8.329	3.760	.148	.120	29.32	7.981	3.548	.322	.226	39.18
8 x 4	8.625	4.500	7	6-1/8	8.407	4.334	.109	.083	26.66	8.329	4.260	.148	.120	29.67	7.981	4.026	.322	.237	39.64
8 x 5	8.625	5.563	7	6-3/8	8.407	5.345	.109	.109	27.28	8.329	5.295	.148	.134	30.36	7.981	5.047	.322	.258	40.56
8 x 6	8.625	6.625	7	6-5/8	8.407	6.407	.109	.109	27.90	8.329	6.357	.148	.134	31.05	7.981	6.065	.322	.280	41.49
10 x 4	10.750	4.500	8-1/2	7-1/4	10.482	4.334	.134	.083	46.75	10.420	4.260	.165	.120	50.15	10.020	4.026	.365	.237	66.30
10 x 5	10.750	5.563	8-1/2	7-1/2	10.482	5.345	.134	.109	47.30	10.420	5.295	.165	.134	50.74	10.020	5.047	.365	.258	67.08
10 x 6	10.750	6.625	8-1/2	7-5/8	10.482	6.407	.134	.109	48.40	10.420	6.357	.165	.134	51.92	10.020	6.065	.365	.280	68.64
10 x 8	10.750	8.625	8-1/2	8	10.482	8.407	.134	.109	49.50	10.420	8.329	.165	.148	53.10	10.020	7.981	.365	.322	70.20
12 x 5	12.750	5.563	10	8-1/2	12.438	5.345	.156	.109	70.55	12.390	5.295	.180	.134	73.95	12.000	5.047	.375	.258	116.00
12 x 6	12.750	6.625	10	8-5/8	12.438	6.407	.156	.109	71.38	12.390	6.357	.180	.134	74.82	12.000	6.065	.375	.280	118.00
12 x 8	12.750	8.625	10	9	12.438	8.407	.156	.109	73.04	12.390	8.329	.180	.148	76.56	12.000	7.981	.375	.322	120.00
12 x10	12.750	10.750	10	9-1/2	12.438	10.482	.156	.134	74.70	12.390	10.420	.180	.165	78.30	12.000	10.020	.375	.365	123.00
14x 6	14.000	6.625	11	9-3/8	13.688	6.407	.156	.109	75.65	13.624	6.357	.188	.134	90.95	13.250	6.065	.375	.280	148.00
14 x 8	14.000	8.625	11	9-3/4	13.688	8.407	.156	.109	76.54	13.624	8.329	.188	.148	92.02	13.250	7.981	.375	.322	150.00
14 x10	14.000	10.750	11	10-1/8	13.688	10.482	.156	.134	78.32	13.624	10.420	.188	.165	94.16	13.250	10.020	.375	.365	154.00
14 x12	14.000	12.750	11	10-5/8	13.688	12.438	.156	.156	80.10	13.624	12.390	.188	.180	96.30	13.250	12.000	.375	.375	157.00
16 x 6	16.000	6.625	12	10-3/8	15.670	6.407	.165	.109	96.60	15.624	6.357	.188	.134	109.00	15.250	6.065	.375	.280	184.00
16 x 8	16.000	8.625	12	10-3/4	15.670	8.407	.165	.109	97.75	15.624	8.329	.188	.148	110.00	15.250	7.981	.375	.322	187.00
16 x 10	16.000	10.750	12	11-1/8	15.670	10.482	.165	.134	98.90	15.624	10.420	.188	.165	112.00	15.250	10.020	.375	.365	189.00
16 x 12	16.000	12.750	12	11-5/8	15.670	12.438	.165	.156	101.00	15.624	12.390	.188	.180	114.00	15.250	12.000	.375	.375	193.00
16 x 14	16.000	14.000	12	12	15.670	13.688	.165	.156	103.00	15.624	13.624	.188	.188	117.00	15.250	13.250	.375	.375	198.00
18 x 8	18.000	8.625	13-1/2	11-3/4	17.670	8.407	.165	.109	125.00	17.624	8.329	.188	.148	142.00	17.250	7.981	.375	.322	240.00
18 x 10	18.000	10.750	13-1/2	12-1/8	17.670	10.482	.165	.134	126.00	17.624	10.420	.188	.165	143.00	17.250	10.020	.375	.365	243.00
18 x 12	18.000	12.750	13-1/2	12-5/8	17.670	12.438	.165	.156	128.00	17.624	12.390	.188	.180	145.00	17.250	12.000	.375	.375	246.00
18 x 14	18.000	14.000	13-1/2	13	17.670	13.688	.165	.156	131.00	17.624	13.624	.188	.188	148.00	17.250	13.250	.375	.375	251.00
18 x 16	18.000	16.000	13-1/2	13	17.670	15.670	.165	.165	134.00	17.624	15.624	.188	.188	152.00	17.250	15.250	.375	.375	257.00
20 x 8	20.000	8.625	15	12-3/4	19.624	8.407	.188	.109	141.00	19.564	8.329	.218	.148	189.00	19.250	7.981	.375	.322	297.00
20 x 10	20.000	10.750	15	13-1/8	19.624	10.482	.188	.134	143.00	19.564	10.420	.218	.165	191.00	19.250	10.020	.375	.365	300.00
20 x 12	20.000	12.750	15	13-5/8	19.624	12.438	.188	.156	145.00	19.564	12.390	.218	.180	193.00	19.250	12.000	.375	.375	304.00
20 x 14	20.000	14.000	15	14	19.624	13.688	.188	.156	147.00	19.564	13.624	.218	.188	196.00	19.250	13.250	.375	.375	308.00
20 x 16	20.000	16.000	15	14	19.624	15.670	.188	.165	150.00	19.564	15.624	.218	.188	200.00	19.250	15.250	.375	.375	315.00
20 x 18	20.000	18.000	15	14-1/2	19.624	17.670	.188	.165	154.00	19.564	17.624	.218	.188	205.00	19.250	17.250	.375	.375	322.00
24 x 10	24.000	10.750	17	15-1/8	23.564	10.482	.218	.134	247.00	23.500	10.420	.250	.165	284.00	23.250	10.020	.375	.365	413.00
24 x 12	24.000	12.750	17	15-5/8	23.564	12.438	.218	.156	250.00	23.500	12.390	.250	.180	288.00	23.250	12.000	.375	.375	418.00
24 x 14	24.000	14.000	17	16	23.564	13.688	.218	.156	253.00	23.500	13.624	.250	.188	291.00	23.250	13.250	.375	.375	423.00
24 x 16	24.000	16.000	17	16	23.564	15.670	.218	.165	256.00	23.500	15.624	.250	.188	295.00	23.250	15.250	.375	.375	428.00
24 x 18	24.000	18.000	17	16-1/2	23.564	17.670	.218	.165	262.00	23.500	17.624	.250	.188	302.00	23.250	17.250	.375	.375	438.00
24 x 20	24.000	20.000	17	17	23.564	19.624	.218	.188	268.00	23.500	19.564	.250	.218	308.00	23.250	19.250	.375	.375	448.00

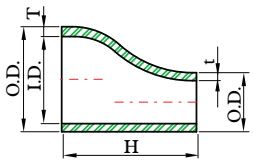
DIMENSIONS

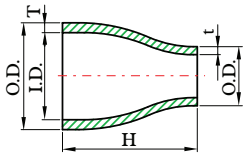
unit : inch / lb

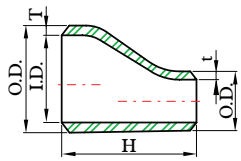
Nominal Pipe Size Run X Outlet	Outside Diameter Run (O.D.)	Outside Diameter Outlet (O.D)	Center to End Run (C)	Center to End Outlet (M)	Schedule 80S					Schedule 160					XX Strong Wall				
					Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (T)	Wall Thickness Outlet (t)	Approx. Weight **	Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (T)	Wall Thickness Outlet (t)	Approx. Weight **	Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (T)	Wall Thickness Outlet (t)	Approx. Weight **
5 x 2	5.563	2.375	4-7/8	4-1/8	4.813	1.939	.375	.218	21.00	4.313	1.689	.625	.343	35.07	4.063	1.503	.750	.436	42.00
5 x 2-1/2	5.563	2.875	4-7/8	4-1/4	4.813	2.323	.375	.276	21.25	4.313	2.125	.625	.375	35.48	4.063	1.771	.750	.552	42.50
5 x 3	5.563	3.500	4-7/8	4-3/8	4.813	2.900	.375	.300	21.50	4.313	2.624	.625	.438	35.90	4.063	2.300	.750	.600	43.00
5 x 3-1/2	5.563	4.000	4-7/8	4-1/2	4.813	3.364	.375	.318	22.00	-------	-------	-------	-------	-------	4.063	2.728	.750	.636	44.00
5 x 4	5.563	4.500	4-7/8	4-5/8	4.813	3.826	.375	.337	22.50	4.313	3.438	.625	.531	37.57	4.063	3.152	.750	.674	45.00
6 x 2-1/2	6.625	2.875	5-5/8	4-3/4	5.761	2.323	.432	.276	25.20	5.187	2.125	.719	.375	41.83	4.897	1.771	.864	.552	50.40
6 x 3	6.625	3.500	5-5/8	4-7/8	5.761	2.900	.432	.300	25.50	5.187	2.624	.719	.438	42.33	4.897	2.300	.864	.600	51.00
6 x 3-1/2	6.625	4.000	5-5/8	5	5.761	3.364	.432	.318	25.80	------	-------	-------	-------	-------	4.897	2.728	.864	.636	51.60
6 x 4	6.625	4.500	5-5/8	5-1/8	5.761	3.826	.432	.337	26.40	5.187	3.438	.719	.531	43.82	4.897	3.152	.864	.674	52.80
6 x 5	6.625	5.563	5-5/8	5-3/8	5.761	4.813	.432	.375	27.00	5.187	4.313	.719	.625	44.82	4.897	4.063	.864	.750	54.00
8 x3	8.625	3.500	7	6	7.625	2.900	.500	.300	52.08	6.813	2.624	.906	.438	94.00	6.875	2.300	.875	.600	90.70
8 x 3-1/2	8.625	4.000	7	6	7.625	3.364	.500	.318	52.70	-------	-------	------	-------	-------	6.875	2.728	.875	.636	91.80
8 x 4	8.625	4.500	7	6-1/8	7.625	3.826	.500	.337	53.32	6.813	3.438	.906	.531	96.30	6.875	3.152	.875	.674	92.90
8 x 5	8.625	5.563	7	6-3/8	7.625	4.813	.500	.375	54.56	6.813	4.313	.906	.625	98.50	6.875	4.063	.875	.750	95.00
8 x 6	8.625	6.625	7	6-5/8	7.625	5.761	.500	.432	55.80	6.813	5.187	.906	.719	101.00	6.875	4.897	.875	.864	97.20
10 x 4	10.750	4.500	8-1/2	7-1/4	9.750	3.826	.500	.337	93.50	8.500	3.438	1.125	.531	210.00	-------	-------	-------	-------	-------
10 x 5	10.750	5.563	8-1/2	7-1/2	9.750	4.813	.500	.375	94.60	8.500	4.313	1.125	.625	212.00	-------	-------	-------	-------	-------
10 x 6	10.750	6.625	8-1/2	7-5/8	9.750	5.761	.500	.432	96.80	8.500	5.187	1.125	.719	217.00	-------	-------	-------	-------	-------
10 x 8	10.750	8.625	8-1/2	8	9.750	7.625	.500	.500	99.00	8.500	6.813	1.125	.906	222.00	-------	-------	-------	-------	-------
12 x 5	12.750	5.563	10	8-1/2	11.750	4.813	.500	.375	157.00	10.126	4.313	1.312	.625	411.00	-------	-------	-------	-------	-------
12 x 6	12.750	6.625	10	8-5/8	11.750	5.761	.500	.432	159.00	10.126	5.187	1.312	.719	416.00	-------	-------	-------	-------	-------
12 x 8	12.750	8.625	10	9	11.750	7.625	.500	.500	163.00	10.126	6.813	1.312	.906	426.00	-------	-------	-------	-------	-------
12 x 10	12.750	10.750	10	9-1/2	11.750	9.750	.500	.500	166.00	10.126	8.500	1.312	1.125	435.00	-------	-------	-------	-------	-------
14 x 6	14.000	6.625	11	9-3/8	13.000	5.761	.500	.432	178.00	11.188	5.187	1.406	.719	------	-------	-------	-------	-------	-------
14 x 8	14.000	8.625	11	9-3/4	13.000	7.625	.500	.500	180.00	11.188	6.813	1.406	.906	------	-------	-------	-------	-------	-------
14 x 10	14.000	10.750	11	10-1/8	13.000	9.750	.500	.500	185.00	11.188	8.500	1.406	1.125	------	-------	-------	-------	-------	-------
14 x 12	14.000	12.750	11	10-5/8	13.000	11.750	.500	.500	189.00	11.188	10.126	1.406	1.312	------	-------	-------	-------	-------	-------
16 x 6	16.000	6.625	12	10-3/8	15.000	5.761	.500	.432	222.00	12.812	5.187	1.594	.719	------	-------	-------	-------	-------	-------
16 x 8	16.000	8.625	12	10-3/4	15.000	7.625	.500	.500	225.00	12.812	6.813	1.594	.906	------	-------	-------	-------	-------	-------
16 x 10	16.000	10.750	12	11-1/8	15.000	9.750	.500	.500	228.00	12.812	8.500	1.594	1.125	------	-------	-------	-------	-------	-------
16 x 12	16.000	12.750	12	11-5/8	15.000	11.750	.500	.500	233.00	12.812	10.126	1.594	1.312	------	-------	-------	-------	-------	-------
16 x 14	16.000	14.000	12	12	15.000	13.000	.500	.500	238.00	12.812	11.188	1.594	1.406	------	-------	-------	-------	-------	-------
18 x 8	18.000	8.625	13-1/2	11-3/4	17.000	7.625	.500	.500	289.00	14.438	6.813	1.781	.906	------	-------	-------	-------	-------	-------
18 x 10	18.000	10.750	13-1/2	12-1/8	17.000	9.750	.500	.500	292.00	14.438	8.500	1.781	1.125	------	-------	-------	-------	-------	-------
18 x 12	18.000	12.750	13-1/2	12-5/8	17.000	11.750	.500	.500	296.00	14.438	10.126	1.781	1.312	------	-------	-------	-------	-------	-------
18 x 14	18.000	14.000	13-1/2	13	17.000	13.000	.500	.500	303.00	14.438	11.188	1.781	1.406	------	-------	-------	-------	-------	-------
18 x 16	18.000	16.000	13-1/2	13	17.000	15.000	.500	.500	309.00	14.438	12.812	1.781	1.594	------	-------	-------	-------	-------	-------
20 x 8	20.000	8.625	15	12-3/4	19.000	7.625	.500	.500	357.00	16.062	6.813	1.969	.906	------	-------	-------	-------	-------	-------
20 x 10	20.000	10.750	15	13-1/8	19.000	9.750	.500	.500	361.00	16.062	8.500	1.969	1.125	------	-------	-------	-------	-------	-------
20 x 12	20.000	12.750	15	13-5/8	19.000	11.750	.500	.500	365.00	16.062	10.126	1.969	1.312	------	-------	-------	-------	-------	-------
20 x 14	20.000	14.000	15	14	19.000	13.000	.500	.500	370.00	16.062	11.188	1.969	1.406	------	-------	-------	-------	-------	-------
20 x 16	20.000	16.000	15	14	19.000	15.000	.500	.500	378.00	16.062	12.812	1.969	1.594	------	-------	-------	-------	-------	-------
20 x 18	20.000	18.000	15	14-1/2	19.000	17.000	.500	.500	387.00	16.062	14.438	1.969	1.781	------	-------	-------	-------	-------	-------
24 x 10	24.000	10.750	17	15-1/8	23.000	9.750	.500	.500	498.00	19.312	8.500	2.344	1.125	------	-------	-------	-------	-------	-------
24 x 12	24.000	12.750	17	15-5/8	23.000	11.750	.500	.500	504.00	19.312	10.126	2.344	1.312	------	-------	-------	-------	-------	-------
24 x 14	24.000	14.000	17	16	23.000	13.000	.500	.500	510.00	19.312	11.188	2.344	1.406	------	-------	-------	-------	-------	-------
24 x 16	24.000	16.000	17	16	23.000	15.000	.500	.500	516.00	19.312	12.812	2.344	1.594	------	-------	-------	-------	-------	-------
24 x 18	24.000	18.000	17	16-1/2	23.000	17.000	.500	.500	528.00	19.312	14.438	2.344	1.781	------	-------	-------	-------	-------	-------
24 x 20	24.000	20.000	17	17	23.000	19.000	.500	.500	540.00	19.312	16.062	2.344	1.969	------	-------	-------	-------	-------	-------

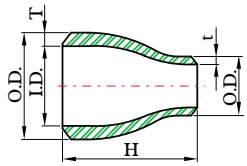


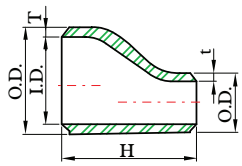


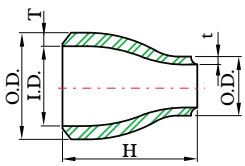












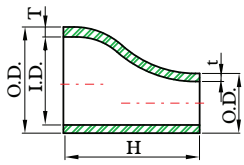
DIMENSIONS

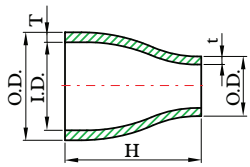
unit : inch / lb

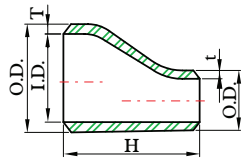
Nominal Pipe Size Large End X Small End	Outside Diameter Large End (O.D.)	Outside Diameter Small End (O.D)	Length (H)	Schedule 5S					Schedule 10S					Schedule 40S				
				Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (T)	Wall Thickness Small End (t)	Approximate Weight * *	Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (T)	Wall Thickness Small End (t)	Approximate Weight * *	Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (T)	Wall Thickness Small End (t)	Approximate Weight * *
3/4 x 3/8	1.050	.675	1-1/2	.920	.545	.065	.065	.15	.884	.545	.083	.065	.20	.824	.493	.113	.091	.27
3/4 x 1/2	1.050	.840	1-1/2	.920	.710	.065	.065	.17	.884	.674	.083	.083	.22	.824	.622	.113	.109	.31
1 x 3/8	1.315	.675	2	1.185	.545	.065	.065	.16	1.097	.545	.109	.065	.21	1.049	.493	.133	.091	.33
1 x 1/2	1.315	.840	2	1.185	.710	.065	.065	.16	1.097	.674	.109	.083	.27	1.049	.622	.133	.109	.34
1 x 3/4	1.315	1.050	2	1.185	.920	.065	.065	.17	1.097	.884	.109	.083	.29	1.049	.824	.133	.113	.36
1-1/4 x 1/2	1.660	.840	2	1.530	.710	.065	.065	.21	1.442	.674	.109	.083	.35	1.380	.622	.140	.109	.46
1-1/4 x 3/4	1.660	1.050	2	1.530	.920	.065	.065	.22	1.442	.884	.109	.083	.39	1.380	.824	.140	.113	.49
1-1/4 x 1	1.660	1.315	2	1.530	1.185	.065	.065	.22	1.442	1.097	.109	.109	.39	1.380	1.049	.140	.133	.49
1-1/2 x 1/2	1.900	.840	2-1/2	1.770	.710	.065	.065	.23	1.682	.674	.109	.083	.37	1.610	.622	.145	.109	.50
1-1/2 x 3/4	1.900	1.050	2-1/2	1.770	.920	.065	.065	.24	1.682	.884	.109	.083	.39	1.610	.824	.145	.113	.52
1-1/2 x 1	1.900	1.315	2-1/2	1.770	1.185	.065	.065	.25	1.682	1.097	.109	.109	.43	1.610	1.049	.145	.133	.58
1-1/2 x 1-1/4	1.900	1.660	2-1/2	1.770	1.530	.065	.065	.27	1.682	1.442	.109	.109	.46	1.610	1.380	.145	.140	.62
2 x 3/4	2.375	1.050	3	2.245	.920	.065	.065	.33	2.157	.884	.109	.083	.56	2.067	.824	.154	.113	.80
2 x 1	2.375	1.315	3	2.245	1.185	.065	.065	.37	2.157	1.097	.109	.109	.62	2.067	1.049	.154	.133	.89
2 x 1-1/4	2.375	1.660	3	2.245	1.530	.065	.065	.40	2.157	1.442	.109	.109	.67	2.067	1.380	.154	.140	.96
2 x 1-1/2	2.375	1.900	3	2.245	1.770	.065	.065	.41	2.157	1.682	.109	.109	.69	2.067	1.610	.154	.145	.99
2-1/2 x 1	2.875	1.315	3-1/2	2.709	1.185	.083	.065	.56	2.635	1.097	.120	.109	.83	2.469	1.049	.203	.133	1.42
2-1/2 x 1-1/4	2.875	1.660	3-1/2	2.709	1.530	.083	.065	.64	2.635	1.442	.120	.109	.95	2.469	1.380	.203	.140	1.61
2-1/2 x 1-1/2	2.875	1.900	3-1/2	2.709	1.770	.083	.065	.67	2.635	1.682	.120	.109	.98	2.469	1.610	.203	.145	1.67
2-1/2 x 2	2.875	2.375	3-1/2	2.709	2.245	.083	.065	.70	2.635	2.157	.120	.109	1.03	2.469	2.067	.203	.154	1.76
3 x 1	3.500	1.315	3-1/2	3.334	1.185	.083	.065	.70	3.260	1.097	.120	.109	1.03	3.068	1.049	.216	.133	1.81
3 x 1-1/4	3.500	1.660	3-1/2	3.334	1.530	.083	.065	.70	3.260	1.442	.120	.109	1.03	3.068	1.380	.216	.140	1.86
3 x 1-1/2	3.500	1.900	3-1/2	3.334	1.770	.083	.065	.78	3.260	1.682	.120	.109	1.13	3.068	1.610	.216	.145	2.07
3 x 2	3.500	2.375	3-1/2	3.334	2.245	.083	.065	.83	3.260	2.157	.120	.109	1.21	3.068	2.067	.216	.154	2.20
3 x 2-1/2	3.500	2.875	3-1/2	3.334	2.709	.083	.083	.90	3.260	2.635	.120	.120	1.30	3.068	2.469	.216	.203	2.38
3-1/2 x 1-1/4	4.000	1.660	4	3.834	1.530	.083	.065	.93	3.760	1.442	.120	.109	1.37	3.548	1.380	.226	.140	2.60
3-1/2 x 1-1/2	4.000	1.900	4	3.834	1.770	.083	.065	.99	3.760	1.682	.120	.109	1.46	3.548	1.610	.226	.145	2.76
3-1/2 x 2	4.000	2.375	4	3.834	2.245	.083	.065	1.06	3.760	2.157	.120	.109	1.57	3.548	2.067	.226	.154	2.97
3-1/2 x 2-1/2	4.000	2.875	4	3.834	2.709	.083	.083	1.17	3.760	2.635	.120	.120	1.72	3.548	2.469	.226	.203	3.25
3-1/2 x 3	4.000	3.500	4	3.834	3.334	.083	.083	1.20	3.760	3.260	.120	.120	1.77	3.548	3.068	.226	.216	3.35
4 x 1-1/2	4.500	1.900	4	4.334	1.770	.083	.065	1.05	4.260	1.682	.120	.109	1.50	4.026	1.610	.237	.145	3.00
4 x 2	4.500	2.375	4	4.334	2.245	.083	.065	1.21	4.260	2.157	.120	.109	1.73	4.026	2.067	.237	.154	3.47
4 x 2-1/2	4.500	2.875	4	4.334	2.709	.083	.083	1.28	4.260	2.635	.120	.120	1.83	4.026	2.469	.237	.203	3.66
4 x 3	4.500	3.500	4	4.334	3.334	.083	.083	1.34	4.260	3.260	.120	.120	1.92	4.026	3.068	.237	.216	3.84
4 x 3-1/2	4.500	4.000	4	4.334	3.834	.083	.083	1.38	4.260	3.760	.120	.120	1.98	4.026	3.548	.237	.226	3.97

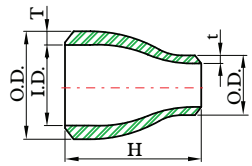


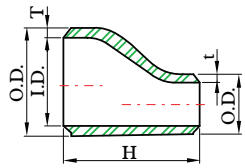


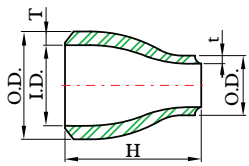












DIMENSIONS

unit : inch / lb

Nominal Pipe Size Large End X Small End	Outside Diameter Large End (O.D.)	Outside Diameter Small End (O.D)	Length (H)	Schedule 80S					Schedule 160					XX Strong Wall				
				Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (T)	Wall Thickness Small End (t)	Approximate Weight **	Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (T)	Wall Thickness Small End (t)	Approximate Weight **	Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (T)	Wall Thickness Small End (t)	Approximate Weight **
3/4x3/8	1.050	.675	1-1/2	.742	.423	.154	.126	.37	---	---	---	---	---	---	---	---	---	---
3/4x1/2	1.050	.840	1-1/2	.742	.546	.154	.147	.40	.612	.466	.219	.187	.55	.434	.252	.308	.294	.80
1x3/8	1.315	.675	2	.957	.423	.179	.126	.42	---	---	---	---	---	---	---	---	---	---
1x1/2	1.315	.840	2	.957	.546	.179	.147	.44	.815	.466	.250	.187	.57	.599	.252	.358	.294	.88
1x3/4	1.315	1.050	2	.957	.742	.179	.154	.49	.815	.612	.250	.219	.61	.599	.434	.358	.308	.98
1-1/4 x 1/2	1.660	.840	2	1.278	.546	.191	.147	.52	1.160	.466	.250	.187	.67	.896	.252	.382	.294	1.04
1-1/4 x 3/4	1.660	1.050	2	1.278	.742	.191	.154	.56	1.160	.612	.250	.219	.73	.896	.434	.382	.308	1.12
1-1/4 x 1	1.660	1.315	2	1.278	.957	.191	.179	.59	1.160	.815	.250	.250	.82	.896	.599	.382	.358	1.18
1-1/2 x 1/2	1.900	.840	2-1/2	1.500	.546	.200	.147	.68	1.338	.466	.281	.187	.95	1.100	.252	.400	.294	1.36
1-1/2 x 3/4	1.900	1.050	2-1/2	1.500	.742	.200	.154	.71	1.338	.612	.281	.219	.99	1.100	.434	.400	.308	1.42
1-1/2 x 1	1.900	1.315	2-1/2	1.500	.957	.200	.179	.74	1.338	.815	.281	.250	1.03	1.100	.599	.400	.358	1.48
1-1/2 x 1-1/4	1.900	1.660	2-1/2	1.500	1.278	.200	.191	.80	1.338	1.160	.281	.250	1.12	1.100	.896	.400	.382	1.60
2 x 3/4	2.375	1.050	3	1.939	.742	.218	.154	1.11	1.689	.612	.343	.219	1.74	1.503	.434	.436	.308	2.22
2x 1	2.375	1.315	3	1.939	.957	.218	.179	1.18	1.689	.815	.343	.250	1.85	1.503	.599	.436	.358	2.36
2x 1-1/4	2.375	1.660	3	1.939	1.278	.218	.191	1.27	1.689	1.160	.343	.250	1.99	1.503	.896	.436	.382	2.54
2x 1-1/2	2.375	1.900	3	1.939	1.500	.218	.200	1.30	1.689	1.338	.343	.281	2.04	1.503	1.100	.436	.400	2.60
2-1/2 x 1	2.875	1.315	3-1/2	2.323	.957	.276	.179	1.92	2.125	.815	.375	.250	2.59	1.771	.599	.552	.358	3.84
2-1/2 x 1-1/4	2.875	1.660	3-1/2	2.323	1.278	.276	.191	1.98	2.125	1.160	.375	.250	2.67	1.771	.896	.552	.382	3.96
2-1/2 x 1-1/2	2.875	1.900	3-1/2	2.323	1.500	.276	.200	2.07	2.125	1.338	.375	.281	2.79	1.771	1.100	.552	.400	4.14
2-1/2 x 2	2.875	2.375	3-1/2	2.323	1.939	.276	.218	2.26	2.125	1.689	.375	.343	3.05	1.771	1.503	.552	.436	4.52
3x1	3.500	1.315	3-1/2	2.900	.957	.300	.179	2.39	2.624	.815	.438	.250	3.32	2.300	.599	.600	.358	4.76
3x1-1/4	3.500	1.660	3-1/2	2.900	1.278	.300	.191	2.51	2.624	1.160	.438	.250	3.63	2.300	.896	.600	.382	5.02
3x1-1/2	3.500	1.900	3-1/2	2.900	1.500	.300	.200	2.66	2.624	1.338	.438	.281	3.85	2.300	1.100	.600	.400	5.32
3x2	3.500	2.375	3-1/2	2.900	1.939	.300	.218	2.85	2.624	1.689	.438	.343	4.13	2.300	1.503	.600	.436	5.70
3x2-1/2	3.500	2.875	3-1/2	2.900	2.323	.300	.276	3.28	2.624	2.125	.438	.375	4.75	2.300	1.771	.600	.552	6.56
3-1/2 x 1-1/4	4.000	1.660	4	3.364	1.278	.318	.191	3.53	---	---	---	---	---	2.728	.896	.636	.382	7.06
3-1/2 x 1-1/2	4.000	1.900	4	3.364	1.500	.318	.200	3.69	---	---	---	---	---	2.728	1.100	.636	.400	7.38
3-1/2 x 2	4.000	2.375	4	3.364	1.939	.318	.218	3.87	---	---	---	---	---	2.728	1.503	.636	.436	7.74
3-1/2 x 2-1/2	4.000	2.875	4	3.364	2.323	.318	.276	4.21	---	---	---	---	---	2.728	1.771	.636	.552	8.42
3-1/2 x 3	4.000	3.500	4	3.364	2.900	.318	.300	4.46	---	---	---	---	---	2.728	2.300	.636	.600	8.92
4x1-1/2	4.500	1.900	4	3.826	1.500	.337	.200	4.18	3.438	1.338	.531	2 81	6.56	3.152	1.100	.674	.400	8.36
4x2	4.500	2.375	4	3.826	1.939	.337	.218	4.31	3.438	1.689	.531	.343	6.76	3.152	1.503	.674	.436	8.62
4x2-1/2	4.500	2.875	4	3.826	2.323	.337	.276	4.83	3.438	2.125	.531	.375	7.58	3.152	1.771	.674	.552	9.66
4x3	4.500	3.500	4	3.826	2.900	.337	.300	5.14	3.438	2.624	.531	.438	8.07	3.152	2.300	.674	.600	10.28
4x3-1/2	4.500	4.000	4	3.826	3.364	.337	.318	5.33	---	---	---	---	---	3.152	2.728	.674	.636	10.66

DIMENSIONS

unit : inch / lb

Nominal Pipe Size Large End X Small End	Outside Diameter Large End (O.D.)	Outside Diameter Small End (O.D)	Length (H)	Schedule 5S					Schedule 10S					Schedule 40S				
				Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (T)	Wall Thickness Small End (t)	Approximate Weight**	Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (T)	Wall Thickness Small End (t)	Approximate Weight**	Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (T)	Wall Thickness Small End (t)	Approximate Weight**
5 x 2	5.563	2.375	5	5.345	2.245	.109	.065	2.33	5.295	2.157	.134	.109	2.83	5.047	2.067	.258	.154	5.55
5 x 2-1/2	5.563	2.875	5	5.345	2.709	.109	.083	2.55	5.295	2.635	.134	.120	3.09	5.047	2.469	.258	.203	6.07
5x3	5.563	3.500	5	5.345	3.334	.109	.083	2.64	5.295	3.260	.134	.120	3.20	5.047	3.068	.258	.216	6.29
5x3-1/2	5.563	4.000	5	5.345	3.834	.109	.083	2.71	5.295	3.760	.134	.120	3.28	5.047	3.548	.258	.226	6.45
5x 4	5.563	4.500	5	5.345	4.334	.109	.083	2.76	5.295	4.260	.134	.120	3.29	5.047	4.026	.258	.237	6.57
6x2-1/2	6.625	2.875	5-1/2	6.407	2.709	.109	.083	3.18	6.357	2.635	.134	.120	3.35	6.065	2.469	.280	.203	8.37
6x3	6.625	3.500	5-1/2	6.407	3.334	.109	.083	3.33	6.357	3.260	.134	.120	4.01	6.065	3.068	.280	.216	8.77
6x3-1/2	6.625	4.000	5-1/2	6.407	3.834	.109	.083	3.39	6.357	3.760	.134	.120	4.20	6.065	3.548	.280	.226	8.93
6x 4	6.625	4.500	5-1/2	6.407	4.334	.109	.083	3.41	6.357	4.260	.134	.120	4.31	6.065	4.026	.280	.237	8.99
6x 5	6.625	5.563	5-1/2	6.407	5.345	.109	.109	3.60	6.357	5.295	.134	.134	4.45	6.065	5.047	.280	.258	9.48
8 x3-1/2	8.625	4.000	6	8.407	3.834	.109	.083	4.65	8.329	3.760	.148	.120	6.48	7.981	3.548	.322	.226	14.10
8x 4	8.625	4.500	6	8.407	4.334	.109	.083	4.76	8.329	4.260	.148	.120	6.64	7.981	4.026	.322	.237	14.44
8x5	8.625	5.563	6	8.407	5.345	.109	.109	4.87	8.329	5.295	.148	.134	6.79	7.981	5.047	.322	.258	14.78
8x6	8.625	6.625	6	8.407	6.407	.109	.109	5.05	8.329	6.357	.148	.134	7.04	7.981	6.065	.322	.280	15.31
10x 4	10.750	4.500	7	10.482	4.334	.134	.083	8.34	10.420	4.260	.165	.120	10.43	10.020	4.026	.365	.237	23.19
10x5	10.750	5.563	7	10.482	5.345	.134	.109	8.62	10.420	5.295	.165	.134	10.78	10.020	5.047	.365	.258	23.96
10x6	10.750	6.625	7	10.482	6.407	.134	.109	8.82	10.420	6.357	.165	.134	11.03	10.020	6.065	.365	.280	24.52
10x8	10.750	8.625	7	10.482	8.407	.134	.109	9.17	10.420	8.329	.165	.148	11.46	10.020	7.981	.365	.322	25.48
12x5	12.750	5.563	8	12.438	5.345	.156	.109	13.72	12.390	5.295	.180	.134	16.07	12.000	5.047	.375	.258	33.48
12x6	12.750	6.625	8	12.438	6.407	.156	.109	14.01	12.390	6.357	.180	.134	16.38	12.000	6.065	.375	.280	34.13
12x8	12.750	8.625	8	12.438	8.407	.156	.109	14.45	12.390	8.329	.180	.148	16.91	12.000	7.981	.375	.322	35.24
12x10	12.750	10.750	8	12.438	10.482	.156	.134	15.03	12.390	10.420	.180	.165	17.60	12.000	10.020	.375	.365	36.67
14x6	14.000	6.625	13	13.688	6.407	.156	.109	23.78	13.624	6.357	.188	.134	29.00	13.250	6.065	.375	.280	58.00
14x8	14.000	8.625	13	13.688	8.407	.156	.109	25.10	13.624	8.329	.188	.148	30.61	13.250	7.981	.375	.322	61.22
14x10	14.000	10.750	13	13.688	10.482	.156	.134	26.05	13.624	10.420	.188	.165	31.77	13.250	10.020	.375	.365	63.55
14x12	14.000	12.750	13	13.688	12.438	.156	.156	27.64	13.624	12.390	.188	.180	33.71	13.250	12.000	.375	.375	67.42
16x8	16.000	8.625	14	15.670	8.407	.165	.109	32.39	15.624	8.329	.188	.148	36.81	15.250	7.981	.375	.322	73.62
16x10	16.000	10.750	14	15.670	10.482	.165	.134	34.37	15.624	10.420	.188	.165	39.06	15.250	10.020	.375	.365	78.12
16x12	16.000	12.750	14	15.670	12.438	.165	.156	35.60	15.624	12.390	.188	.180	40.45	15.250	12.000	.375	.375	80.91
16x14	16.000	14.000	14	15.670	13.688	.165	.156	36.48	15.624	13.624	.188	.188	41.46	15.250	13.250	.375	.375	82.92
18x10	18.000	10.750	15	17.670	10.482	.165	.134	40.78	17.624	10.420	.188	.165	46.34	17.250	10.020	.375	.365	92.69
18x12	18.000	12.750	15	17.670	12.438	.165	.156	41.66	17.624	12.390	.188	.180	47.35	17.250	12.000	.375	.375	94.70
18x14	18.000	14.000	15	17.670	13.688	.165	.156	42.48	17.624	13.624	.188	.188	48.28	17.250	13.250	.375	.375	96.56
18x16	18.000	16.000	15	17.670	15.670	.165	.165	43.64	17.624	15.624	.188	.188	49.60	17.250	15.250	.375	.375	99.20
20x12	20.000	12.750	20	19.624	12.438	.188	.156	71.50	19.564	12.390	.218	.180	71.50	19.250	12.000	.375	.375	143.00
20x14	20.000	14.000	20	19.624	13.688	.188	.156	72.50	19.564	13.624	.218	.188	84.10	19.250	13.250	.375	.375	145.00
20x16	20.000	16.000	20	19.624	15.670	.188	.165	73.00	19.564	15.624	.218	.188	84.68	19.250	15.250	.375	.375	146.00
20x18	20.000	18.000	20	19.624	17.670	.188	.165	75.50	19.564	17.624	.218	.188	87.58	19.250	17.250	.375	.375	151.00
24x16	24.000	16.000	20	23.564	15.670	.218	.165	98.02	23.500	15.624	.250	.188	98.02	23.250	15.250	.375	.375	169.00
24x18	24.000	18.000	20	23.564	17.670	.218	.165	100.00	23.500	17.624	.250	.188	100.00	23.250	17.250	.375	.375	173.00
24x20	24.000	20.000	20	23.564	19.624	.218	.188	103.00	23.500	19.564	.250	.218	103.00	23.250	19.250	.375	.375	179.00

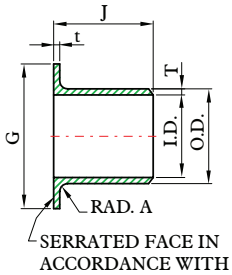
DIMENSIONS

unit : inch / lb

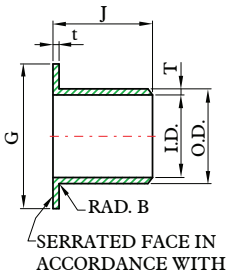
Nominal Pipe Size Large End X Small End	Outside Diameter Large End (O.D.)	Outside Diameter Small End (O.D)	Length (H)	Schedule 80S					Schedule 160					XX Strong Wall				
				Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (T)	Wall Thickness Small End (t)	Approximate Weight **	Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (T)	Wall Thickness Small End (t)	Approximate Weight **	Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (T)	Wall Thickness Small End (t)	Approximate Weight **
5 x 2	5.563	2.375	5	4.813	1.939	.375	.218	7.25	4.313	1.689	.625	.343	12.03	4.063	1.503	.750	.436	14.50
5 x 2-1/2	5.563	2.875	5	4.813	2.323	.375	.276	7.93	4.313	2.125	.625	.375	13.16	4.063	1.771	.750	.552	15.86
5x3	5.563	3.500	5	4.813	2.900	.375	.300	8.55	4.313	2.624	.625	.438	14.19	4.063	2.300	.750	.600	17.10
5x3-1/2	5.563	4.000	5	4.813	3.364	.375	.318	8.80	--------	--------	--------	--------	--------	4.063	2.728	.750	.636	17.60
5x 4	5.563	4.500	5	4.813	3.826	.375	.337	9.11	4.313	3.438	.625	.531	15.12	4.063	3.152	.750	.674	18.22
6x2-1/2	6.625	2.875	5-1/2	5.761	2.323	.432	.276	10.88	5.187	2.125	.719	.375	18.06	4.897	1.771	.864	.552	21.76
6x3	6.625	3.500	5-1/2	5.761	2.900	.432	.300	12.15	5.187	2.624	.719	.438	20.17	4.897	2.300	.864	.600	24.30
6x3-1/2	6.625	4.000	5-1/2	5.761	3.364	.432	.318	12.67	--------	--------	--------	--------	--------	4.897	2.728	.864	.636	25.34
6x 4	6.625	4.500	5-1/2	5.761	3.826	.432	.337	13.14	5.187	3.438	.719	.531	21.81	4.897	3.152	.864	.674	26.28
6x 5	6.625	5.563	5-1/2	5.761	4.813	.432	.375	13.79	5.187	4.313	.719	.625	22.89	4.897	4.063	.864	.750	27.58
8 x3-1/2	8.625	4.000	6	7.625	3.364	.500	.318	17.61	--------	--------	--------	--------	--------	6.875	2.728	.875	.636	30.81
8x 4	8.625	4.500	6	7.625	3.826	.500	.337	20.36	6.813	3.438	.906	.531	36.85	6.875	3.152	.875	.674	35.63
8x5	8.625	5.563	6	7.625	4.813	.500	.375	21.32	6.813	4.313	.906	.625	38.50	6.875	4.063	.875	.750	37.31
8x6	8.625	6.625	6	7.625	5.761	.500	.432	22.32	6.813	5.187	.906	.719	40.30	6.875	4.897	.875	.864	39.06
10x 4	10.750	4.500	7	9.750	3.826	.500	.337	27.68	8.500	3.438	1.125	.531	62.30	--------	--------	--------	--------	--------
10x5	10.750	5.563	7	9.750	4.813	.500	.375	31.40	8.500	4.313	1.125	.625	70.60	--------	--------	--------	--------	--------
10x6	10.750	6.625	7	9.750	5.761	.500	.432	32.61	8.500	5.187	1.125	.719	73.30	--------	--------	--------	--------	--------
10x8	10.750	8.625	7	9.750	7.625	.500	.500	34.34	8.500	6.813	1.125	.906	77.10	--------	--------	--------	--------	--------
12x5	12.750	5.563	8	11.750	4.813	.500	.375	42.78	10.126	4.313	1.312	.625	112.00	--------	--------	--------	--------	--------
12x6	12.750	6.625	8	11.750	5.761	.500	.432	44.42	10.126	5.187	1.312	.719	116.00	--------	--------	--------	--------	--------
12x8	12.750	8.625	8	11.750	7.625	.500	.500	46.06	10.126	6.813	1.312	.906	120.00	--------	--------	--------	--------	--------
12x10	12.750	10.750	8	11.750	9.750	.500	.500	47.70	10.126	8.500	1.312	1.125	124.00	--------	--------	--------	--------	--------
14x6	14.000	6.625	13	13.000	5.761	.500	.432	77.81	11.188	5.187	1.406	.719	---------	--------	--------	--------	--------	--------
14x8	14.000	8.625	13	13.000	7.625	.500	.500	81.22	11.188	6.813	1.406	.906	---------	--------	--------	--------	--------	--------
14x10	14.000	10.750	13	13.000	9.750	.500	.500	85.40	11.188	8.500	1.406	1.125	---------	--------	--------	--------	--------	--------
14x12	14.000	12.750	13	13.000	11.750	.500	.500	88.97	11.188	10.126	1.406	1.312	---------	--------	--------	--------	--------	--------
16x8	16.000	8.625	14	15.000	7.625	.500	.500	97.49	12.812	6.813	1.594	.906	---------	--------	--------	--------	--------	--------
16x10	16.000	10.750	14	15.000	9.750	.500	.500	102.00	12.812	8.500	1.594	1.125	---------	--------	--------	--------	--------	--------
16x12	16.000	12.750	14	15.000	11.750	.500	.500	105.00	12.812	10.126	1.594	1.312	---------	--------	--------	--------	--------	--------
16x14	16.000	14.000	14	15.000	13.000	.500	.500	108.00	12.812	11.188	1.594	1.406	---------	--------	--------	--------	--------	--------
18x10	18.000	10.750	15	17.000	9.750	.500	.500	120.00	14.438	8.500	1.781	1.125	---------	--------	--------	--------	--------	--------
18x12	18.000	12.750	15	17.000	11.750	.500	.500	126.00	14.438	10.126	1.781	1.312	---------	--------	--------	--------	--------	--------
18x14	18.000	14.000	15	17.000	13.000	.500	.500	127.00	14.438	11.188	1.781	1.406	---------	--------	--------	--------	--------	--------
18x16	18.000	16.000	15	17.000	15.000	.500	.500	130.00	14.438	12.812	1.781	1.594	---------	--------	--------	--------	--------	--------
20x12	20.000	12.750	20	19.000	11.750	.500	.500	189.00	16.062	10.126	1.969	1.312	---------	--------	--------	--------	--------	--------
20x14	20.000	14.000	20	19.000	13.000	.500	.500	192.00	16.062	11.188	1.969	1.406	---------	--------	--------	--------	--------	--------
20x16	20.000	16.000	20	19.000	15.000	.500	.500	195.00	16.062	12.812	1.969	1.594	---------	--------	--------	--------	--------	--------
20x18	20.000	18.000	20	19.000	17.000	.500	.500	198.00	16.062	14.438	1.969	1.781	---------	--------	--------	--------	--------	--------
24x16	24.000	16.000	20	23.000	15.000	.500	.500	226.00	19.312	12.812	2.344	1.594	---------	--------	--------	--------	--------	--------
24x18	24.000	18.000	20	23.000	17.000	.500	.500	230.00	19.312	14.438	2.344	1.781	---------	--------	--------	--------	--------	--------
24x20	24.000	20.000	20	23.000	19.000	.500	.500	234.00	19.312	16.062	2.344	1.969	---------	--------	--------	--------	--------	--------



Stub Ends are supplied in Type A or Type B.
Type A is more readily available.



TYPE A



TYPE B

Schedules 5S and 10S Stub Ends are usually supplied in Short Lengths; Long Lengths are available on special order.
Schedule 40S Stub Ends are supplied in either Short or Long Lengths.

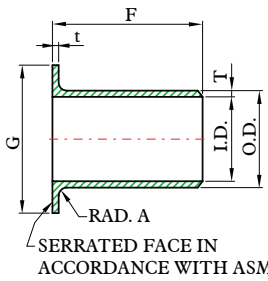
DIMENSIONS

unit : inch / lb

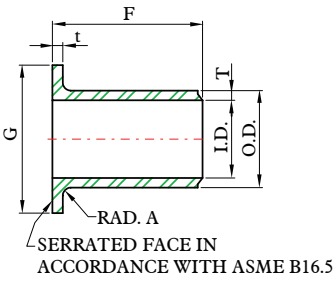
Nominal Pipe Size	Outside diameter (O.D.)	Diameter (G)	Length (J)		Radius (A)		Schedule 40S			
			Short	Long	A	B	Inside Diameter (I.D.)	Wall Thickness (T)	Lap Thickness (t)	Approx. weight **
1/2	.840	1.375	2	3	1/8	1/32	.622	.109	.109	.19
3/4	1.050	1.688	2	3	1/8	1/32	.824	.113	.113	.26
1	1.315	2.000	2	4	1/8	1/32	1.049	.133	.133	.38
1-1/4	1.660	2.500	2	4	3/16	1/32	1.380	.140	.140	.55
1-1/2	1.900	2.875	2	4	1/4	1/32	1.610	.145	.145	.69
2	2.375	3.625	2-1/2	6	5/16	1/32	2.067	.154	.154	1.35
2-1/2	2.875	4.125	2-1/2	6	5/16	1/32	2.469	.203	.203	1.77
3	3.500	5.000	2-1/2	6	3/8	1/32	3.068	.216	.216	2.50
3-1/2	4.000	5.500	3	6	3/8	1/32	3.548	.226	.226	3.58
4	4.500	6.188	3	6	7/16	1/32	4.026	.237	.237	4.13
5	5.563	7.313	3	8	7/16	1/16	5.047	.258	.258	6.15
6	6.625	8.500	3-1/2	8	1/2	1/16	6.065	.280	.280	7.88
8	8.625	10.625	4	8	1/2	1/16	7.981	.322	.322	13.38
10	10.750	12.750	5	10	1/2	1/16	10.020	.365	.365	22.20
12	12.750	15.000	6	10	1/2	1/16	12.000	.375	.375	31.50
14	14.000	16.250	6	12	1/2	1/16	13.250	.375	.375	37.80
16	16.000	18.500	6	12	1/2	1/16	15.250	.375	.375	45.00
18	18.000	21.000	6	12	1/2	1/16	17.250	.375	.375	60.00
20	20.000	23.000	6	12	1/2	1/16	19.250	.375	.375	66.00
24	24.000	27.250	6	12	1/2	1/16	23.250	.375	.375	85.00



All schedules of Long (ANSI Length)
Stub Ends are usually supplied in Type A.



TYPE A



TYPE A

Schedules 80S 160 and XX Strong Wall
Stub Ends are supplied in Long Lengths.
Short Lengths are available on special order.

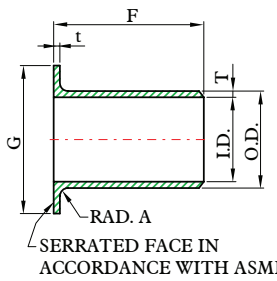
DIMENSIONS

unit : inch / lb

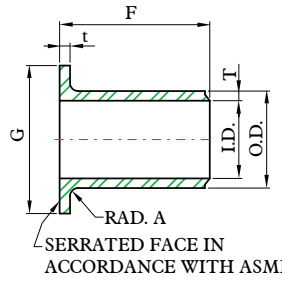
Nominal Pipe Size	Outside diameter (O.D.)	Diameter (G)	Length (J)	Radius (A)	Schedule 40S				Schedule 80S			
					Inside Diameter (I.D.)	Wall Thickness (T)	Lap Thickness (t)	Approx. weight**	Inside Diameter (I.D.)	Wall Thickness (T)	Lap Thickness (t)	Approx. weight**
1/2	.840	1.375	3	1/8	.622	.109	.109	.26	.546	.147	.147	.34
3/4	1.050	1.688	3	1/8	.824	.113	.113	.36	.742	.154	.154	.47
1	1.315	2.000	4	1/8	1.049	.133	.133	.68	.957	.179	.179	.88
1-1/4	1.660	2.500	4	3/16	1.380	.140	.140	.97	1.278	.191	.191	1.26
1-1/2	1.900	2.875	4	1/4	1.610	.145	.145	1.20	1.500	.200	.200	1.49
2	2.375	3.625	6	5/16	2.067	.154	.154	2.25	1.939	.218	.218	3.05
2-1/2	2.875	4.125	6	5/16	2.469	.203	.203	3.40	2.323	.276	.276	4.40
3	3.500	5.000	6	3/8	3.068	.216	.216	4.65	2.900	.300	.300	6.50
3-1/2	4.000	5.500	6	3/8	3.548	.226	.226	5.89	3.364	.318	.318	7.75
4	4.500	6.188	6	7/16	4.026	.237	.237	6.83	3.826	.337	.337	9.65
5	5.563	7.313	8	7/16	5.047	.258	.258	11.88	4.813	.375	.375	16.33
6	6.625	8.500	8	1/2	6.065	.280	.280	15.18	5.761	.432	.432	22.63
8	8.625	10.625	8	1/2	7.981	.322	.322	23.81	7.625	.500	.500	34.12
10	10.750	12.750	10	1/2	10.020	.365	.365	39.50	9.750	.500	.500	54.00
12	12.750	15.000	10	1/2	12.000	.375	.375	48.50	11.750	.500	.500	64.50
14	14.000	16.250	12	1/2	13.250	.375	.375	63.00	13.000	.500	.500	84.00
16	16.000	18.500	12	1/2	15.250	.375	.375	73.50	15.000	.500	.500	98.00
18	18.000	21.000	12	1/2	17.250	.375	.375	99.00	17.000	.500	.500	136.00
20	20.000	23.000	12	1/2	19.250	.375	.375	108.00	19.000	.500	.500	157.00
24	24.000	27.250	12	1/2	23.250	.375	.375	139.00	23.000	.500	.500	178.00



All schedules of Long (ANSI Length)
Stub Ends are usually supplied in Type A.



TYPE A



TYPE A

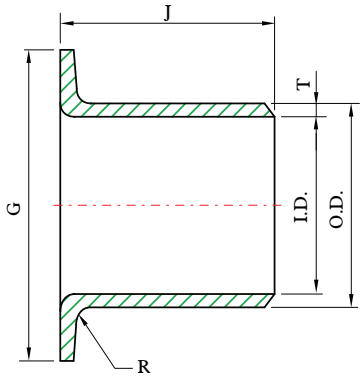
Schedules 80S 160 and XX Strong Wall
Stub Ends are supplied in Long Lengths.
Short Lengths are available on special order.

DIMENSIONS

unit : inch / lb

Nominal Pipe Size	Outside diameter (O.D.)	Diameter (G)	Length (F)		Radius (A)	Schedule 160				XX Strong Wall			
			Short	Long		Inside Diameter (I.D.)	Wall Thickness (T)	Lap Thickness (t)	Approx. weight **	Inside Diameter (I.D.)	Wall Thickness (T)	Lap Thickness (t)	Approx. weight **
1/2	.840	1.375	2	3	1/8	.464	.188	.187	.43	.252	.294	.294	.68
3/4	1.050	1.688	2	3	1/8	.612	.219	.218	.66	.434	.308	.308	.94
1	1.315	2.000	2	4	1/8	.815	.250	.250	1.22	.599	.358	.358	1.76
1-1/4	1.660	2.500	2	4	3/16	1.160	.250	.250	1.64	.896	.382	.382	2.52
1-1/2	1.900	2.875	2	4	1/4	1.338	.281	.281	2.08	1.100	.400	.400	2.98
2	2.375	3.625	2-1/2	6	5/16	1.689	.343	.343	4.79	1.503	.436	.436	6.10
2-1/2	2.875	4.125	2-1/2	6	5/16	2.125	.375	.375	5.94	1.771	.552	.552	8.80
3	3.500	5.000	2-1/2	6	3/8	2.624	.438	.438	7.10	2.300	.600	.600	9.80
3-1/2	4.000	5.500	3	6	3/8	------	-----	-----	------	2.728	.636	.636	15.50
4	4.500	6.188	3	6	7/16	3.438	.531	.531	15.15	3.152	.674	.674	19.30
5	5.563	7.313	3	8	7/16	4.313	.625	.625	27.10	4.063	.750	.750	32.66
6	6.625	8.500	3-1/2	8	1/2	5.187	.719	.718	37.56	4.897	.864	.864	45.26
8	8.625	10.625	4	8	1/2	6.813	.906	.906	61.75	6.875	.875	.875	59.71
10	10.750	12.750	5	10	1/2	8.500	1.125	1.125	121.50	------	------	-----	------
12	12.750	15.000	6	10	1/2	10.126	1.312	1.312	169.00	------	-----	-----	------





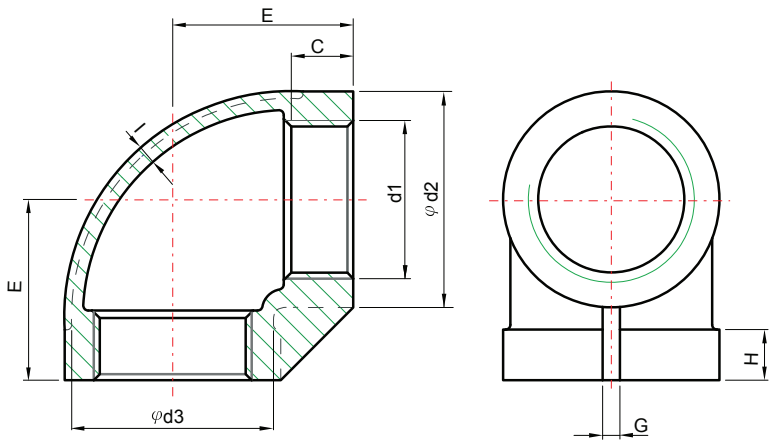
TYPE C

DIMENSIONS

unit : inch / lb

Nominal Pipe Size	Outside diameter (O.D.)	Diameter (G)	Length (J)	Radius (R)	Schedule 5S			Schedule 10S		
					Inside Diameter (I.D.)	Wall Thickness (T)	Approx. weight **	Inside Diameter (I.D.)	Wall Thickness (T)	Approx. weight **
1/2	.840	1.375	2	1/32	.710	.065	.13	.674	.083	.14
3/4	1.050	1.688	2	1/32	.920	.065	.14	.884	.083	.18
1	1.315	2.000	2	1/32	1.185	.065	.19	1.097	.109	.31
1-1/4	1.660	2.500	2	1/32	1.530	.065	.21	1.442	.109	.42
1-1/2	1.900	2.875	2	1/32	1.770	.065	.29	1.682	.109	.44
2	2.375	3.625	2-1/2	1/32	2.245	.065	.44	2.157	.109	.81
2-1/2	2.875	4.125	2-1/2	1/32	2.709	.083	.75	2.635	.120	1.00
3	3.500	5.000	2-1/2	1/32	3.334	.083	.94	3.260	.120	1.25
4	4.500	6.188	3	1/32	4.334	.083	1.38	4.260	.120	1.88
5	5.563	7.313	3	1/16	5.345	.109	2.06	5.295	.134	2.63
6	6.625	8.500	3-1/2	1/16	6.407	.109	2.75	6.357	.134	3.56
8	8.625	10.625	4	1/16	8.407	.109	3.88	8.329	.148	6.19
10	10.750	12.750	5	1/16	10.482	.134	7.48	10.420	.165	9.46
12	12.750	15.000	6	1/16	12.438	.156	15.00	12.390	.180	16.07
14	14.000	16.250	6	1/16	13.688	.156	19.20	13.624	.188	23.10
16	16.000	18.500	6	1/16	15.670	.165	23.90	15.624	.188	27.20
18	18.000	21.000	6	1/16	17.670	.165	28.50	17.624	.188	32.40
20	20.000	23.000	6	1/16	19.624	.188	36.30	19.564	.218	47.70
24	24.000	27.250	6	1/16	23.564	.218	56.00	23.500	.250	58.27





DESIGN FEATURES:

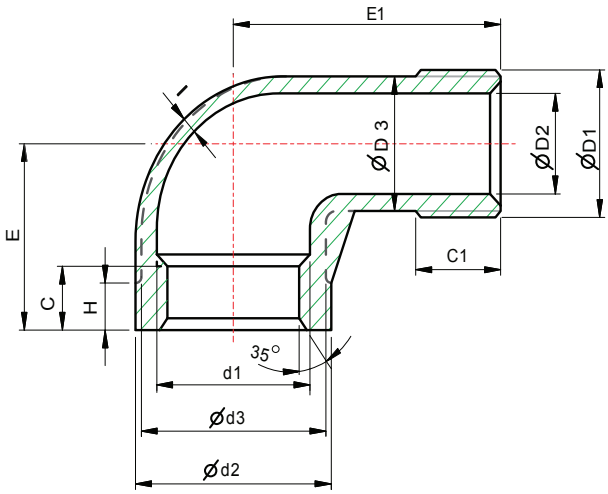
- THREAD: NPT
- CF8 (304) & CF8M (316)

DIMENSIONS

unit : inch

SIZE	d1	d2	d3	C	E	G	H	I
1/8"	1/8"	0.63	0.53	0.24	0.67	0.14	0.24	0.08
1/4"	1/4"	0.75	0.61	0.37	0.77	0.16	0.24	0.08
3/8"	3/8"	0.89	0.77	0.38	0.94	0.16	0.31	0.10
1/2"	1/2"	1.10	1.02	0.39	1.14	0.12	0.30	0.08
3/4"	3/4"	1.34	1.24	0.41	1.26	0.12	0.35	0.08
1"	1"	1.69	1.61	0.55	1.46	0.16	0.39	0.10
1 1/4"	1 1/4"	2.01	1.89	0.63	1.71	0.20	0.43	0.10
1 1/2"	1 1/2"	2.32	2.22	0.61	1.89	0.20	0.47	0.10
2"	2"	2.83	2.68	0.71	2.19	0.22	0.51	0.10
2 1/2"	2 1/2"	3.54	3.39	0.87	2.64	0.35	0.55	0.12
3"	3"	4.17	4.02	0.94	3.03	0.39	0.59	0.14
4"	4"	5.20	5.00	1.02	3.78	0.33	0.65	0.14





DESIGN FEATURES:

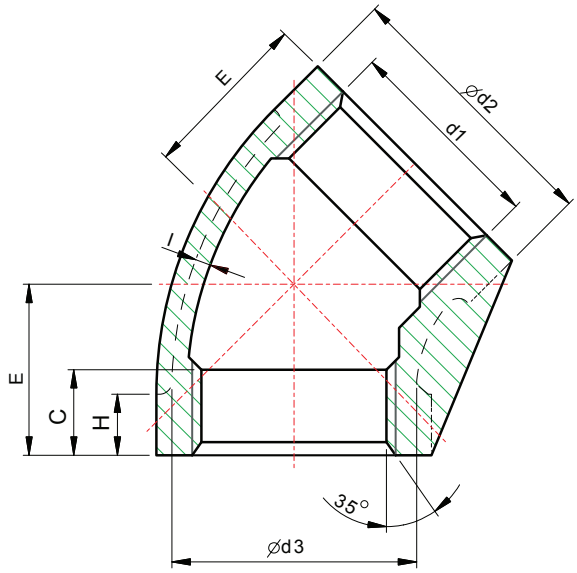
- THREAD: NPT
- CF8 (304) & CF8M (316)

DIMENSIONS

unit : inch

SIZE	d 1	d 2	d 3	C	E	H	D 1	D 2	D 3	C 1	E1	l
1/8"	1/8"	0.59	0.47	0.28	0.71	0.20	1/8"	0.20	0.35	0.31	1.02	0.08
1/4"	1/4"	0.71	0.59	0.41	0.87	0.20	1/4"	0.24	0.47	0.43	1.22	0.08
3/8"	3/8"	0.89	0.79	0.41	0.87	0.24	3/8"	0.35	0.55	0.43	1.54	0.08
1/2"	1/2"	1.10	1.02	0.39	1.06	0.31	1/2"	0.55	0.75	0.51	1.61	0.08
3/4"	3/4"	1.42	1.30	0.47	1.30	0.35	3/4"	0.79	0.98	0.51	1.85	0.08
1"	1"	1.77	1.65	0.55	1.46	0.35	1"	0.98	1.22	0.73	2.09	0.08
1 1/4"	1 1/4"	2.05	1.97	0.67	1.73	0.43	1 1/4"	1.30	1.56	0.75	2.48	0.10
1 1/2"	1 1/2"	2.36	2.24	0.67	1.85	0.43	1 1/2"	1.57	1.83	0.75	2.72	0.10
2"	2"	2.87	2.72	0.71	2.32	0.51	2"	1.97	2.24	0.85	3.15	0.10
2 1/2"	2 1/2"	3.54	3.39	0.91	2.60	0.59	2 1/2"	2.24	2.60	0.94	4.13	0.16
3"	3"	4.17	3.98	0.94	3.09	0.65	3"	2.91	3.19	1.14	4.45	0.16
4"	4"	5.14	5.04	1.02	3.86	0.77	4"	3.82	4.17	1.34	5.12	0.16





DESIGN FEATURES:

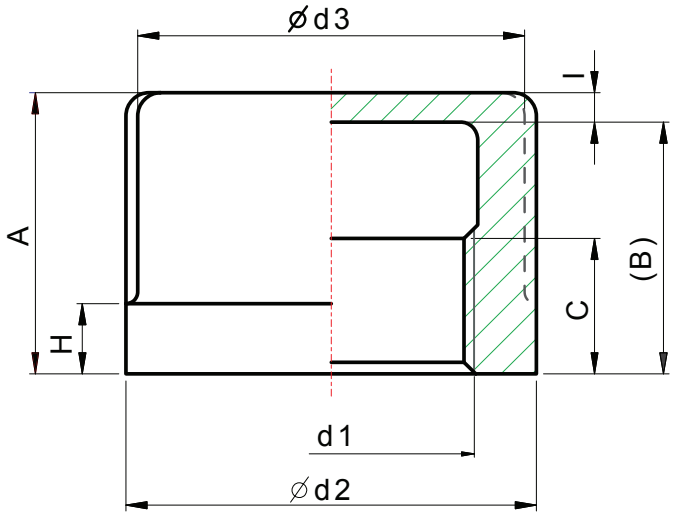
- THREAD: NPT
- CF8 (304) & CF8M (316)

DIMENSIONS

unit : inch

SIZE	d 1	d 2	d 3	C	E	H	I
1/8"	1/8"	0.63	0.53	0.28	0.63	0.24	0.08
1/4"	1/4"	0.75	0.61	0.37	0.67	0.26	0.08
3/8"	3/8"	0.89	0.77	0.38	0.75	0.24	0.08
1/2"	1/2"	1.18	1.10	0.39	0.83	0.31	0.10
3/4"	3/4"	1.42	1.34	0.43	0.94	0.39	0.10
1"	1"	1.77	1.57	0.55	1.10	0.39	0.10
1 1/4"	1 1/4"	2.22	1.91	0.61	1.30	0.43	0.10
1 1/2"	1 1/2"	2.30	2.20	0.61	1.42	0.49	0.10
2"	2"	2.83	2.68	0.65	1.65	0.51	0.10
2 1/2"	2 1/2"	3.54	3.43	0.87	1.93	0.55	0.16
3"	3"	4.17	4.00	0.98	2.13	0.59	0.16
4"	4"	6.24	4.25	0.98	2.56	0.59	0.16





DESIGN FEATURES:

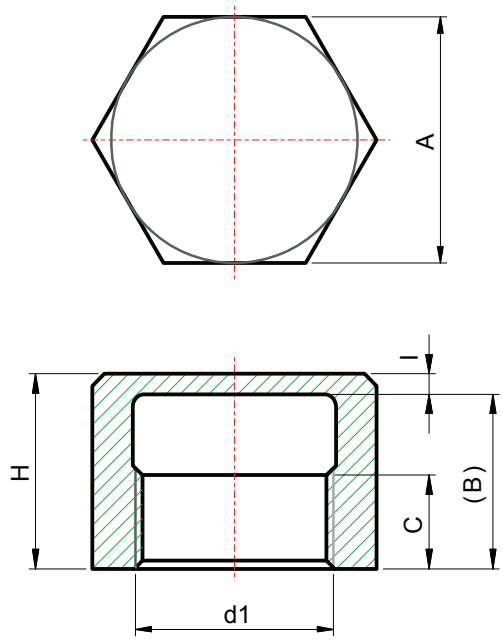
- THREAD: NPT
- CF8 (304) & CF8M (316)

DIMENSIONS

unit : inch

SIZE	d 1	d 2	d 3	A	(B)	C	H	I
1/8"	1/8"	0.63	0.53	0.59	0.47	0.24	0.26	0.12
1/4"	1/4"	0.79	0.71	0.87	0.75	0.37	0.26	0.12
3/8"	3/8"	1.00	0.93	0.96	0.87	0.38	0.30	0.10
1/2"	1/2"	1.18	1.10	1.10	0.98	0.39	0.30	0.12
3/4"	3/4"	1.42	1.30	1.10	0.98	0.39	0.33	0.12
1"	1"	1.75	1.63	1.26	1.14	0.55	0.35	0.12
1 1/4"	1 1/4"	2.09	1.97	1.28	1.12	0.65	0.43	0.16
1 1/2"	1 1/2"	2.36	2.24	1.42	1.22	0.65	0.43	0.20
2"	2"	2.91	2.76	1.54	1.34	0.71	0.47	0.20
2 1/2"	2 1/2"	3.58	3.39	1.69	1.54	0.87	0.55	0.24
3"	3"	4.33	4.09	1.87	1.63	0.91	0.55	0.24
4"	4"	5.47	5.24	2.05	1.77	1.02	0.59	0.24





DESIGN FEATURES:

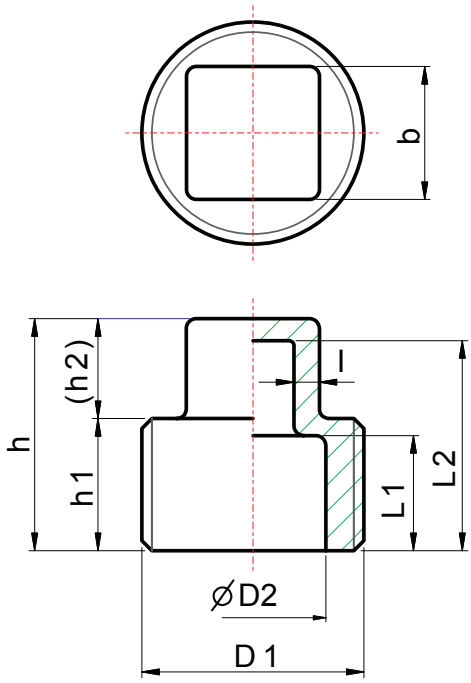
- THREAD: NPT
- CF8 (304) & CF8M (316)

DIMENSIONS

unit : inch

SIZE	d1	A	(B)	C	H	I
1/8"	1/8"	0.63	0.51	0.24	0.63	0.12
1/4"	1/4"	0.71	0.67	0.37	0.79	0.12
3/8"	3/8"	0.79	0.71	0.38	0.83	0.12
1/2"	1/2"	1.02	0.77	0.39	0.89	0.12
3/4"	3/4"	1.26	0.79	0.39	0.91	0.12
1"	1"	1.54	0.91	0.53	1.02	0.12
1 1/4"	1 1/4"	1.93	0.96	0.63	1.12	0.16
1 1/2"	1 1/2"	2.17	1.10	0.67	1.26	0.16
2"	2"	2.60	1.26	0.91	1.38	0.12
2 1/2"	2 1/2"	3.35	1.42	0.91	1.65	0.24
3"	3"	3.94	1.61	0.98	1.79	0.24
4"	4"	4.92	1.93	1.02	2.17	0.24





DESIGN FEATURES:

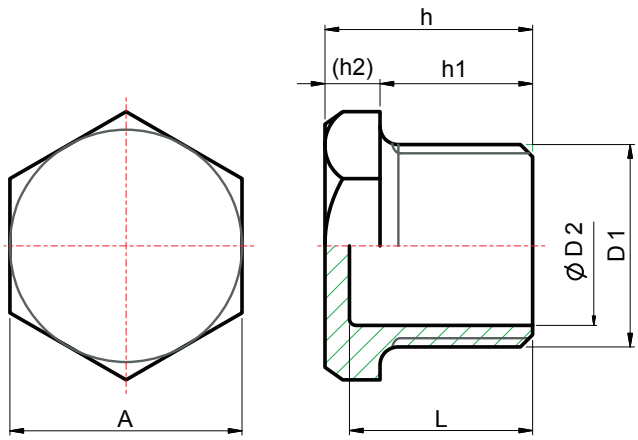
- THREAD: NPT
- CF8 (304) & CF8M (316)

DIMENSIONS

unit : inch

SIZE	b	D1	D2	L1	L2	h	h1	(h2)	l
1/8"	0.28	1/8"	-	-	-	0.71	0.39	0.31	-
1/4"	0.35	1/4"	-	-	-	0.75	0.39	0.35	-
3/8"	0.39	3/8"	-	-	-	0.79	0.43	0.35	-
1/2"	0.51	1/2"	0.57	0.47	0.83	0.91	0.51	0.39	0.10
3/4"	0.71	3/4"	0.71	0.57	1.02	1.18	0.71	0.47	0.10
1"	0.75	1"	0.98	0.71	1.22	1.30	0.83	0.47	0.10
1 1/4"	0.91	1 1/4"	1.34	0.75	1.42	1.54	0.91	0.63	0.10
1 1/2"	1.02	1 1/2"	1.54	0.83	1.42	1.57	0.91	0.67	0.10
2"	1.14	2"	1.97	0.91	1.65	1.77	1.02	0.75	0.10
2 1/2"	1.57	2 1/2"	2.36	0.94	1.61	1.89	1.10	0.79	0.12
3"	1.73	3"	2.95	1.06	1.97	2.13	1.26	0.87	0.12
4"	2.32	4"	3.98	1.22	2.17	2.32	1.46	0.87	0.12





DESIGN FEATURES:

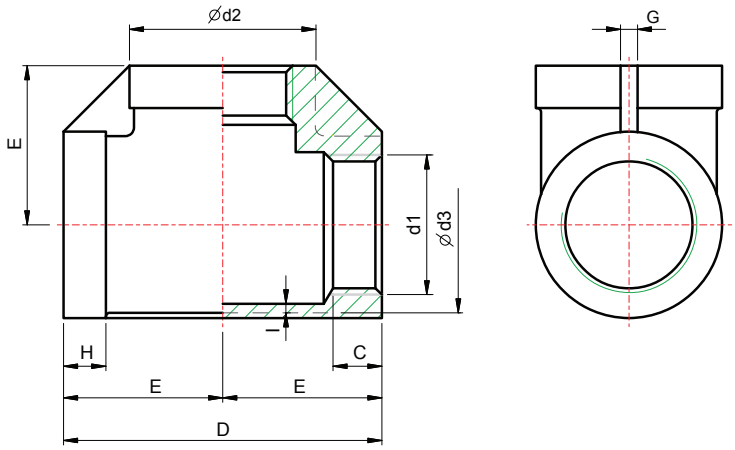
- THREAD: NPT
- CF8 (304) & CF8M (316)

DIMENSIONS

unit : inch

SIZE	D 1	D 2	L	A	h	h 1	(h 2)
1/8"	1/8"	——	——	0.55	0.71	0.43	0.24
1/4"	1/4"	——	——	0.67	0.91	0.67	0.24
3/8"	3/8"	0.35	0.81	0.83	0.93	0.67	0.26
1/2"	1/2"	0.57	0.98	1.02	1.10	0.79	0.31
3/4"	3/4"	0.71	0.98	1.26	1.10	0.79	0.31
1"	1"	1.02	1.18	1.50	1.34	0.98	0.35
1 1/4"	1 1/4"	1.34	1.22	1.81	1.38	0.98	0.39
1 1/2"	1 1/2"	1.52	1.30	2.05	1.42	0.98	0.43
2"	2"	1.97	1.34	2.56	1.48	1.02	0.45
2 1/2"	2 1/2"	2.36	1.38	3.15	1.57	1.10	0.47
3"	3"	2.95	1.54	3.74	1.77	1.26	0.51
4"	4"	3.94	1.77	4.72	2.01	1.46	0.55





DESIGN FEATURES:

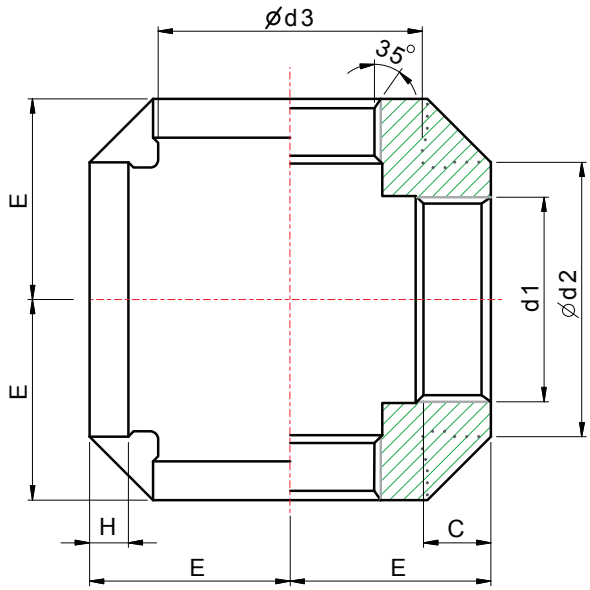
- THREAD: NPT
- CF8 (304) & CF8M (316)

DIMENSIONS

unit : inch

SIZE	d 1	d 2	d 3	C	D	E	G	H	I
1/8"	1/8"	0.63	0.53	0.24	1.42	0.71	0.12	0.24	0.10
1/4"	1/4"	0.75	0.61	0.37	1.04	0.77	0.12	0.24	0.08
3/8"	3/8"	0.89	0.77	0.38	1.85	0.93	0.12	0.26	0.10
1/2"	1/2"	1.10	1.02	0.39	2.28	1.14	0.12	0.30	0.08
3/4"	3/4"	1.34	1.24	0.39	2.56	1.28	0.12	0.33	0.08
1"	1"	1.69	1.57	0.51	2.91	1.46	0.16	0.37	0.08
1 1/4"	1 1/4"	2.01	1.89	0.65	3.50	1.75	0.20	0.41	0.08
1 1/2"	1 1/2"	2.32	2.22	0.63	3.82	1.91	0.20	0.45	0.10
2"	2"	2.83	2.68	0.71	4.45	2.22	0.24	0.47	0.10
2 1/2"	2 1/2"	3.54	3.39	0.91	5.35	2.68	0.35	0.57	0.16
3"	3"	4.17	4.00	0.96	6.18	3.09	0.39	0.59	0.16
4"	4"	5.20	5.00	1.02	7.68	3.84	0.35	0.61	0.16





DESIGN FEATURES:

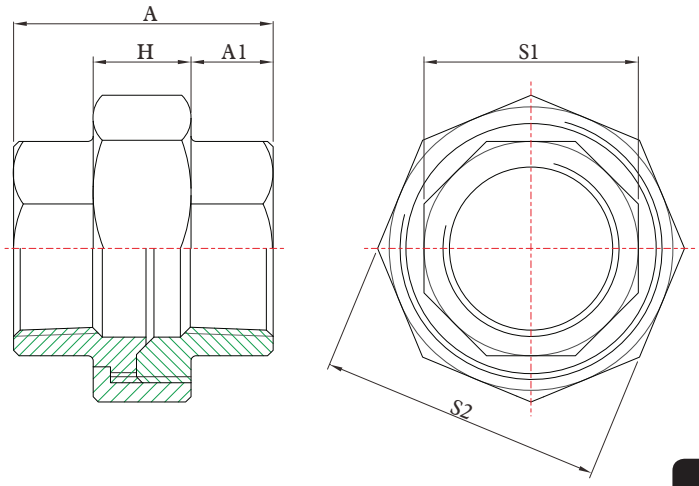
- THREAD: NPT
- CF8 (304) & CF8M (316)

DIMENSIONS

unit : inch

SIZE	d1	d2	d3	C	E	H
1/8"	1/8"	0.63	0.55	0.24	0.69	0.24
1/4"	1/4"	0.79	0.71	0.37	0.75	0.28
3/8"	3/8"	0.98	0.91	0.38	0.91	0.28
1/2"	1/2"	1.18	1.10	0.39	1.14	0.28
3/4"	3/4"	1.42	1.34	0.43	1.28	0.35
1"	1"	1.77	1.65	0.55	1.48	0.39
1 1/4"	1 1/4"	2.09	1.97	0.71	1.73	0.43
1 1/2"	1 1/2"	2.36	2.20	0.71	1.89	0.47
2"	2"	2.87	2.76	0.71	2.32	0.51
2 1/2"	2 1/2"	3.54	3.39	0.87	2.68	0.55
3"	3"	4.17	4.02	0.98	3.07	0.59
4"	4"	5.20	5.04	1.02	3.82	0.63





DESIGN FEATURES:

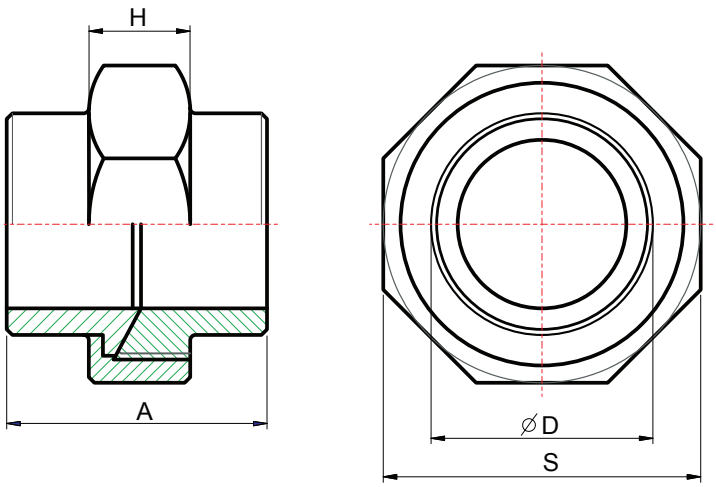
- THREAD: NPT
- CF8 (304) & CF8M (316)

DIMENSIONS

unit : inch

SIZE	A	A1	H	S1	S2
1/8"	1.46	0.47	0.59	0.71	1.14
1/4"	1.46	0.47	0.59	0.71	1.14
3/8"	1.54	0.47	0.63	0.91	1.42
1/2"	1.61	0.51	0.59	1.06	1.61
3/4"	1.65	0.63	0.63	1.26	1.93
1"	2.01	0.67	0.71	1.61	2.28
1-1/4"	2.05	0.63	0.83	1.97	2.68
1-1/2"	2.20	0.71	0.87	2.20	3.03
2"	2.36	0.71	0.98	2.72	3.62
2-1/2"	2.95	1.02	0.98	3.35	4.29
3"	3.50	1.18	1.14	3.90	4.92
4"	3.90	1.26	1.34	4.92	6.14





DESIGN FEATURES:

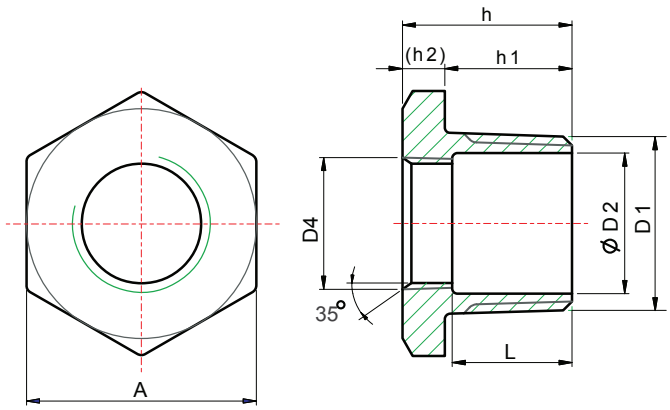
- THREAD: NPT
- CF8 (304) & CF8M (316)

DIMENSIONS

unit : inch

SIZE	A	D	S	H
1/4"	1.26	0.54	1.14	0.55
3/8"	1.50	0.68	1.42	0.55
1/2"	1.57	0.85	1.61	0.55
3/4"	1.85	1.07	1.93	0.55
1"	1.95	1.34	2.58	0.71
1 1/4"	2.13	1.69	2.67	0.75
1 1/2"	2.24	1.91	3.02	0.83
2"	2.36	2.39	3.60	0.94
2 1/2"	2.76	3.00	4.29	0.94
3"	3.19	3.51	4.92	1.10





DESIGN FEATURES:

- THREAD: NPT
- CF8 (304) & CF8M (316)

DIMENSIONS

unit : inch

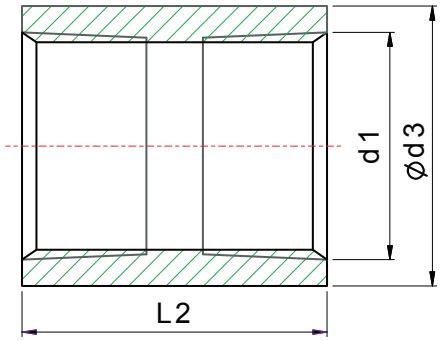
SIZE	A	L	D1	D2	D4	h	h1	(h2)
1/4"x1/8"	0.67	0.59	1/4"	0.33	1/8"	0.89	0.67	0.22
3/8"x1/8"	0.87	0.59	3/8"	0.43	1/8"	0.91	0.67	0.24
3/8"x1/4"	0.87	-	3/8"	0.43	1/4"	0.91	0.67	0.24
1/2"x1/8"	1.02	0.67	1/2"	0.57	1/8"	1.00	0.79	0.22
1/2"x1/4"	1.02	0.67	1/2"	0.57	1/4"	1.00	0.79	0.22
1/2"x3/8"	1.02	-	1/2"	0.57	3/8"	1.00	0.79	0.22
3/4"x1/8"	1.26	0.69	3/4"	0.71	1/8"	1.04	0.79	0.26
3/4"x1/4"	1.26	0.69	3/4"	0.71	1/4"	1.04	0.79	0.26
3/4"x3/8"	1.26	0.69	3/4"	0.71	3/8"	1.04	0.79	0.26
3/4"x1/2"	1.26	-	3/4"	0.71	1/2"	1.04	0.79	0.26
1"x1/8"	1.50	0.96	1"	1.02	1/8"	1.32	1.00	0.31
1"x1/4"	1.50	0.96	1"	1.02	1/4"	1.32	1.00	0.31
1"x3/8"	1.50	0.96	1"	1.02	3/8"	1.32	1.00	0.31
1"x1/2"	1.50	0.87	1"	1.02	1/2"	1.32	1.00	0.31
1"x3/4"	1.50	0.81	1"	1.02	3/4"	1.32	1.00	0.31
1 1/4"x1/8"	1.81	1.02	1 1/4"	13.8	1/8"	1.34	1.02	0.31
1 1/4"x1/4"	1.81	0.96	1 1/4"	13.8	1/4"	1.34	1.02	0.31
1 1/4"x3/8"	1.81	0.96	1 1/4"	13.8	3/8"	1.34	1.02	0.31
1 1/4"x1/2"	1.81	0.91	1 1/4"	13.8	1/2"	1.34	1.02	0.31
1 1/4"x3/4"	1.81	0.83	1 1/4"	13.8	3/4"	1.34	1.02	0.31
1 1/4"x1"	1.81	0.77	1 1/4"	13.8	1"	1.34	1.02	0.31

DIMENSIONS

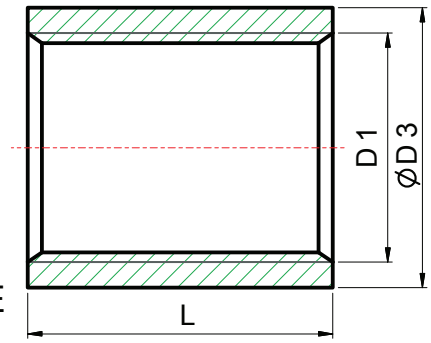
unit : inch

SIZE	A	L	D1	D2	D4	h	h1	(h2)
1 1/2"x1/8"	2.05	1.06	1 1/2"	1.57	1/8"	1.42	1.02	0.39
1 1/2"x1/4"	2.05	1.06	1 1/2"	1.57	1/4"	1.42	1.02	0.39
1 1/2"x3/8"	2.05	1.02	1 1/2"	1.57	3/8"	1.42	1.02	0.39
1 1/2"x1/2"	2.05	0.94	1 1/2"	1.57	1/2"	1.42	1.02	0.39
1 1/2"x3/4"	2.05	0.91	1 1/2"	1.57	3/4"	1.42	1.02	0.39
1 1/2"x1"	2.05	0.83	1 1/2"	1.57	1"	1.42	1.02	0.39
1 1/2"x1 1/4"	2.05	0.73	1 1/2"	1.57	1 1/4"	1.42	1.02	0.39
2"x1/8"	2.48	1.10	2"	2.01	1/8"	1.42	1.00	0.41
2"x1/4"	2.48	1.06	2"	2.01	1/4"	1.42	1.00	0.41
2"x3/8"	2.48	1.06	2"	2.01	3/8"	1.42	1.00	0.41
2"x1/2"	2.48	0.98	2"	2.01	1/2"	1.42	1.00	0.41
2"x3/4"	2.48	0.91	2"	2.01	3/4"	1.42	1.00	0.41
2"x1"	2.48	0.87	2"	2.01	1"	1.42	1.00	0.41
2"x1 1/4"	2.48	0.79	2"	2.01	1 1/4"	1.42	1.00	0.41
2"x1 1/2"	2.48	0.79	2"	2.01	1 1/2"	1.42	1.00	0.41
2 1/2"x1/2"	3.15	1.52	2 1/2"	2.48	1/2"	1.93	1.46	0.47
2 1/2"x3/4"	3.15	1.44	2 1/2"	2.48	3/4"	1.93	1.46	0.47
2 1/2"x1"	3.15	1.36	2 1/2"	2.48	1"	1.93	1.46	0.47
2 1/2"x1 1/4"	3.15	1.24	2 1/2"	2.48	1 1/4"	1.93	1.46	0.47
2 1/2"x1 1/2"	3.15	1.18	2 1/2"	2.48	1 1/2"	1.93	1.46	0.47
2 1/2"x2"	3.15	1.14	2 1/2"	2.48	2"	1.93	1.46	0.47
3"x1/2"	3.74	1.54	3"	3.03	1/2"	1.97	1.46	0.51
3"x3/4"	3.74	1.46	3"	3.03	3/4"	1.97	1.46	0.51
3"x1"	3.74	1.38	3"	3.03	1"	1.97	1.46	0.51
3"x1 1/4"	3.74	1.26	3"	3.03	1 1/4"	1.97	1.46	0.51
3"1 1/2"	3.74	1.22	3"	3.03	1 1/2"	1.97	1.46	0.51
3"x2"	3.74	1.18	3"	3.03	2"	1.97	1.46	0.51
3"x2 1/2"	3.74	1.02	3"	3.03	2 1/2"	1.97	1.46	0.51
4"x1/2"	4.72	1.57	4"	3.98	1/2"	2.01	1.46	0.55
4"x3/4"	4.72	1.52	4"	3.98	3/4"	2.01	1.46	0.55
4"x1"	4.72	1.42	4"	3.98	1"	2.01	1.46	0.55
4"x1 1/4"	4.72	1.32	4"	3.98	1 1/4"	2.01	1.46	0.55
4"x1 1/2"	4.72	1.26	4"	3.98	1 1/2"	2.01	1.46	0.55
4"x2"	4.72	1.22	4"	3.98	2"	2.01	1.46	0.55
4"x2 1/2"	4.72	1.10	4"	3.98	2 1/2"	2.01	1.46	0.55
4"x3"	4.72	1.02	4"	3.98	3"	2.01	1.46	0.55





BSPT,NPT



BSP,DIN2999

DESIGN FEATURES:

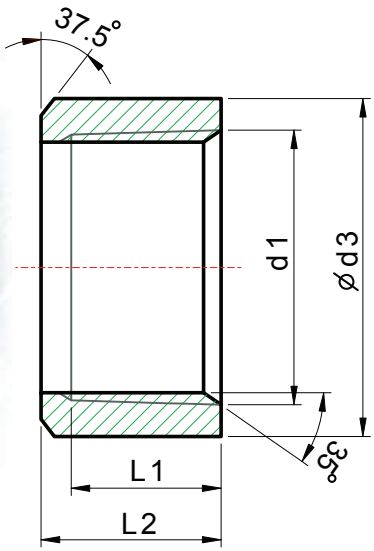
- THREAD: NPT
- CF8 (304) & CF8M (316)
- MADE FROM STAINLESS STEEL WELDED PIPE

DIMENSIONS

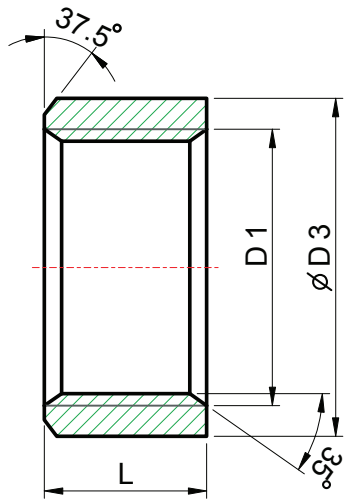
unit : inch

SIZE	d1	BSPT,NPT		D1	BSP,DIN2999	
		d3	L2		D3	L
1/8"	1/8"	0.55	0.79	1/8"	0.55	0.79
1/4"	1/4"	0.73	1.06	1/4"	0.73	0.98
3/8"	3/8"	0.85	1.10	3/8"	0.85	1.02
1/2"	1/2"	1.04	1.42	1/2"	1.04	1.34
3/4"	3/4"	1.26	1.54	3/4"	1.26	1.42
1"	1"	1.56	1.69	1"	1.56	1.69
1 1/4"	1 1/4"	1.91	1.89	1 1/4"	1.91	1.89
1 1/2"	1 1/2"	2.15	1.89	1 1/2"	2.15	1.89
2"	2"	2.62	2.20	2"	2.62	2.20
2 1/2"	2 1/2"	3.31	2.56	2 1/2"	3.31	2.56
3"	3"	3.94	2.80	3"	3.74	2.80
4"	4"	5.08	3.27	4"	4.80	3.27
5"	5"	6.36	3.54	–	–	–
6"	6"	7.28	3.96	–	–	–





BSPT,NPT



BSP,DIN2999

DESIGN FEATURES:

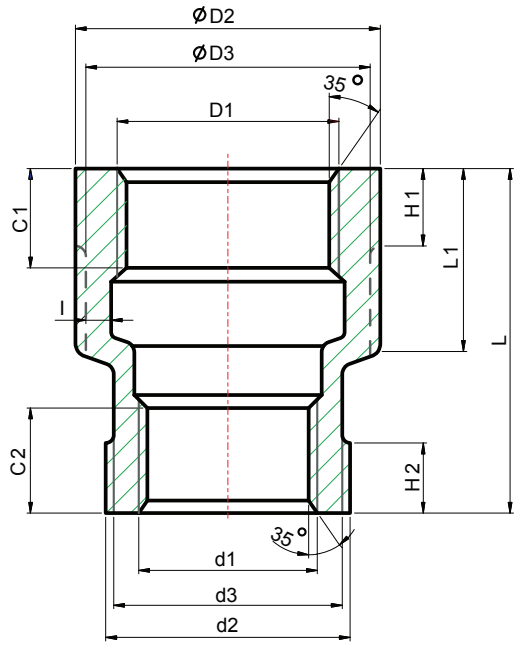
- THREAD: NPT
- CF8 (304) & CF8M (316)
- MADE FROM STAINLESS STEEL WELDED PIPE

DIMENSIONS

unit : inch

SIZE	d1	BSPT,NPT		D1	BSP,DIN2999	
		d3	L2		D3	L
1/8"	1/8"	0.56	0.43	1/8"	0.55	0.43
1/4"	1/4"	0.73	0.51	1/4"	0.73	0.43
3/8"	3/8"	0.85	0.55	3/8"	0.85	0.47
1/2"	1/2"	1.04	0.71	1/2"	1.04	0.59
3/4"	3/4"	1.26	0.79	3/4"	1.26	0.67
1"	1"	1.56	0.83	1"	1.56	0.75
1 1/4"	1 1/4"	1.91	0.94	1 1/4"	1.91	0.87
1 1/2"	1 1/2"	2.15	0.94	1 1/2"	2.15	0.87
2"	2"	2.62	1.10	2"	2.62	1.02
2 1/2"	2 1/2"	3.31	1.30	2 1/2"	3.23	1.18
3"	3"	3.94	1.42	3"	3.74	1.30
4"	4"	5.08	1.65	4"	4.80	1.57





DESIGN FEATURES:

- THREAD: NPT
- CF8 (304) & CF8M (316).

CAST FITTINGS

DIMENSIONS

unit : inch

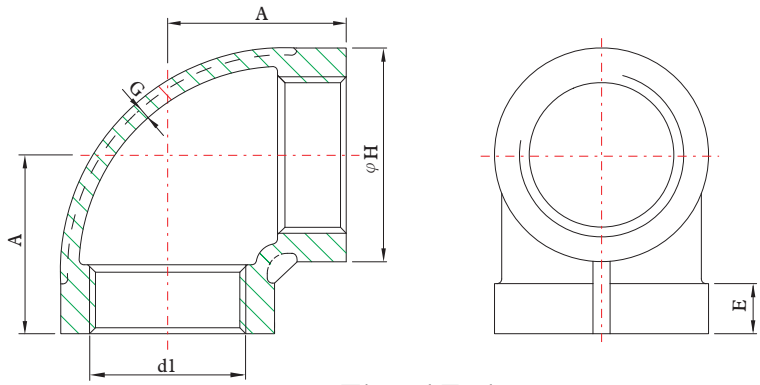
SIZE	D1	D2	D3	C1	H1	d1	d2	d3	C2	H2	L1	L	l
1/4"x1/8"	1/4"	0.79	0.71	0.31	0.24	1/8"	0.63	0.55	0.43	0.28	0.63	1.12	0.12
3/8"x1/8"	3/8"	1.00	0.91	0.37	0.28	1/8"	0.63	0.55	0.47	0.24	0.91	1.61	0.12
3/8"x1/4"	3/8"	1.00	0.91	0.38	0.28	1/4"	0.79	0.71	0.51	0.24	0.91	1.61	0.12
1/2"x1/8"	1/2"	1.18	1.10	0.39	0.31	1/8"	0.63	0.55	0.35	0.28	0.94	1.77	0.10
1/2"x1/4"	1/2"	1.18	1.10	0.39	0.31	1/4"	0.79	0.71	0.49	0.28	0.94	1.77	0.10
1/2"x3/8"	1/2"	1.18	1.10	0.39	0.31	3/8"	1.00	0.91	0.39	0.31	0.94	1.77	0.10
3/4"x1/8"	3/4"	1.42	1.30	0.39	0.35	1/8"	0.63	0.55	0.43	0.31	0.87	1.77	0.12
3/4"x1/4"	3/4"	1.42	1.30	0.39	0.35	1/4"	0.79	0.71	0.43	0.31	1.02	1.77	0.12
3/4"x3/8"	3/4"	1.42	1.30	0.39	0.35	3/8"	1.00	0.91	0.59	0.31	0.98	1.77	0.12
3/4"x1/2"	3/4"	1.42	1.30	0.39	0.35	1/2"	1.18	1.10	0.59	0.31	0.98	1.77	0.12
1"x1/8"	1"	1.77	1.65	0.55	0.35	1/8"	0.63	0.55	0.47	0.31	1.02	1.97	0.12
1"x1/4"	1"	1.77	1.65	0.55	0.43	1/4"	0.79	0.71	0.47	0.31	1.10	1.97	0.12
1"x3/8"	1"	1.77	1.65	0.55	0.43	3/8"	1.00	0.91	0.51	0.31	1.10	1.97	0.12
1"x1/2"	1"	1.77	1.65	0.55	0.43	1/2"	1.18	1.10	0.51	0.35	1.14	1.97	0.12
1"x3/4"	1"	1.77	1.65	0.55	0.43	3/4"	1.42	1.30	0.55	0.43	1.10	1.97	0.12
1 1/4"x1/4"	1 1/4"	2.09	1.97	0.71	0.43	1/4"	0.79	0.71	0.59	0.24	1.14	1.97	0.14
1 1/4"x3/8"	1 1/4"	2.09	1.97	0.71	0.43	3/8"	1.00	0.91	0.47	0.31	1.14	1.97	0.14
1 1/4"x1/2"	1 1/4"	2.09	1.97	0.63	0.43	1/2"	1.18	1.10	0.51	0.39	1.18	1.97	0.14
1 1/4"x3/4"	1 1/4"	2.09	1.97	0.63	0.47	3/4"	1.42	1.30	0.51	0.39	1.18	1.97	0.14
1 1/4"x1"	1 1/4"	2.09	1.97	0.63	0.47	1"	1.77	1.61	0.71	0.43	1.18	1.97	0.14

DIMENSIONS

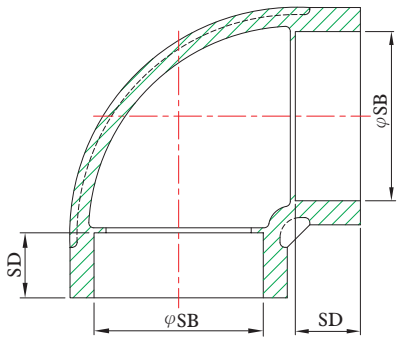
unit : inch

SIZE	D1	D2	D3	C1	H1	d1	d2	d3	C2	H2	L1	L	l
1 1/2"x1/4"	1 1/2"	2.36	2.22	0.71	0.47	1/4"	0.79	0.71	0.71	0.24	1.22	2.24	0.14
1 1/2"x3/8"	1 1/2"	2.36	2.22	0.71	0.47	3/8"	1.00	0.91	0.71	0.31	1.22	2.24	0.14
1 1/2"x1/2"	1 1/2"	2.36	2.22	0.63	0.47	1/2"	1.18	1.10	0.57	0.35	1.22	2.24	0.14
1 1/2"x3/4"	1 1/2"	2.36	2.22	0.63	0.47	3/4"	1.42	1.30	0.61	0.39	1.22	2.24	0.14
1 1/2"x1"	1 1/2"	2.36	2.22	0.63	0.47	1"	1.77	1.61	0.67	0.43	1.22	2.24	0.14
1 1/2"x1 1/4"	1 1/2"	2.36	2.22	0.71	0.47	1 1/4"	2.09	1.97	0.67	0.47	1.22	2.24	0.14
2"x1/4"	2"	2.91	2.76	0.71	0.51	1/4"	0.79	0.71	0.63	0.20	1.50	2.64	0.16
2"x3/8"	2"	2.91	2.76	0.71	0.51	3/8"	1.00	0.91	0.51	0.31	1.50	2.64	0.16
2"x1/2"	2"	2.91	2.76	0.71	0.51	1/2"	1.18	1.10	0.59	0.35	1.50	2.64	0.16
2"x3/4"	2"	2.91	2.76	0.71	0.51	3/4"	1.42	1.30	0.69	0.39	1.50	2.64	0.16
2"x1"	2"	2.91	2.76	0.63	0.51	1"	1.77	1.61	0.67	0.43	1.50	2.64	0.16
2"x1 1/4"	2"	2.91	2.76	0.71	0.51	1 1/4"	2.09	1.97	0.67	0.47	1.50	2.64	0.16
2"x1 1/2"	2"	2.91	2.76	0.71	0.55	1 1/2"	2.36	2.22	0.59	0.47	1.57	2.64	0.16
2 1/2"x3/4"	2 1/2"	3.54	3.39	0.91	0.55	3/4"	1.42	1.30	0.75	0.35	1.69	2.99	0.26
2 1/2"x1"	2 1/2"	3.54	3.39	0.91	0.55	1"	1.77	1.61	0.75	0.43	1.69	2.99	0.26
2 1/2"x1 1/4"	2 1/2"	3.54	3.39	0.91	0.55	1 1/4"	2.09	1.97	0.87	0.47	1.69	2.99	0.26
2 1/2"x1 1/2"	2 1/2"	3.54	3.39	0.91	0.59	1 1/2"	2.36	2.22	0.91	0.47	1.69	2.99	0.26
2 1/2"x2"	2 1/2"	3.54	3.39	0.91	0.55	2"	2.91	2.76	0.87	0.55	1.69	2.99	0.26
3"x1/2"	-	-	-	-	-	-	-	-	-	-	-	-	-
3"x3/4"	3"	4.29	4.09	0.94	0.59	3/4"	1.42	1.30	0.55	0.39	1.93	3.35	0.26
3"x1"	3"	4.29	4.09	0.94	0.59	1"	1.77	1.61	0.63	0.43	1.93	3.31	0.26
3"x1 1/4"	3"	4.29	4.09	0.94	0.59	1 1/4"	2.09	1.97	0.75	0.47	1.93	3.31	0.26
3"x1 1/2"	3"	4.29	4.09	0.94	0.63	1 1/2"	2.36	2.22	0.79	0.51	1.93	3.35	0.26
3"x2"	3"	4.29	4.09	0.94	0.59	2"	2.91	2.76	0.79	0.51	1.69	3.31	0.26
3"x2 1/2"	3"	4.29	4.09	0.94	0.59	2 1/2"	3.54	3.39	1.02	0.65	1.93	3.27	0.26
4"x1"	4"	5.43	5.20	0.98	0.63	1"	1.77	1.61	0.94	0.43	2.17	3.82	0.26
4"x1 1/4"	4"	5.43	5.20	0.98	0.63	1 1/4"	2.09	1.97	0.87	0.47	2.09	3.74	0.26
4"x1 1/2"	4"	5.43	5.20	0.98	0.63	1 1/2"	2.36	2.22	0.94	0.51	2.09	3.74	0.26
4"x2"	4"	5.43	5.20	0.98	0.63	2"	2.91	2.76	0.94	0.55	2.09	3.82	0.26
4"x2 1/2"	4"	5.43	5.20	0.98	0.63	2 1/2"	3.54	3.39	1.14	0.59	2.09	3.78	0.26
4"x3"	4"	5.43	5.20	0.98	0.67	3"	4.29	4.09	0.98	0.63	2.17	3.86	0.26





Thread End



Socket-Weld End

DESIGN FEATURES:

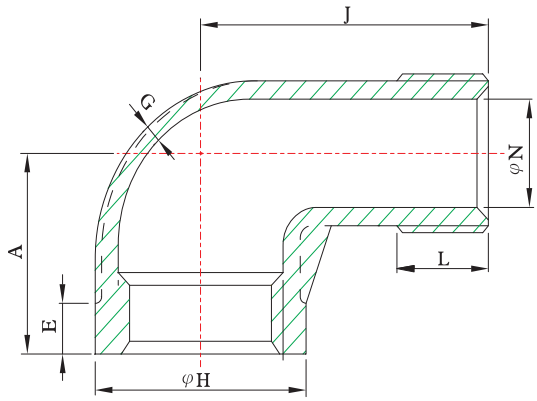
- THREAD: NPT
- CF8 (304) & CF8M (316)
- MEET MSS-SP114

DIMENSIONS

unit : inch

SIZE	A	E	G	H	SB	SD
1/8"	0.81	0.20	0.09	0.75	0.43	0.39
1/4"	0.81	0.20	0.09	0.84	0.56	0.39
3/8"	0.93	0.21	0.10	1.02	0.69	0.39
1/2"	1.12	0.25	0.10	1.21	0.85	0.39
3/4"	1.31	0.27	0.12	1.46	1.07	0.51
1"	1.50	0.30	0.13	1.77	1.33	0.51
1-1/4"	1.75	0.34	0.14	2.15	1.68	0.51
1-1/2"	1.93	0.37	0.15	2.43	1.92	0.51
2"	2.25	0.42	0.17	2.96	2.41	0.63
2-1/2"	2.68	0.48	0.21	3.31	2.91	0.63
3"	3.06	0.55	0.23	4.00	3.54	0.63
4"	3.81	0.66	0.26	5.06	4.55	0.75





DESIGN FEATURES:

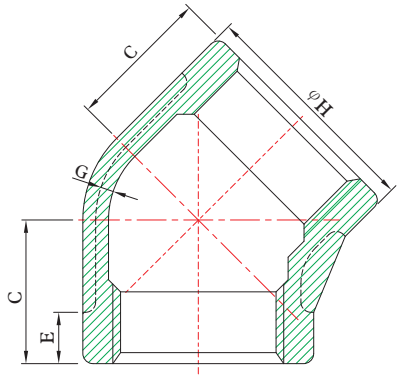
- THREAD: NPT
- CF8 (304) & CF8M (316)
- MEET MSS-SP114

DIMENSIONS

unit : inch

SIZE	A	E	G	H	J	N	L
1/8"	0.81	0.20	0.09	0.75	1.06	0.19	0.26
1/4"	0.81	0.20	0.09	0.84	1.18	0.24	0.40
3/8"	0.93	0.21	0.10	1.01	1.43	0.36	0.41
1/2"	1.12	0.25	0.10	1.20	1.62	0.51	0.53
3/4"	1.31	0.27	0.12	1.46	1.87	0.69	0.55
1"	1.50	0.30	0.13	1.77	2.12	0.91	0.68
1-1/4"	1.75	0.34	0.14	2.15	2.50	1.18	0.71
1-1/2"	1.93	0.37	0.15	2.43	2.75	1.38	0.72
2"	2.25	0.42	0.17	2.96	3.25	1.89	0.76
2-1/2"	2.68	0.48	0.21	3.31	3.87	2.19	1.14
3'	3.06	0.55	0.23	4.00	4.50	2.78	1.20
4"	3.81	0.66	0.26	5.06	5.68	3.68	1.30

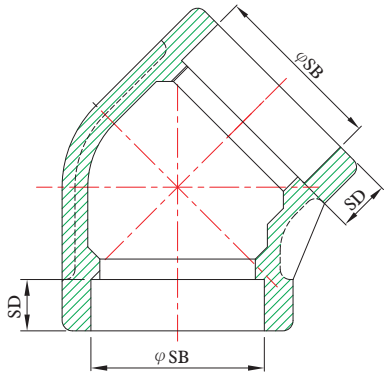




Thread End

DESIGN FEATURES:

- THREAD: NPT
- CF8 (304) & CF8M (316)
- MEET MSS-SP114



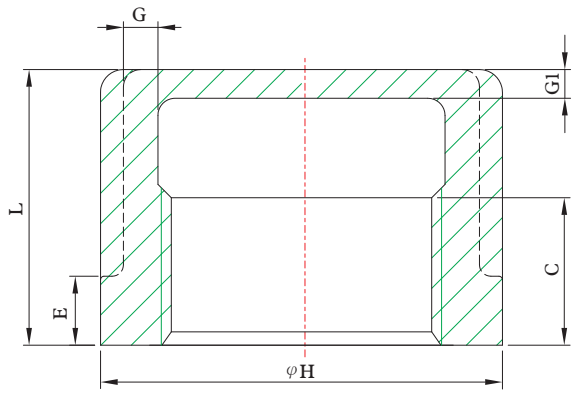
Socket-Weld End

DIMENSIONS

unit : inch

SIZE	C	E	G	H	SB	SD
1/8"	0.69	0.20	0.09	0.75	0.43	0.39
1/4"	0.69	0.20	0.09	0.84	0.56	0.39
3/8"	0.81	0.21	0.10	1.01	0.69	0.39
1/2"	0.87	0.25	0.10	1.20	0.85	0.39
3/4"	1.00	0.27	0.12	1.46	1.07	0.51
1"	1.12	0.30	0.13	1.77	1.33	0.51
1-1/4"	1.31	0.34	0.14	2.15	1.68	0.51
1-1/2"	1.43	0.37	0.15	2.43	1.92	0.51
2"	1.68	0.42	0.17	2.96	2.41	0.63
2-1/2"	1.93	0.48	0.21	3.31	2.91	0.63
3"	2.18	0.55	0.23	4.00	3.54	0.63
4"	2.62	0.66	0.26	5.06	4.55	0.75

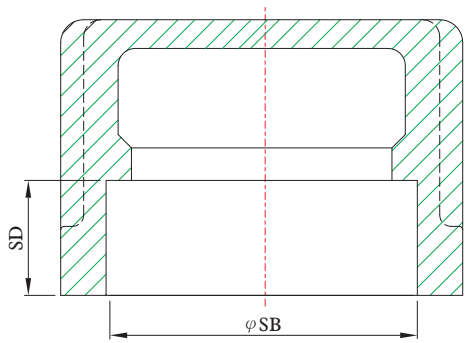




Thread End

DESIGN FEATURES:

- THREAD: NPT
- CF8 (304) & CF8M (316)
- MEET MSS-SP114



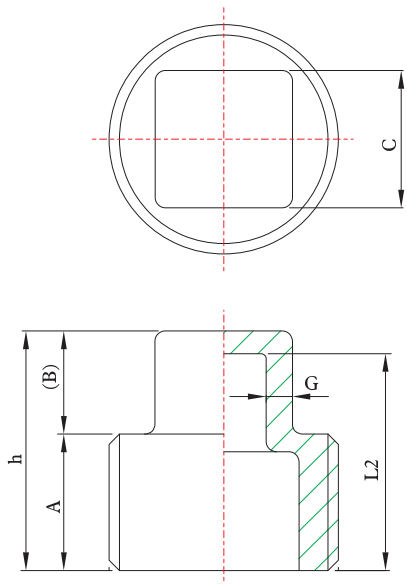
Socket-Weld End

DIMENSIONS

UNIT : inch

SIZE	C	E	G	G1	H	L	SB	SD
1/8"	0.25	0.20	0.09	0.09	0.75	0.68	0.43	0.39
1/4"	0.32	0.20	0.09	0.09	0.84	0.68	0.56	0.39
3/8"	0.36	0.21	0.10	0.10	1.01	0.81	0.69	0.39
1/2"	0.43	0.25	0.10	0.12	1.20	0.93	0.85	0.39
3/4"	0.50	0.27	0.12	0.13	1.46	1.06	1.07	0.51
1"	0.58	0.30	0.13	0.15	1.77	1.31	1.33	0.51
1-1/4"	0.67	0.34	0.14	0.17	2.15	1.62	1.68	0.51
1-1/2"	0.70	0.37	0.15	0.19	2.43	1.62	1.92	0.51
2"	0.75	0.42	0.17	0.22	2.96	1.75	2.41	0.63
2-1/2"	0.92	0.48	0.21	0.25	3.31	2.00	2.91	0.63
3'	0.98	0.55	0.23	0.29	4.00	2.25	3.54	0.63
4"	1.08	0.66	0.26	0.36	5.06	2.50	4.55	0.75





DESIGN FEATURES:

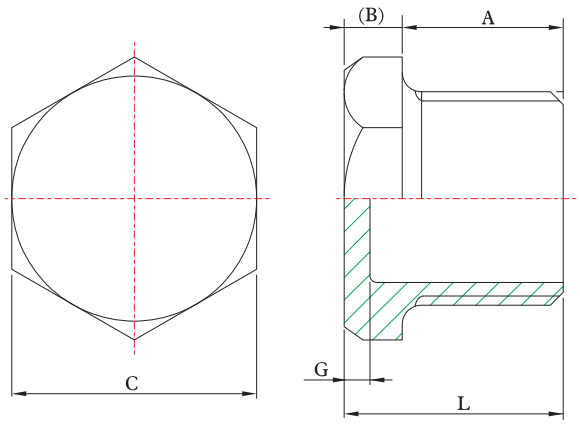
- THREAD: NPT
- CF8 (304) & CF8M (316)
- MEET MSS-SP114

DIMENSIONS

UNIT : inch

SIZE	A	(B)	C	L2	h	G
1/8"	0.37	0.24	0.28	-----	0.61	-----
1/4"	0.44	0.28	0.37	-----	0.72	-----
3/8"	0.48	0.31	0.44	-----	0.79	-----
1/2"	0.56	0.38	0.56	0.78	0.94	0.16
3/4"	0.63	0.44	0.63	0.89	1.07	0.18
1"	0.75	0.50	0.81	1.05	1.25	0.20
1-1/4"	0.80	0.56	0.94	1.15	1.37	0.22
1-1/2"	0.83	0.62	1.13	1.21	1.45	0.24
2"	0.88	0.68	1.31	1.30	1.56	0.26
2-1/2"	1.07	0.74	1.50	1.52	1.81	0.29
3'	1.13	0.80	1.69	1.62	1.93	0.31
4"	1.22	1.00	2.25	1.84	2.22	0.38





DESIGN FEATURES:

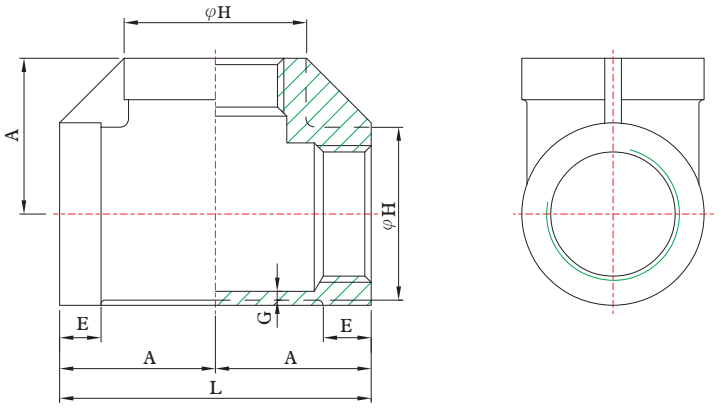
- THREAD: NPT
- CF8 (304) & CF8M (316)
- MEET MSS-SP114

DIMENSIONS

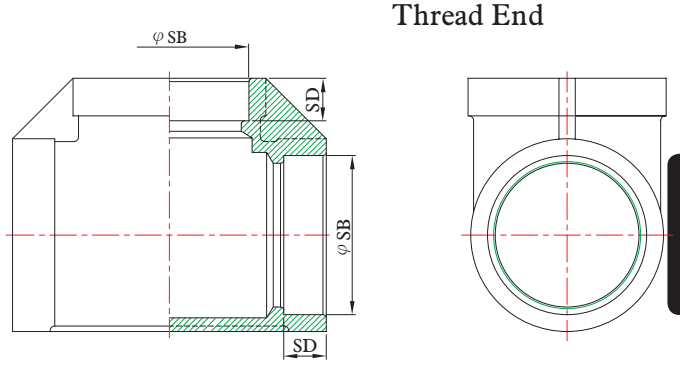
UNIT : inch

SIZE	A	B	C	G	L
1/8"	0.37	0.14	0.55	-----	0.51
1/4"	0.44	0.14	0.67	-----	0.58
3/8"	0.48	0.16	0.83	-----	0.64
1/2"	0.56	0.19	1.02	0.16	0.76
3/4"	0.63	0.22	1.20	0.18	0.85
1"	0.75	0.25	1.43	0.20	1.00
1-1/4"	0.80	0.28	1.76	0.22	1.09
1-1/2"	0.83	0.31	2.00	0.24	1.14
2"	0.88	0.34	2.48	0.26	1.22
2-1/2"	1.07	0.37	2.98	0.29	1.44
3"	1.13	0.40	3.86	0.31	1.53
4"	1.22	0.50	4.63	0.38	1.72





Thread End



Socket-Weld End

DESIGN FEATURES:

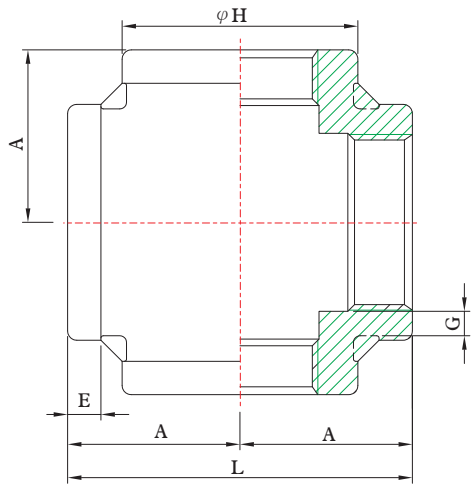
- THREAD: NPT
- CF8 (304) & CF8M (316)
- MEET MSS-SP114

DIMENSIONS

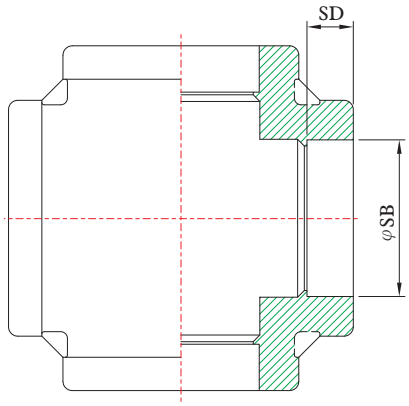
UNIT : inch

SIZE	A	E	G	H	L	SB	SD
1/8"	0.81	0.20	0.09	0.75	1.62	0.43	0.39
1/4"	0.81	0.20	0.09	0.84	1.62	0.56	0.39
3/8"	0.93	0.21	0.10	1.01	1.86	0.69	0.39
1/2"	1.12	0.25	0.10	1.20	2.24	0.85	0.39
3/4"	1.31	0.27	0.12	1.46	2.62	1.07	0.51
1"	1.50	0.30	0.13	1.77	3.00	1.33	0.51
1-1/4"	1.75	0.34	0.14	2.15	3.50	1.68	0.51
1-1/2"	1.93	0.37	0.15	2.43	3.86	1.92	0.51
2"	2.25	0.42	0.17	2.96	4.50	2.41	0.63
2-1/2"	2.68	0.48	0.21	3.31	5.36	2.91	0.63
3'	3.06	0.55	0.23	4.00	6.12	3.54	0.63
4"	3.81	0.66	0.26	5.06	7.62	4.55	0.75





Thread End



Socket-Weld End

DESIGN FEATURES:

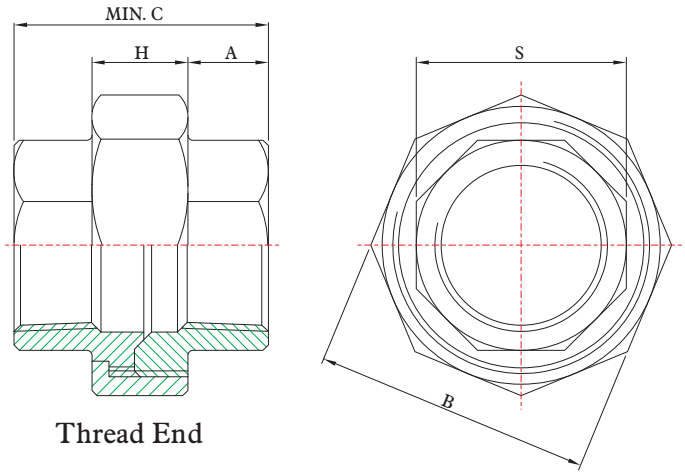
- THREAD: NPT
- CF8 (304) & CF8M (316)
- MEET MSS-SP114

DIMENSIONS

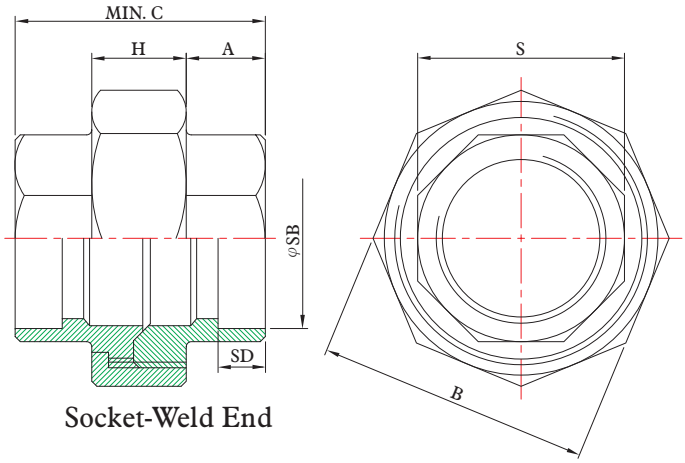
UNIT : inch

SIZE	A	E	G	H	L	SB	SD
1/8"	0.81	0.20	0.09	0.75	1.62	0.43	0.39
1/4"	0.81	0.20	0.09	0.84	1.62	0.56	0.39
3/8"	0.93	0.21	0.10	1.01	1.86	0.69	0.39
1/2"	1.12	0.25	0.10	1.20	2.24	0.85	0.39
3/4"	1.31	0.27	0.12	1.46	2.62	1.07	0.51
1"	1.50	0.30	0.13	1.77	3.00	1.33	0.51
1-1/4"	1.75	0.34	0.14	2.15	3.50	1.68	0.51
1-1/2"	1.93	0.37	0.15	2.43	3.86	1.92	0.51
2"	2.25	0.42	0.17	2.96	4.50	2.41	0.63
2-1/2"	2.68	0.48	0.21	3.31	5.36	2.91	0.63
3'	3.06	0.55	0.23	4.00	6.12	3.54	0.63
4"	3.81	0.66	0.26	5.06	7.62	4.55	0.75





Thread End



Socket-Weld End

DESIGN FEATURES:

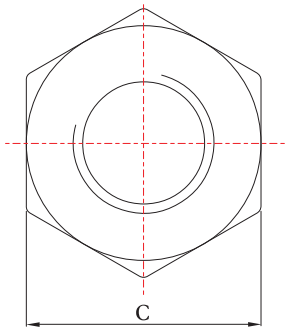
- THREAD: NPT
- CF8 (304) & CF8M (316)
- MEET MSS-SP114

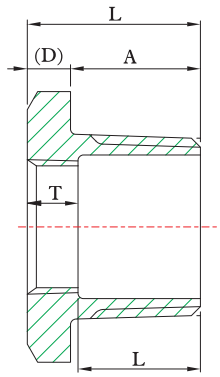
DIMENSIONS

UNIT : inch

SIZE	A	B	C	H	S	SB	SD
1/8"	0.34	1.14	1.26	0.59	0.71	0.43	0.39
1/4"	0.43	1.14	1.44	0.59	0.71	0.56	0.39
3/8"	0.52	1.42	1.61	0.59	0.89	0.69	0.39
1/2"	0.57	1.61	1.72	0.59	1.06	0.85	0.39
3/4"	0.67	1.93	1.94	0.61	1.26	1.07	0.51
1"	0.68	2.28	2.06	0.71	1.59	1.33	0.51
1-1/4"	0.72	2.67	2.26	0.84	1.97	1.68	0.51
1-1/2"	0.78	3.02	2.41	0.87	2.20	1.92	0.51
2"	0.89	3.60	2.75	0.98	2.72	2.41	0.63
2-1/2"	1.11	4.29	3.22	0.98	3.36	2.91	0.63
3'	1.18	4.92	3.50	1.15	3.94	3.54	0.63
4"	1.26	6.14	3.85	1.35	5.00	4.55	0.75







DESIGN FEATURES:

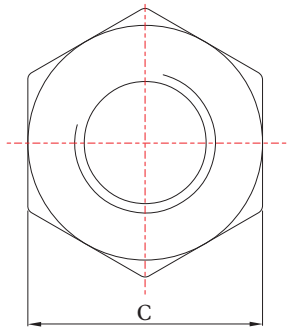
- THREAD: NPT
- CF8 (304) & CF8M (316)
- MEET MSS-SP114

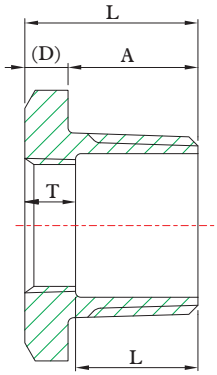
DIMENSIONS

UNIT : inch

SIZE	A	C	D	L	T
1/4"*1/8"	0.44	0.63	0.12	0.56	0.30
3/8"*1/8"	0.50	0.87	0.16	0.66	0.30
3/8"*1/4"	0.50	0.87	0.16	0.66	-----
1/2"*1/8"	0.56	1.00	0.19	0.76	0.30
1/2"*1/4"	0.56	1.00	0.19	0.76	0.46
1/2"*3/8"	0.56	1.00	0.19	0.76	-----
3/4"*1/8"	0.62	1.24	0.22	0.84	0.30
3/4"*1/4"	0.62	1.24	0.22	0.84	0.46
3/4"*3/8"	0.62	1.24	0.22	0.84	0.46
3/4"*1/2"	0.62	1.24	0.22	0.84	-----
1"*1/8"	0.75	1.37	0.25	1.00	0.30
1"*1/4"	0.75	1.37	0.25	1.00	0.46
1"*3/8"	0.75	1.37	0.25	1.00	0.46
1"*1/2"	0.75	1.37	0.25	1.00	0.60
1"*3/4"	0.75	1.37	0.25	1.00	0.62
1 1/4"*1/4"	0.81	1.75	0.28	1.09	0.46
1 1/4"*3/8"	0.81	1.75	0.28	1.09	0.46
1 1/4"*1/2"	0.81	1.75	0.28	1.09	0.60
1 1/4"*3/4"	0.81	1.75	0.28	1.09	0.62
1 1/4"*1"	0.81	1.75	0.28	1.09	0.77
1 1/2"*1/4"	0.81	2.00	0.31	1.12	0.46
1 1/2"*3/8"	0.81	2.00	0.31	1.12	0.46
1 1/2"*1/2"	0.81	2.00	0.31	1.12	0.60
1 1/2"*3/4"	0.81	2.00	0.31	1.12	0.62
1 1/2"*1"	0.81	2.00	0.31	1.12	0.77
1 1/2"*1 1/4"	0.81	2.00	0.31	1.12	0.80







DESIGN FEATURES:

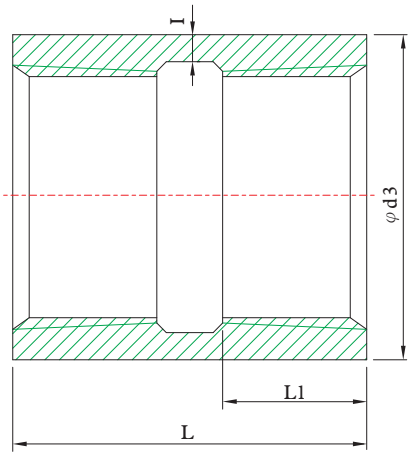
- THREAD: NPT
- CF8 (304) & CF8M (316)
- MEET MSS-SP114

DIMENSIONS

UNIT : inch

SIZE	A	C	D	L	T
2"*1/4"	0.88	2.50	0.34	1.22	0.46
2"*3/8"	0.88	2.50	0.34	1.22	0.46
2"*1/2"	0.88	2.50	0.34	1.22	0.60
2"*3/4"	0.88	2.50	0.34	1.22	0.62
2"*1"	0.88	2.50	0.34	1.22	0.77
2"*1 1/4"	0.88	2.50	0.34	1.22	0.80
2"*1 1/2"	0.88	2.50	0.34	1.22	0.81
2 1/2"*1/2"	1.06	3.00	0.38	1.44	0.65
2 1/2"*3/4"	1.06	3.00	0.38	1.44	0.62
2 1/2"*1"	1.06	3.00	0.38	1.44	0.75
2 1/2"*1 1/4"	1.06	3.00	0.38	1.44	0.80
2 1/2"*1 1/2"	1.06	3.00	0.38	1.44	0.81
2 1/2"*2"	1.06	3.00	0.38	1.44	0.85
3"*1/2"	1.12	3.74	0.41	1.54	0.65
3"*3/4"	1.12	3.74	0.41	1.54	0.62
3"*1"	1.12	3.74	0.41	1.54	0.75
3"*1 1/4"	1.12	3.74	0.41	1.54	0.79
3"*1 1/2"	1.12	3.74	0.41	1.54	0.81
3"*2"	1.12	3.74	0.41	1.54	0.85
3"*2 1/2"	1.12	3.74	0.41	1.54	1.23
4"*1"	1.25	4.63	0.60	1.85	0.77
4"*1 1/4"	1.25	4.63	0.60	1.85	0.79
4"*1 1/2"	1.25	4.63	0.60	1.85	0.81
4"*2"	1.25	4.63	0.60	1.85	0.85
4"*2 1/2"	1.25	4.63	0.60	1.85	1.23
4"*3"	1.25	4.63	0.60	1.85	1.33

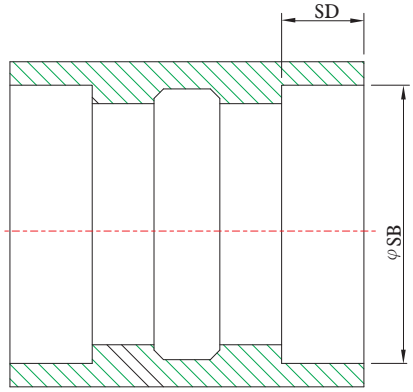




Thread End

DESIGN FEATURES:

- THREAD: NPT
- CF8 (304) & CF8M (316)
- MEET MSS-SP114



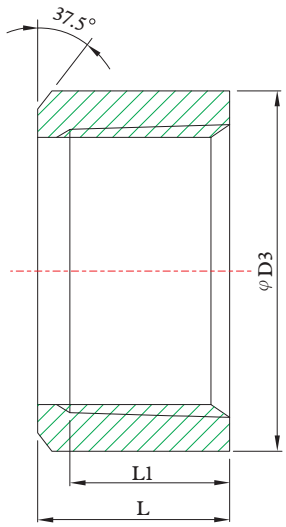
Socket-Weld End

DIMENSIONS

UNIT : inch

SIZE	d3	I	L	L1	SB	SD
1/8"	0.75	0.09	1.00	0.25	0.43	0.39
1/4"	0.84	0.09	1.00	0.32	0.56	0.39
3/8"	1.01	0.10	1.12	0.36	0.69	0.39
1/2"	1.20	0.10	1.38	0.43	0.85	0.39
3/4"	1.46	0.12	1.50	0.50	1.07	0.51
1"	1.77	0.13	1.62	0.58	1.33	0.51
1-1/4"	2.15	0.14	2.00	0.67	1.68	0.51
1-1/2"	2.43	0.15	2.12	0.70	1.92	0.51
2"	2.96	0.17	2.50	0.75	2.41	0.63
2-1/2"	3.31	0.21	2.87	0.92	2.91	0.63
3"	4.00	0.23	3.22	0.98	3.54	0.63
4"	5.06	0.26	3.66	1.08	4.55	0.75





DESIGN FEATURES:

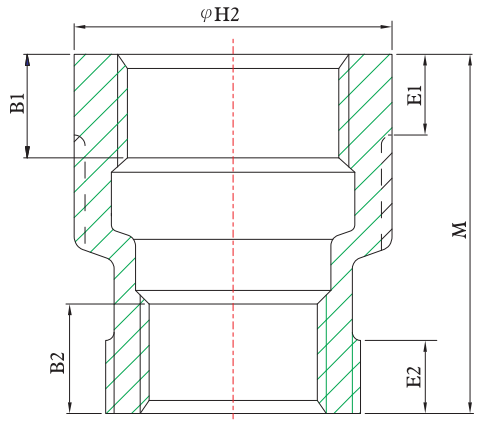
- THREAD: NPT
- CF8 (304) & CF8M (316)
- MEET MSS-SP114

DIMENSIONS

UNIT : inch

SIZE	D3	L	L1
1/8"	0.75	0.50	0.25
1/4"	0.84	0.54	0.32
3/8"	1.01	0.61	0.36
1/2"	1.20	0.73	0.43
3/4"	1.46	0.79	0.50
1"	1.77	0.85	0.58
1-1/4"	2.15	1.04	0.67
1-1/2"	2.43	1.10	0.70
2"	2.96	1.29	0.75
2-1/2"	3.31	1.48	0.92
3"	4.00	1.62	0.98
4"	5.06	1.88	1.08





DESIGN FEATURES:

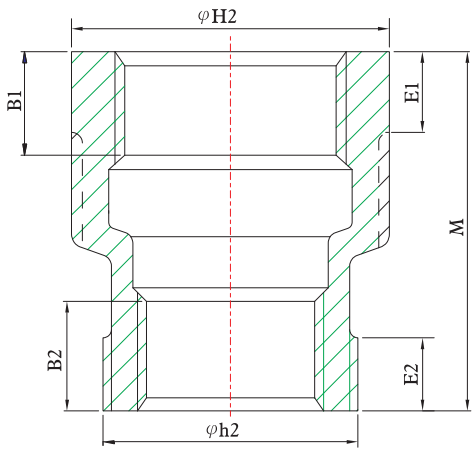
- THREAD: NPT
- CF8 (304) & CF8M (316)
- MEET MSS-SP114

DIMENSIONS

UNIT : inch

SIZE	h2	H2	B1	B2	E1	E2	M
1/4"*1/8"	0.75	0.84	0.32	0.25	0.20	0.20	1.00
3/8"*1/8"	0.75	1.01	0.36	0.25	0.21	0.20	1.12
3/8"*1/4"	0.84	1.01	0.36	0.32	0.21	0.20	1.12
1/2"*1/8"	0.75	1.20	0.43	0.25	0.25	0.20	1.38
1/2"*1/4"	0.84	1.20	0.43	0.32	0.25	0.20	1.38
1/2"*3/8"	1.01	1.20	0.43	0.36	0.25	0.21	1.38
3/4"*1/8"	0.75	1.46	0.50	0.25	0.27	0.20	1.50
3/4"*1/4"	0.84	1.46	0.50	0.32	0.27	0.20	1.50
3/4"*3/8"	1.01	1.46	0.50	0.36	0.27	0.21	1.50
3/4"*1/2"	1.20	1.46	0.50	0.43	0.27	0.25	1.50
1"*1/8"	0.75	1.77	0.58	0.25	0.30	0.20	1.62
1"*1/4"	0.84	1.77	0.58	0.32	0.30	0.20	1.62
1"*3/8"	1.01	1.77	0.58	0.36	0.30	0.21	1.62
1"*1/2"	1.20	1.77	0.58	0.43	0.30	0.25	1.62
1"*3/4"	1.46	1.77	0.58	0.50	0.30	0.27	1.62
1 1/4"*1/4"	1.77	2.96	0.75	0.58	0.42	0.30	2.50
1 1/4"*3/8"	2.15	2.96	0.75	0.67	0.42	0.34	2.50
1 1/4"*1/2"	2.43	2.96	0.75	0.70	0.42	0.37	2.50
1 1/4"*3/4"	1.46	3.31	0.92	0.50	0.48	0.27	3.25
1 1/4"*1"	1.77	3.31	0.92	0.58	0.48	0.30	3.25
1 1/2"*1/4"	2.15	3.31	0.92	0.67	0.48	0.34	3.25
1 1/2"*3/8"	2.43	3.31	0.92	0.70	0.48	0.37	3.25
1 1/2"*1/2"	2.96	3.31	0.92	0.75	0.48	0.42	3.25
1 1/2"*3/4"	1.46	4.00	0.98	0.50	0.55	0.27	3.68





DESIGN FEATURES:

- THREAD: NPT
- CF8 (304) & CF8M (316)
- MEET MSS-SP114

DIMENSIONS

UNIT : inch

SIZE	h2	H2	B1	B2	E1	E2	M
1 1/2"*1	2.15	2.43	0.70	0.67	0.37	0.34	2.12
2"*1/4"	0.84	2.96	0.75	0.32	0.42	0.20	2.50
2"*3/8"	1.01	2.96	0.75	0.36	0.42	0.21	2.50
2"*1/2"	1.20	2.96	0.75	0.43	0.42	0.25	2.50
2"*3/4"	1.46	2.96	0.75	0.50	0.42	0.27	2.50
2"*1"	1.77	2.96	0.75	0.58	0.42	0.30	2.50
2"*1 1/4"	2.15	2.96	0.75	0.67	0.42	0.34	2.50
2"*1 1/2"	2.43	2.96	0.75	0.70	0.42	0.37	2.50
2 1/2"*3/4"	1.46	3.31	0.92	0.50	0.48	0.27	3.25
2 1/2"*1"	1.77	3.31	0.92	0.58	0.48	0.30	3.25
2 1/2"*1	2.15	3.31	0.92	0.67	0.48	0.34	3.25
2 1/2"*1	2.43	3.31	0.92	0.70	0.48	0.37	3.25
2 1/2"*2"	2.96	3.31	0.92	0.75	0.48	0.42	3.25
3"*3/4"	1.46	4.00	0.98	0.50	0.55	0.27	3.68
3"*1"	1.77	4.00	0.98	0.58	0.55	0.30	3.68
3"*1 1/4"	2.15	4.00	0.98	0.67	0.55	0.34	3.68
3"*1 1/2"	2.43	4.00	0.98	0.70	0.55	0.37	3.68
3"*2"	2.96	4.00	0.98	0.75	0.55	0.42	3.68
3"*2 1/2"	3.31	4.00	0.98	0.92	0.55	0.48	3.68
4"*1"	1.77	5.06	1.08	0.58	0.66	0.30	4.38
4"*1 1/4"	2.15	5.06	1.08	0.67	0.66	0.34	4.38
4"*1 1/2"	2.43	5.06	1.08	0.70	0.66	0.37	4.38
4"*2"	2.96	5.06	1.08	0.75	0.66	0.42	4.38
4"*2 1/2"	3.31	5.06	1.08	0.92	0.66	0.48	4.38
4"*3"	4.00	5.06	1.08	0.98	0.66	0.55	4.38

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STANDARD BULK QUANTITY

unit:pcs

SIZE / ITEM	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
90 ELBOWS BANDED EQUAL (9LB)	400	400	250	125	75	40	25	18	10	5	3	1
TEES BANDED EQUAL (TEB)	* 200	250	125	75	50	30	16	14	8	4	2	1
45 ELBOWS BANDED EQUAL (4LB)	550	350	250	125	75	50	30	20	12	6	4	2
STREET ELBOWS 90 BANDED (SLB)	600	400	250	150	75	40	25	18	10	6	4	1
CROSSES BANDED EQUAL (+LB)	250	150	100	50	40	20	14	12	6	3	2	1
UNIONS F/F (UCF)	200	175	125	75	50	30	25	18	10	6	4	2
UNIONS M/F (UCM)	200	150	100	80	50	30	18	15	8	4	2	1
UNIONS B/W (UCB)	-	175	125	75	50	30	25	18	10	6	4	-
ROUND CAPS (RCB)	1,000	600	400	250	150	100	60	50	30	18	12	6
SQUARE HEAD PLUGS (SPG)	* 900	* 800	600	600	250	175	100	60	60	24	20	8
HEX HEAD PLUGS (HPG)	1,000	750	600	350	200	130	70	60	30	18	12	5
HEX CAPS (HCB)	1,000	600	400	250	150	100	60	50	30	18	12	6
HEX NUTS (HNT)	1,000	1,000	600	500	300	200	150	120	50	40	25	15
HEX BUSHINGS (HBU)	-	900	650	350	225	125	90	64	36	24	12	6
REDUCING HEX NIPPLE (RNP)	-	500	350	250	150	80	60	36	18	12	6	4
HEX NIPPLE (HNP)	* 600	500	350	200	125	70	60	36	18	12	6	4
HOSE NIPPLE (ONP)	-	500	350	200	100	60	50	30	16	9	5	2
COUPLINGS/SOCKETS (FCP)	800	500	400	200	125	80	60	48	24	12	8	4
COUPLINGS/SOCKETS (HCP)	1,200	1,000	800	400	250	150	120	90	48	24	16	8
REDUCING COUPLINGS (RSB)	-	500	250	150	100	50	36	30	18	10	8	3
BARREL NIPPLE (BNP)	* 500	600	400	175	125	80	50	30	18	12	5	3
WELDING NIPPLE (WNP)	* 600	600	500	300	175	120	80	60	36	18	10	6

SIZE OF CARTON: 1).1in x 0.67in x 0.87in

*2).1in x 0.67in x 0.47in

unit: lb / pc

ITEM \ SIZE	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
90 ELBOWS BANDED EQUAL (9LB)	0.059	0.081	0.130	0.216	0.286	0.544	0.749	1.044	1.502	3.220	4.465	6.938
TEES BANDED EQUAL (TEB)	0.097	0.117	0.181	0.295	0.407	0.711	1.013	1.410	2.026	4.659	6.396	8.903
45 ELBOWS BANDED EQUAL (4LB)	0.075	0.079	0.106	0.242	0.348	0.509	0.617	0.938	1.295	2.934	3.877	5.626
STREET ELBOWS 90 BANDED (SLB)	0.046	0.077	0.126	0.203	0.335	0.524	0.837	1.018	1.681	3.099	4.026	6.696
CROSSES BANDED EQUAL (+LB)	0.123	0.174	0.335	0.463	0.661	1.073	1.542	2.007	3.198	5.764	7.291	11.573
UNIONS F/F (UCF)	0.233	0.194	0.304	0.374	0.555	0.881	1.225	1.555	2.427	3.888	5.077	8.189
UNIONS M/F (UCM)	0.242	0.236	0.328	0.421	0.615	0.919	1.295	1.685	2.639	4.405	6.068	9.471
UNIONS B/W (UCB)	-	0.194	0.304	0.374	0.555	0.881	1.225	1.555	2.427	3.888	5.077	8.189
ROUND CAPS (RCB)	0.033	0.064	0.121	0.161	0.209	0.352	0.476	0.599	1.011	1.579	2.630	4.427
SQUARE HEAD PLUGS (SPG)	0.018	0.033	0.055	0.055	0.132	0.163	0.278	0.363	0.599	0.874	1.280	1.980
HEX HEAD PLUGS (HPG)	0.033	0.059	0.077	0.115	0.187	0.267	0.383	0.537	0.815	1.467	2.117	3.084
HEX CAPS (HCB)	0.040	0.062	0.066	0.117	0.176	0.256	0.445	0.546	0.808	1.800	2.595	4.167
HEX NUTS (HNT)	0.033	0.042	0.064	0.088	0.101	0.189	0.269	0.313	0.507	0.819	0.967	1.709
HEX BUSHINGS (HBU)	-	0.035	0.064	0.101	0.167	0.275	0.388	0.537	0.883	1.463	2.286	4.126
REDUCING HEX NIPPLE (RNP)	-	0.048	0.086	0.137	0.211	0.311	0.445	0.630	0.872	1.566	2.207	3.326
HEX NIPPLE (HNP)	0.033	0.055	0.097	0.148	0.211	0.374	0.511	0.665	0.894	1.683	2.128	2.916
HOSE NIPPLE (ONP)	-	0.068	0.106	0.170	0.302	0.465	0.588	0.808	1.335	2.233	3.194	5.496
COUPLINGS/SOCKETS (FCP)	0.029	0.070	0.077	0.156	0.211	0.359	0.498	0.588	0.835	2.059	2.747	5.280
COUPLINGS/SOCKETS (HCP)	0.018	0.033	0.040	0.077	0.110	0.172	0.244	0.291	0.403	1.020	1.401	2.590
REDUCING COUPLINGS (RSB)	-	0.073	0.156	0.218	0.302	0.471	0.678	0.844	1.289	2.401	3.736	5.910
BARREL NIPPLE (BNP)	0.017	0.029	0.038	0.083	0.111	0.164	0.292	0.347	0.579	0.921	1.454	2.071
WELDING NIPPLE (WNP)	0.013	0.023	0.030	0.051	0.076	0.112	0.189	0.225	0.303	0.568	0.862	1.381

unit:pcs

SIZE / ITEM	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
90° ELBOWS BANDED EQUAL (P9B)	400	400	200	100	75	40	25	18	10	5	3	1
TEES BANDED EQUAL (PTB)	*200	250	125	75	50	30	16	14	8	4	2	1
45° ELBOWS BANDED EQUAL (P4B)	550	400	200	125	75	50	30	20	12	6	4	2
STREET ELBOWS 90 BANDED (PSL)	600	400	250	150	75	40	25	18	10	6	4	2
CROSSES BANDED EQUAL (P+B)	250	150	100	50	40	20	14	12	6	3	2	1
UNIONS F/F (PFF)	200	175	125	75	50	30	25	18	10	6	4	2
ROUND CAPS (PRC)	800	600	400	250	150	100	60	50	30	18	12	6
SQUARE HEAD PLUGS (PSP)	*900	*800	600	400	250	175	100	60	40	24	20	8
HEX HEAD PLUGS (PHP)	1,000	750	600	350	200	120	70	60	30	18	12	5
HEX NUTS (PHT)	1,000	1,000	600	500	300	200	150	120	50	40	25	15
HEX BUSHINGS (PHB)	-	900	600	350	225	125	90	64	40	24	12	6
COUPLINGS/SOCKETS (PFC)	450	400	250	150	100	70	40	30	24	12	8	4
HALF COUPLINGS (PHC)	1,200	600	400	300	200	125	120	90	48	24	16	8
REDUCING COUPLINGS (PRS)	-	500	250	150	100	50	36	30	18	10	8	3

SIZE OF CARTON:1).1in x 0.65in x 0.89in

*2).1in x 0.65in x 0.45in

sales@shawstainless.com

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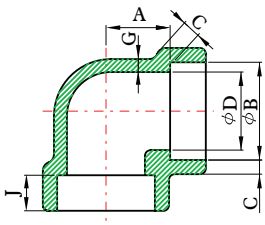
unit:LB/PC

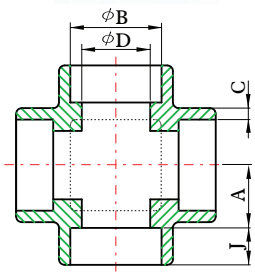
ITEM \ SIZE	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
90° ELBOWS BANDED EQUAL (P9B)	0.104	0.110	0.181	0.262	0.434	0.679	1.019	1.387	2.159	2.889	4.679	8.423
TEES BANDED EQUAL (PTB)	0.154	0.168	0.260	0.370	0.604	0.915	1.409	1.826	2.889	3.797	5.799	10.203
45° ELBOWS BANDED EQUAL (P4B)	0.101	0.112	0.174	0.247	0.395	0.595	0.926	1.171	1.859	2.304	3.757	6.284
STREET ELBOWS 90 BANDED (PSL)	0.073	0.099	0.163	0.238	0.386	0.613	0.990	1.369	2.176	3.614	5.570	10.198
CROSSES BANDED EQUAL (P+B)	0.165	0.201	0.300	0.432	0.692	1.072	1.592	2.093	3.301	5.129	6.860	12.302
UNIONS F/F (PFF)	0.212	0.194	0.306	0.392	0.564	0.875	1.305	1.658	2.529	4.359	5.521	8.884
ROUND CAPS (PRC)	0.046	0.060	0.088	0.137	0.223	0.384	0.617	0.794	1.208	1.722	2.690	4.666
SQUARE HEAD PLUGS (PSP)	0.034	0.073	0.126	0.199	0.306	0.564	0.895	1.220	1.896	3.083	4.493	8.509
HEX HEAD PLUGS (PHP)	0.044	0.083	0.151	0.229	0.370	0.588	0.977	1.303	2.052	3.447	5.465	9.384
HEX NUTS (PHT)	0.013	0.026	0.042	0.057	0.090	0.132	0.203	0.271	0.437	0.725	0.882	1.469
HEX BUSHINGS (PHB)	-	0.020	0.035	0.073	0.128	0.216	0.373	0.525	0.904	1.413	2.159	4.161
COUPLINGS/SOCKETS (PFC)	0.209	0.233	0.360	0.559	0.856	1.293	2.061	2.664	4.128	4.672	6.904	11.304
HALF COUPLINGS (PHC)	0.117	0.136	0.199	0.316	0.462	0.705	1.138	1.512	2.261	2.757	4.079	6.379
REDUCING COUPLINGS (PRS)	-	0.077	0.112	0.176	0.265	0.421	0.626	0.847	1.330	2.044	2.994	5.074

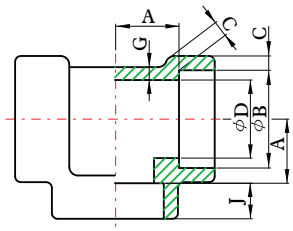
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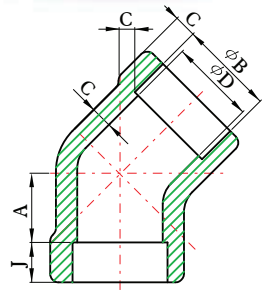










90° ELBOW CROSS TEE 45° ELBOW

DIMENSIONS

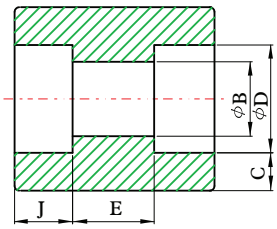
unit : inch

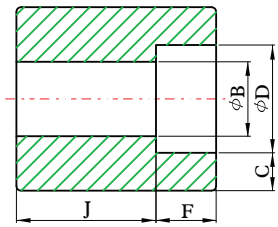
DN	Nom. Pipe Size	Socket Bore Dia. (2) B	Bore Diameter of Fitting (2) D		Socket Wall Thickness (1) C				Body Wall Thickness G		Depth of Socket Min. J
			Class Designation		Class Designation				Class Designation		
					3000		6000		3000	6000	
			3000	6000	Ave.	Min.	Ave.	Min.	Min.	Min.	
6	1/8	0.441 0.425	0.299 0.240	0.189 0.126	0.125	0.125	0.156	0.135	0.095	0.124	0.374
8	1/4	0.575 0.559	0.394 0.335	0.280 0.220	0.149	0.130	0.181	0.158	0.119	0.145	0.374
10	3/8	0.709 0.693	0.524 0.465	0.390 0.331	0.158	0.138	0.198	0.172	0.126	0.158	0.374
15	1/2	0.874 0.858	0.654 0.591	0.492 0.433	0.184	0.161	0.235	0.204	0.147	0.188	0.374
20	3/4	1.087 1.071	0.854 0.795	0.642 0.583	0.193	0.168	0.274	0.238	0.154	0.219	0.492
25	1	1.350 1.335	1.079 1.020	0.846 0.783	0.224	0.196	0.312	0.273	0.179	0.250	0.492
32	1-1/4	1.697 1.681	1.409 1.350	1.189 1.130	0.239	0.208	0.312	0.273	0.191	0.250	0.492
40	1-1/2	1.937 1.921	1.638 1.579	1.366 1.307	0.250	0.218	0.351	0.307	0.200	0.281	0.492
50	2	2.429 2.409	2.098 2.035	1.717 1.657	0.273	0.238	0.430	0.374	0.218	0.344	0.630
65	2-1/2	2.929 2.909	2.528 2.409		0.345	0.302			0.276		0.630
80	3	3.555 3.535	3.126 3.008		0.375	0.327			0.300		0.630
100	4	4.555 4.535	4.087 3.965		0.421	0.368			0.337		0.748

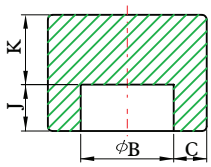












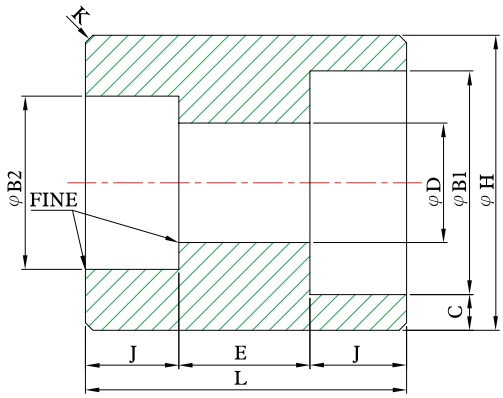
COUPLING HALF COUPLING CAP

DIMENSIONS

unit : inch

Center to Bottom of Socket-A				Laying Lengths		Tolerances ±			End Wall Thickness K Min.		Nom. Pipe Size	DN
90° Elbows Tees, Crosses		45° Elbows		Coupling E	Half Coupling F	A	E	F				
Class Designation		Class Designation							Class Designation			
3000	6000	3000	6000						3000	6000		
0.433	0.433	0.315	0.315	0.256	0.630	0.039	0.059	0.039	0.189	0.252	1/8	6
0.433	0.531	0.315	0.315	0.256	0.630	0.039	0.059	0.039	0.189	0.252	1/4	8
0.531	0.610	0.315	0.433	0.256	0.689	0.059	0.118	0.059	0.189	0.252	3/8	10
0.610	0.748	0.433	0.492	0.374	0.886	0.059	0.118	0.059	0.252	0.311	1/2	15
0.748	0.886	0.512	0.551	0.374	0.945	0.059	0.118	0.059	0.252	0.311	3/4	20
0.886	1.063	0.551	0.689	0.492	1.122	0.079	0.157	0.079	0.378	0.441	1	25
1.063	1.260	0.689	0.807	0.492	1.181	0.079	0.157	0.079	0.378	0.441	1-1/4	32
1.260	1.496	0.807	1.004	0.492	1.260	0.079	0.157	0.079	0.441	0.500	1-1/2	40
1.496	1.614	1.004	1.122	0.748	1.614	0.079	0.157	0.079	0.500	0.618	2	50
1.614		1.122		0.748	1.693	0.098	0.197	0.098	0.618	0.748	2-1/2	65
2.244		1.260		0.748	1.752	0.098	0.197	0.098	0.748	0.882	3	80
2.618		1.614		0.748	1.890	0.098	0.197	0.098	0.882	1.118	4	100



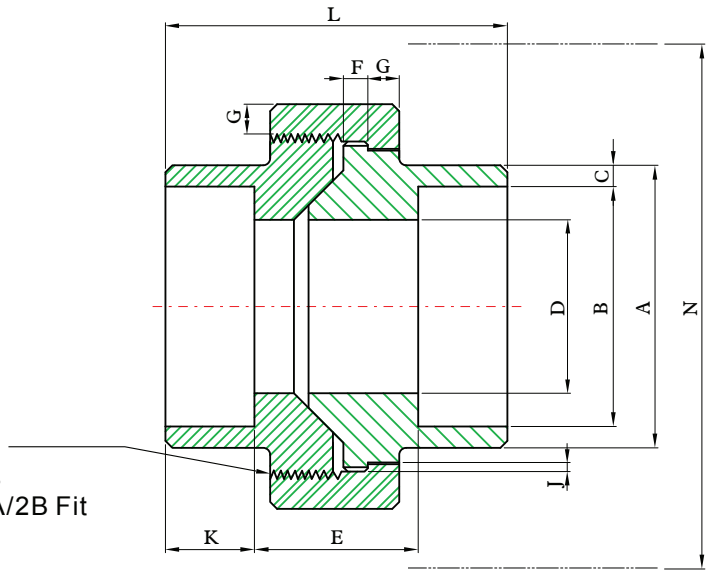


DIMENSIONS

unit : inch

SIZE	B1	B2	D	C (Min)	H (Min)	J	E	L
1/4 x1/8	0.56	0.43	0.27	0.15	0.86	0.41	0.26	1.08
3/8 x1/8	0.70	0.43	0.27	0.16	1.02	0.41	0.26	1.12
3/8 x1/4	0.70	0.56	0.37	0.16	1.02	0.41	0.26	1.12
1/2x1/8	0.86	0.43	0.27	0.19	1.23	0.49	0.37	1.36
1/2 x1/4	0.11	0.56	0.37	0.19	1.23	0.49	0.37	1.36
1/2 x3/8	0.86	0.70	0.50	0.19	1.23	0.49	0.37	1.36
3/4x1/8	1.07	0.43	0.27	0.19	1.46	0.55	0.37	1.48
3/4x1/4	1.07	0.56	0.37	0.19	1.46	0.55	0.37	1.48
3/4 x3/8	1.07	0.70	0.50	0.19	1.46	0.55	0.37	1.48
3/4 x1/2	1.07	0.86	0.62	0.19	1.46	0.55	0.37	1.48
1x1/8	1.34	0.43	0.27	0.22	1.79	0.59	0.49	1.69
1x1/4	1.34	0.56	0.37	0.22	1.79	0.59	0.49	1.69
1 x3/8	1.34	0.70	0.50	0.22	1.79	0.59	0.49	1.69
1 x1/2	1.34	0.86	0.62	0.22	1.79	0.59	0.49	1.69
1 x3/4	1.34	1.07	0.83	0.22	1.79	0.59	0.49	1.69
1-1/4x1/8	1.69	0.43	0.27	0.24	2.17	0.67	0.49	1.85
1-1/4x1/4	1.69	0.56	0.37	0.24	2.17	0.67	0.49	1.85
1-1/4x3/8	1.69	0.70	0.50	0.24	2.17	0.67	0.49	1.85
1-1/4 x1/2	1.69	0.86	0.62	0.24	2.17	0.67	0.49	1.85
1-1/4 x3/4	1.69	1.07	0.83	0.24	2.17	0.67	0.49	1.85
1-1/4 x1	1.69	1.34	1.05	0.24	2.17	0.67	0.49	1.85
1-1/2x1/8	1.93	0.43	0.27	0.25	2.43	0.69	0.49	1.89
1-1/2x1/4	1.93	0.56	0.37	0.25	2.43	0.69	0.49	1.89
1-1/2x3/8	1.93	0.70	0.50	0.25	2.43	0.69	0.49	1.89
1-1/2 x1/2	1.93	0.86	0.62	0.25	2.43	0.69	0.49	1.89
1-1/2 x3/4	1.93	1.07	0.83	0.25	2.43	0.69	0.49	1.89
1-1/2 x1	1.93	1.34	1.05	0.25	2.43	0.69	0.49	1.89
1-1/2 x1-1/4	1.93	1.69	1.38	0.25	2.43	0.69	0.49	1.89
2x1/8	2.42	0.43	0.27	0.27	2.96	0.87	0.75	2.48
2x1/4	2.42	0.56	0.37	0.27	2.96	0.87	0.75	2.48
2x3/8	2.42	0.70	0.50	0.27	2.96	0.87	0.75	2.48
2x1/2	2.42	0.86	0.62	0.27	2.96	0.87	0.75	2.48
2 x3/4	2.42	1.07	0.83	0.27	2.96	0.87	0.75	2.48
2 x1	2.42	1.34	1.05	0.27	2.96	0.87	0.75	2.48
2 x1-1/4	2.42	1.69	1.38	0.27	2.96	0.87	0.75	2.48
2 x1-1/2	2.42	1.93	1.61	0.27	2.96	0.87	0.75	2.48
2-1/2 x1-1/4	2.92	1.69	1.38	0.35	3.61	0.87	0.75	2.48
2-1/2 x1-1/2	2.92	1.93	1.61	0.35	3.61	0.87	0.75	2.48
2-1/2 x2	2.92	2.42	2.07	0.35	3.61	0.87	0.75	2.48
3 x1-1/2	3.54	1.93	1.61	0.38	4.30	0.87	0.75	2.48
3 x2	3.54	2.42	2.07	0.38	4.30	0.87	0.75	2.48
3 x2-1/2	3.54	2.92	2.47	0.38	4.30	0.87	0.75	2.48
4 x2	4.54	2.42	2.07	0.42	5.39	0.87	0.75	2.48
4 x2-1/2	4.54	2.92	2.47	0.42	5.39	0.87	0.75	2.48
4 x3	4.54	3.54	3.07	0.42	5.39	0.87	0.75	2.48



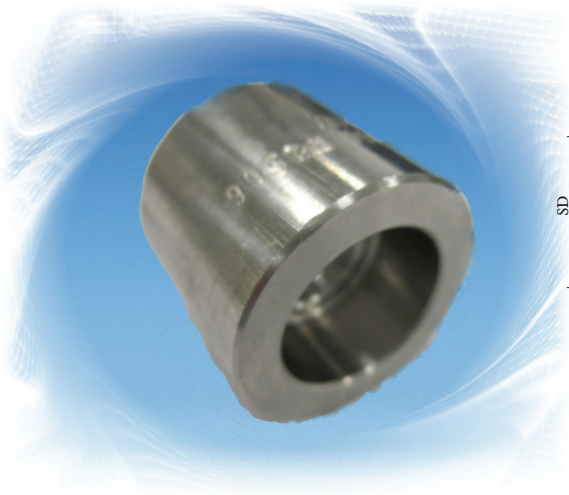


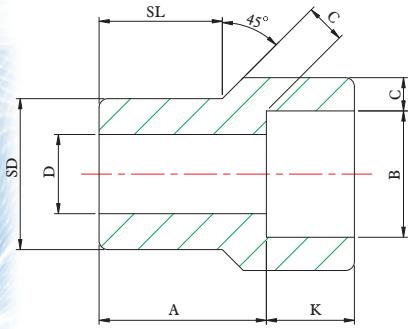
H-Thrd's
Minimum 4 Full Thrd's
Engagement Class 2A/2B Fit

DIMENSIONS

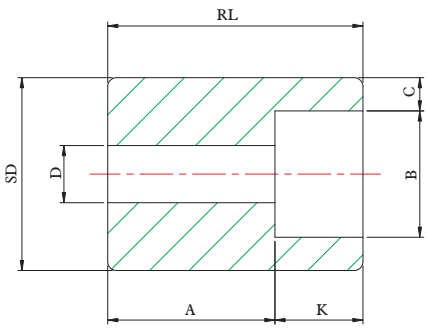
unit : inch

Nom. Pipe Size	Pipe End Min. A	Socket Bore Dia. B	Socket Wall Min. C	Water Way Bore D	Laying Length E	Male Flange Min. F	Nut Min. G	Thrds. Per 25.4mm Max. H	Bearing Min. J	Depth of Socket Min. K	Length Assem. Nom. L	Clear Assem. Nut N
1/8	0.858	0.430 0.420	0.125	0.269 0.253	0.882 0.748	0.125	0.125	0.630	0.049	0.378	1.630	1.929
1/4	0.858	0.560 0.550	0.130	0.388 0.372	0.882 0.748	0.125	0.125	0.630	0.049	0.378	1.630	1.929
3/8	1.020	0.700 0.690	0.137	0.548 0.532	1.059 0.811	0.135	0.135	0.551	0.054	0.378	1.811	2.165
1/2	1.228	0.860 0.850	0.160	0.688 0.672	1.059 0.811	0.145	0.145	0.551	0.059	0.378	1.929	2.244
3/4	1.461	1.070 1.060	0.168	0.858 0.842	1.252 1.000	0.160	0.160	0.433	0.066	0.500	2.240	2.638
1	1.791	1.340 1.330	0.195	1.108 1.092	1.350 1.031	0.180	0.175	0.433	0.073	0.500	2.441	3.110
1-1/4	2.161	1.680 1.670	0.208	1.408 1.392	1.598 1.280	0.210	0.205	0.433	0.084	0.500	2.799	3.701
1-1/2	2.421	1.920 1.910	0.218	1.638 1.622	1.661 1.339	0.230	0.220	0.394	0.091	0.500	3.012	4.370
2	2.961	2.420 2.410	0.238	2.068 2.052	1.791 1.469	0.260	0.250	0.394	0.106	0.622	3.390	5.197
2-1/2	3.610	2.920 2.900	0.301	2.548 2.532	2.429 2.051	0.295	0.280	0.315	0.121	0.622	4.031	5.827
3	4.299	3.550 3.530	0.327	3.058 3.042	2.512 2.110	0.325	0.315	0.315	0.139	0.622	4.291	6.890





TYPE 1



TYPE 2 (1)

DIMENSIONS

unit : inch

Nom. Pipe Size	Type (2)		Socket		Shank Dia. SD	Laying Length A		Bore D		Wall (Min) C		Length			
			Dia.	Depth (Min)								SL		RL (Min)	
	3M	6M	B	K		3M	6M	3M	6M	3M	6M	3M	6M	3M	6M
3/8 X 1/4	1	1	0.56	0.39	0.68	0.75	0.83	0.35	0.26	0.15	0.18	0.55	0.63	-	-
1/2 X 3/8	1	1	0.70	0.39	0.84	0.83	0.91	0.49	0.35	0.16	0.20	0.63	0.63	-	-
1/2 X 1/4	1	1	0.56	0.39	0.84	0.83	0.83	0.35	0.26	0.15	0.18	0.63	0.63	-	-
3/4 X 1/2	1	1	0.86	0.39	1.05	0.87	0.98	0.63	0.47	0.18	0.24	0.67	0.75	-	-
3/4 X 3/8	2	1	0.70	0.39	1.05	0.63	0.87	0.49	0.35	0.16	0.20	-	0.75	1.06	-
3/4 X 1/4	2	2	0.56	0.39	1.05	0.71	0.87	0.35	0.26	0.15	0.18	-	-	1.06	1.26
1 X 3/4	1	1	1.08	0.51	1.31	0.94	1.10	0.83	0.61	0.19	0.27	0.75	0.83	-	-
1 X 1/2	2	1	0.86	0.39	1.31	0.63	1.10	0.63	0.47	0.18	0.24	-	0.83	1.10	-
1 X 3/8	2	2	0.70	0.39	1.31	0.71	0.87	0.49	0.35	0.16	0.20	-	-	1.10	1.30
1 X 1/4	2	2	0.56	0.39	1.31	0.75	0.94	0.35	0.26	0.15	0.18	-	-	1.10	1.30
1-1/4 X 1	1	1	1.34	0.51	1.66	0.98	1.18	1.04	0.81	0.22	0.31	0.83	0.87	-	-
1-1/4 X 3/4	2	2	1.08	0.51	1.66	0.71	0.83	0.83	0.61	0.19	0.27	-	-	1.26	1.38
1-1/4 X 1/2	2	2	0.86	0.39	1.66	0.75	0.87	0.63	0.47	0.18	0.24	-	-	1.26	1.38
1-1/4 X 3/8	2	2	0.70	0.39	1.66	0.83	0.94	0.49	0.35	0.16	0.20	-	-	1.26	1.38
1-1/4 X 1/4	2	2	0.56	0.39	1.66	0.87	0.98	0.35	0.26	0.15	0.18	-	-	1.26	1.38
1-1/2 X 1-1/4	1	1	1.69	0.51	1.90	1.10	1.38	1.38	1.15	0.24	0.31	0.87	0.98	-	-
1-1/2 X 1	2	1	1.34	0.51	1.90	0.71	1.13	1.04	0.81	0.22	0.31	-	0.98	1.30	-
1-1/2 X 3/4	2	2	1.08	0.51	1.90	0.75	0.98	0.83	0.61	0.19	0.27	-	-	1.30	1.57
1-1/2 X 1/2	2	2	0.86	0.39	1.90	0.83	1.06	0.63	0.47	0.18	0.24	-	-	1.30	1.57
1-1/2 X 3/8	2	2	0.70	0.39	1.90	0.87	1.10	0.49	0.35	0.16	0.20	-	-	1.30	1.57
2 X 1-1/2	1	1	1.93	0.51	2.38	1.26	1.54	1.61	1.34	0.25	0.35	0.98	1.10	-	-
2 X 1-1/4	2	2	1.69	0.51	2.38	0.83	0.94	1.38	1.15	0.24	0.31	-	-	1.50	1.61
2 X 1	2	2	1.34	0.51	2.38	0.87	0.98	1.04	0.83	0.22	0.31	-	-	1.50	1.61
2 X 3/4	2	2	1.08	0.51	2.38	0.94	1.06	0.83	0.61	0.19	0.27	-	-	1.50	1.61
2 X 1/2	2	2	0.86	0.39	2.37	0.98	1.10	0.62	0.47	0.18	0.23	-	-	1.50	1.61

1.At the option of the manufacturer type 2 Reducers may be furnished in type 1 configuration .

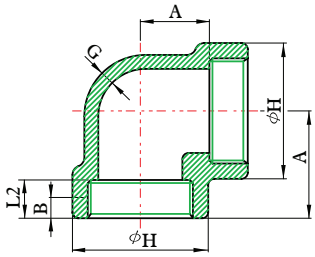
2.3M & 6M symbols 3000 and 6000 classes .

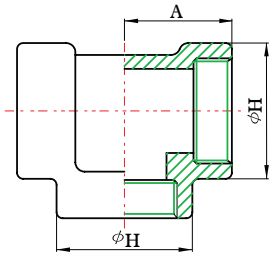


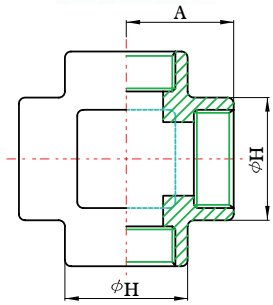


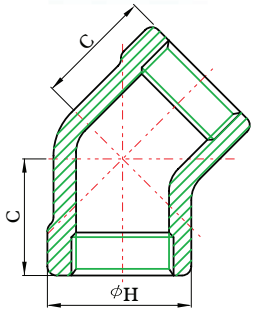












90° ELBOW TEE CROSS 45°ELBOW

DIMENSIONS

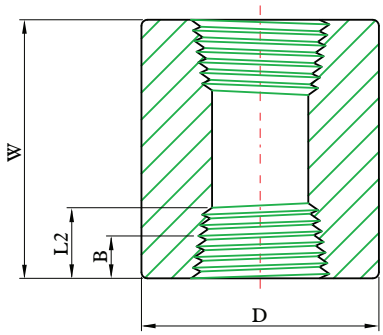
unit : inch

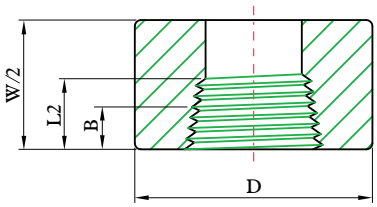
DN	Nom. Pipe Size	Center to End Elbows, Tees, Cross A		Center to End 45° Elbow C		Outside Diameter of Band H		Minimum Wall Thickness G		Length of Thread. Min. (1)	
		3000	6000	3000	6000	3000	6000	3000	6000	B	L2
6	1/8	0.827	0.984	0.669	0.748	0.866	0.984	0.125	0.250	0.252	0.264
8	1/4	0.984	1.102	0.748	0.866	0.984	1.299	0.130	0.260	0.319	0.402
10	3/8	1.102	1.299	0.866	0.984	1.299	1.496	0.138	0.275	0.358	0.409
15	1/2	1.299	1.496	0.984	1.102	1.496	1.811	0.161	0.321	0.429	0.535
20	3/4	1.496	1.732	1.102	1.299	1.811	2.205	0.170	0.336	0.500	0.547
25	1	1.732	2.008	1.299	1.378	2.205	2.441	0.196	0.391	0.579	0.681
32	1-1/4	2.008	2.362	1.378	1.693	2.441	2.953	0.208	0.417	0.669	0.709
40	1-1/2	2.362	2.520	1.693	1.732	2.953	3.307	0.219	0.436	0.701	0.724
50	2	2.520	3.268	1.732	2.047	3.307	4.016	0.281	0.476	0.748	0.756
65	2-1/2	3.268	3.740	2.047	2.520	4.016	4.764	0.301	0.602	0.929	1.138
80	3	3.740	4.173	2.520	3.110	4.764	5.748	0.348	0.655	1.020	1.201
100	4	4.488	4.488	3.110	3.110	5.984	5.984	0.440	0.735	1.091	1.299

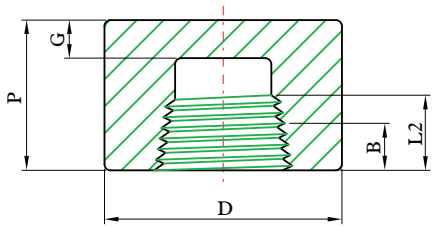










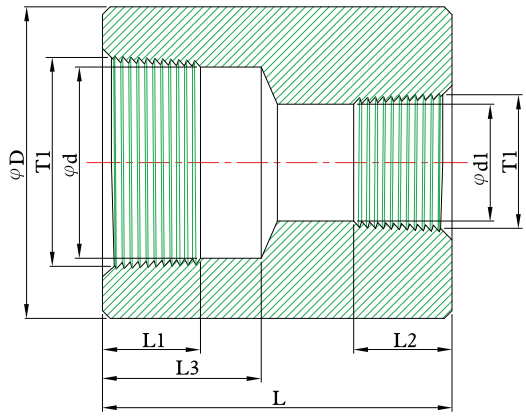


DIMENSIONS

unit : inch

DN	Nom. Pipe Size	End to End Couplings W	End to End Caps P		Outside Diameter D		End Wall Thickness G Min.		Length of Thread. Min (1)	
		3000 / 6000	3000	6000	3000	6000	3000	6000	B	L2
6	1/8	1.260	0.748	-----	0.630	0.866	0.189	-----	0.252	0.264
8	1/4	1.378	0.984	1.063	0.748	0.984	0.189	0.252	0.319	0.402
10	3/8	1.496	0.984	1.063	0.866	1.260	0.189	0.252	0.358	0.409
15	1/2	1.890	1.260	1.299	1.102	1.496	0.252	0.311	0.429	0.535
20	3/4	2.008	1.457	1.496	1.378	1.732	0.252	0.311	0.500	0.547
25	1	2.362	1.614	1.693	1.732	2.244	0.382	0.441	0.579	0.681
32	1-1/4	2.638	1.732	1.811	2.244	2.520	0.382	0.441	0.669	0.709
40	1-1/2	3.110	1.732	1.890	2.520	2.992	0.441	0.500	0.701	0.724
50	2	3.386	1.890	2.008	2.992	3.622	0.500	0.618	0.748	0.756
65	2-1/2	3.622	2.362	2.520	3.622	4.252	0.618	0.748	0.929	1.138
80	3	4.252	2.559	2.677	4.252	5.000	0.748	0.882	1.020	1.201
100	4	4.764	2.677	2.953	5.512	6.260	0.882	1.118	1.091	1.299



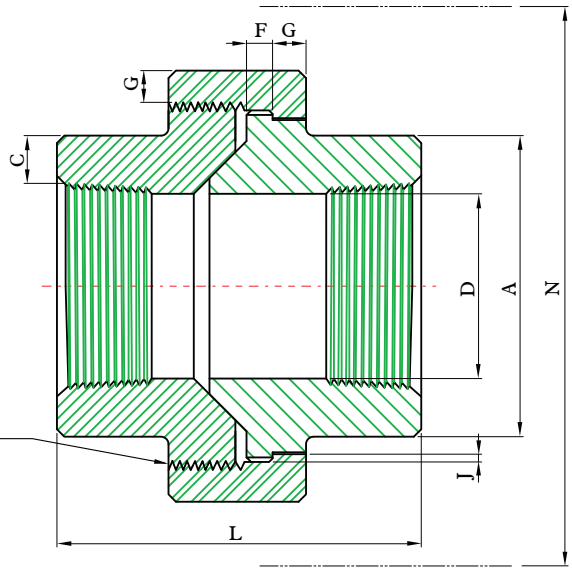


DIMENSIONS

unit : inch

SIZE	T1-n	T2-n	L	D	d	d1	L1	L2	L3
1/4 x1/8	0.71	1.06	1.38	0.75	0.44	0.32	0.50	0.35	0.69
3/8 x1/8	0.71	1.06	1.50	0.87	0.57	0.32	0.52	0.35	0.75
3/8 x1/4	0.71	0.71	1.50	0.87	0.57	0.44	0.52	0.50	0.75
1/2 x1/4	0.55	0.71	1.89	1.10	0.68	0.44	0.68	0.50	0.94
1/2 x3/8	0.55	0.71	1.89	1.10	0.68	0.57	0.68	0.52	0.94
3/4 x3/8	0.55	0.71	2.01	1.38	0.89	0.57	0.70	0.52	1.00
3/4 x1/2	0.55	0.55	2.01	1.38	0.89	0.68	0.70	0.68	1.00
1 x3/8	0.45	0.71	2.36	1.73	1.12	0.57	0.83	0.52	1.18
1 x1/2	0.45	0.55	2.36	1.73	1.12	0.68	0.83	0.68	1.18
1 x3/4	0.45	0.55	2.36	1.73	1.12	0.89	0.83	0.70	1.18
1-1/4 x1/2	0.45	0.55	2.64	2.24	1.46	0.68	0.85	0.68	1.32
1-1/4 x3/4	0.45	0.55	2.64	2.24	1.46	0.89	0.85	0.70	1.32
1-1/4 x1	0.45	0.45	2.64	2.24	1.46	1.12	0.85	0.83	1.32
1-1/2 x1/2	0.45	0.55	3.11	2.52	1.70	0.68	0.85	0.68	1.56
1-1/2 x3/4	0.45	0.55	3.11	2.52	1.70	0.89	0.85	0.70	1.56
1-1/2 x1	0.45	0.45	3.11	2.52	1.70	1.12	0.85	0.83	1.56
1-1/2 x1-1/4	0.45	0.45	3.11	2.52	1.70	1.46	0.85	0.85	1.56
2 x3/4	0.45	0.55	3.39	2.99	2.17	0.89	0.87	0.70	1.69
2 x1	0.45	0.45	3.39	2.99	2.17	1.12	0.87	0.83	1.69
2 x1-1/4	0.45	0.45	3.39	2.99	2.17	1.46	0.87	0.85	1.69
2 x1-1/2	0.45	0.45	3.39	2.99	2.17	1.70	0.87	0.85	1.69
2-1/2 x1	0.31	0.45	3.62	3.62	2.58	1.12	1.18	0.83	1.81
2-1/2 x1-1/4	0.31	0.45	3.62	3.62	2.58	1.46	1.18	0.85	1.81
2-1/2 x1-1/2	0.31	0.45	3.62	3.62	2.58	1.70	1.18	0.85	1.81
2-1/2 x2	0.31	0.45	3.62	3.62	2.58	2.17	1.18	0.87	1.81
3 x1	0.31	0.45	4.25	4.25	3.21	1.12	1.27	0.83	2.13
3 x1-1/4	0.31	0.45	4.25	4.25	3.21	1.46	1.27	0.85	2.13
3 x1-1/2	0.31	0.45	4.25	4.25	3.21	1.70	1.27	0.85	2.13
3 x2	0.31	0.45	4.25	4.25	3.21	2.17	1.27	0.87	2.13
3 x2-1/2	0.31	0.31	4.25	4.25	3.21	2.58	1.27	1.18	2.13
4 x1-1/4	0.31	0.45	4.76	5.51	4.20	1.46	1.34	0.85	2.38
4 x1-1/2	0.31	0.45	4.76	5.51	4.20	1.70	1.34	0.85	2.38
4 x2	0.31	0.45	4.76	5.51	4.20	2.17	1.34	0.87	2.38
4 x2-1/2	0.31	0.31	4.76	5.51	4.20	2.58	1.34	1.18	2.38





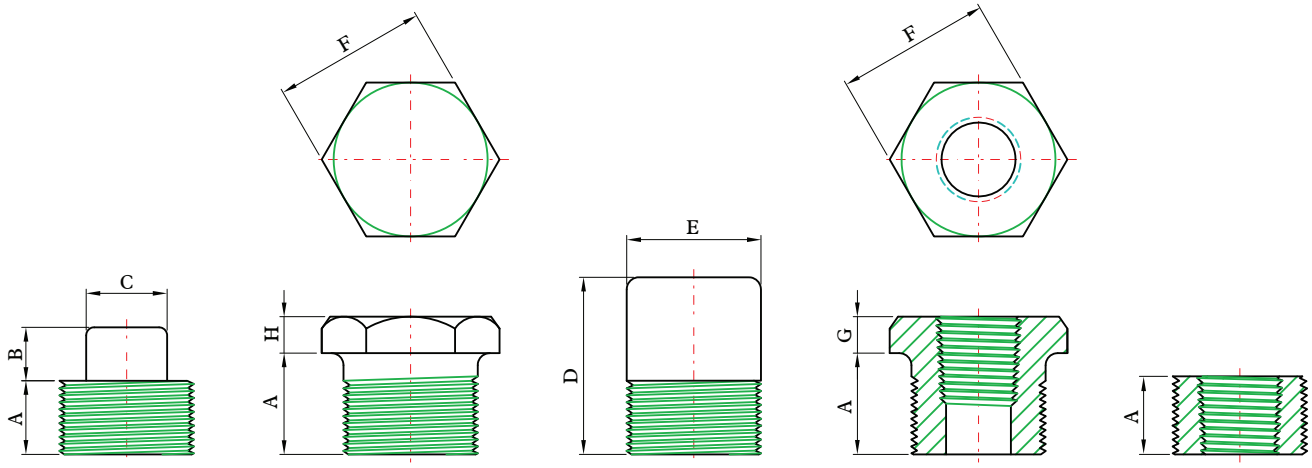
H-Thrd's
Minimum 4 Full Thrd's
Engagement Class 2A/2B Fit

DIMENSIONS

unit : inch

Nom. Pipe Size	Pipe End Min. A	Wall Min. C	Water Way Bore D	Male Flange Min. F	Nut Min. G	Thrds. Per 25.4mm Max. H	Bearing Min. J	Length Assem. L	Clear Assem. Nut N
1/8	0.579	0.095	0.269 0.253	0.125	0.126	0.630	0.049	1.630	1.929
1/4	0.748	0.119	0.388 0.372	0.125	0.126	0.630	0.049	1.630	1.929
3/8	0.902	0.126	0.548 0.532	0.135	0.134	0.551	0.054	1.811	2.165
1/2	1.091	0.147	0.688 0.672	0.145	0.146	0.551	0.059	1.929	2.244
3/4	1.319	0.154	0.858 0.842	0.160	0.161	0.433	0.066	2.240	2.638
1	1.630	0.179	1.108 1.092	0.180	0.173	0.433	0.073	2.441	3.110
1-1/4	1.988	0.191	1.408 1.392	0.210	0.205	0.433	0.084	2.799	3.701
1-1/2	2.252	0.200	1.638 1.622	0.230	0.220	0.394	0.091	3.008	4.370
2	2.760	0.218	2.068 2.052	0.260	0.252	0.394	0.106	3.390	5.197
2-1/2	3.358	0.276	2.548 2.532	0.295	0.280	0.315	0.121	4.031	5.827
3	4.031	0.300	3.058 3.042	0.325	0.315	0.315	0.139	4.291	6.890





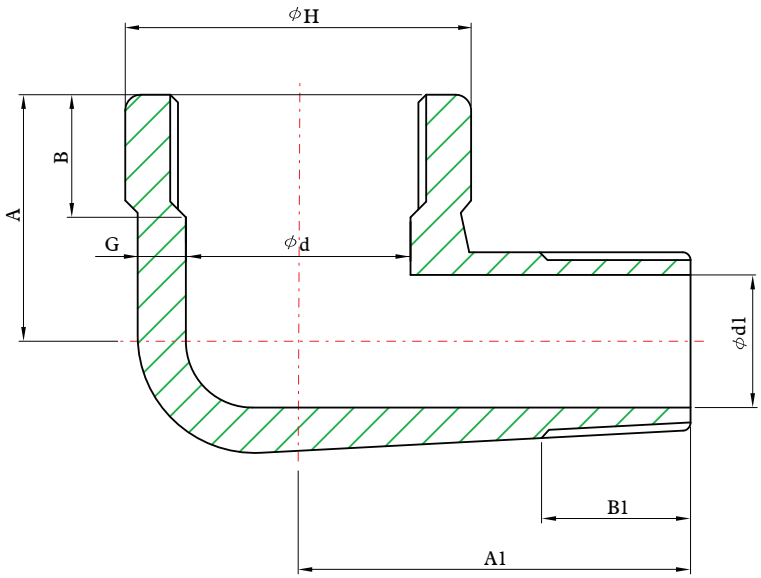
SQUARE HEAD PLUG | HEX HEAD PLUG | ROUND HEAD PLUG | HEX HEAD(1) BUSHING | FLUSH BUSHING

DIMENSIONS

unit : inch

DN	Nom. Pipe Size	Length (Min.) A	Plugs Square Head		Plugs Round Head		Hex Plugs & Bushings		
			Height of Square (Min.) B	Width Flats (Min.) C	Nominal Diameter of Head E	Length (Min.) D	Width Flats (Nom.) F	Hex Height (Min.)	
								Bushing G	Plug H
6	1/8	0.394	0.236	0.276	0.394	1.378	0.433	-----	0.236
8	1/4	0.433	0.236	0.394	0.551	1.614	0.630	0.118	0.236
10	3/8	0.512	0.315	0.433	0.709	1.614	0.709	0.157	0.315
15	1/2	0.551	0.394	0.551	0.827	1.732	0.866	0.197	0.315
20	3/4	0.630	0.433	0.630	1.063	1.732	1.063	0.236	0.394
25	1	0.748	0.512	0.827	1.299	2.008	1.417	0.236	0.394
32	1-1/4	0.827	0.551	0.945	1.693	2.008	1.811	0.276	0.551
40	1-1/2	0.827	0.630	1.102	1.890	2.008	1.969	0.315	0.630
50	2	0.866	0.709	1.260	2.362	2.520	2.559	0.354	0.709
65	2-1/2	1.063	0.748	1.417	2.874	2.756	2.953	0.394	0.748
80	3	1.102	0.827	1.614	3.504	2.756	3.543	0.394	0.827
100	4	1.260	0.984	2.559	4.488	2.992	4.528	0.512	0.984





DIMENSIONS

3000Lbs

unit : inch

Dim / Nom. Pipe Size	H	A	A1	d	d1	G (Min)	B (Min)	B1 (Min)
1/4	0.984	0.874	1.248	0.441	0.276	0.130	0.315	0.406
3/8	1.299	1.000	1.500	0.571	0.354	0.138	0.354	0.409
1/2	1.496	1.126	1.622	0.618	0.512	0.161	0.433	0.535
3/4	1.811	1.374	1.874	0.823	0.630	0.170	0.492	0.543
1	2.205	1.752	2.268	1.047	0.787	0.196	0.571	0.681
1-1/4	2.441	2.000	2.626	1.378	1.102	0.208	0.669	0.709
1-1/2	2.953	2.126	2.811	1.610	1.181	0.219	0.709	0.724
2	3.307	2.500	3.307	2.067	1.575	0.281	0.748	0.760

6000Lbs

unit : inch

Dim / Nom. Pipe Size	H	A	A1	d	d1	G (Min)	B (Min)	B1 (Min)
1/4	1.299	1.000	1.500	0.441	0.118	0.260	0.315	0.406
3/8	1.496	1.126	1.622	0.571	0.185	0.275	0.354	0.409
1/2	1.811	1.374	1.874	0.618	0.248	0.321	0.433	0.535
3/4	2.205	1.752	2.252	0.823	0.437	0.336	0.492	0.543
1	2.441	2.000	2.626	1.047	0.598	0.391	0.571	0.681
1-1/4	2.441	2.000	2.626	1.378	1.102	0.208	0.669	0.709
1-1/2	3.307	2.500	3.307	1.610	1.098	0.436	0.709	0.724

unit: pcs

SIZE NPS	90D ELB 3000# SW	90D ELB 3000# NPT 6000# SW	45D ELB 3000# SW	45D ELB 3000# NPT 6000# SW	TEE 3000# SW	TEE 3000# NPT 6000# SW	CPLG 3000# SW	CPLG 3000# NPT	UNION NPT SW	H.CPLG NPT SW	CAP 3000# NPT/SW	BUSH NPT	NIPPLE NPT	HEX PLUG NPT
1/4"	150	100	150	100	100	80	350	250	70	350	300	600	500	800
3/8"	100	80	100	80	80	50	250	200	70	300	250	500	400	600
½"	80	50	80	50	50	35	120	100	50	150	130	400	200	250
3/4"	50	30	50	30	35	20	80	70	35	120	80	200	120	200
1"	30	20	30	20	20	15	50	35	20	80	50	100	80	100
1-1/4"	20	15	20	15	15	10	30	20	14	50	30	70	35	35
1-1/2"	15	6	15	8	10	5	20	15	10	40	20	50	30	25
2"	8	5	10	6	6	4	15	10	6	20	15	25	15	17
2-1/2"	4	2	6	4	4	3	10	5	2	6	10	15	5	8
3"	2	1	3	2	2	1	6	3	1	5	4	10	3	6

SIZE OF CARTON:1.10in x 0.79in x 0.71in

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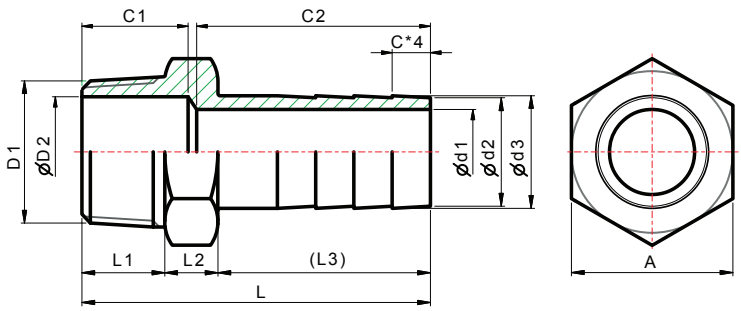
unit: lb / pc

SIZE	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
3000 LBS SCREWED												
90° ELBOW	0.22	0.31	0.59	0.90	1.59	2.27	2.89	4.87	5.44	9.98	17.11	29.23
45° ELBOW	0.18	0.26	0.53	0.75	1.19	2.03	2.14	4.05	4.25	7.62	11.98	19.74
TEE	0.29	0.29	0.84	1.23	1.85	3.74	4.30	7.00	8.00	13.74	20.99	37.97
COUPLING	0.11	0.11	0.13	0.29	0.42	0.86	1.50	2.18	3.02	4.56	6.78	11.98
HALF COUPLING	0.07	0.07	0.07	0.13	0.22	0.44	0.75	1.10	1.50	2.27	3.39	5.99
CAP	0.09	0.09	0.11	0.24	0.40	0.77	1.32	1.54	2.33	4.05	5.84	10.07
STREET ELBOW	0.22	0.31	0.59	0.90	1.45	2.14	2.89	4.87	5.44			
UNION	0.62	0.62	0.62	0.68	1.01	1.48	2.27	3.33	5.35	7.67	11.56	26.43
6000 LBS SCREWED												
90° ELBOW	0.37	0.66	0.99	1.59	2.53	3.55	5.88	7.05	13.00	21.76	36.19	
45° ELBOW	0.24	0.59	0.86	1.34	2.25	2.58	5.88	5.75	9.63	15.44	31.19	
TEE	0.44	0.93	1.39	2.16	3.63	4.82	7.75	9.74	17.36	28.88	49.56	
COUPLING	0.18	0.13	0.40	0.68	0.90	1.87	2.31	4.12	7.49	9.25	13.44	22.11
HALF COUPLING	0.09	0.09	0.20	0.35	0.44	0.95	1.17	2.00	3.74	4.63	6.72	11.06
CAP	0.13	0.13	0.20	0.31	0.44	0.75	1.30	1.70	3.24			
PLUG & BUSHING 3000 / 6000 LBS												
SQUARE HEAD	0.02	0.02	0.07	0.11	0.20	0.35	0.59	0.84	1.39	2.11	3.37	8.44
HEX HEAD	0.02	0.07	0.11	0.15	0.31	0.55	1.04	1.37	2.42	3.81	4.74	13.00
ROUND HEAD	0.04	0.11	0.15	0.26	0.44	0.75	1.21	1.59	3.11	4.87	7.18	13.24
BUSHING		0.02	0.02	0.07	0.11	0.20	0.55	0.75	0.99	1.32	2.56	7.05
3000 LBS SCREWED WELD												
90° ELBOW	0.20	0.22	0.22	0.48	0.68	1.17	1.59	2.14	3.77	8.37	12.11	24.12
45° ELBOW	0.15	0.13	0.20	0.44	0.57	0.88	1.41	1.70	2.69	7.86	11.23	20.73
TEE	0.24	0.20	0.33	0.70	0.93	1.43	2.18	2.97	4.56	8.59	13.00	31.28
COUPLING	0.09	0.11	0.15	0.29	0.42	0.59	1.08	1.30	2.14	3.13	4.14	7.29
HALF COUPLING	0.09	0.11	0.15	0.29	0.42	0.59	1.08	1.30	2.14	3.13	4.14	7.29
CAP	0.07	0.09	0.11	0.22	0.35	0.48	2.89	1.12	1.87	2.73	4.27	7.29
UNION	0.62	0.62	0.62	0.68	1.01	1.48	2.27	3.33	5.35	7.67	11.56	26.43
6000 LBS SCREWED WELD												
90° ELBOW				0.88	1.39	2.62	3.00	5.31	5.99	10.46	18.83	31.52
45° ELBOW				0.66	1.26	1.94	2.44	4.43	4.74	8.92	13.26	24.60
TEE				1.19	1.94	3.17	4.07	7.20	7.93	15.29	23.37	37.27
COUPLING				0.53	0.73	1.43	1.65	2.64	4.67	6.30	8.83	13.99
HALF COUPLING				0.53	0.73	1.43	1.65	2.64	4.67	6.30	8.83	13.99
CAP				0.42	0.57	1.17	1.41	2.14	3.61	4.89	7.60	13.28

STANDARD NIPPLE WEIGHT (LBS) CWT - MULTIPLY BY 1.3 FOR XH									
NOMINAL PIPE SIZE	CLOSE LENGTH	CLOSE	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2
1/8	3/4	1.2	2.6	3.6	4.8	5.8	6.8	7.8	8.6
1/4	7/8	2.5	4.4	6.0	7.6	9.2	10.2	13.0	14.0
3/8	1	3.4	6.0	7.8	10.0	12.2	15.0	17.6	19.6
1/2	1 1/8	5.6	8.0	11.6	14.8	18.2	21.6	25.2	28.6
3/4	1 3/8	9.6	11.2	15.8	19.8	24.2	28.8	32.0	38.0
1	1 1/2	14.8	-	22.0	25.2	35.6	39.6	47.0	52.6
1 1/4	1 5/8	22.5	-	32.0	40.0	48.5	60.0	61.5	71.5
1 1/2	1 3/4	29.5	-	32.0	46.5	56.0	68.0	79.5	91.0
2	2	40.0	-	-	61.5	71.0	93.0	107.0	122.5
2 1/2	2 1/2	73.0	-	-	-	95.0	135.0	145.0	179.5
3	2 5/8	119.0	-	-	-	148.5	167.5	206.0	237.5
4	2 7/8	194.4	-	-	-	200.0	-	298.8	362.5

STANDARD NIPPLE WEIGHT (LBS) CWT - MULTIPLY BY 1.3 FOR XH									
NOMINAL PIPE SIZE	5	5 1/2	6	7	8	9	10	11	12
1/8	10.6	11.2	12.0	14.6	16.4	18.9	20.6	22.4	24.6
1/4	15.4	18.0	20.2	22.4	26.8	29.8	35.2	38.4	42.0
3/8	22.2	23.0	26.4	32.4	35.0	39.2	47.6	50.6	51.8
1/2	31.6	35.8	38.6	47.4	52.0	59.0	66.2	73.4	79.8
3/4	42.6	46.6	52.4	64.5	72.5	81.5	91.0	99.0	109.0
1	62.4	66.0	77.4	88.5	100.5	115.0	128.0	150.0	154.5
1 1/4	80.5	94.0	97.0	117.0	139.0	171.0	201.0	221.1	230.0
1 1/2	99.5	109.5	127.0	137.0	165.0	197.0	207.0	233.0	243.0
2	137.0	155.0	166.5	194.6	220.0	260.0	290.0	319.0	346.0
2 1/2	204.0	216.0	237.5	285.0	315.0	354.6	405.0	445.5	510.0
3	267.0	295.0	317.0	396.6	450.0	505.0	595.0	600.0	680.0
4	367.5	452.5	443.8	505.0	595.0	700.0	755.0	830.5	925.0





DESIGN FEATURES:

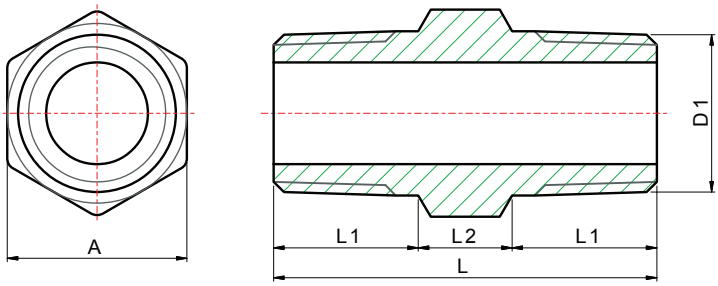
- THREAD: NPT
- CF8 (304) & CF8M (316)
- 21/2" NPT THREADED IS NOT AVAILABLE
- INCLUDING CF8 (304) ALL THREADS & CF8M (316) NPT THREAD

DIMENSIONS

unit : inch

SIZE	A	D1	D2	C	C1	C2	L	L1	L2	(L3)	d1	d2	d3
1/4"	0.63	1/4"	0.26	0.16	0.67	1.10	1.83	0.51	0.39	0.93	0.20	0.31	0.35
3/8"	0.75	3/8"	0.37	0.22	0.71	1.30	2.24	0.51	0.39	1.12	0.26	0.39	0.43
1/2"	0.98	1/2"	0.57	0.26	0.75	1.61	2.46	0.61	0.39	1.46	0.57	0.53	0.57
3/4"	1.22	3/4"	0.71	0.33	0.91	1.89	2.85	0.71	0.45	1.69	0.57	0.77	0.81
1"	1.50	1"	1.02	0.35	0.98	2.17	3.23	0.77	0.49	1.97	0.79	1.00	1.05
1 1/4"	1.81	1 1/4"	1.38	0.37	1.10	1.89	3.15	0.89	0.49	2.09	1.06	1.28	1.34
1 1/2"	2.05	1 1/2"	1.57	0.41	1.22	2.28	3.64	0.91	0.53	2.20	1.30	1.52	1.59
2"	2.56	2"	2.03	0.51	1.30	2.91	4.31	0.96	0.59	2.76	1.77	1.99	2.07
2 1/2"	3.15	2 1/2"	2.64	0.63	1.46	3.74	5.35	1.06	0.63	3.66	2.08	2.44	2.52
3"	3.78	3"	3.07	0.67	1.69	3.94	5.79	1.30	0.67	3.82	2.76	2.95	3.07
4"	4.72	4"	4.02	0.83	1.89	4.13	6.22	1.42	0.71	4.09	3.54	3.98	4.09





DESIGN FEATURES:

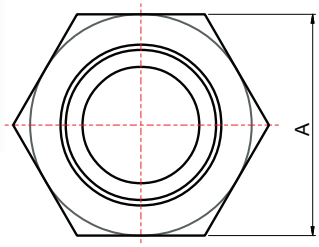
- THREAD: NPT
- CF8 (304) & CF8M (316).

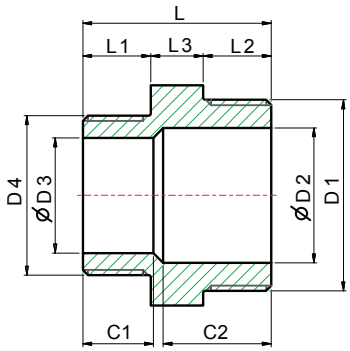
DIMENSIONS

unit : inch

SIZE	D 1	A	L	L 1	L 2
1/8"	1/8"	0.51	1.22	0.47	0.28
1/4"	1/4"	0.59	1.30	0.51	0.28
3/8"	3/8"	0.79	1.65	0.67	0.31
1/2"	1/2"	0.91	1.97	0.79	0.39
3/4"	3/4"	1.14	2.01	0.79	0.43
1"	1"	1.42	2.48	1.00	0.47
1 1/4"	1 1/4"	1.81	2.32	0.93	0.47
1 1/2"	1 1/2"	2.01	2.52	0.98	0.55
2"	2"	2.48	2.68	1.06	0.55
2 1/2"	2 1/2"	3.15	2.87	1.10	0.67
3"	3"	3.74	3.39	1.34	0.71
4"	4"	4.72	3.54	1.42	0.71







DESIGN FEATURES:

- THREAD: NPT
- CF8 (304) & CF8M (316).

DIMENSIONS

unit : inch

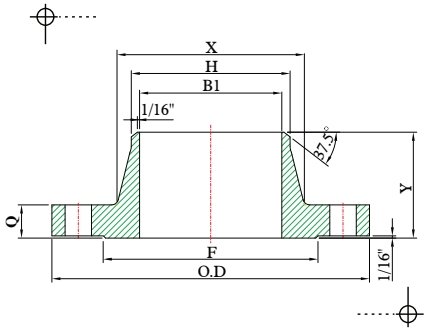
SIZE	A	D1	D2	D3	D4	C1	C2	L	L1	L2	L3
1/4"x1/8"	0.67	1/4"	0.33	0.20	1/8"	0.47	0.71	1.24	0.43	0.47	0.33
3/8"x1/8"	0.83	3/8"	0.41	0.20	1/8"	0.43	0.83	1.38	0.43	0.51	0.39
3/8"x1/4"	0.83	3/8"	0.41	0.33	1/4"	0.55	0.79	1.38	0.47	0.51	0.39
1/2"x1/8"	1.02	1/2"	0.57	0.20	1/8"	0.47	0.83	1.54	0.47	0.67	0.39
1/2"x1/4"	1.02	1/2"	0.57	0.33	1/4"	0.47	0.87	1.54	0.47	0.67	0.39
1/2"x3/8"	1.02	1/2"	0.57	0.41	3/8"	0.59	0.87	1.54	0.51	0.63	0.39
3/4"x1/8"	1.26	3/4"	0.79	0.20	1/8"	0.47	1.06	1.61	0.41	0.75	0.45
3/4"x1/4"	1.26	3/4"	0.79	0.33	1/4"	0.59	1.02	1.65	0.47	0.75	0.45
3/4"x3/8"	1.26	3/4"	0.79	0.41	3/8"	0.47	0.98	1.65	0.47	0.75	0.45
3/4"x1/2"	1.26	3/4"	0.79	0.57	1/2"	0.67	0.98	1.77	0.59	0.75	0.45
1"x1/4"	1.50	1"	1.00	0.33	1/4"	0.59	1.10	1.79	0.53	0.79	0.47
1"x3/8"	1.50	1"	1.00	0.41	3/8"	0.59	1.10	1.77	0.51	0.79	0.47
1"x1/2"	1.50	1"	1.00	0.57	1/2"	0.71	1.10	1.89	0.63	0.79	0.47
1"x3/4"	1.50	1"	1.00	0.79	3/4"	0.79	1.14	2.01	0.75	0.79	0.47
1 1/4"x1/4"	1.81	1 1/4"	1.34	0.33	1/4"	0.59	1.14	1.85	0.55	0.83	0.47
1 1/4"x3/8"	1.81	1 1/4"	1.34	0.41	3/8"	0.71	1.18	1.93	0.55	0.91	0.47
1 1/4"x1/2"	1.81	1 1/4"	1.34	0.57	1/2"	0.71	1.18	2.01	0.55	0.87	0.47
1 1/4"x3/4"	1.81	1 1/4"	1.34	0.79	3/4"	0.75	1.26	2.17	0.75	0.94	0.47
1 1/4"x1"	1.81	1 1/4"	1.34	1.00	1"	0.87	1.14	2.13	0.79	0.87	0.47

DIMENSIONS

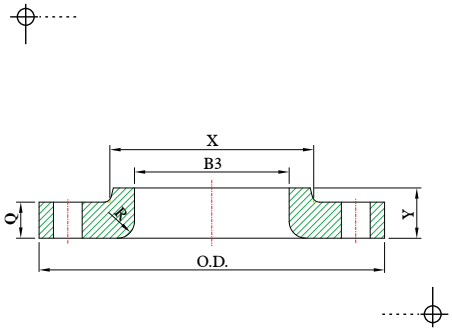
unit : inch

SIZE	A	D1	D2	D3	D4	C1	C2	L	L1	L2	L3
1 1/2"x1/4"	2.13	1 1/2"	1.54	0.33	1/4"	0.59	1.22	1.89	0.49	0.89	0.51
1 1/2"x3/8"	2.13	1 1/2"	1.54	0.41	3/8"	0.59	1.22	1.89	0.49	0.89	0.51
1 1/2"x1/2"	2.13	1 1/2"	1.54	0.57	1/2"	0.67	1.26	1.97	0.57	0.89	0.51
1 1/2"x3/4"	2.13	1 1/2"	1.54	0.79	3/4"	0.83	1.22	2.09	0.69	0.89	0.51
1 1/2"x1"	2.13	1 1/2"	1.54	1.00	1"	0.94	1.14	2.13	0.77	0.85	0.51
1 1/2"x1 1/4"	2.13	1 1/2"	1.54	1.34	1 1/4"	0.98	1.14	2.28	0.89	0.89	0.51
2"x1/4"	2.48	2"	2.01	0.33	1/4"	0.63	1.46	2.17	0.51	1.02	0.63
2"x3/8"	2.48	2"	2.01	0.41	3/8"	0.67	1.46	2.24	0.59	1.02	0.63
2"x1/2"	2.48	2"	2.01	0.57	1/2"	0.71	1.46	2.28	0.67	0.98	0.63
2"x3/4"	2.48	2"	2.01	0.79	3/4"	0.71.	1.42	2.36	0.71	1.02	0.63
2"x1"	2.48	2"	2.01	1.00	1"	0.87	1.42	2.44	0.79	1.02	0.63
2"x1 1/4"	2.48	2"	2.01	1.34	1 1/4"	0.91	1.46	2.48	0.83	1.02	0.63
2"x1 1/2"	2.48	2"	2.01	1.54	1 1/2"	0.98	1.46	2.56	0.91	1.02	0.63
2 1/2"x1/2"	3.15	2 1/2"	2.52	0.57	1/2"	0.79	1.54	2.44	0.63	1.18	0.63
2 1/2"x3/4"	3.15	2 1/2"	2.52	0.79	3/4"	0.87	1.50	2.48	0.71	1.14	0.63
2 1/2"x1"	3.15	2 1/2"	2.52	1.00	1"	0.94	1.50	2.56	0.79	1.14	0.63
2 1/2"x1 1/4"	3.15	2 1/2"	2.52	1.34	1 1/4"	1.02	1.46	2.64	0.87	1.14	0.63
2 1/2"x1 1/2"	3.15	2 1/2"	2.52	1.54	1 1/2"	1.06	1.50	2.68	0.91	1.14	0.63
2 1/2"x2"	3.15	2 1/2"	2.52	2.01	2"	1.10	1.46	2.72	0.98	1.10	0.63
3"x1/2"	3.74	3"	2.99	0.57	1/2"	1.04	1.65	2.60	0.63	1.30	0.67
3"x3/4"	3.74	3"	2.99	0.79	3/4"	0.87	1.69	2.83	0.91	1.26	0.67
3"x1"	3.74	3"	2.99	1.00	1"	0.94	1.69	2.76	0.79	1.30	0.67
3"x1 1/4"	3.74	3"	2.99	1.34	1 1/4"	1.02	1.69	2.83	0.87	1.30	0.67
3"x1 1/2"	3.74	3"	2.99	1.54	1 1/2"	1.06	1.69	2.87	0.91	1.30	0.67
3"x2"	3.74	3"	2.99	2.01	2"	1.14	1.69	2.95	0.98	1.30	0.67
3"x2 1/2"	3.74	3"	2.99	2.52	2 1/2"	1.22	1.69	3.03	1.06	1.30	0.67
4"x3/4"	4.72	4"	4.02	0.79	3/4"	0.87	1.89	2.87	0.71	1.50	0.67
4"x1"	4.72	4"	4.02	1.00	1"	0.98	1.89	2.95	0.79	1.50	0.67
4"x1 1/4"	4.72	4"	4.02	1.34	1 1/4"	0.98	1.89	2.99	0.83	1.50	0.67
4"x1 1/2"	4.72	4"	4.02	1.54	1 1/2"	1.18	1.89	3.19	1.02	1.50	0.67
4"x2"	4.72	4"	4.02	2.01	2"	1.14	1.89	3.15	0.98	1.50	0.67
4"x2 1/2"	4.72	4"	4.02	2.52	2 1/2"	1.26	1.89	3.27	1.10	1.50	0.67
4"x3"	4.72	4"	4.02	3.03	3"	1.42	1.89	3.43	1.26	1.50	0.67

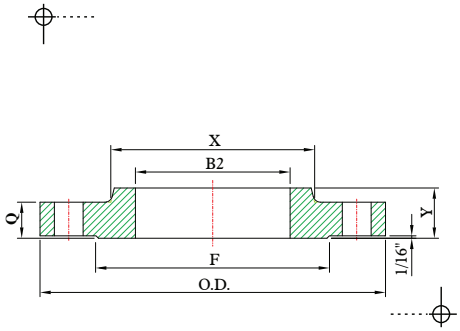
WELDING NECK



LAP JOINT



SLIP-ON

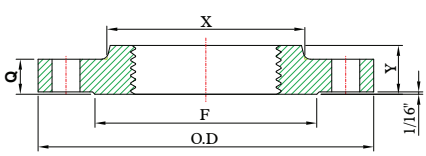


DIMENSIONS

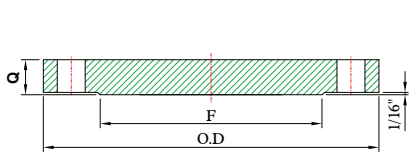
unit : inch

NOM. PIPE SIZE	FLANGE DIAMETER (O.D.)	FLANGE THICKNESS (Q) MIN. (1)	HUB DIA. AT BASE (X)	RAISED FACE DIA. (F)	HUB DIA. AT WELDING POINT (H)	BORE DIAMETER (B)			COUNTER BORE OF THREADED FLANGE (C)	DEPTH OF SOCKET (D)	LENGTH THROUGH HUB (Y)		
						(B1) WELDING NECK AND SOCKET WELD (2)	(B2) SLIP-ON AND SOCKET WELD MIN.	(B3) LAP JOINT MIN.			WELDING NECK	SLIP-ON SOCKET WELD AND THREADED	LAP JOINT
1/2	3.50	0.44	1.19	1.38	0.84	0.62	0.88	0.90	NO COUNTER BORE REQUIRED ON 150# THREADED FLANGES	0.38	1.88	0.62	0.62
3/4	3.88	0.50	1.50	1.69	1.05	0.82	1.09	1.11		0.44	2.06	0.62	0.62
1	4.25	0.56	1.94	2.00	1.32	1.05	1.36	1.38		0.50	2.19	0.69	0.69
1 1/4	4.62	0.62	2.31	2.50	1.66	1.38	1.70	1.72		0.56	2.25	0.81	0.81
1 1/2	5.00	0.69	2.56	2.88	1.90	1.61	1.95	1.97		0.62	2.44	0.88	0.88
2	6.00	0.75	3.06	3.62	2.38	2.07	2.44	2.46		0.69	2.50	1.00	1.00
2 1/2	7.00	0.88	3.56	4.12	2.88	2.47	2.94	2.97		0.75	2.75	1.12	1.12
3	7.50	0.94	4.25	5.00	3.50	3.07	3.57	3.60		0.81	2.75	1.19	1.19
31/2	8.50	0.94	4.81	5.50	4.00	3.55	4.07	4.10		0.88	2.81	1.25	1.25
4	9.00	0.94	5.31	6.19	4.50	4.03	4.57	4.60		0.94	3.00	1.31	1.31
5	10.00	0.94	6.44	7.31	5.56	5.05	5.66	5.69		0.94	3.50	1.44	1.44
6	11.00	1.00	7.56	8.50	6.63	6.07	6.72	6.75		1.06	3.50	1.56	1.56
8	13.50	1.12	9.69	10.62	8.63	7.98	8.72	8.75		1.25	4.00	1.75	1.75
10	16.00	1.19	12.00	12.75	10.75	10.02	10.88	10.92		1.31	4.00	1.94	1.94
12	19.00	1.25	14.38	15.00	12.75	12.00	12.88	12.92		1.56	4.50	2.19	2.19
14	21.00	1.38	15.75	16.25	14.00	13.25	14.14	14.18		1.63	5.00	2.25	3.12
16	23.50	1.14	18.00	18.50	16.00	15.25	16.16	16.19		1.75	5.00	2.50	3.44
18	25.00	1.56	19.88	21.00	18.00	17.25	18.18	18.20		1.94	5.50	2.69	3.81
20	27.50	1.69	22.00	23.00	20.00	19.25	20.20	20.25		2.12	5.69	2.88	4.06
24	32.00	1.88	26.12	27.25	24.00	23.25	24.25	24.25		2.50	6.00	3.25	4.38

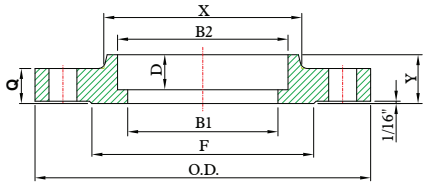
THREADED



BLIND



SOCKET WELD



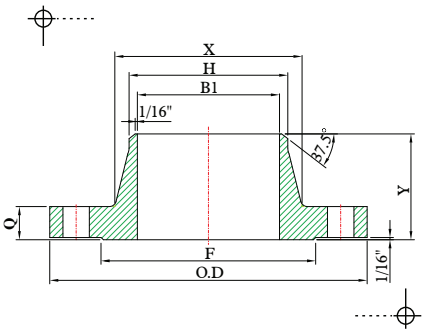
DIMENSIONS

unit : inch

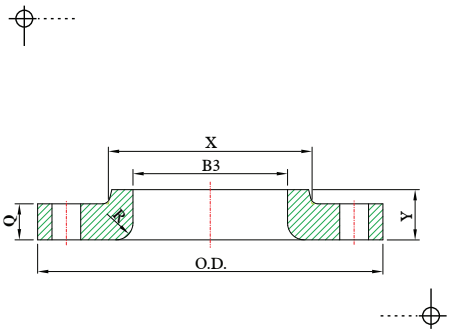
NOM. PIPE SIZE	MIN. THREAD LENGTH	RADIUS (R) LAP JOINT	DRILLING			BOLTING			
			DIAMETER OF BOLT CIRCLE	NO. OF HOLES	DIA. OF HOLES	DIA. OF BOLTS	MACHINE BOLT LENGTH	STUD BOLT LENGTH	
							Raised Face .06"	Raised Face .06"	Ring Joint
1/2	0.62	0.12	2.38	4	0.62	1/2	2.00	2.50	-
3/4	0.62	0.12	2.75	4	0.62	1/2	2.25	2.50	-
1	0.69	0.12	3.12	4	0.62	1/2	2.25	2.75	3.25
1 1/4	0.81	0.19	3.50	4	0.62	1/2	2.50	2.75	3.25
1 1/2	0.88	0.25	3.88	4	0.62	1/2	2.50	3.00	3.50
2	1.00	0.31	4.75	4	0.75	5/8	2.75	3.25	3.75
2 1/2	1.12	0.31	5.50	4	0.75	5/8	3.00	3.50	4.00
3	1.19	0.38	6.00	4	0.75	5/8	3.25	3.75	4.25
3 1/2	1.25	0.38	7.00	8	0.75	5/8	3.25	3.75	4.25
4	1.31	0.44	7.50	8	0.75	5/8	3.25	3.75	4.25
5	1.44	0.50	8.50	8	0.88	3/4	3.25	4.00	4.50
6	1.56	0.50	9.50	8	0.88	3/4	3.50	4.00	4.50
8	1.75	0.50	11.75	8	0.88	3/4	3.75	4.25	4.75
10	1.94	0.50	14.25	12	1.00	7/8	4.00	4.75	5.25
12	2.19	0.50	17.00	12	1.00	7/8	4.25	4.75	5.25
14	2.25	0.50	18.75	12	1.12	1	4.50	5.25	5.75
16	2.50	0.50	21.25	16	1.12	1	4.75	5.50	6.00
18	2.69	0.50	22.75	16	1.25	1 1/8	5.00	6.00	6.50
20	2.88	0.50	25.00	20	1.25	1 1/8	5.50	6.25	6.75
24	3.25	0.50	29.50	20	1.38	1 1/4	6.00	7.00	7.50

NOM. PIPE SIZE	APPROXIMATE WEIGHT EACH– POUNDS ±			
	WELDING NECK	SLIP-ON. SOCKET WELD AND THREADED	LAP JOINT	BLIND
1/2	1.25	1.00	1.00	1.25
3/4	2.00	1.50	1.50	1.50
1	2.50	2.00	2.00	2.00
1 1/4	3.00	3.00	3.00	3.00
1 1/2	4.50	3.00	3.50	4.00
2	6.00	5.25	5.00	6.50
2 1/2	10.00	8.00	7.00	9.50
3	12.00	9.00	9.25	12.50
3 1/2	12.00	11.00	11.00	13.00
4	16.50	12.50	12.50	17.00
5	19.00	15.00	15.00	20.00
6	25.00	19.00	19.00	26.50
8	39.00	30.00	30.00	45.00
10	52.00	43.00	43.00	70.00
12	80.00	64.00	64.00	110.00
14	110.00	90.00	105.00	140.00
16	140.00	98.00	140.00	180.00
18	150.00	130.00	160.00	220.00
20	180.00	165.00	195.00	285.00
24	260.00	220.00	275.00	430.00

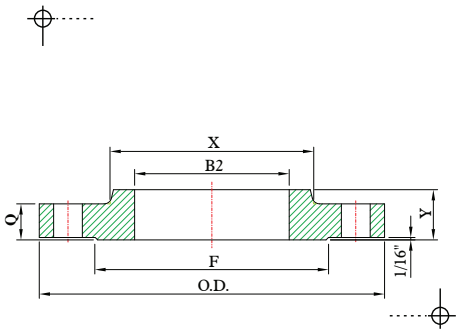
WELDING NECK



LAP JOINT



SLIP-ON

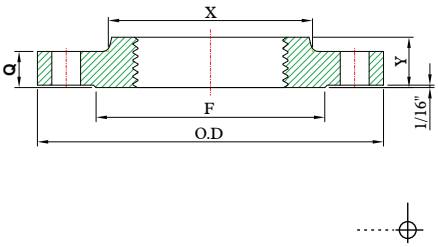


DIMENSIONS

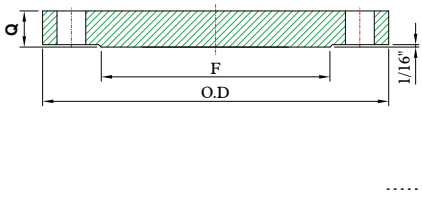
unit : inch

NOM. PIPE SIZE	FLANGE DIAMETER (O.D.)	FLANGE THICKNESS (Q) MIN. (1)	HUB DIA. AT BASE (X)	RAISED FACE DIA. (F)	HUB DIA. AT WELDING POINT (H)	BORE DIAMETER (B)			COUNTER BORE OF THREADED FLANGE (C) MIN.	DEPTH OF SOCKET (D)	LENGTH THROUGH HUB (Y)		
						(B1) WELDING NECK AND SOCKET WELD (2)	(B2) SLIP-ON AND SOCKET WELD MIN.	(B3) LAP JOINT MIN.			WELDING NECK	SLIP-ON SOCKET WELD AND THREADED	LAP JOINT
1/2	3.75	0.56	1.50	1.38	0.84	0.62	0.88	0.90	0.93	0.38	2.06	0.88	0.88
3/4	4.62	0.62	1.88	1.69	1.05	0.82	1.09	1.11	1.14	0.44	2.25	1.00	1.00
1	4.88	0.69	2.12	2.00	1.32	1.05	1.36	1.38	1.41	0.50	2.44	1.06	1.06
1 1/4	5.25	0.75	2.50	2.50	1.66	1.38	1.70	1.72	1.75	0.56	2.56	1.06	1.06
1 1/2	6.12	0.81	2.75	2.88	1.90	1.61	1.95	1.97	1.99	0.62	2.69	1.19	1.19
2	6.50	0.88	3.31	3.62	2.38	2.07	2.44	2.46	2.50	0.69	2.75	1.31	1.31
2 1/2	7.50	1.00	3.94	4.12	2.88	2.47	2.94	2.97	3.00	0.75	3.00	1.50	1.50
3	8.25	1.12	4.62	5.00	3.50	3.07	3.57	3.60	3.63	0.81	3.12	1.69	1.69
31/2	9.00	1.19	5.25	5.50	4.00	3.55	4.07	4.10	4.13	-	3.19	1.75	1.75
4	10.00	1.25	5.75	6.19	4.50	4.03	4.57	4.60	4.63	-	3.38	1.88	1.88
5	11.00	1.38	7.00	7.31	5.56	5.05	5.66	5.69	5.69	-	3.88	2.00	2.00
6	12.50	1.44	8.12	8.50	6.63	6.07	6.72	6.75	6.75	-	3.88	2.06	2.06
8	15.00	1.62	10.25	10.62	8.63	7.98	8.72	8.75	8.75	-	4.38	2.44	2.44
10	17.50	1.88	12.62	12.75	10.75	10.02	10.88	10.92	10.88	-	4.62	2.62	3.75
12	20.50	2.00	14.75	15.00	12.75	12.00	12.88	12.92	12.94	-	5.12	2.88	4.00
14	23.00	2.12	16.75	16.25	14.00	13.25	14.14	14.18	14.19	-	5.62	3.00	4.38
16	25.50	2.25	19.00	18.50	16.00	15.25	16.16	16.19	16.19	-	5.75	3.25	4.75
18	28.00	2.38	21.00	21.00	18.00	17.25	18.18	18.20	18.19	-	6.25	3.50	5.12
20	30.50	2.50	23.12	23.00	20.00	19.25	20.20	20.25	20.19	-	6.38	3.75	5.50
24	36.00	2.75	27.62	27.25	24.00	23.25	24.25	24.25	24.19	-	6.62	4.19	6.00

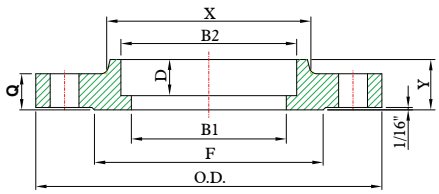
THREADED



BLIND



SOCKET WELD



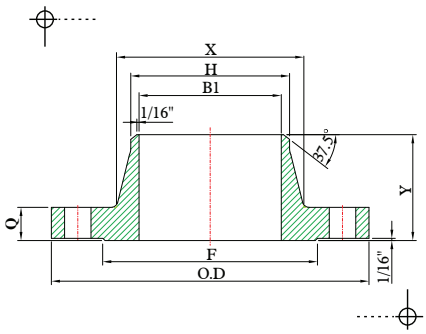
DIMENSIONS

unit : inch

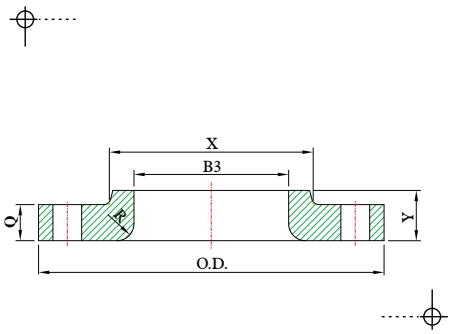
NOM. PIPE SIZE	MIN. THREAD LENGTH	RADIUS (R) LAP JOINT	DRILLING			BOLTING			
			DIAMETER OF BOLT CIRCLE	NO. OF HOLES	DIA. OF HOLES	DIA. OF BOLTS	MACHINE BOLT LENGTH	STUD BOLT LENGTH	
							Raised Face .06"	Raised Face .06"	Ring Joint
1/2	0.62	0.12	2.62	4	0.62	1/2	2.25	2.75	3.00
3/4	0.62	0.12	3.25	4	0.75	5/8	2.50	3.00	3.50
1	0.69	0.12	3.50	4	0.75	5/8	2.75	3.25	3.75
1 1/4	0.81	0.19	3.88	4	0.75	5/8	2.75	3.25	3.75
1 1/2	0.88	0.25	4.50	4	0.88	3/4	3.00	3.75	4.25
2	1.00	0.31	5.00	8	0.75	5/8	3.00	3.50	4.25
2 1/2	1.12	0.31	5.88	8	0.88	3/4	3.50	4.00	4.75
3	1.19	0.38	6.62	8	0.88	3/4	3.75	4.25	5.00
3 1/2	1.25	0.38	7.25	8	0.88	3/4	3.75	4.50	5.25
4	1.31	0.44	7.88	8	0.88	5/8	4.00	4.50	5.25
5	1.44	0.50	9.25	8	0.88	3/4	4.25	4.75	5.50
6	1.56	0.50	10.62	12	0.75	3/4	4.25	5.00	5.75
8	1.75	0.50	13.00	12	0.88	7/8	4.75	5.50	6.25
10	1.94	0.50	15.25	16	1.00	1	5.50	6.25	7.00
12	2.19	0.50	17.25	16	1.00	1 1/8	6.00	6.75	7.50
14	2.25	0.50	20.25	20	1.12	1 1/8	6.25	7.00	7.75
16	2.50	0.50	22.50	20	1.12	1 1/4	6.50	7.50	8.25
18	2.69	0.50	24.75	24	1.25	1 1/4	6.75	7.75	8.50
20	2.88	0.50	27.00	24	1.25	1 1/4	7.25	8.25	9.00
24	3.25	0.50	32.00	24	1.38	1 1/2	8.00	9.25	10.25

NOM. PIPE SIZE	APPROXIMATE WEIGHT EACH– POUNDS ±			
	WELDING NECK	SLIP-ON. SOCKET WELD AND THREADED	LAP JOINT	BLIND
1/2	2	2	2	2
3/4	3	3	3	3
1	4	3	3	3
1 1/4	5	4	4	4
1 1/2	7	6	6	6
2	9	7	7	8
2 1/2	12	10	10	12
3	15	13	13	16
3 1/2	18	17	17	21
4	25	22	22	27
5	32	28	28	35
6	42	39	39	50
8	67	58	58	81
10	91	81	91	125
12	140	115	140	185
14	180	165	190	250
16	250	190	250	295
18	320	250	295	395
20	400	315	370	505
24	580	475	550	790

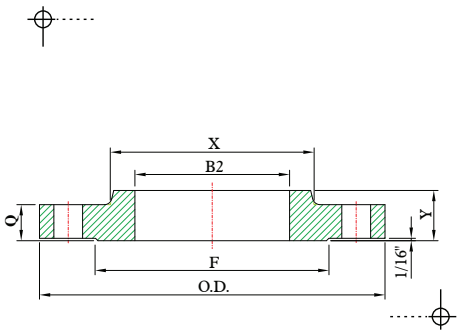
WELDING NECK



LAP JOINT



SLIP-ON

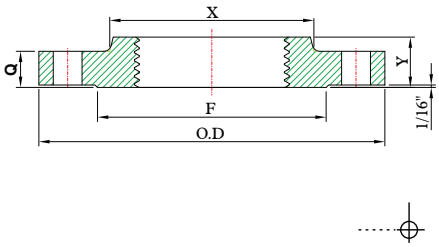


DIMENSIONS

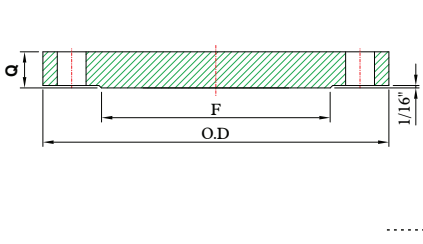
unit : inch

NOM. PIPE SIZE	FLANGE DIAMETER (O.D.)	FLANGE THICKNESS (Q) MIN. (1)	HUB DIA. AT BASE (X)	RAISED FACE DIA. (F)	HUB DIA. AT WELDING POINT (H)	BORE DIAMETER (B)			COUNTER BORE OF THREADED FLANGE (C) MIN.	DEPTH OF SOCKET (D)	LENGTH THROUGH HUB (Y)		
						(B1) WELDING NECK AND SOCKET WELD (2)	(B2) SLIP-ON AND SOCKET WELD MIN.	(B3) LAP JOINT MIN.			WELDING NECK	SLIP-ON SOCKET WELD AND THREADED	LAP JOINT
1/2	3.75	0.56	1.50	1.38	0.84	TO BE SPECIFIED BY PURCHASER	0.88	0.90	0.93	0.38	2.06	0.88	0.88
3/4	4.62	0.62	1.88	1.69	1.05		1.09	1.11	1.14	0.44	2.25	1.00	1.00
1	4.88	0.69	2.12	2.00	1.32		1.36	1.38	1.41	0.50	2.44	1.06	1.06
1 1/4	5.25	0.81	2.50	2.50	1.66		1.70	1.72	1.75	0.56	2.62	1.12	1.12
1 1/2	6.12	0.88	2.75	2.88	1.90		1.95	1.97	1.99	0.62	2.75	1.25	1.25
2	6.50	1.00	3.31	3.62	2.38		2.44	2.46	2.50	0.69	2.88	1.44	1.44
2 1/2	7.50	1.12	3.94	4.12	2.88		2.94	2.97	3.00	0.75	3.12	1.62	1.62
3	8.25	1.25	4.62	5.00	3.50		3.57	3.60	3.63	0.81	3.25	1.81	1.81
31/2	9.00	1.38	5.25	5.50	4.00		4.07	4.10	4.13	-	3.38	1.94	1.94
4	10.75	1.50	6.00	6.19	4.50		4.57	4.60	4.63	-	4.00	2.12	2.12
5	13.00	1.75	7.44	7.31	5.56		5.66	5.69	5.69	-	4.50	2.38	2.38
6	14.00	1.88	8.75	8.50	6.63		6.72	6.75	6.75	-	4.62	2.62	2.62
8	16.50	2.19	10.75	10.62	8.63		8.72	8.75	8.75	-	5.25	3.00	3.00
10	20.00	2.50	13.50	12.75	10.75		10.88	10.92	10.88	-	6.00	3.38	4.38
12	22.00	2.62	15.75	15.00	12.75		12.88	12.92	12.94	-	6.12	3.62	4.62
14	23.75	2.75	17.00	16.25	14.00		14.14	14.18	14.19	-	6.50	3.69	5.00
16	27.00	3.00	19.50	18.50	16.00		16.16	16.19	16.19	-	7.00	4.19	5.50
18	29.25	3.25	21.50	21.00	18.00		18.18	18.20	18.19	-	7.25	4.62	6.00
20	32.00	3.50	24.00	23.00	20.00		20.20	20.25	20.19	-	7.50	5.00	6.50
24	37.00	4.00	28.25	27.25	24.00		24.25	24.25	24.19	-	8.00	5.50	7.25

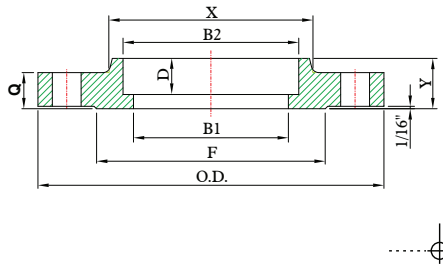
THREADED



BLIND



SOCKET WELD



DIMENSIONS

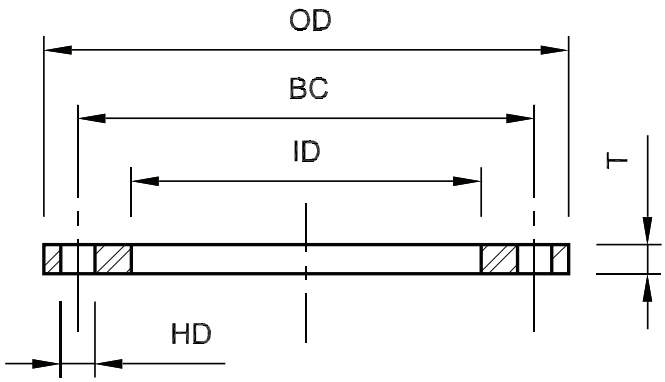
unit : inch

NOM. PIPE SIZE	MIN. THREAD LENGTH	RADIUS (R) LAP JOINT	DRILLING			BOLTING			
			DIAMETER OF BOLT CIRCLE	NO. OF HOLES	DIA. OF HOLES	DIA. OF BOLTS	MACHINE BOLT LENGTH	STUD BOLT LENGTH	
							Raised Face .06"	Raised Face .06"	Ring Joint
1/2	0.62	0.12	2.62	4	0.62	1/2	3.25	3.00	3.00
3/4	0.62	0.12	3.25	4	0.75	5/8	3.50	3.25	3.50
1	0.69	0.12	3.50	4	0.75	5/8	3.75	3.50	3.75
1 1/4	0.81	0.19	3.88	4	0.75	5/8	4.00	3.75	4.00
1 1/2	0.88	0.25	4.50	4	0.88	3/4	4.25	4.00	4.25
2	1.12	0.31	5.00	8	0.75	5/8	4.25	4.00	4.50
2 1/2	1.25	0.31	5.88	8	0.88	3/4	4.75	4.50	5.00
3	1.38	0.38	6.62	8	0.88	3/4	5.00	4.75	5.25
3 1/2	1.56	0.38	7.25	8	1.00	7/8	5.50	5.25	5.75
4	1.62	0.44	8.50	8	1.00	7/8	5.75	5.50	6.00
5	1.88	0.44	10.50	8	1.12	1	6.50	6.25	6.75
6	2.00	0.50	11.50	12	1.12	1	6.75	6.50	7.00
8	2.25	0.50	13.75	12	1.25	1 1/8	7.75	7.50	7.75
10	2.56	0.50	17.00	16	1.38	1 1/4	8.50	8.25	8.75
12	2.75	0.50	19.25	20	1.38	1 1/4	8.75	8.50	9.00
14	2.88	0.50	20.75	20	1.50	1 3/8	9.25	9.00	9.50
16	3.06	0.50	23.75	20	1.62	1 1/2	10.00	9.75	10.25
18	3.12	0.50	25.75	20	1.75	1 5/8	10.75	10.50	11.00
20	3.25	0.50	28.50	24	1.75	1 5/8	11.50	11.25	11.75
24	3.62	0.50	33.00	24	2.00	1 7/8	13.00	12.75	13.25

NOM. PIPE SIZE	APPROXIMATE WEIGHT EACH– POUNDS ±			
	WELDING NECK	SLIP-ON. SOCKET WELD AND THREADED	LAP JOINT	BLIND
1/2	2	2	2	2
3/4	4	3	3	3
1	4	4	4	4
1 1/4	6	5	5	5
1 1/2	8	7	7	8
2	12	9	9	10
2 1/2	18	13	12	15
3	23	16	15	20
3 1/2	26	21	20	29
4	42	37	36	41
5	68	63	61	68
6	81	80	78	86
8	120	115	110	140
10	190	170	170	230
12	225	200	200	295
14	280	230	250	355
16	390	330	365	495
18	475	400	435	630
20	590	510	570	810
24	830	730	810	1250

304L & 316L STAINLESS STEEL

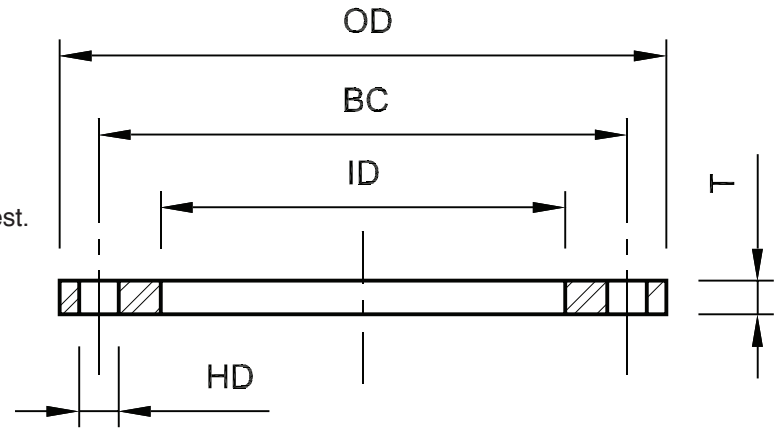
- Dimensions are given in inches.
- All plate flanges are flat face.
- Lap joint application (as back-up) for use with flat or angle type face rings can be furnished upon request.
- Drilling is 150# class.



NOMINAL PIPE SIZE	LBS	ID	OD	T (PLATE FLG)	T (SS BU FLG)	BC	HD	BOLT SIZE	NUMBER OF BOLT HOLES
1/2	1.10	.880	3 1/2	1/2	1/2	2 3/8	5/8	1/2	4
3/4	1.40	1.090	3 7/8	1/2	1/2	2 3/4	5/8	1/2	4
1	2.00	1.360	4 1/4	1/2	1/2	3 1/8	5/8	1/2	4
1 1/4	2.30	1.700	4 5/8	1/2	1/2	3 1/2	5/8	1/2	4
1 1/2	2.30	1.950	5	1/2	1/2	3 7/8	5/8	1/2	4
2	3.30	2.440	6	1/2	1/2	4 3/4	3/4	5/8	4
2 1/2	4.60	2.940	7	1/2	1/2	5 1/2	3/4	5/8	4
3	4.90	3.570	7 1/2	1/2	1/2	6	3/4	5/8	4
4	6.70	4.570	9	1/2	1/2	7 1/2	3/4	5/8	8
5	7.40	5.660	10	1/2	1/2	8 1/2	7/8	3/4	8
6	8.40	6.720	11	1/2	1/2	9 1/2	7/8	3/4	8
8	12.00	8.720	13 1/2	1/2	1/2	11 3/4	7/8	3/4	8
10	18.80	10.880	16	5/8	5/8	14 1/4	1	7/8	12
12	27.30	12.880	19	5/8	5/8	17	1	7/8	12
14	33.60	14.140	21	5/8	5/8	18 3/4	1 1/8	1	12
16	48.40	16.160	23 1/2	3/4	5/8	21 1/4	1 1/8	1	16
18	68.00	18.180	25	3/4	3/4	22 3/4	1 1/4	1 1/8	16
20	75.60	20.200	27 1/2	1	3/4	25	1 1/4	1 1/8	20
24	95.50	24.250	32	1	1	29 1/2	1 3/8	1 1/4	20
30	126.00	30.250	38 3/4	1	1	36	1 3/8	1 1/4	28
36	211.00	36.250	46	1 1/4	1 1/4	42 3/4	1 5/8	1 1/2	32

DUCTILE IRON

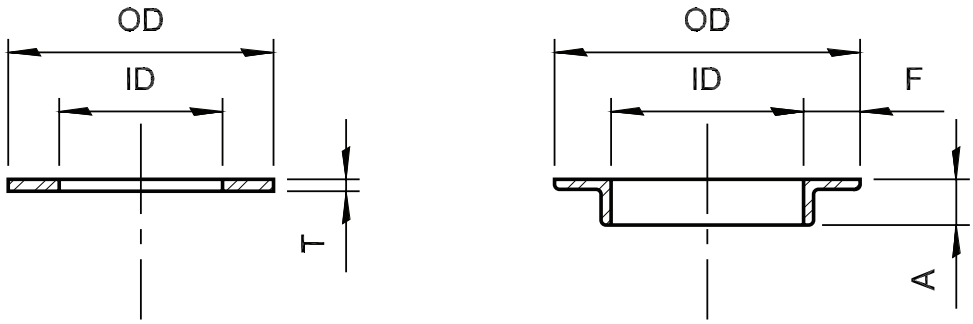
- Dimensions are given in inches.
- Prime Painted or Hot Dipped Galvanized.
- OD and drilling are 150# class.
- Sizes larger than 36" are available upon request.
- Stainless steel is available upon request. See page 22 for thicknesses.
- Domestic flanges 2" through 24" are available upon request.



NOMINAL PIPE SIZE	STYLE	LBS	ID	OD	T	BC	HD	BOLT SIZE	NUMBER OF BOLT HOLES
1/2	FFR AFR	1.10 1.00	1.000 1.250	3 1/2	1/2	2 3/8	5/8	1/2	4
3/4	FFR AFR	1.40 1.30	1.180 1.440	3 7/8	1/2	2 3/4	5/8	1/2	4
1	FFR AFR	1.60 1.50	1.440 1.690	4 1/4	1/2	3 1/8	5/8	1/2	4
1 1/4	FFR AFR	1.90 1.80	1.810 2.060	4 5/8	1/2	3 1/2	5/8	1/2	4
1 1/2	FFR AFR	2.20 2.00	2.060 2.250	5	1/2	3 7/8	5/8	1/2	4
2	FFR AFR	2.90 2.70	2.630 2.880	6	1/2	4 3/4	3/4	5/8	4
2 1/2	FFR AFR	4.20 4.10	3.130 3.380	7	1/2	5 1/2	3/4	5/8	4
3	FFR AFR	4.60 4.40	3.750 4.000	7 1/2	1/2	6	3/4	5/8	4
4	FFR AFR	6.20 5.90	4.750 5.000	9	9/16	7 1/2	3/4	5/8	8
5	FFR AFR	6.80 6.50	5.750 6.060	10	5/8	8 1/2	7/8	3/4	8
6	FFR AFR	7.60 7.30	6.880 7.250	11	5/8	9 1/2	7/8	3/4	8
8	FFR AFR	10.90 10.20	8.880 9.250	13 1/2	5/8	11 3/4	7/8	3/4	8
10	FFR AFR	20.00 18.80	11.000 11.440	16	5/8	14 1/4	1	7/8	12
12	FFR AFR	28.50 26.70	13.000 13.630	19	3/4	17	1	7/8	12
14	FFR AFR	31.10 28.60	14.250 14.880	21	3/4	18 3/4	1 1/8	1	12
16	FFR AFR	42.70 40.40	16.250 16.880	23 1/2	3/4	21 1/4	1 1/8	1	16
18	FFR AFR	46.20 41.60	18.250 18.880	25	7/8	22 3/4	1 1/4	1 1/8	16
20	FFR AFR	62.80 59.30	20.250 20.880	27 1/2	7/8	25	1 1/4	1 1/8	20
24	FFR AFR	89.00 83.50	24.250 24.880	32	1	29 1/2	1 3/8	1 1/4	20
30	FFR AFR	119.00 112.00	30.250 30.880	38 3/4	1	36	1 3/8	1 1/4	28
36	FFR AFR	201.00 190.00	36.250 36.880	46	1 1/4	42 3/4	1 5/8	1 1/2	32

316L STAINLESS STEEL

- Dimensions are given in inches.



NOMINAL PIPE SIZE	ID	FLAT FACE RINGS				ANGLE FACE RINGS				
		T 10GA (.140)		T 1/4" (.250)		T	F	A	OD	LBS
		OD	LBS	OD	LBS					
1/2	.875	1.688	.05	-	-	1/8	3/8	1/2	1.625	.10
3/4	1.070	2.000	.07	-	-	1/8	1/2	1/2	2.000	.13
1	1.335	2.500	.09	-	-	1/8	9/16	1/2	2.500	.20
1 1/4	1.688	2.500	.11	-	-	1/8	1/2	1/2	2.750	.22
1 1/2	1.920	3.000	.17	-	-	1/8	5/8	7/16	3.180	.26
2	2.400	4.000	.32	-	-	1/8	11/16	7/16	3.810	.36
2 1/2	2.895	4.500	.35	-	-	1/8	3/4	1/2	4.500	.51
3	3.550	5.000	.38	-	-	1/8	3/4	3/4	5.000	.70
4	4.550	6.250	.59	-	-	1/8	7/8	3/4	6.250	.90
5	5.610	7.500	.81	-	-	9/64	1	1	7.680	1.30
6	6.650	8.620	.95	-	-	9/64	1	1	8.650	1.50
8	8.690	10.750	1.20	-	-	3/16	1	1	10.650	2.90
10	10.840	12.750	1.50	-	-	3/16	1 1/4	1 1/4	13.270	4.60
12	12.840	14.750	2.60	-	-	1/4	1 1/2	1 1/2	15.780	8.40
14	14.090	-	-	17.060	5.30	1/4	1 1/2	1 1/2	17.060	9.40
16	16.090	-	-	19.060	6.00	1/4	1 1/2	1 1/2	19.060	10.80
18	18.125	-	-	21.060	6.70	1/4	1 1/2	1 1/2	21.060	11.50
20	20.125	-	-	23.090	7.40	1/4	1 1/2	1 1/2	23.090	13.00
24	24.125	-	-	27.090	8.80	1/4	2	2	28.090	21.10
30	30.160	-	-	34.090	14.70	1/4	2	2	34.090	25.90
36	36.160	-	-	40.090	17.40	1/4	2	2	40.090	30.90

AVAILABLE IN SIZES 1/2 - 6	
	
TYPE A | ADAPTER FEMALE THREAD	TYPE B | COUPLER MALE THREAD
	
TYPE C | HOSE SHANK COUPLER	TYPE D | COUPLER FEMALE THREAD
	
TYPE E | HOSE SHANK ADAPTER	TYPE F | ADAPTER MALE THREAD
	
TYPE DC | DUST CAP	TYPE DP | DUST PLUG



GATE VALVES

SIZES	1/4 - 12 NOMINAL
PRESSURES	150# | 200 WOG | 300#
ENDS	THREADED | FLANGED



GLOBE VALVES

SIZES	1/2 - 10 NOMINAL
PRESSURES	150# | 200 WOG
ENDS	THREADED | FLANGED



CHECK VALVES

SIZES	1/4 - 12 NOMINAL
PRESSURES	150# | 200 WOG | 300#
ENDS	THREADED | SOCKETWELD | FLANGED



Y STRAINERS

SIZES	1/4 - 6 NOMINAL
PRESSURES	150# | 800#
ENDS	THREADED | SOCKETWELD | FLANGED



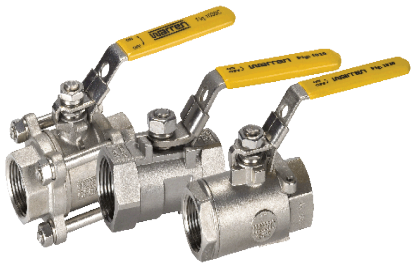
NEEDLE VALVES

SIZES	1/8 - 1 NOMINAL
PRESSURES	150# | 1000 WOG
ENDS	THREADED | FLANGED



WAFER CHECK VALVES

SIZES	1 1/2 - 36 NOMINAL
PRESSURES	150#
ENDS	FLANGED



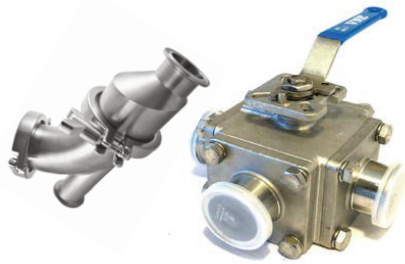
BALL VALVES

SIZES	1/4 - 4 NOMINAL
PRESSURES	150# | 300# | 1000 | 1500 | 2000 WOG
PORTS/PC	FULL | REDUCED | 1-PC | 2-PC | 3-PC
ENDS	THREADED | SOCKETWELD | FLANGED



3-WAY BALL VALVES

SIZES	1/4 - 6 NOMINAL
PRESSURES	150# | 1000 WOG
PORTS	FULL | REDUCED | L PORT | T PORT
ENDS	THREADED | FLANGED



SANITARY VALVES

SIZES	1 - 6 TUBE OD
SEATS	EPDM | SILICONE | VITON
TYPES	BALL | BUTTERFLY | CHECK
ENDS	CLAMP | WELD | CUSTOM ENDS



CLAMP FITTINGS....

Clamp Style Fittings are most popular for easy assembly and breakdown of process lines and equipment. We offer Clamp Fittings in T304 and T316L materials in 1/2″ through 12″ sizes.

Gaskets for Clamp Fittings are available in several different materials, Buna-N, EPDM, Silicone, Tef-Steel®, Teflon®, and Viton®. Lightweight and heavy-duty clamps complete the unions. Clamp Fittings meet all 3A requirements.

CLAMP FITTING SPECIFICATIONS....

Size Range: 1/2″ OD through 12″ OD

Materials: T304
T316L

Finish: No. 7 - ID & OD
No. 5 - OD only
No. 3 - ID only
No. 1 - unpolished

ORDERING SPECIFICATIONS....

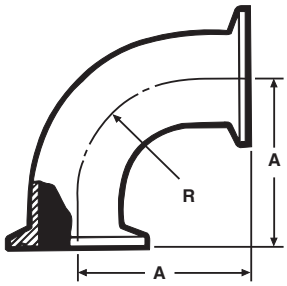
Specify:

- Quantity
- Product description or Part No.
- Size
- Material Type
- Polish Requirements

CLAMP TYPE

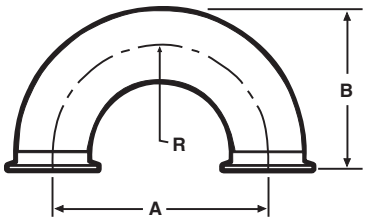
VNE	ALFA LAVAL	WAUKESHA / SPX	BRADFORD	STEEL & O'BRIEN
EG2C	2CMP	2CMP	B2CMP	2CMP
EG2C31CC	2CMP-31MP	2CMP-31MP	B2CM31MP	2CMP-31MP
EG2FPR	2FMP-14	2FMP-14	B2FMP-14	2FMP-14
EG2WU	-----	2UMP	B2WVMP	2UMP
EG2FTR	2FMP-15	2FMP-15	B2FMP-15	2FMP-15
EG2K	2KMP	2KMP	B2KMP	2KMP
EG7	7MP	7MP	B7MP	7MP
EG7R	7RMP	7RMP	B7MP	7RMP
EG9	9MP	9MP	B9MP	9MP
EG13	13MHLA	----	13MHLA	----
13MHHM	13MHHM	13MHHM	13MHHM-SN	13MHHM
13MHP	13MHP	13MHP	13MHP	13MHP
EG14HT	14MPHT	14MPHT	14MPHT	14MPHT
EG14W	14MPW	14MPW	14MPW	14MPW
EG14WL	14WLMP	14WLMP	14WLMP	14WLMP
EG14AM7	L14AM7	L14AM7	14AM7	L14AM7
EG2CS	14WMP	14WMP	14WMP	14WMP
EG14RT	14MPHR	14MPHR	14MPHR	14MPHR
EG16A	16AMP	16AMP	16AMP	16AMP
EG17PR	17MP-14	17MP-14	17MP-14	17MP-14
EG17TR	17MP-15	17MP-15	17MP-15	17MP-15
EG21	21MP	21MP	21MP	21MP
EG22	22MP	22MP	22MP	22MP
EG31R	31RMP	31RMP	----	31RMP
EG31CC	31-14MP	31-14MP	B3114MP	31-14MP
EG32CC	32-14MP	32-14MP	B3214MP	32-14MP
EG31PC	31PMP	31PMP	B14C31	31PMP
EG32PC	32PMP	32PMP	B14C32	32PMP
EG31CP	31MPP	31MPP	B31-14	31MPP
EG32CP	32MPP	32MPP	B32-15	32MPP
EG31TC	31TMP	31TMP	B15-C31	31TMP
EG32TC	32TMP	32TMP	B15-C32	32TMP
EG31CT	31MPT	31MPT	BC31-15	31MPT
EG32CT	32MPT	32MPT	BC32-15	32MPT
EG40	40MPU	40MPU	40MP-U	40MPU
EG40T	40MPG	40MPG	40MP-G	40MPG
EG23B	23BMP	23BMP	B28BMP	23BMP
EG28A	28AMP	28AMP	B28AMP	28AMP
EG28B	28BMP	28BMP	B31WMP	28BMP

EG2C - 90° ELBOW



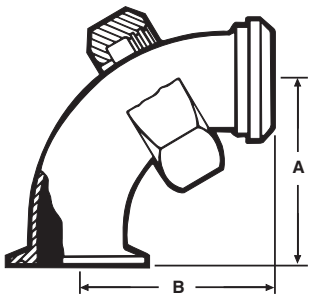
Size Tube OD	A	R
1	2.000	1.500
1 1/2	2.750	2.250
2	3.500	3.000
2 1/2	4.250	3.750
3	5.000	4.500
4	6.625	6.000
6	9.875	9.000
8	12.937	12.000

EG2WU - CLAMP 180° U-BEND



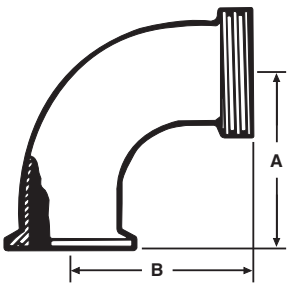
Size Tube OD	A	B	R
1/2	1.500	1.500	0.750
3/4	2.250	2.000	1.125
1	3.000	2.500	1.500
1 1/4	3.750	3.000	1.875
1 1/2	4.500	3.500	2.250
2	6.000	4.500	3.000
2 1/2	7.500	5.500	3.750
3	9.000	6.500	4.500
4	12.000	8.625	6.000
6	18.000	12.875	9.000

EG2FPR - 90° ELBOW



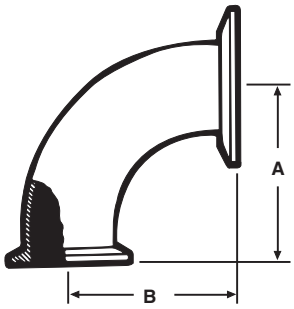
Size Tube OD	A	B
1	2.000	2.875
1 1/2	2.750	2.968
2	3.500	3.718
2 1/2	4.250	4.593
3	5.000	5.406
4	6.625	7.218

EG2FTR - 90° ELBOW



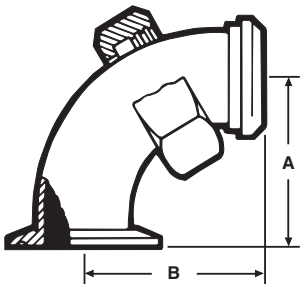
Size Tube OD	A	B
1	2.000	2.187
1 1/2	2.750	2.968
2	3.500	3.718
2 1/2	4.250	4.593
3	5.000	5.406
4	6.625	7.218

EG2C31CC - 90° REDUCING ELBOW (Non-Tapered)



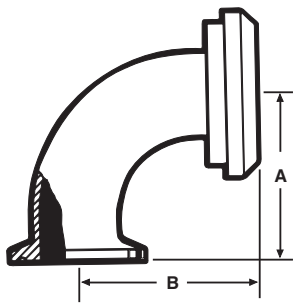
Size Tube OD	A	B
2 x 1	2.000	2.000
2 x 1 1/2	2.750	2.750
2 1/2 x 1 1/2	2.750	2.750
2 1/2 x 2	3.500	3.500
3 x 1 1/2	2.750	2.750
3 x 2	3.500	3.500
3 x 2 1/2	4.250	4.250
4 x 2 1/2	4.250	4.375
4 x 3	5.000	5.125
6 x 4	6.625	6.875

EG231-FPR 90° REDUCING ELBOW (Non-Tapered)



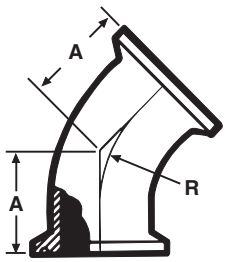
Size Tube OD	A	B
2 x 1	2.000	2.187
2 x 1 1/2	2.750	2.968
2 1/2 x 1 1/2	2.750	2.968
2 1/2 x 2	3.500	3.718
3 x 1 1/2	2.750	2.968
3 x 2	3.500	3.718
3 x 2 1/2	4.250	4.593
4 x 2 1/2	4.375	4.593
4 x 3	5.125	5.406

EG2C31PR - 90° REDUCING ELBOW (Non-Tapered)



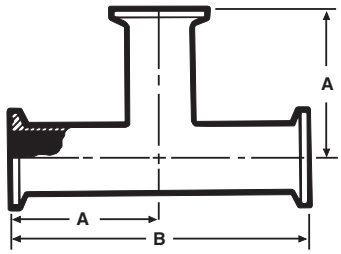
Size Tube OD	A	B
2 x 1	2.000	2.250
2 x 1 1/2	2.750	3.000
2 1/2 x 1 1/2	2.750	3.031
2 1/2 x 2	3.500	3.781
3 x 1 1/2	2.750	3.593
3 x 2	3.500	3.843
3 x 2 1/2	4.250	4.593
4 x 2 1/2	4.250	4.687
4 x 3	5.000	5.437

EG2K - 45° ELBOW



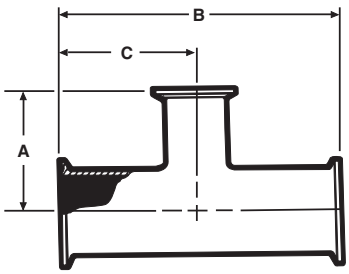
Size Tube OD	A	R
1	1.125	1.500
1 1/2	1.437	2.250
2	1.750	3.000
2 1/2	2.062	3.750
3	2.375	4.500
4	3.125	6.000
6	4.625	9.000
8	5.312	12.000

EG7 - TEE



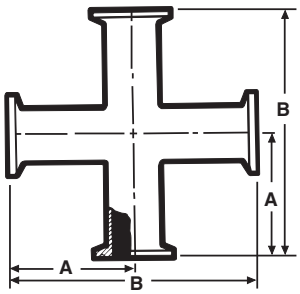
Size Tube OD	A	B
1	2.375	4.750
1 1/2	2.750	5.500
2	3.500	7.000
2 1/2	3.500	7.000
3	3.750	7.500
4	4.500	9.000
6	6.500	13.000
8	9.937	19.875

EG7R - REDUCING TEE



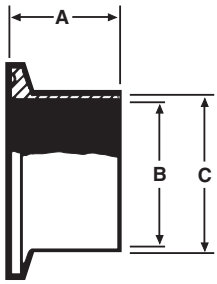
Size Tube OD	A	B	C
1 1/2 x 1	1.875	4.312	2.156
2 x 1	2.125	5.125	2.562
2 x 1 1/2	2.406	5.125	2.562
2 1/2 x 1 1/2	2.656	5.687	2.843
2 1/2 x 2	2.812	5.687	2.843
3 x 1 1/2	2.906	6.187	3.093
3 x 2	3.062	6.187	3.093
3 x 2 1/2	3.093	6.187	3.093
4 x 2	3.593	8.125	4.062
4 x 2 1/2	3.593	8.125	4.062
4 x 3	3.593	8.125	4.062
6 x 3	6.125	13.000	6.500
6 x 4	6.250	13.000	6.500

EG9 - CROSS



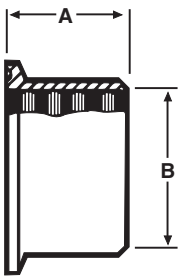
Size Tube OD	A	B
1	2.375	4.750
1 1/2	2.750	5.500
2	3.500	7.000
2 1/2	3.500	7.000
3	3.750	7.500
4	4.500	9.000
6	8.875	17.340

EG14AM7 - WELDING FERRULE



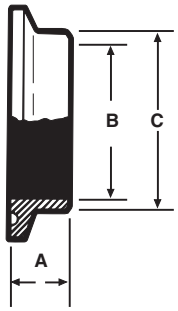
Size Tube OD	A	B	C
1/2	2.000	0.370	0.500
3/4	2.000	0.620	0.750
1	1.125	0.870	1.000
1 1/2	1.125	1.370	1.500
1 1/4	1.125	1.120	1.250
2	1.125	1.870	2.000
2 1/2	1.125	2.370	2.500
3	1.125	2.870	3.000
4	1.125	3.834	4.000
5	1.500	4.782	5.000
6	1.500	5.780	6.000
8	1.500	7.782	8.000
10	1.500	9.732	10.000
12	1.500	11.732	12.000

EG14R - RECESSLESS FERRULE (Expanding)



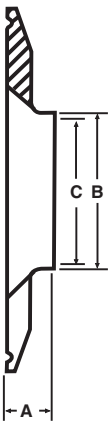
Size Tube OD	A	B
1	0.750	1.000
1 1/2	1.125	1.500
2	1.312	2.000
2 1/2	1.375	2.500
3	1.437	3.000
4	1.500	4.000

EG2CS - SHORT WELDING FERRULE



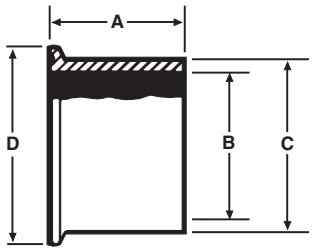
Size Tube OD	A	B
1/4	0.500	0.120
3/8	0.500	0.245
1/2	0.500	0.370
5/8	0.500	0.495
3/4	0.500	0.620
1	0.500	0.870
1 1/4	0.500	1.120
1 1/2	0.500	1.370
2	0.500	1.870
2 1/2	0.500	2.370
3	0.500	2.870
4	0.625	3.834
5	0.750	4.780
6	0.875	5.780
8	0.937	7.782
10	0.937	9.732
12	0.937	11.732

EG2CS31D - SHORT REDUCING CLAMP FERRULES



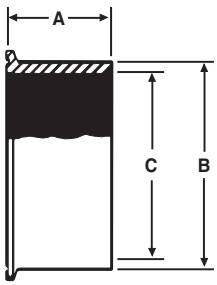
Size Tube OD	A	B	C
1 x 1/2	0.500	0.500	0.370
1 x 3/4	0.500	0.750	0.620
1 1/2 x 1	0.500	1.000	0.870
2 x 1	0.500	1.000	0.870
2 x 1 1/2	0.500	1.500	1.370
2 1/2 x 1 1/2	0.500	1.500	1.370
2 1/2 x 2	0.500	2.000	1.870
3 x 1	0.500	1.000	0.870
3 x 1 1/2	0.500	1.500	1.370
3 x 2	0.500	2.000	1.870
3 x 2 1/2	0.500	2.500	2.370
4 x 1 1/2	0.625	1.500	1.370
4 x 2	0.625	2.000	1.870
4 x 2 1/2	0.625	2.500	2.370
4 x 3	0.625	3.000	2.870
6 x 4	0.870	4.000	3.834

EG14W - TANK WELDING FERRULE



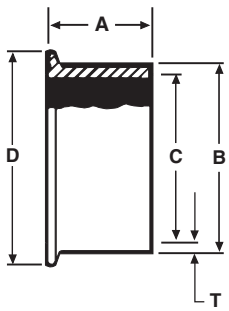
Size Tube OD	A	B	C	D
1	1.625	0.870	1.160	1.984
1 1/2	1.625	1.370	1.676	1.984
2	1.750	1.870	2.192	2.516
2 1/2	1.750	2.370	2.708	3.047
3	1.812	2.870	3.224	3.579
4	2.125	3.834	4.256	4.682
6	4.250	5.782	6.500	6.570

EG14W-C6L - ASME CODED TANK FERRULE



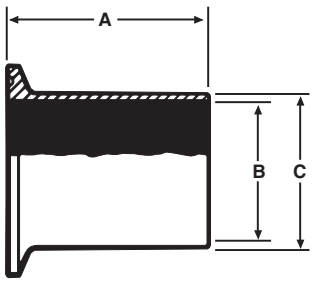
Size Tube OD	A	B	C
1	1.625	1.160	0.870
1 1/2	1.625	1.676	1.370
2	1.750	2.192	1.870
2 1/2	1.750	2.708	2.370
3	1.812	3.224	2.870
4	2.125	4.256	3.834
6	4.250	6.500	5.782

EG14WSL-C6L - ASME CODED TANK FERRULE LONG



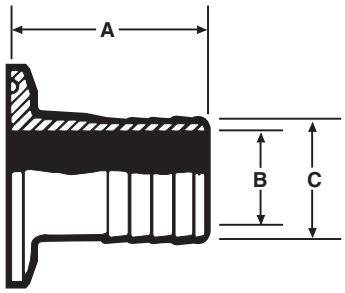
Size Tube OD	A	B	C	D	Nom. Wall (T)
1	2.500	1.160	0.870	1.984	0.145
1 1/2	2.500	1.676	1.370	1.984	0.153
2	2.500	2.192	1.870	2.516	0.161
2 1/2	3.500	2.708	2.370	3.047	0.169
3	4.500	3.224	2.870	3.579	0.177
4	4.500	4.256	3.834	4.682	0.211
6	6.250	6.500	5.782	6.570	0.359

EG14WL - TANK WELDING FERRULE



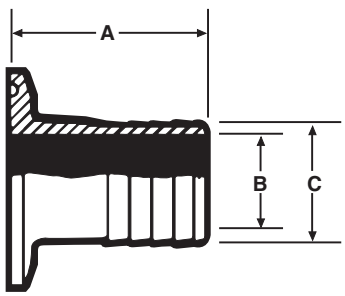
Size Tube OD	A	B	C
1	3.000	0.870	1.000
1 1/2	3.000	1.370	1.500
2	3.000	1.870	2.000
2 1/2	3.000	2.370	2.500
3	4.000	2.870	3.000
4	4.000	3.834	4.000
6	6.000	5.782	6.000
8	6.000	7.782	8.000
10	6.000	9.730	10.000
12	6.000	11.730	12.000

EG14RT - RUBBER HOSE ADAPTER



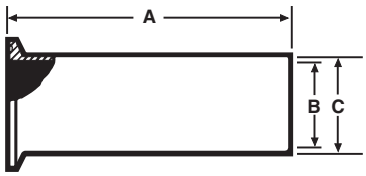
Size Tube OD	A	B	C
1/2	2.000	0.370	0.500
3/4	2.000	0.620	0.750
1	3.500	0.870	1.000
1 1/4	3.500	1.185	1.250
1 1/2	3.500	1.370	1.500
2	3.500	1.870	2.000
2 1/2	3.500	2.370	2.500
3	3.500	2.870	3.000
4	3.625	3.834	4.000
6	8.875	5.782	6.000

EG14RT - RUBBER HOSE ADAPTER REDUCER (T316L)



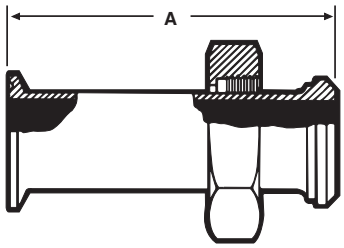
Size Tube OD	A	B	C
1 x 1/2	2.000	0.370	0.500
1 x 3/4	2.000	0.620	0.750
1 1/2 x 1 1/4	3.500	1.120	1.250
2 x 1	3.500	0.870	1.000
2 x 1 1/2	3.500	1.370	1.500
2 1/2 x 2	3.500	1.870	2.000
3 x 2	3.500	1.870	2.000
3 x 2 1/2	3.500	2.370	2.500
4 x 2 1/2	3.625	2.370	2.500
4 x 3	3.625	3.870	3.000

EG14HT - TYGON HOSE ADAPTER



Size Tube OD	A	B	C
1	4.500	0.870	1.000
1 1/2	4.500	1.370	1.500
2	4.500	1.870	2.000
2 1/2	4.500	2.370	2.500
3	4.500	2.870	3.000
4	4.625	3.834	4.000

EG17PR - ADAPTER



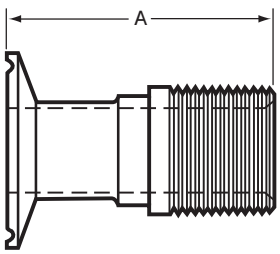
Size Tube OD	A
1	2.500
1 1/2	2.625
2	2.625
2 1/2	2.875
3	2.875
4	2.875

EG17TR - ADAPTER



Size Tube OD	A
1	1.187
1 1/2	1.187
2	1.218
2 1/2	1.343
3	1.437
4	2.125

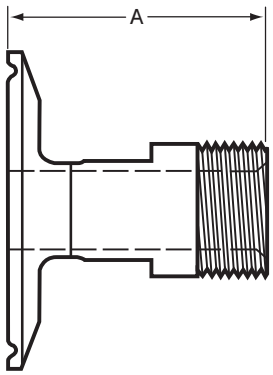
EG21 - MALE ADAPTER (N.P.T. Pipe Threads)



Size Tube OD	A
1	2.875
1 1/4	2.875
1 1/2	2.875
2	2.937
2 1/2	3.437
3	3.625
4	3.812
6	4.875

1 inch through 4 inch are supplied with wrench flats

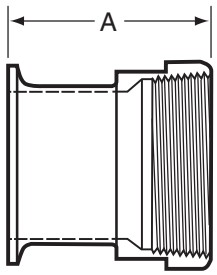
EG21-6L - MALE ADAPTER REDUCING (T316L)



Size Tube OD	A
3/4 x 1/2	See MaxPure Catalog - TEG21
1 x 1/2	2.125
1 x 3/4	2.125
1 1/2 x 1/2	2.125
1 1/2 x 3/4	2.125
1 1/2 x 1 1/4	2.250
2 x 1	2.250
2 x 1 1/4	2.250
2 x 1 1/2	2.250
2 1/2 x 1 1/2	2.250
2 1/2 x 2	2.312
3 x 1 1/2	2.250
3 x 2	2.312
3 x 2 1/2	2.812
4 x 2	2.312
4 x 2 1/2	2.812
4 x 3	3.000
6 x 4	3.062

Sanitary Clamp end dimension listed first.

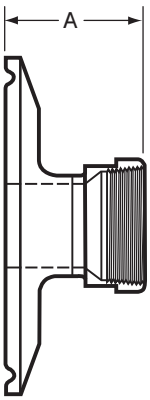
EG22 - FEMALE ADAPTER (N.P.T. Pipe Threads)



Size Tube OD	A
1	2.250
1 1/4	2.562
1 1/2	2.562
2	2.562
2 1/2	2.750
3	2.937
4	3.125

1 inch through 4 inch are supplied with wrench flats

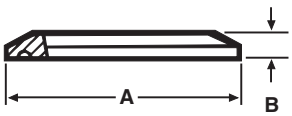
EG22 - FEMALE ADAPTER REDUCING (T316L)



Size Tube OD	A
3/4 x 1/2	See MaxPure Catalog - TEG22
1 x 1/2	1.625
1 x 3/4	1.625
1 1/2 x 1/2	1.625
1 1/2 x 3/4	1.625
1 1/2 x 1 1/4	2.560
2 x 1	1.625
2 x 1 1/4	1.927
2 x 1 1/2	1.937
2 1/2 x 1 1/2	1.937
2 1/2 x 2	1.937
3 x 1 1/2	1.937
3 x 2	1.937
3 x 2 1/2	2.125
4 x 2	2.062
4 x 2 1/2	2.250
4 x 3	2.437

Sanitary Clamp end dimension listed first.

EG16A - SOLID END CAP

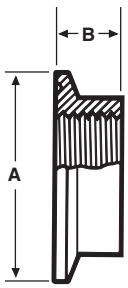


Size Tube OD	A	B
1/2 & 3/4	0.992	0.200
1 & 1 1/2	1.984	0.250
2	2.516	0.250
2 1/2	3.047	0.250
3	3.579	0.250
4	4.682	0.312
5	5.692	0.385
6	6.570	0.437
8	8.570	0.437
10	10.570	0.500
12	12.570	0.500

1 1/2″ caps are used on both 1″ and 1 1/2″ lines.

3/4″ caps are used on both 1/2″ & 3/4″ lines.

EG23B-6L - CLAMP THERMOMETER CAPS (T316L)



Size Tube OD	A	B
*1	1.984	0.625
1 1/2	1.984	0.625
2	2.516	0.625
2 1/2	3.047	0.625
3	3.579	0.625
4	4.682	0.625

*STD - 1/2 FNPT. All others 3/4˝ FNPT

Note: Other tap sizes are available.

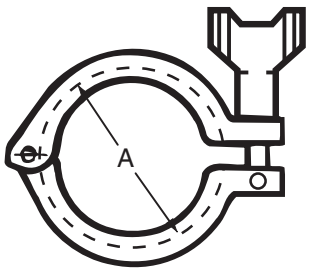
GASKETS



Gasket Materials	Part Number	Flange Type
Buna N	EG40	EG40F
EPDM	EG40E	EG40FE
Teflon	EG40T	
Viton®	EG40V	EG40FV
Silicone	EG40S	EG40FS
TEF-Steel	EG40TS	
Envelope Type		
Teflon with EPDM Filler	EG40GR	
Teflon with Viton Filler	EG40GRV	

Available in 1/2˝ to 12˝ sizes.

13MHHM - HEAVY DUTY CLAMP

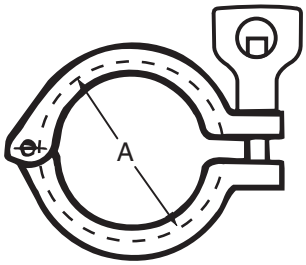


Size Tube OD	A
3/4	1.125
1 1/2	2.122
2	2.654
2 1/2	3.185
3	3.717
4	4.820
5	5.817
6	6.695
8	8.695
10	10.695
12*	12.695

Wing Nuts tightened to 25 in-lbs of torque

*12¨ Clamp is a two piece design using two wingnuts and no hinge.

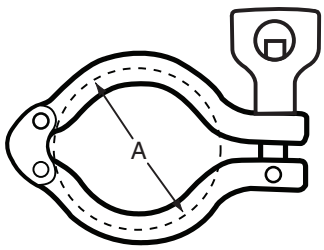
13MHHM-H - HEAVY DUTY CLAMP (Wing Nut With Hole)



Size Tube OD	A
3/4	1.125
1 & 1 1/2	2.122
2	2.654
2 1/2	3.185
3	3.717
4	4.820
5	5.817
6	6.695
8	8.695
10	10.695
12	12.695

Wing Nuts tightened to 25 in-lbs of torque

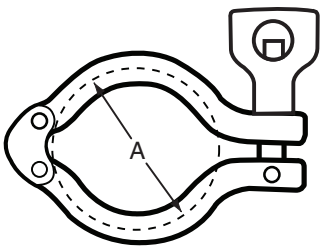
13MHHMD - DOUBLE HINGED HEAVY DUTY CLAMP



Size Tube OD	A
1 1/2	2.122
2	2.654
2 1/2	3.185
3	3.717
4	4.820

Wing Nuts tightened to 25 in-lbs of torque

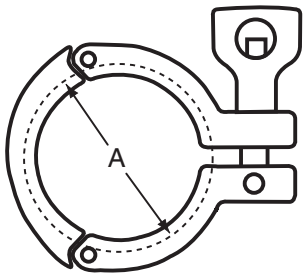
13MHHMD - H - DOUBLE HINGED HEAVY DUTY CLAMP (Wing Nut With Hole)



Size Tube OD	A
1 1/2	2.122
2	2.654
2 1/2	3.185
3	3.717
4	4.820

Wing Nuts tightened to 25 in-lbs of torque

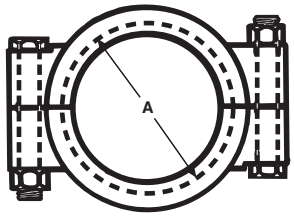
13MHHS - THREE PIECE HEAVY DUTY CLAMP



Size Tube OD	A
1 1/2	2.122
2	2.654
2 1/2	3.185
3	3.717
4	4.820

Wing Nuts tightened to 25 in-lbs of torque

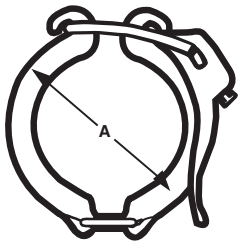
13MHP - HIGH PRESSURE CLAMP



Size Tube OD	A
3/4	1.125
1 1/2	2.046
2	2.578
2 1/2	3.110
3	3.640
4	4.744
6	6.632

13MHP Style nuts tightened to 20 ft-lbs of torque

EG13 - HINGED CLAMP - (Light Duty)



Size Tube OD	A
1 1/2	2.142
2	2.653
2 1/2	3.205
3	3.740
4	4.803

*PSI SERVICE RATINGS FOR SANITARY STAINLESS STEEL CLAMPS

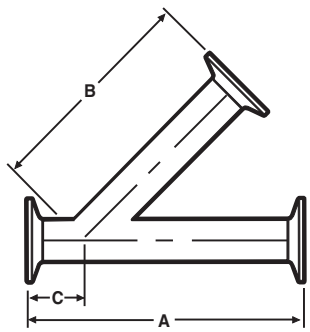
Size Tube OD	13MHHM / 13MHHM - H		13MHHMD / 13MHHMD - H	
	@70°F	@250°F	@70°F	@250°F
3/4″	1500	1200		
1 1/2″	500	250	500	250
2″	450	250	450	250
2 1/2″	400	200	400	200
3″	350	150	350	150
4″	200	125	200	125
5″	175	100		
6″	150	75		
8″	100	50		
10″	40	30		
12″	30	25		

*PSI SERVICE RATINGS FOR SANITARY STAINLESS STEEL CLAMPS

Size Tube OD	13MHHS		13MHP		EG13	
	@70°F	@250°F	@70°F	@250°F	@70°F	@250°F
3/4″			1500	1200		
1 1/2″	600	300	1500	1200	150	125
2″	550	275	1000	800	150	125
2 1/2″	450	225	1000	800	150	125
3″	350	160	1000	800	150	125
4″	250	150	1000	800	150	125
5″						
6″			300	200		
8″						
10″						
12″						

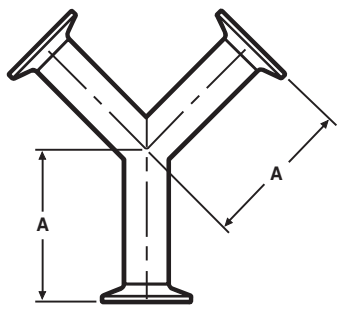
*Service ratings are based upon hydrostatic tests using Standard Molded Buna-N gasket material with proper expansion of ferrules, joint assembly, and the absence of shock pressure. All ratings systems are dependent upon related components in the system and proper installation. **13MHHM Style nuts tightened to 25 in-lbs of torque / 13MHP Style nuts tightened to 20 ft-lbs of torque.**

EG28A - 45° CLAMP LATERAL



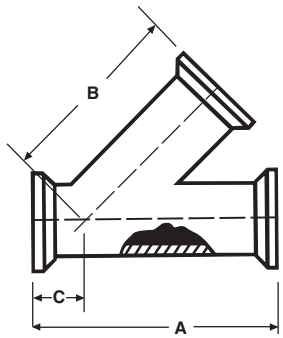
Size Tube OD	A	B	C
1	7.000	5.500	1.500
1 1/2	8.375	6.687	1.687
2	9.625	7.625	2.125
2 1/2	11.125	9.000	2.000
3	11.750	9.375	2.375
4	14.062	11.375	2.687
6	18.875	15.375	4.375

EG28B - CLAMP TRUE Y



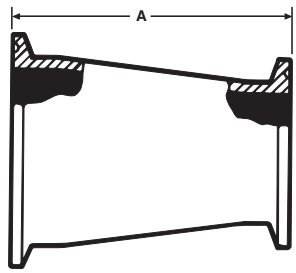
Size Tube OD	A
1	3.500
1 1/2	3.500
2	4.500
2 1/2	5.500
3	6.500
4	8.625
6	8.875

EG28RA - 45° CLAMP REDUCING LATERAL



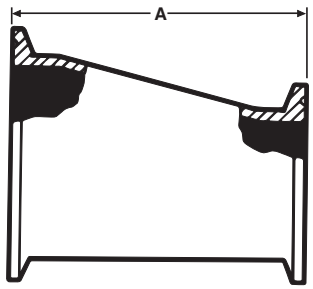
Size Tube OD	A	B	C
1 1/2 x 1	8.375	5.062	1.375
2 x 1	9.625	5.500	1.625
2 x 1 1/2	9.625	5.500	1.625
2 1/2 x 1	11.125	6.875	2.125
2 1/2 x 1 1/2	11.125	6.875	2.125
2 1/2 x 2	11.125	6.875	2.125
3 x 1	11.750	8.250	2.500
3 x 1 1/2	11.750	8.250	2.500
3 x 2	11.750	8.250	2.500
3 x 2 1/2	11.750	8.250	2.500
4 x 1	14.062	10.000	3.000
4 x 1 1/2	14.062	10.000	3.000
4 x 2	14.062	10.000	3.000
4 x 2 1/2	14.062	10.000	3.000
4 x 3	14.062	10.000	3.00

EG31CC - CONCENTRIC REDUCER



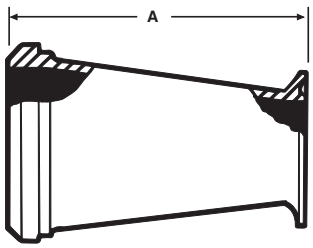
Size Tube OD	A
3/4 x 1/2	2.000
1 x 1/2	2.000
1 x 3/4	2.000
1 1/2 x 1/2	3.000
1 1/2 x 3/4	3.000
1 1/2 x 1	3.000
1 1/2 x 1 1/4	2.000
2 x 1	5.000
2 x 1 1/4	2.000
2 x 1 1/2	3.000
2 1/2 x 1	7.000
2 1/2 x 1 1/2	5.000
2 1/2 x 2	3.000
3 x 1 1/2	7.000
3 x 2	5.000
3 x 2 1/2	3.000
4 x 2	9.125
4 x 2 1/2	7.125
4 x 3	5.125
6 x 3	6.875
6 x 4	7.000

EG32CC - ECCENTRIC REDUCER



Size Tube OD	A
3/4 x 1/2	2.000
1 x 1/2	3.000
1 x 3/4	2.000
1 1/2 x 1/2	5.000
1 1/2 x 3/4	4.000
1 1/2 x 1	3.000
1 1/2 x 1 1/4	2.000
2 x 1	5.000
2 x 1 1/4	2.000
2 x 1 1/2	3.000
2 1/2 x 1	7.000
2 1/2 x 1 1/2	5.000
2 1/2 x 2	3.000
3 x 1 1/2	7.000
3 x 2	5.000
3 x 2 1/2	3.000
4 x 2	9.125
4 x 2 1/2	7.125
4 x 3	5.125
6 x 3	6.875
6 x 4	7.000

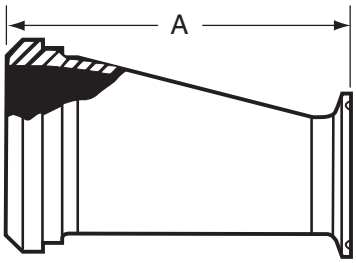
EG31PC - ADAPTER REDUCER (Concentric)



Size Tube OD	A
*1 1/2 x 1	3.187
2 x 1	5.218
2 x 1 1/2	3.218
2 1/2 x 1 1/2	5.343
2 1/2 x 2	3.343
3 x 2	5.437
3 x 2 1/2	3.437
4 x 2 1/2	7.500
4 x 3	5.500

*Hex nut furnished

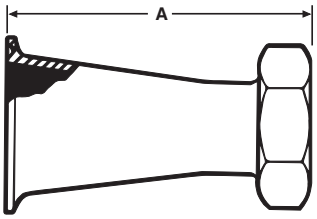
EG32PC - ADAPTER REDUCER (Eccentric)



Size Tube OD	A
*1 1/2 x 1	3.187
2 x 1	5.218
2 x 1 1/2	3.218
2 1/2 x 1 1/2	5.343
2 1/2 x 2	3.343
3 x 2	5.437
3 x 2 1/2	3.437
4 x 2 1/2	7.500
4 x 3	5.500

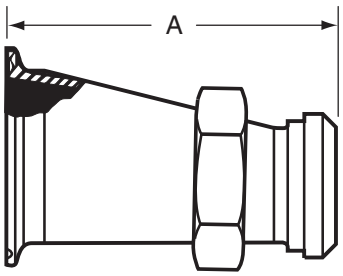
*Hex nut furnished

EG31CP - ADAPTER REDUCER (Concentric)



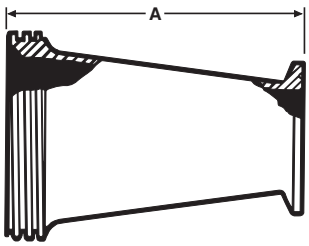
Size Tube OD	A
1 1/2 x 1	3.875
2 x 1	5.875
2 x 1 1/2	4.000
2 1/2 x 1 1/2	6.000
2 1/2 x 2	4.000
3 x 2	6.000
3 x 2 1/2	4.250
4 x 2 1/2	8.378
4 x 3	6.378

EG32CP - ADAPTER REDUCER (Eccentric)



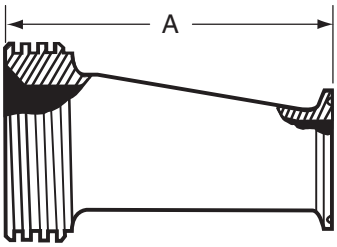
Size Tube OD	A
1 1/2 x 1	3.875
2 x 1	5.875
2 x 1 1/2	4.000
2 1/2 x 1 1/2	6.000
2 1/2 x 2	4.000
3 x 2	6.000
3 x 2 1/2	4.250
4 x 2 1/2	8.378
4 x 3	6.378

EG31TC - ADAPTER REDUCER (Concentric)



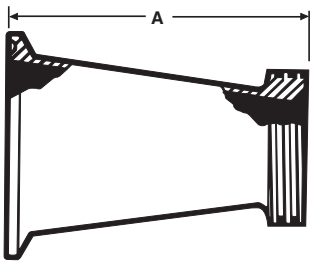
Size Tube OD	A
1 1/2 x 1	3.187
2 x 1	5.218
2 x 1 1/2	3.218
2 1/2 x 1 1/2	5.343
2 1/2 x 2	3.343
3 x 2	5.437
3 x 2 1/2	3.437
4 x 2 1/2	7.500
4 x 3	5.500

EG32TC - ADAPTER REDUCER (Eccentric)



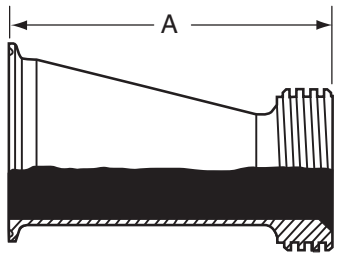
Size Tube OD	A
1 1/2 x 1	3.187
2 x 1	5.218
2 x 1 1/2	3.218
2 1/2 x 1 1/2	5.343
2 1/2 x 2	3.343
3 x 2	5.437
3 x 2 1/2	3.437
4 x 2 1/2	7.500
4 x 3	5.500

EG31CT - ADAPTER REDUCER (Concentric)



Size Tube OD	A
1 1/2 x 1	3.187
2 x 1	5.187
2 x 1 1/2	3.187
2 1/2 x 1 1/2	5.187
2 1/2 x 2	3.218
3 x 1 1/2	7.187
3 x 2	5.218
3 x 2 1/2	3.343
4 x 2	9.343
4 x 2 1/2	7.468
4 x 3	5.562

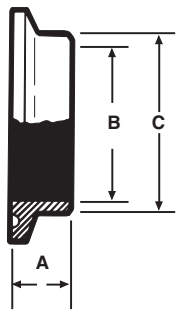
EG32CT - ADAPTER REDUCER (Eccentric)



Size Tube OD	A
1 1/2 x 1	3.187
2 x 1	5.187
2 x 1 1/2	3.187
2 1/2 x 1 1/2	5.187
2 1/2 x 2	3.218
3 x 1 1/2	7.187
3 x 2	5.218
3 x 2 1/2	3.343
4 x 2	9.343
4 x 2 1/2	7.468
4 x 3	5.562

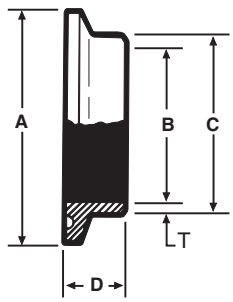
CLAMP FITTINGS SCHEDULE 5 & 10

EG2CS-5-6L - FERRULE



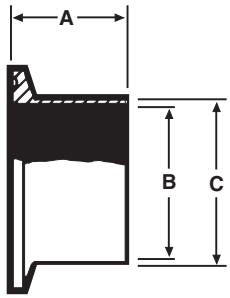
Size Pipe	A	B	C	Nom. Wall
1	0.500	1.185	1.315	0.065
1 1/2	0.500	1.770	1.900	0.065
2	0.500	2.245	2.375	0.065
2 1/2	0.500	2.709	2.875	0.083
3	0.500	3.334	3.500	0.083
4	0.625	4.334	4.500	0.083

EG2CS-10-6L - FERRULE



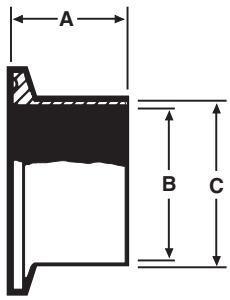
Size Pipe	A	B	C	D	Nom. Wall
1/2	1.984	0.674	0.840	0.500	0.083
3/4	1.984	0.884	1.050	0.500	0.083
1	1.984	1.097	1.315	0.500	0.109
1 1/2	2.516	1.682	1.900	0.500	0.109
2	3.047	2.157	2.375	0.500	0.109
2 1/2	3.579	2.635	2.875	0.500	0.120
3	4.125	3.260	3.500	0.500	0.120
4	5.125	4.260	4.500	0.625	0.120

EG14AM7-5-6L - FERRULE



Size Pipe	A	B	C	Nom. Wall
1	1.125	1.185	1.315	0.065
1 1/2	1.125	1.770	1.900	0.065
2	1.125	2.245	2.375	0.065
2 1/2	1.125	2.709	2.875	0.083
3	1.125	3.334	3.500	0.083
4	1.125	4.334	4.500	0.083

EG14AM7-10-6L - FERRULE



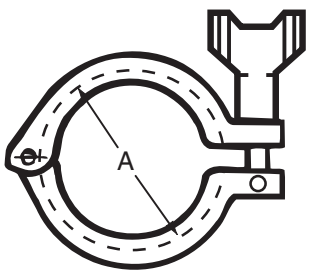
Size Pipe	A	B	C	Nom. Wall
1	1.125	1.097	1.315	0.109
1 1/2	1.125	1.682	1.900	0.109
2	1.125	2.157	2.375	0.109
2 1/2	1.125	2.635	2.875	0.120
3	1.125	3.260	3.500	0.120
4	1.125	4.260	4.500	0.120

EG16A-5-6L - CAP



Size Pipe	A	B
1	1.984	0.250
1 1/2	2.516	0.250
2	3.047	0.250
2 1/2	3.579	0.250
3	4.125	0.250
4	5.125	0.250

13MHHM-5 - CLAMP



Size Pipe	A
1	2.122
1 1/2	2.654
2	3.185
2 1/2	3.717
3	4.250
4	5.250

***PSI SERVICE RATINGS FOR SANITARY STAINLESS STEEL CLAMPS**

Pipe Size	13MHHM	
	@70°F	@250°F
1″	500	250
1 1/2″	450	250
2″	400	200
2 1/2″	350	150
3″	250	135
4″	175	100

GASKETS



Gasket Materials	Part Number
Buna N	EG40-5-SIZE
Teflon	EG40T-5-SIZE
Viton	EG40V-5-SIZE
Silicone	EG40S-5-SIZE
EPDM	EG40E-5-SIZE

Available in 1″ to 4″ sizes.



WELD FITTINGS....

Weld Fittings are used on permanent installations where process piping and equipment can be cleaned in place (CIP) and removal from the system is not required. Weld Fittings are offered in nominal tube sizes 1/2″ through 8″ in T304 and T316L materials. Uniform wall thickness for 1/2″ through 3″ sizes measure .065 (16 ga). In 4″ size, wall thickness measures .083 (14 ga), 6″ and 8″ .109 (12 ga).

We offer Polished ID and OD Fittings for immediate shipment. Other polished combinations may be ordered. Our Weld Fittings meet all 3A requirements.

WELD FITTING SPECIFICATIONS....

Size Range: 1/2″ OD through 8″ OD

Materials: T304
T316L

Finish: No. 7 - ID & OD
No. 5 - OD only
No. 3 - ID only
No. 1 - unpolished

ORDERING SPECIFICATIONS....

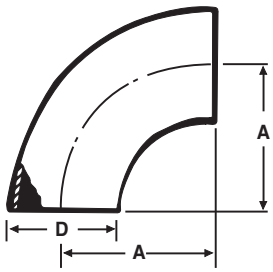
Specify:

- Quantity
- Product description or Part No.
- Size
- Material Type
- Polish Requirements

WELD FITTINGS

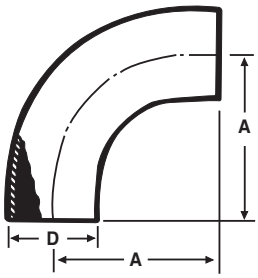
VNE	ALFA LAVAL	WAUKESHA / SPX	BRADFORD	STEEL & O'BRIEN
E2S	L2S	2CW	B2S	L2S
E2C	L2CM	2CKW	B2CM	L2CM
E2T	L2C	2TW	B2T	L2C
E2F	L2F	2FW	B2FP	L2F
E2KS	L2KS	2KW	B2KS	L2KS
E2KC	L2KM	2KKW	B2KM	L2KM
E2KT	L2K	2KT	B2K	L2K
E2KP	L2P	2KP	B2P	L2P
E2WU	L2WU	2WU	B2WUL	2WU
E7WWW	L7WWW	7W	B7WWW	7WWW
E7WWC	L7WWM	7WWK	B7WWM	7WWM
E7WWT	L7WWT	7WWT	B7WWT	----
E7WCW	L7WMW	7WKW	B7WMW	7WMW
E7WTW	L7WTW	7WTW	B7WTW	----
E7WCC	L7WMM	7WKK	B7WMM	7WMM
E7WTT	L7WTT	7WTT	B7WTT	----
E7CCW	L7MMW	7KKW	B7MMW	7MMW
E7TTW	L7TTW	7TTW	B7TTW	----
E7RWWW	L7RWWW	7WR	B7RWWW	7WR
E9WWWW	L9WWWW	9W	B9WWWW	9WWWW
E31WW	L31	31W	B31W	31W
E32WW	L32	32W	B32W	32W
E28WA	L28WA	28WA	B28WA	28WA
E28WB	L28WB	28WB	B28W	28WB
E2WK			B2WK	2WK

2WCL - 90° ELBOW SHORT TANGENT



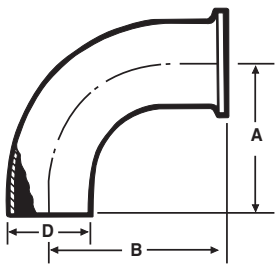
Size Tube OD	A	D	Nom. Wall
1	1.500	1.000	0.065
1 1/4	1.875	1.250	0.065
1 1/2	2.250	1.500	0.065
2	3.000	2.000	0.065
2 1/2	3.750	2.500	0.065
3	4.500	3.000	0.065
4	6.000	4.000	0.083
6	9.000	6.000	0.109
8	12.000	8.000	0.109

E2S - 90° ELBOW



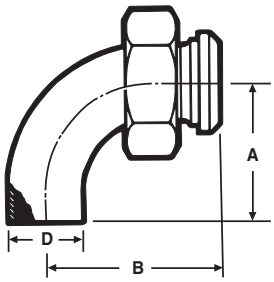
Size Tube OD	A	D	Nom. Wall
1	2.062	1.000	0.065
1 1/2	2.937	1.500	0.065
2	4.062	2.000	0.065
2 1/2	5.187	2.500	0.065
3	6.312	3.000	0.065
4	8.312	4.000	0.083

E2C - 90° ELBOW



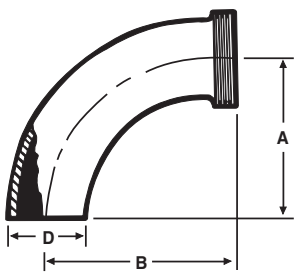
Size Tube OD	A	B	D	Nom. Wall
1	2.062	2.562	1.000	0.065
1 1/2	2.935	3.437	1.500	0.065
2	4.062	4.562	2.000	0.065
2 1/2	5.187	5.687	2.500	0.065
3	6.312	6.812	3.000	0.065
4	8.312	8.937	4.000	0.083
6	9.000	9.875	6.000	0.109

E2F - 90° ELBOW



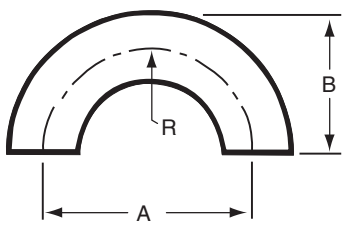
Size Tube OD	A	B	D	Nom. Wall
1	2.062	2.750	1.000	0.065
1 1/2	2.937	3.656	1.500	0.065
2	4.062	4.781	2.000	0.065
2 1/2	5.187	6.031	2.500	0.065
3	6.937	7.218	3.000	0.065
4	8.937	9.531	4.000	0.083

E2T - 90° ELBOW



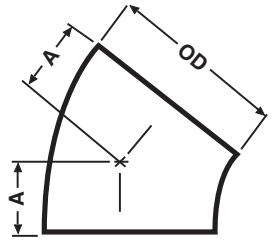
Size Tube OD	A	B	D	Nom. Wall
1	2.062	2.750	1.000	0.065
1 1/2	2.937	3.656	1.500	0.065
2	4.062	4.781	2.000	0.065
2 1/2	5.187	6.031	2.500	0.065
3	6.937	7.218	3.000	0.065
4	8.937	9.531	4.000	0.083

E2WU - 180° U BEND



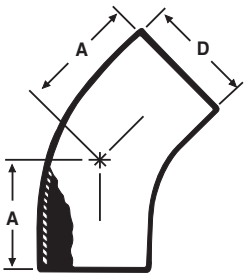
Size Tube OD	A	B	C	R	Nom. Wall
1/2	1.500	1.000	0.500	0.750	0.065
3/4	2.250	1.500	0.750	1.125	0.065
1	3.000	2.000	1.000	1.500	0.065
1 1/4	3.750	2.500	1.250	1.875	0.065
1 1/2	4.500	3.000	1.500	2.250	0.065
2	6.000	4.000	2.000	3.000	0.065
2 1/2	7.500	5.000	2.500	3.750	0.065
3	9.000	6.000	3.000	4.500	0.065
4	12.000	8.000	4.000	6.000	0.083
6	18.000	12.000	6.000	9.000	0.109

E2WK - 45° ELBOW SHORT TANGENT



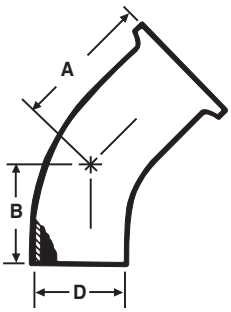
Size Tube OD	A	Nom. Wal
1	0.625	0.065
1 1/4	0.781	0.065
1 1/2	0.937	0.065
2	1.250	0.065
2 1/2	1.562	0.065
3	1.875	0.065
4	2.500	0.083
6	3.750	0.109
8	5.000	0.109

E2KS - 45° ELBOW



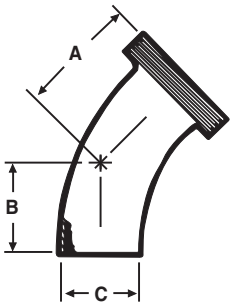
Size Tube OD	A	D	Nom. Wall
1	1.187	1.000	0.065
1 1/2	1.625	1.500	0.065
2	2.312	2.000	0.065
2 1/2	3.000	2.500	0.065
3	3.687	3.000	0.065
4	4.812	4.000	0.083

E2KC - 45° ELBOW



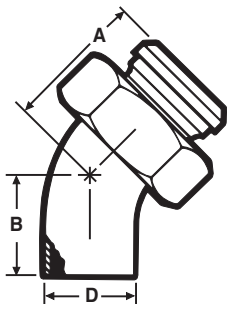
Size Tube OD	A	B	D	Nom. Wall
1	1.687	1.187	1.000	0.065
1 1/2	2.125	1.625	1.500	0.065
2	2.812	2.312	2.000	0.065
2 1/2	3.500	3.000	2.500	0.065
3	4.187	3.687	3.000	0.065
4	5.437	4.812	4.000	0.083
6	4.625	3.750	6.000	0.109

E2KT - 45° ELBOW



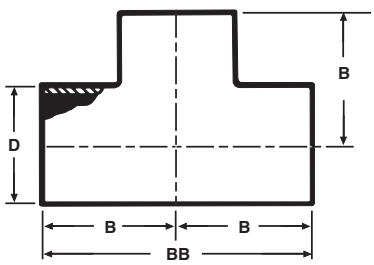
Size Tube OD	A	B	C	Nom. Wall
1	1.875	1.187	1.000	0.065
1 1/2	2.343	1.625	1.500	0.065
2	3.031	2.312	2.000	0.065
2 1/2	3.843	3.000	2.500	0.065
3	4.593	3.687	3.000	0.065
4	6.031	4.812	4.000	0.083

E2KP - 45° ELBOW



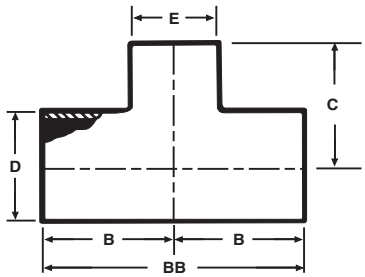
Size Tube OD	A	B	D	Nom. Wall
1	1.875	1.187	1.000	0.065
1 1/2	2.343	1.625	1.500	0.065
2	3.031	2.312	2.000	0.065
2 1/2	3.843	3.000	2.500	0.065
3	4.593	3.687	3.000	0.065
4	6.031	4.812	4.000	0.083

E7WWW - TEE



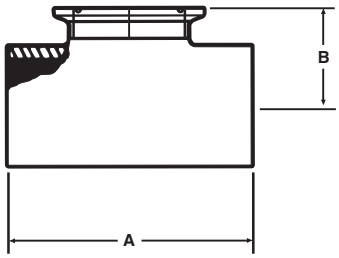
Size Tube OD	B	BB	D	Nom. Wall
1	1.125	2.250	1.000	0.065
1 1/4	2.250	3.312	1.250	0.065
1 1/2	1.656	3.312	1.500	0.065
2	2.062	4.125	2.000	0.065
2 1/2	2.343	4.687	2.500	0.065
3	2.593	5.187	3.000	0.065
4	3.437	6.875	4.000	0.083
6	5.625	11.250	6.000	0.109
8	7.000	14.000	8.000	0.109

E7RWWW - REDUCING TEE



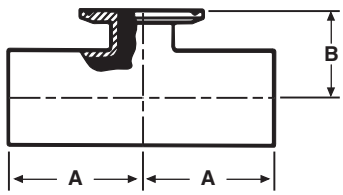
Size Tube OD	B	BB	C	Nom. Wall
1 1/2 x 1	1.650	3.312	1.375	0.065
2 x 1	2.060	4.125	1.625	0.065
2 x 1 1/2	2.060	4.125	1.906	0.065
2 1/2 x 1	2.340	4.687	1.875	0.065
2 1/2 x 1 1/2	2.340	4.687	2.150	0.065
2 1/2 x 2	2.340	4.687	2.312	0.065
3 x 1	2.590	5.187	2.125	0.065
3 x 1 1/2	2.590	5.187	2.400	0.065
3 x 2	2.590	5.187	2.562	0.065
3 X 2 1/2	2.590	5.187	2.590	0.065
4 x 1 1/2	3.430	6.875	4.906	0.083 x 0.065
4 x 2	3.430	6.875	3.090	0.083 x0.065
4 x 2 1/2	3.430	6.875	3.090	0.083 x 0.065
4 x 3	3.590	6.875	3.090	0.083 x 0.065
6 x 2	5.625	11.250	5.625	0.109 x 0.065
6 x 3	5.625	11.250	5.625	0.109 x 0.065
6 x 4	5.625	11.250	5.625	0.109 x 0.083

E7WWCS - SHORT CLAMP BRANCH TEE - See TE7WWCS



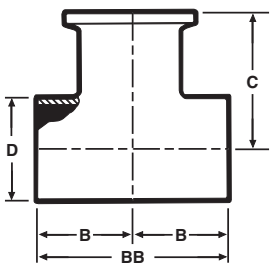
Size Tube OD	A	B	Nom. Wall
1	4.250	1.125	.065
1 1/2	4.750	1.375	.065
2	5.750	1.625	.065
2 1/2	6.250	1.875	.065
3	6.750	2.125	.065
4	8.250	2.750	.083
6	11.250	4.625	.109

E7RWWCS - REDUCING SHORT CLAMP BRANCH TEE



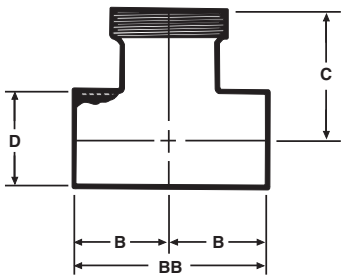
Size Tube OD	A	B	Nom. Wall
3/4 x 1/2	2.000	1.000	0.065
1 x 1/2	2.120	1.120	0.065
1 x 3/4	2.120	1.120	0.065
1 1/2 x 1/2	2.370	1.370	0.065
1 1/2 x 3/4	2.370	1.370	0.065
1 1/2 x 1	2.370	1.370	0.065
2 x 1/2	2.870	1.620	0.065
2 x 3/4	2.870	1.620	0.065
2 x 1	2.870	1.620	0.065
2 x 1 1/2	2.870	1.620	0.065
2 1/2 x 1/2	3.120	1.870	0.065
2 1/2 x 3/4	3.120	1.870	0.065
2 1/2 x 1	3.120	1.870	0.065
2 1/2 x 1 1/2	3.120	1.870	0.065
2 1/2 x 2	3.120	1.870	0.065
3 x 1/2	3.370	2.120	0.065
3 x 3/4	3.370	2.120	0.065
3 x 1	3.370	2.120	0.065
3 x 1 1/2	3.370	2.120	0.065
3 x 2	3.370	2.120	0.065
3 x 2 1/2	3.370	2.120	0.065
4 x 1/2	4.120	2.620	0.083
4 x 3/4	4.120	2.620	0.083
4 x 1	4.120	2.620	0.083
4 x 1 1/2	4.120	2.620	0.083
4 x 2	4.120	2.620	0.083
4 x 2 1/2	4.120	2.620	0.083
4 x 3	4.120	2.620	0.083
6 x 4	5.630	3.750	0.109

E7WWC - TEE WELD X WELD X CLAMP



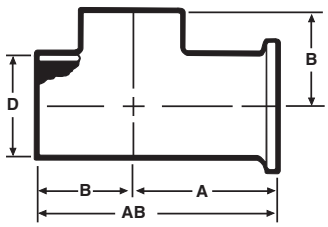
Size Tube OD	B	BB	C	D	Nom. Wall
1	1.125	2.250	1.625	1.000	0.065
1 1/2	1.656	3.312	2.156	1.500	0.065
2	2.062	4.125	2.562	2.000	0.065
2 1/2	2.343	4.687	2.843	2.500	0.065
3	2.593	5.187	3.093	3.000	0.065
4	3.625	7.250	4.656	4.000	0.083
6	5.625	11.250	6.500	6.000	0.109

E7WWT - TEE WELD X WELD X THREAD



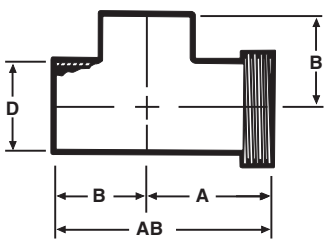
Size Tube OD	B	BB	C	D	Nom. Wall
1	1.125	2.250	1.812	1.000	0.065
1 1/2	1.656	3.312	2.375	1.500	0.065
2	2.062	4.125	2.781	2.000	0.065
2 1/2	2.343	4.687	3.187	2.500	0.065
3	2.593	5.187	3.500	3.000	0.065
4	3.625	7.250	4.656	4.000	0.083

E7WCW - TEE WELD X CLAMP X WELD



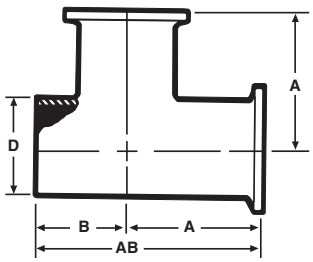
Size Tube OD	A	B	AB	D	Nom. Wall
1	1.625	1.125	2.750	1.000	0.065
1 1/2	2.156	1.656	3.812	1.500	0.065
2	2.562	2.062	4.625	2.000	0.065
2 1/2	2.843	2.343	5.187	2.500	0.065
3	3.093	2.593	5.687	3.000	0.065
4	4.250	3.625	7.875	4.000	0.083
6	6.500	5.625	12.125	6.000	0.109

E7WTW - TEE THREADED ONE END - WELD X THREAD X WELD



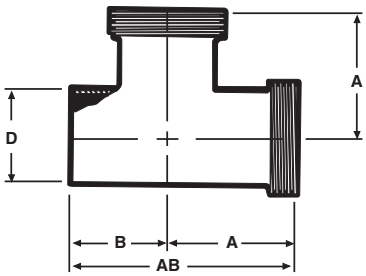
Size Tube OD	A	B	AB	D	Nom. Wall
1	1.812	1.125	2.937	1.000	0.065
1 1/2	2.375	1.656	4.031	1.500	0.065
2	2.781	2.062	4.843	2.000	0.065
2 1/2	3.187	2.343	5.531	2.500	0.065
3	3.500	2.593	6.093	3.000	0.065
4	4.656	3.625	8.281	4.000	0.083

E7WCC - TEE WELD X CLAMP X CLAMP



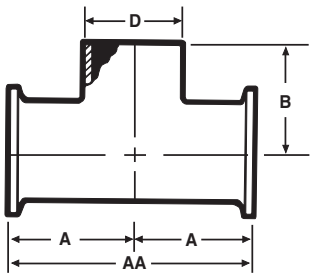
Size Tube OD	A	B	AB	D	Nom. Wall
1	1.625	1.125	2.750	1.000	0.065
1 1/2	2.156	1.656	3.812	1.500	0.065
2	2.562	2.062	4.625	2.000	0.065
2 1/2	2.843	2.343	5.187	2.500	0.065
3	3.093	2.593	5.687	3.000	0.065
4	4.250	3.625	7.875	4.000	0.083
6	6.500	5.625	12.125	6.000	0.109

E7WTT - TEE WELD X THREAD X THREAD



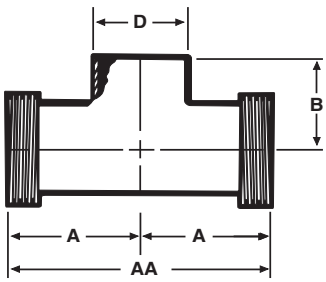
Size Tube OD	A	B	AB	D	Nom. Wall
1	1.812	1.125	2.937	1.000	0.065
1 1/2	2.375	1.656	4.031	1.500	0.065
2	2.781	2.062	4.843	2.000	0.065
2 1/2	3.187	2.343	5.531	2.500	0.065
3	3.500	2.593	6.093	3.000	0.065
4	4.656	3.625	8.281	4.000	0.083

E7CCW - TEE CLAMP X CLAMP X WELD



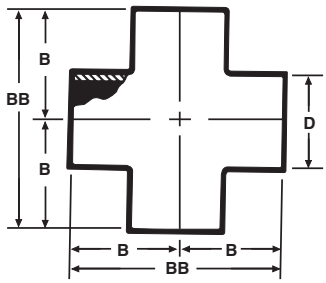
Size Tube OD	A	AA	B	D	Nom. Wall
1	1.625	3.250	1.125	1.000	0.065
1 1/2	2.562	4.312	1.656	1.500	0.065
2	2.562	5.125	2.062	2.000	0.065
2 1/2	2.843	5.687	2.343	2.500	0.065
3	3.093	6.187	2.593	3.000	0.065
4	4.250	8.500	3.625	4.000	0.083
6	6.500	13.000	5.625	6.000	0.109

E7TTW - TEE THREAD X THREAD X WELD



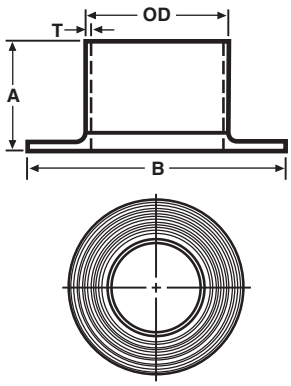
Size Tube OD	A	AA	B	D	Nom. Wall
1	1.812	3.625	1.125	1.000	0.065
1 1/2	2.375	4.750	1.656	1.500	0.065
2	2.781	5.562	2.062	2.000	0.065
2 1/2	3.187	6.375	2.343	2.500	0.065
3	3.500	7.000	2.593	3.000	0.065
4	4.656	9.312	3.625	4.000	0.083

E9WWWW - CROSS



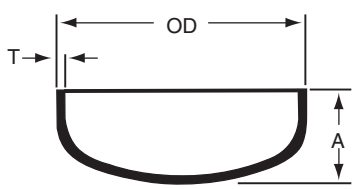
Size Tube OD	B	BB	D	Nom. Wall
1	1.125	2.250	1.000	.065
1 1/2	1.656	3.312	1.500	.065
2	2.062	4.125	2.000	.065
2 1/2	2.343	4.687	2.500	.065
3	2.593	5.187	3.000	.065
4	3.437	6.875	4.000	.083
6	5.625	11.250	6.000	.109

E14WA - TYPE A STUB END WITH GROOVES



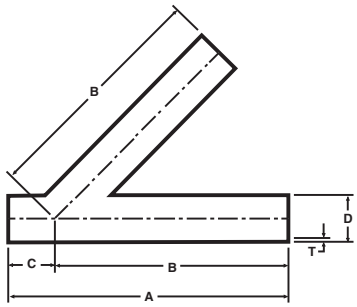
Size Tube OD	A	B	Nom. Wall (T)
1/2	1.375	1.625	0.065
3/4	1.375	1.687	0.065
1	1.625	2.000	0.065
1 1/4	1.625	2.500	0.065
1 1/2	1.750	2.875	0.065
2	1.500	3.625	0.065
2 1/2	2.000	4.125	0.065
3	2.250	5.000	0.065
4	2.625	6.187	0.083
6	3.000	8.500	0.109

E16W - WELD CAP



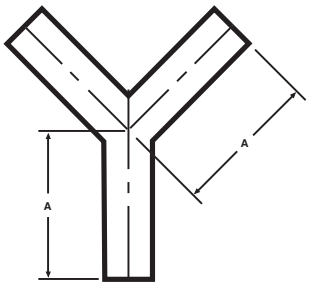
Size Tube OD	A	Nom. Wall (T)
1	0.375	0.065
1 1/4	0.500	0.065
1 1/2	0.562	0.065
2	0.750	0.065
2 1/2	1.000	0.065
3	1.250	0.065
4	1.500	0.083
6	Contact us for dimensions.	

E28WA - 45° LATERAL



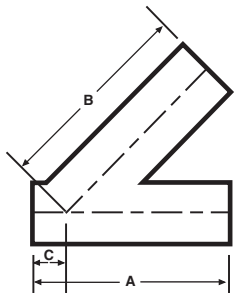
Size Tube OD	A	B	C	D	Nom. Wall (T)
1	6.000	5.000	1.000	1.000	0.065
1 1/2	7.375	6.187	1.187	1.500	0.065
2	8.625	7.125	1.500	2.000	0.065
2 1/2	10.125	8.500	1.625	2.500	0.065
3	10.750	8.875	1.875	3.000	0.065
4	12.812	10.750	2.062	4.000	0.083
6	18.000	14.500	3.500	6.000	0.109

E28WB - TRUE Y



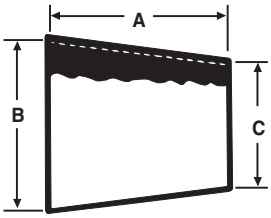
Size Tube OD	A	Nom. Wall
1	3.000	0.065
1 1/2	3.000	0.065
2	4.000	0.065
2 1/2	5.000	0.065
3	6.000	0.065
4	8.000	0.083
6	8.000	0.109

E28RWA - 45° REDUCING LATERAL



Size Tube OD	A	B	C	Nom. Wall
1 1/2 x 1	7.375	6.187	1.187	0.065
2 x 1	8.625	7.125	1.625	0.065
2 x 1 1/2	8.625	7.125	1.625	0.065
2 1/2 x 1	10.125	8.500	1.500	0.065
2 1/2 x 1 1/2	10.125	8.500	1.500	0.065
2 1/2 x 2	10.125	8.500	1.500	0.065
3 x 1	10.750	8.875	1.875	0.065
3 x 1 1/2	10.750	8.875	1.875	0.065
3 x 2	10.750	8.875	1.875	0.065
3 x 2 1/2	10.750	8.875	1.875	0.065
4 x 1	12.812	10.750	2.062	0.083 x .065
4 x 1 1/2	12.812	10.750	2.062	0.083 x .065
4 x 2	12.812	10.750	2.062	0.083 x .065
4 x 2 1/2	12.812	10.750	2.062	0.083 x .065
4 x 3	12.812	10.750	2.062	0.083 x .065

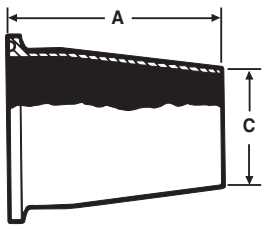
E31WW - CONCENTRIC REDUCER



Size Tube OD	A	B	C	Nom. Wall
3/4 x 1/2	*	0.750	0.500	0.065
1 x 1/2	*	1.000	0.500	0.065
1 x 3/4	*	1.000	0.750	0.065
1 1/2 x 1/2	*	1.500	0.500	0.065
1 1/2 x 3/4	*	1.500	0.750	0.065
1 1/2 x 1	2.000	1.500	1.000	0.065
1 1/2 x 1 1/4	1.000	1.500	1.250	0.065
2 x 1	4.000	2.000	1.000	0.065
2 x 1 1/4	3.000	2.000	1.250	0.065
2 x 1 1/2	2.000	2.000	1.500	0.065
2 1/2 x 1 1/2	4.000	2.500	1.500	0.065
2 1/2 x 2	2.000	2.500	2.000	0.065
3 x 1 1/2	6.000	3.000	1.500	0.065
3 x 2	4.000	3.000	2.000	0.065
3 x 2 1/2	2.000	3.000	2.500	0.065
4 x 2	8.000	4.000	2.000	0.083 x .065
4 x 2 1/2	6.000	4.000	2.500	0.083 x .065
4 x 3	4.000	4.000	3.000	0.083 x .065
6 x 2	5.500	6.000	2.000	0.109 x .065
6 x 3	5.500	6.000	3.000	0.109 x .083
6 x 4	5.500	6.000	4.000	0.109 x .083

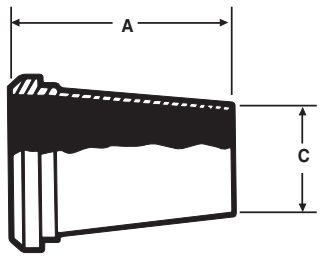
* Contact us for dimensions.

E31CW - CONCENTRIC REDUCER CLAMP X WELD



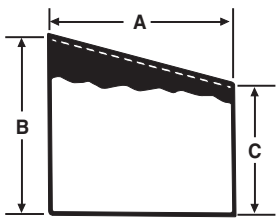
Size Tube OD	A	C	Nom. Wall
1 1/2 x 1	2.500	1.000	0.065
2 x 1 1/2	2.500	1.500	0.065
2 1/2 x 1 1/2	4.500	1.500	0.065
2 1/2 x 2	2.500	2.000	0.065
3 x 2	4.500	2.000	0.065
3 x 2 1/2	2.500	2.500	0.065
4 x 2	8.625	2.000	0.065
4 x 2 1/2	6.625	2.500	0.065
4 x 3	4.625	3.000	0.065
6 x 4	6.375	4.000	0.083

E31PW - CONCENTRIC REDUCER PLAIN BEVEL X WELD



Size Tube OD	A	C	Nom. Wall
1 1/2 x 1	2.687	1.000	0.065
2 x 1 1/2	2.718	1.500	0.065
2 1/2 x 1 1/2	4.843	1.500	0.065
2 1/2 x 2	2.843	2.000	0.065
3 x 2	4.937	2.000	0.065
3 x 2 1/2	2.937	2.500	0.065
4 x 2	9.000	2.000	0.065
4 x 2 1/2	7.000	2.500	0.065
4 x 3	5.000	3.000	0.065

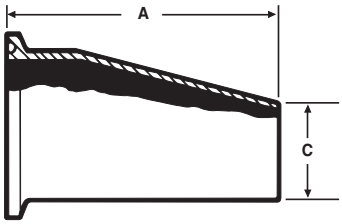
E32WW - ECCENTRIC REDUCER



Size Tube OD	A	B	C	Nom. Wall
3/4 x 1/2	*	0.750	0.500	0.065
1 x 1/2	*	1.000	0.500	0.065
1 x 3/4	*	1.000	0.750	0.065
1 1/2 x 1/2	*	1.500	0.500	0.065
1 1/2 x 3/4	*	1.500	0.750	0.065
1 1/2 x 1	2.000	1.500	1.000	0.065
1 1/2 x 1 1/4	1.000	1.500	1.250	0.065
2 x 1	4.000	2.000	1.250	0.065
2 x 1 1/4	3.000	2.000	1.250	0.065
2 x 1 1/2	2.000	2.000	1.500	0.065
2 1/2 x 1 1/2	4.000	2.500	1.500	0.065
2 1/2 x 2	2.000	2.500	2.000	0.065
3 x 2	4.000	3.000	2.000	0.065
3 x 2 1/2	2.000	3.000	2.500	0.065
4 x 2	8.000	4.000	2.000	0.083 x .065
4 x 2 1/2	6.000	4.000	2.500	0.083 x .065
4 x 3	4.000	4.000	3.000	0.083 x .065
6 x 2	5.500	6.000	2.000	0.109 x .065
6 x 3	5.500	6.000	3.000	0.109 x .083
6 x 4	5.500	6.000	4.000	0.109 x .083

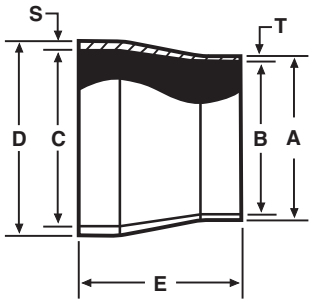
* Contact us for dimensions.

E32CW - ECCENTRIC REDUCER CLAMP X WELD



Size Tube OD	A	C	Nom. Wall
1 1/2 X 1	2.500	1.000	0.065
2 x 1 1/2	2.500	1.500	0.065
2 1/2 x 1 1/2	4.500	1.500	0.065
2 1/2 x 2	2.500	2.000	0.065
3 x 2	4.500	2.000	0.065
3 x 2 1/2	2.500	2.500	0.065
4 x 2	8.625	2.000	0.065
4 x 2 1/2	6.625	2.500	0.065
4 x 3	4.625	3.000	0.065
6 x 4	6.375	4.000	0.083

E17WW-6L - TUBE X PIPE ADAPTER



Size Tube OD	A	B	SCH5 C	SCH10 C	SCH40 C	D
1/2	0.500	0.370	0.710	0.674	0.622	0.840
3/4	0.750	0.620	0.920	0.884	0.824	1.050
1	1.000	0.870	1.185	1.097	1.049	1.315
1 1/2	1.500	1.370	1.770	1.682	1.610	1.900
2	2.000	1.870	2.245	2.157	2.067	2.375
2 1/2	2.500	2.370	2.709	2.635	2.469	2.875
3	3.000	2.870	3.334	3.260	3.068	3.500
4	4.000	3.834	4.334	4.260	4.026	4.500
6	6.000	5.782	6.407	6.357	6.065	6.625

Size Tube OD	E	T	SCH5 S	SCH10 S	SCH40 S
1/2	1.000	0.065	0.065	0.083	0.109
3/4	1.000	0.065	0.065	0.083	0.113
1	1.000	0.065	0.065	0.109	0.133
1 1/2	1.500	0.065	0.065	0.109	0.145
2	1.500	0.065	0.065	0.109	0.154
2 1/2	1.500	0.065	0.083	0.120	0.203
3	2.000	0.065	0.083	0.120	0.216
4	2.000	0.083	0.083	0.120	0.237
6	3.000	0.109	0.109	0.134	0.280



BEVEL SEAT FITTINGS....

Bevel Seat Fittings are used on process equipment and piping to ensure rigidity of the system. Bevel Seat Unions consist of a Threaded Bevel Ferrule mated with a Plain Bevel Ferrule. Both are offered in T304 and T316L material. Hex Union Nuts made of only T304 material are used to complete the union. Gaskets for Bevel Seat Unions are not required for positive shut-off. However, gaskets may be purchased upon request.

Bevel Seat Fittings meet all 3A requirements and are available in 1″ through 4″ sizes.

BEVEL SEAT SPECIFICATIONS....

Size Range: 1″ OD through 4″ OD

Materials: T304
T316L

Finish: No. 7 - ID & OD
No. 5 - OD only
No. 3 - ID only
No. 1 - unpolished

ORDERING SPECIFICATIONS....

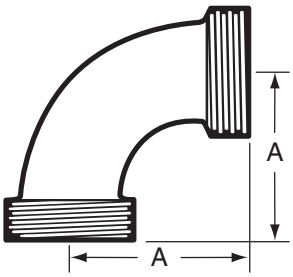
Specify:

- Quantity
- Product description or Part No.
- Size
- Material Type
- Polish Requirements

BEVEL SEAT TYPE

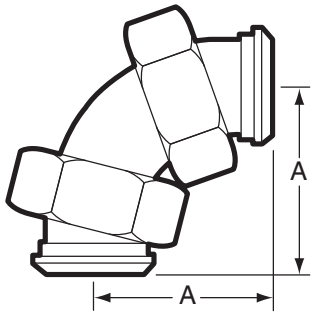
VNE	ALFA LAVAL	WAUKESHA / SPX	BRADFORD	STEEL & O'BRIEN
2C	2C	2C	B2C	2C
2E	2E	2E	B2E	2E
2F	2F	2F	B2F	2F
2F-31	2F-31	2F-31	2F-31	2F-31
2K	2K	2K	2K	2K
2P	2P	2P	B2P	2P
7	7	7	7	7
7A	7A	7A	7A	7A
7B	7B	7B	7B	7B
9	9	9	9	9
9A	9A	9A	9A	9A
13H	13H	13H	13H	13H
14	14	14	14	14
14A	L14A7	14A	14A	14A
14AHR	14AHR	14AHR	14AHR	14AHR
14AHT	14AHT	14AHT	14AHT	14AHT
14R	14R	14R	14R	14R
14W	14W	14W	14W	14W
14-22	14-22	14-22	14-22	14-18
14WL	14WL	14WL	14WL	14WL
14-19	14-19	21F	14-19	14-19
14PR	14PRF	14RW	14PRF	14++
15	15	15	15	15
15TR	15TRF	15RW	15TRF	15++
15A	L15A7	15A	15A	15A
15AHR	15AHR	15AHR	15AHR	15AHR
15AHT	15AHT	15AHT	15AHT	15AHT
15R	15R	15R	15R	15R
15W	15W	15W	15W	15W
15WL	15WL	15WL	15WL	15WL
16A	16A	16A	16A	16A
21	21	21	21	21
23B	23B	23B	23B	23B
22	22	22	22	22
31TT	31TT	31TT	B31TT	31TT
31TP	31TP	31TP	B31TP	31TP
31-14F	31-14F	31-14F	B3114F	31-14F
31-15F	31-15F	31-15F	B3115F	31-15F
32-14F	32-14F	32-14F	B3214F	32-14F
32-15F	32-15F	32-15F		32-15F

2C - 90° ELBOW THREADED



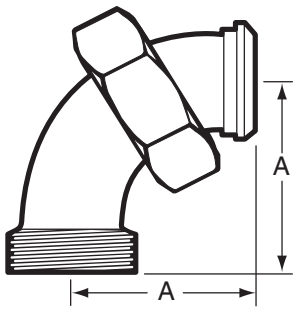
Size Tube OD	A
1	2.187
1 1/2	2.937
2	3.718
2 1/2	4.593
3	5.437
4	7.000

2E - 90° ELBOW BEVEL SEAT WITH 13H NUT



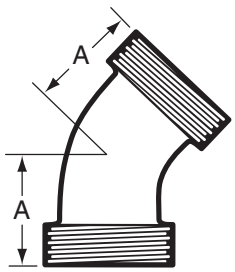
Size Tube OD	A
1	2.000
1 1/2	2.875
2	3.718
2 1/2	4.843
3	5.906
4	8.062

2F - 90° ELBOW THREADED X 13H NUT



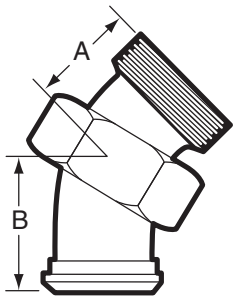
Size Tube OD	A
1	2.000
1 1/2	2.875
2	3.718
2 1/2	4.843
3	5.906
4	8.062

2K - 45° ELBOW THREADED



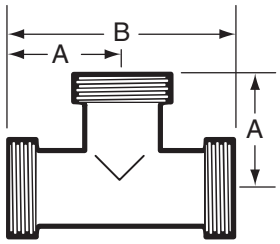
Size Tube OD	A
1	2.000
1 1/2	2.312
2	2.687
2 1/2	3.250
3	3.750
4	4.500

2P - 45° ELBOW 13H NUT X THREAD



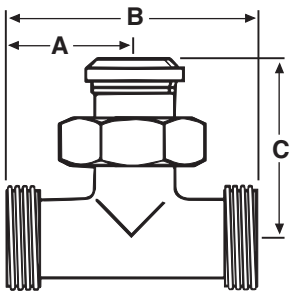
Size Tube OD	A	B
1	1.312	2.000
1 1/2	1.625	2.437
2	1.937	2.750
2 1/2	2.375	3.312
3	2.812	3.625
4	3.500	4.250

7 - TEE ALL ENDS THREADED



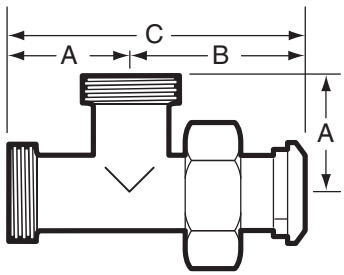
Size Tube OD	A	B
1	1.812	3.625
1 1/2	2.375	4.750
2	2.781	5.437
2 1/2	3.187	6.375
3	3.500	7.000
4	4.656	9.312

7A - TEE THREADED X THREADED X 13H NUT



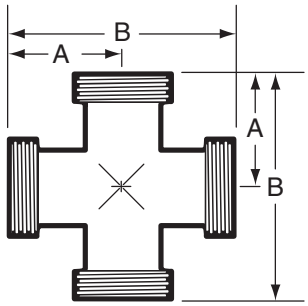
Size Tube OD	A	B	C
1	1.812	3.625	2.500
1 1/2	2.375	4.750	3.125
2	2.781	5.437	3.562
2 1/2	3.187	6.375	4.062
3	3.500	7.000	4.312
4	4.656	9.312	5.375

7B - TEE THREADED X 13H NUT X THREADED



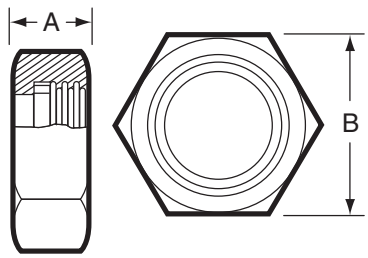
Size Tube OD	A	B	C
1	1.182	2.500	4.313
1 1/2	2.375	3.125	5.500
2	2.781	3.562	6.343
2 1/2	3.187	4.062	7.250
3	3.500	4.312	7.812
4	4.656	5.375	10.031

9 - CROSS THREADED



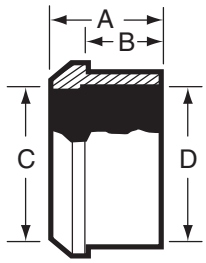
Size Tube OD	A	B
1	1.812	3.625
1 1/2	2.375	4.750
2	2.781	5.437
2 1/2	3.187	6.375
3	3.500	7.000
4	4.656	9.312

13H - HEX UNION NUT



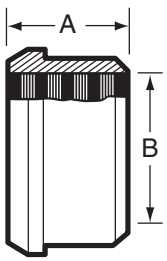
Size Tube OD	A	B
1	0.906	1.812
1 1/2	0.968	2.406
2	1.062	3.000
2 1/2	1.187	3.593
3	1.281	4.187
4	1.500	5.437

14 - PLAIN RECESSED FERRULE (T316L Material Only)



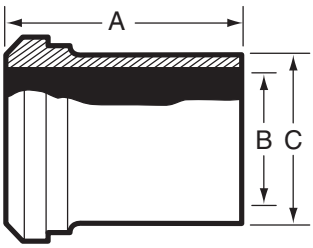
Size Tube OD	A	B	C	D
1	0.750	0.500	0.870	1.000
1 1/2	0.875	0.625	1.370	1.500
2	0.968	0.687	1.870	2.000
2 1/2	1.062	0.750	2.370	2.500
3	1.125	0.812	2.870	3.000
4	1.250	0.812	3.834	4.000

14R - PLAIN RECESSLESS FERRULE (Expanding)



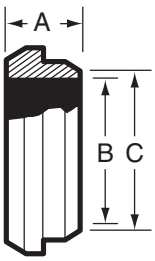
Size Tube OD	A	B
1	0.750	1.000
1 1/2	1.125	1.500
2	1.312	2.000
2 1/2	1.375	2.500
3	1.437	3.000
4	1.500	4.000

14A - PLAIN WELDING FERRULE



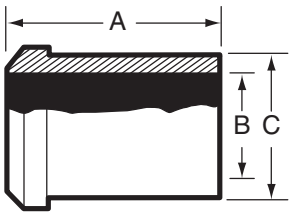
Size Tube OD	A	B	C
1	1.375	0.870	1.000
1 1/2	1.500	1.370	1.500
2	1.500	1.870	2.000
2 1/2	1.750	2.370	2.500
3	1.750	2.870	3.000
4	1.750	3.834	4.000

14PR - SHORT PLAIN WELDING FERRULE



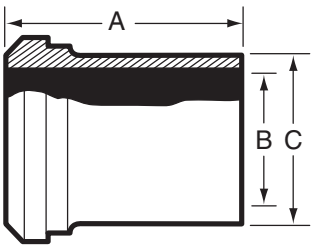
Size Tube OD	A	B	C
1	0.687	0.870	1.000
1 1/2	0.687	1.370	1.500
2	0.718	1.870	2.000
2 1/2	0.843	2.370	2.500
3	0.937	2.870	3.000
4	1.000	3.834	4.000

14W - TANK WELDING PLAIN FERRULE



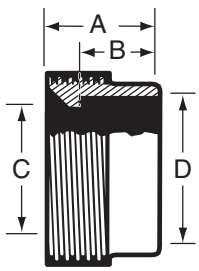
Size Tube OD	A	B	C
1	2.375	0.870	1.156
1 1/2	2.531	1.370	1.671
2	2.781	1.870	2.187
2 1/2	3.062	2.370	2.703
3	3.531	2.870	3.218
4	4.312	3.834	4.250

14WL - LONG PLAIN WELDING FERRULE



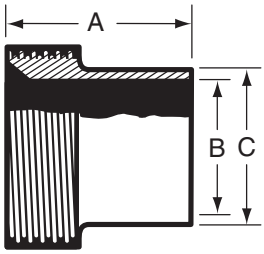
Size Tube OD	A	B	C
1	2.000	0.870	1.000
1 1/2	2.250	1.370	1.500
2	2.500	1.870	2.000
2 1/2	2.750	2.370	2.500
3	3.000	2.870	3.000
4	4.000	3.834	4.000

15 - THREADED RECESSED FERRULE (T316L Material Only)



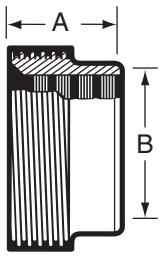
Size Tube OD	A	B	C	D
1	1.187	0.500	0.870	1.000
1 1/2	0.875	0.625	1.370	1.500
2	1.031	0.687	1.870	2.000
2 1/2	1.125	0.750	2.370	2.500
3	1.250	0.812	2.870	3.000
4	1.375	0.937	3.834	4.000

15A - THREADED WELDING FERRULE



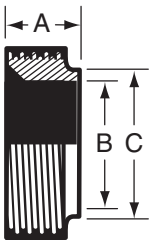
Size Tube OD	A	B	C
1	1.375	0.870	1.000
1 1/2	1.500	1.370	1.500
2	1.500	1.870	2.000
2 1/2	1.750	2.370	2.500
3	1.750	2.870	3.000
4	1.750	3.834	4.000

15R - THREADED RECESSLESS FERRULE (Expanding)



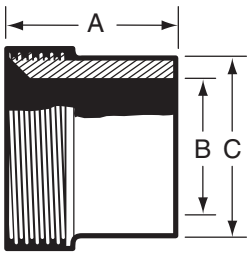
Size Tube OD	A	B
1	0.812	1.000
1 1/2	1.125	1.500
2	1.375	2.000
2 1/2	1.500	2.500
3	1.625	3.000
4	1.625	4.000

15TR - SHORT THREADED WELDING FERRULE



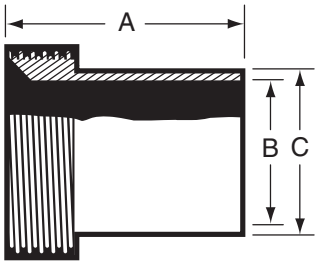
Size Tube OD	A	B	C
1	0.687	0.870	1.000
1 1/2	0.687	1.370	1.500
2	0.718	1.870	2.000
2 1/2	0.843	2.370	2.500
3	0.937	2.870	3.000
4	1.000	3.834	4.000

15W - TANK WELDING FERRULE



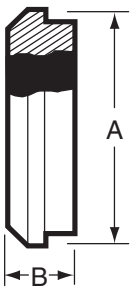
Size Tube OD	A	B	C
1	1.500	0.870	1.250
1 1/2	1.625	1.370	1.750
2	1.750	1.870	2.312
2 1/2	1.750	2.370	2.875
3	1.812	2.870	3.375
4	2.125	3.834	4.250

15WL - LONG WELDING FERRULE



Size Tube OD	A	B	C
1	2.000	0.870	1.000
1 1/2	2.250	1.370	1.500
2	2.500	1.870	2.000
2 1/2	2.750	2.370	2.500
3	3.000	2.870	3.000
4	4.000	3.834	4.000

16A - PLAIN CAP



Size Tube OD	A	B
1	1.312	0.468
1 1 /2	1.843	0.562
2	2.375	0.625
2 1/2	2.906	0.656
3	3.437	0.718
4	4.500	0.812

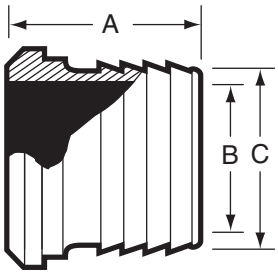
23B - TAPPED THERMOMETER CAP



Size Tube OD	A	B
*1	1.312	0.468
1 1 /2	1.843	0.562
2	2.375	0.625
2 1/2	2.906	0.656
3	3.437	0.718
4	4.500	0.812

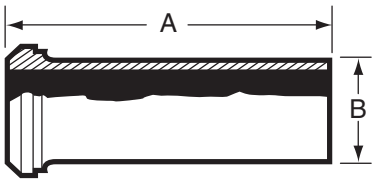
*1″ Standard 1/2″ FNPT. All others 3/4″.

14AHR - RUBBER HOSE ADAPTER



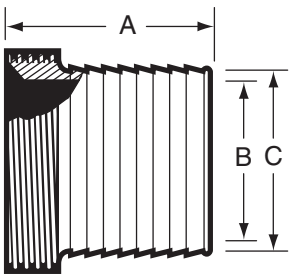
Size Tube OD	A	B	C
1	1.687	0.870	1.000
1 1/2	1.687	1.370	1.500
2	2.312	1.870	2.000
2 1/2	2.343	2.370	2.000
3	3.500	2.870	3.000
4	4.000	3.834	4.000

14AHT - TYGON HOSE ADAPTER



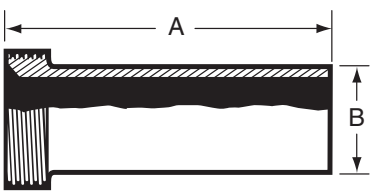
Size Tube OD	A	B
1	4.687	1.000
1 1/2	4.718	1.500
2	4.718	2.000
2 1/2	4.843	2.500
3	4.906	3.000
4	5.218	4.000

15AHR - THREADED RUBBER HOSE ADAPTER



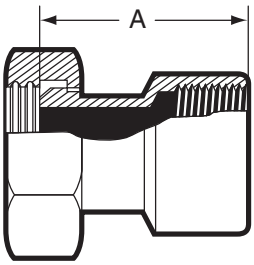
Size Tube OD	A	B	C
1	1.687	0.870	1.000
1 1/2	1.687	1.370	1.500
2	2.312	1.870	2.000
2 1/2	2.343	2.370	2.000
3	3.500	2.870	3.000
4	4.000	3.834	4.000

15AHT - THREADED TYGON HOSE ADAPTER



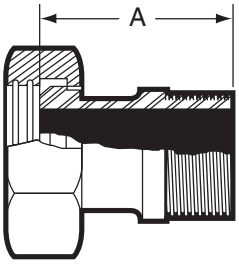
Size Tube OD	A	B
1	4.687	1.000
1 1/2	4.718	1.500
2	4.718	2.000
2 1/2	4.843	2.500
3	4.906	3.000
4	5.218	4.000

14-22 - ADAPTER 13H NUT X FNPT



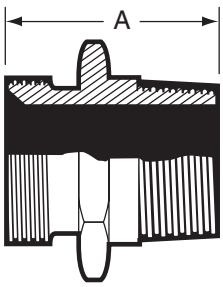
Size Tube OD	A
1	2.500
1 1 /2	2.937
2	2.937
2 1/2	3.375
3	3.562
4	3.750

14-19 - ADAPTER 13H NUT X MNPT



Size Tube OD	A
1	3.125
1 1 /2	3.250
2	3.312
2 1/2	4.062
3	4.250
4	4.312

21 - ADAPTER ACME THREAD X MNPT



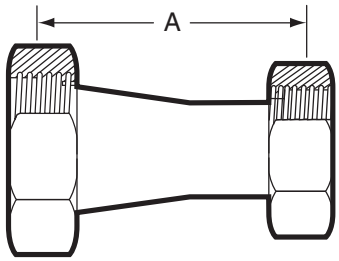
Size Tube OD	A
1	2.437
1 1 /2	2.437
2	2.531
2 1/2	3.156
3	3.406
4	3.593

22 - ADAPTER ACME THREAD X FNPT



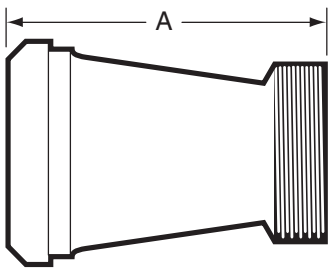
Size Tube OD	A
1	1.937
1 1 /2	2.156
2	2.156
2 1/2	2.468
3	2.718
4	3.031

31-14F - CONCENTRIC REDUCER 13H X 13H



Size Tube OD	A
1 1/2 x 1	4.062
2 x 1	6.093
2 x 1 1/2	4.218
2 1/2 x 1 1/2	6.343
2 1/2 x 2	4.343
3 x 2	6.437
3 x 2 1/2	4.687
4 x 2 1/2	8.750
4 x 3	6.750

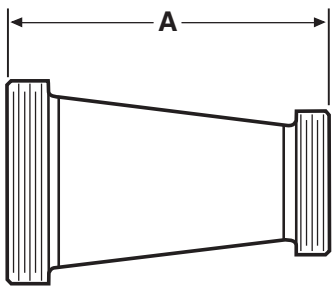
31-15F - CONCENTRIC REDUCER PLAIN BEVEL X THREAD



Size Tube OD	A
*1 1/2 x 1	3.375
2 x 1	5.406
2 x 1 1/2	3.406
2 1/2 x 1 1/2	5.531
2 1/2 x 2	3.562
3 x 2	5.656
3 x 2 1/2	3.781
4 x 2 1/2	7.843
4 x 3	5.937

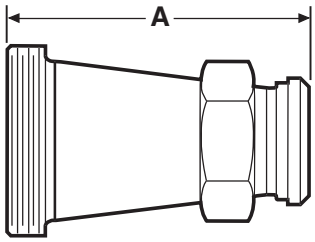
*Hex Nut included.

31TT - CONCENTRIC REDUCER THREAD X THREAD



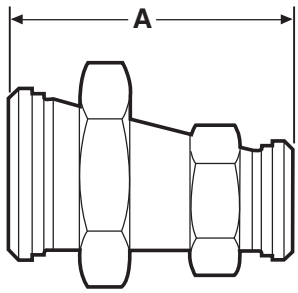
Size Tube OD	A
1 1/2 x 1	3.375
2 x 1	5.406
2 x 1 1/2	3.406
2 1/2 x 1 1/2	5.531
2 1/2 x 2	3.562
3 x 2	5.656
3 x 2 1/2	3.781
4 x 2 1/2	7.843
4 x 3	5.937

31TP - CONCENTRIC REDUCER THREAD X 13H NUT



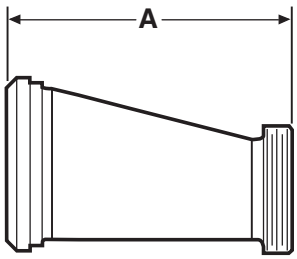
Size Tube OD	A
1 1/2 x 1	4.062
2 x 1	6.093
2 x 1 1/2	4.218
2 1/2 x 1 1/2	6.343
2 1/2 x 2	4.343
3 x 2	6.437
3 x 2 1/2	4.687
4 x 2	10.500
4 x 2 1/2	8.750
4 x 3	6.750

32-14F - ECCENTRIC REDUCER 13H NUT X 13H NUT



Size Tube OD	A
1 1/2 x 1	4.062
2 x 1	6.093
2 x 1 1/2	4.218
2 1/2 x 1 1/2	6.143
2 1/2 x 2	4.343
3 x 2	6.437
3 x 2 1/2	4.687
4 x 2	10.500
4 x 2 1/2	8.750
4 x 3	6.750

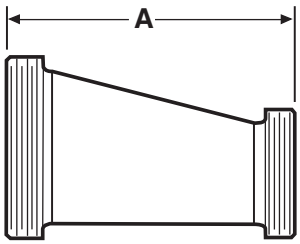
32-15F - ECCENTRIC REDUCER PLAIN BEVEL X THREAD



Size Tube OD	A
*1 1/2 x 1	3.375
2 x 1	5.406
2 x 1 1/2	3.406
2 1/2 x 1 1/2	5.531
2 1/2 x 2	3.562
3 x 2	5.656
3 x 2 1/2	3.781
4 x 2	9.718
4 x 2 1/2	7.843
4 x 3	5.937

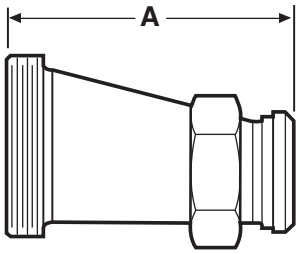
*Hex Nut included.

32TT - ECCENTRIC REDUCER THREAD X THREAD



Size Tube OD	A
1 1/2 x 1	3.375
2 x 1	5.406
2 x 1 1/2	3.406
2 1/2 x 1 1/2	5.531
2 1/2 x 2	3.562
3 x 2	5.656
3 x 2 1/2	3.781
4 x 2	9.718
4 x 2 1/2	7.843
4 x 3	5.937

32TP - ECCENTRIC REDUCER THREAD X 13H NUT



Size Tube OD	A
1 1/2 x 1	4.062
2 x 1	6.093
2 x 1 1/2	4.218
2 1/2 x 1 1/2	6.343
2 1/2 x 2	4.343
3 x 2	6.437
3 x 2 1/2	4.687
4 x 2	10.500
4 x 2 1/2	8.750
4 x 3	6.750



E-LINE FITTINGS....

E-Line Fittings have a male and female interface construction to ensure rigidity of your system.

We offer E-Line Fittings in sizes 1″ through 6″ in T304 and T316L material. We offer Polished ID and OD Fittings for immediate shipment. Other polished combinations may be ordered.

Gaskets for E-Line Fittings are available in several different materials, Buna-N, EPDM, Teflon®,Silicone, and Viton.

E-LINE FITTING SPECIFICATIONS....

Size Range: 1″ OD through 6″ OD

Materials: T304
T316L

Finish: No. 7 - ID & OD
No. 5 - OD only
No. 3 - ID only
No. 1 - unpolished

ORDERING SPECIFICATIONS....

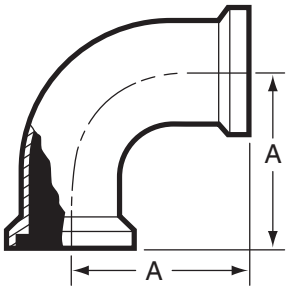
Specify:

- Quantity
- Product description or Part No.
- Size
- Material Type
- Polish Requirements

E-LINE TYPE

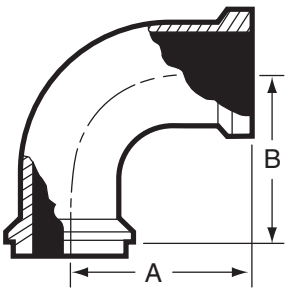
VNE	ROBERT JAMES	WAUKESHA / SPX	Bradford	Steel & O'Brien
E2CI	RJ2CZ	2CI	B2CI	HDI-2C
E2FI	RJ2FZ	2FI	B2FI	HDI-2F
E2EI	-----	2EI	B2EI	HDI-2E
E2KI	RJ2KZ	2KI	B2KI	HDI-2K
E2PI	RJ2PZ	2PI	B2PI	HDI-2P
E7I	RJ7Z	7I	B7I	HDI-7
E7AI	RJ7AZ	7AI	B7AI	-----
E7EI	RJ7EZ	7EI	B7EI	-----
E7BI	RJ7BZ	7BI	B7BI	-----
E9I	RJ9Z	9I	B9I	-----
E13IS	RJ13ZS	13IS	13ILH	HDI-13-UD
E13IU	RJ13Z	13IU	13IU	HDI-13-U
E14WI	RJ14WZ	14WI	14WI	14WH
E15WI	RJ15WZ	15WI	15WI	15WH
E14WLI	RJ14WLZ	14WLI	14WLI	14WLH
E15WLI	RJ15WLZ	15WLI	15WLI	15WLH
E14HRI	RJ14HRZ	14HRI	14HRI	-----
E14HTI	RJ14HTZ	14HTI	14HTI	-----
E15HRI	RJ15HRZ	15HRI	15HRI	-----
E15HTI	RJ15HTZ	15HTI	15HTI	-----
E17-14I-15I	RJ17-14Z-15Z	17-14I-15I	17-14I-15I	-----
E17-15I-15I	RJ17-15Z-15Z	17-15I-15I	17-15I-15I	-----
E17-14I-14I	RJ17-14Z-14Z	17-14I-14I	17-14I-14I	-----
E17-14I-14	RJ17-14Z-14	17-14I-14	17-14I-14	-----
E17-14I-14MP	RJ17-14Z-14MP	17-14I-14MP	17-14I-14MP	-----
E17-14I-15	RJ17-14Z-15	17-14I-15	17-14I-15	-----
E17-15I-14	RJ17-15Z-14	17-15I-14	17-15I-14	-----
E17-15I-15	RJ17-15Z-15	17-15I-15L	17-15I-15	-----
E17-15I-14MP	RJ17-15Z-14MP	17-15I-14MP	17-15I-MP	-----
E21I-14I	RJ21-14Z	21FI-14I	21I-14I	-----
E21I-15I	RJ21-15Z	21F1-15I	22I-15I	-----
E22I-14I	RJ22-14Z	22FI-14I	22I-14I	-----
E22I-15I	RJ22-15Z	22FI-15I	22I-15I	-----
E16AI-14I	RJ16AZ-14Z	16AI-14I	16AI-14I	HDI-16A-14
E16AI-15I	RJ16AZ-15Z	16AI-15I	16AI-15I	HDI-16A-15
E31I-14I	RJ31Z-14Z	31I-14FI	31I-14I	HDI-31-14F
E31I-15I	RJ31Z-15Z	31I-15FI	31I-15I	HDI-31-15F
E31I-15I-14I	RJ31Z-15Z-14Z	----	31I-15I-14I	-----
E31I-15I-15I	RJ31Z-15Z-15Z	----	31I-15I-15I	-----
E32I-14I	RJ32Z-14Z	32I-14FI	32I-14I	HDI-32-14F
E32I-15I	RJ32Z-15Z	32I-15FI	32I-15I	HDI-32-15F
E14WHI	----	14WHI	14WHI	
E15WHI	----	15WHI	15WHI	

E2CI - 90° ELBOW FEMALE X FEMALE



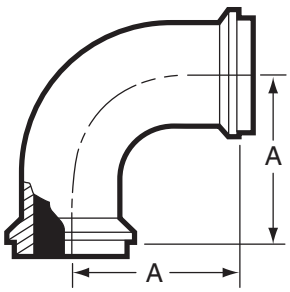
Size Tube OD	A
1	2.281
1 1/2	3.182
2	4.031
2 1/2	4.906
3	5.718
4	7.343
6	10.125

E2FI - 90° ELBOW MALE X FEMALE



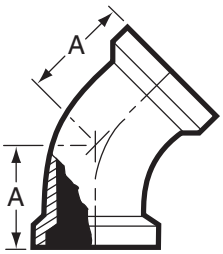
Size Tube OD	A	B
1	2.281	2.093
1 1/2	3.187	3.000
2	4.031	3.781
2 1/2	4.906	4.593
3	5.718	5.406
4	7.343	7.031
6	10.125	9.187

E2EI - 90° ELBOW MALE X MALE



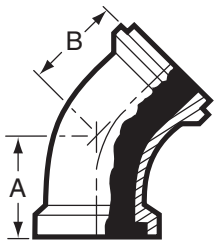
Size Tube OD	A
1	2.093
1 1/2	3.000
2	3.781
2 1/2	4.593
3	5.406
4	7.031
6	9.187

E2KI - 45° ELBOW FEMALE X FEMALE



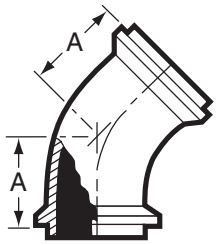
Size Tube OD	A
1	1.406
1 1/2	1.875
2	2.281
2 1/2	2.718
3	3.093
4	3.843
6	4.875

E2PI - 45° ELBOW FEMALE X MALE



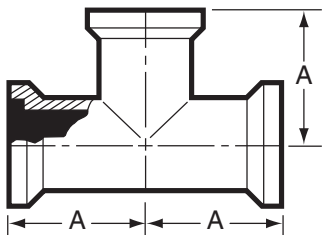
Size Tube OD	A	B
1	1.406	1.218
1 1/2	1.875	1.687
2	2.281	2.031
2 1/2	2.718	2.406
3	3.093	2.781
4	3.843	3.531
6	4.875	4.562

E2HI - 45° ELBOW MALE X MALE



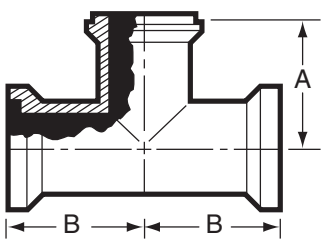
Size Tube OD	A
1	1.218
1 1/2	1.687
2	2.031
2 1/2	2.406
3	2.781
4	3.531
6	4.562

E7I - TEE ALL ENDS FEMALE



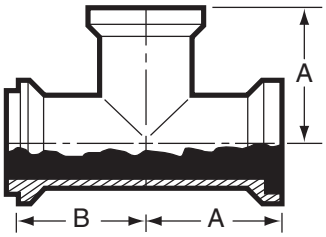
Size Tube OD	A
1	1.875
1 1/2	2.593
2	3.062
2 1/2	3.468
3	3.812
4	4.968
6	6.750

E7AI - TEE FEMALE X FEMALE X MALE



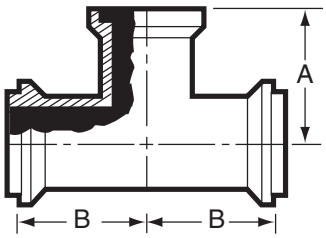
Size Tube OD	A	B
1	1.687	1.875
1 1/2	2.406	2.593
2	2.812	3.062
2 1/2	3.156	3.468
3	3.500	3.812
4	4.656	4.968
6	6.437	6.750

E7BI - TEE MALE X FEMALE X FEMALE



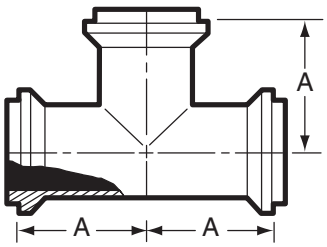
Size Tube OD	A	B
1	1.875	1.687
1 1/2	2.593	2.406
2	3.062	2.812
2 1/2	3.468	3.156
3	3.812	3.500
4	4.968	4.656
6	6.750	6.437

E7EI - TEE MALE X MALE X FEMALE



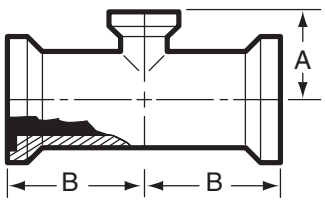
Size Tube OD	A	B
1	1.875	1.687
1 1/2	2.593	2.406
2	3.062	2.812
2 1/2	3.468	3.156
3	3.812	3.500
4	4.968	4.656
6	6.750	6.437

E7HI - TEE ALL ENDS MALE



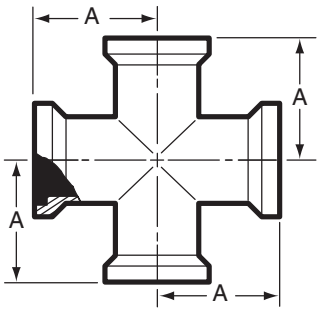
Size Tube OD	A
1	1.687
1 1/2	2.406
2	2.812
2 1/2	3.156
3	3.500
4	4.656
6	6.437

E7RI - REDUCING TEE ALL ENDS FEMALE



Size Tube OD	A	B
1 1/2 x 1	2.156	2.593
2 x 1	3.093	4.031
2 x 1 1/2	2.718	3.062
2 1/2 x 1 1/2	4.156	4.000
2 1/2 x 2	3.312	3.500
3 x 2	3.562	3.812
3 x 2 1/2	3.750	3.812
4 x 2	5.031	5.218
4 x 2 1/2	4.906	5.218
4 x 3	4.906	5.218
6 x 3	6.843	6.750
6 x 4	6.968	6.750

E9I - CROSS ALL ENDS FEMALE



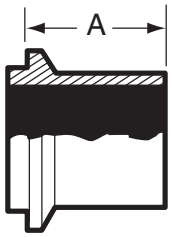
Size Tube OD	A
1	1.875
1 1/2	2.593
2	3.062
2 1/2	3.468
3	3.812
4	4.968
6	6.750

E14WI - SHORT MALE WELDING FERRULE



Size Tube OD	A
1	0.593
1 1/2	0.750
2	0.781
2 1/2	0.843
3	0.906
4	1.031
6	0.814
8	0.814

E14WLI - LONG MALE WELDING FERRULE



Size Tube OD	A
1	1.563
1 1/2	1.843
2	2.062
2 1/2	2.187
3	2.375
4	2.687
6	3.812

E15WI - SHORT FEMALE WELDING FERRULE



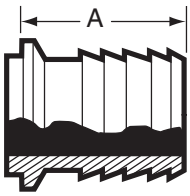
Size Tube OD	A
1	0.781
1 1/2	0.937
2	1.031
2 1/2	1.156
3	1.218
4	1.343
6	1.125
8	1.125

E15WLI - LONG FEMALE WELDING FERRULE



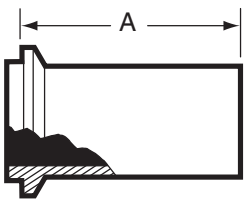
Size Tube OD	A
1	1.750
1 1/2	2.031
2	2.312
2 1/2	2.500
3	2.687
4	3
6	4

E14HRI - MALE RUBBER HOSE ADAPTER



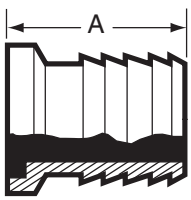
Size Tube OD	A
1	3.562
1 1/2	3.750
2	3.750
2 1/2	3.812
3	3.875
4	4.062
6	8.812

E14HTI - MALE TYGON HOSE ADAPTER



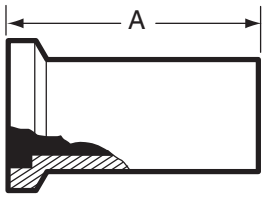
Size Tube OD	A
1	4.062
1 1/2	4.281
2	4.500
2 1/2	4.812
3	5.062
4	5.187

E15HRI - FEMALE RUBBER HOSE ADAPTER



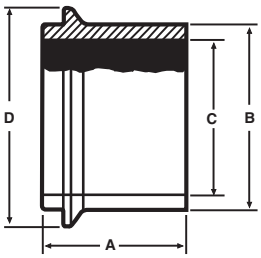
Size Tube OD	A
1	3.750
1 1/2	3.937
2	4.062
2 1/2	4.125
3	4.187
4	4.375
6	9.125

E15HTI - FEMALE TYGON HOSE ADAPTER



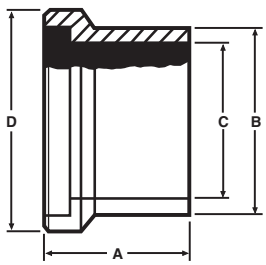
Size Tube OD	A
1	4.250
1 1/2	4.468
2	4.750
2 1/2	5.125
3	5.375
4	5.500

E14WHI - MALE WELD FERRULE



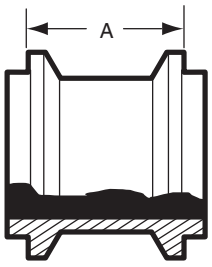
Size Tube OD	A	B	C	D
1	1.625	1.160	0.870	2.000
1 1/2	1.625	1.687	1.370	2.008
2	1.750	2.250	1.870	2.648
2 1/2	1.750	2.708	2.370	3.317
3	1.812	3.313	2.870	3.868
4	2.125	4.250	3.834	4.882

E15WHI - FEMALE WELD FERRULE



Size Tube OD	A	B	C	D
1	1.625	1.160	0.870	2.000
1 1/2	1.625	1.687	1.370	2.008
2	1.750	2.250	1.870	2.648
2 1/2	1.750	2.708	2.370	3.317
3	1.812	3.313	2.870	3.868
4	2.125	4.250	3.834	4.882

E17-14I-14I - ADAPTER BOTH ENDS MALE



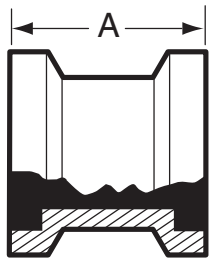
Size Tube OD	A
1	1.187
1 1/2	1.500
2	1.562
2 1/2	1.687
3	1.812
4	2.062
6	1.625

E17-14I-15I - ADAPTER MALE X FEMALE



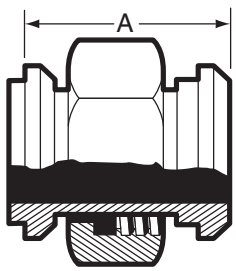
Size Tube OD	A
1	1.375
1 1/2	1.687
2	1.812
2 1/2	1.937
3	2.125
4	2.375
6	1.937

E17-15I-15I - ADAPTER BOTH ENDS FEMALE



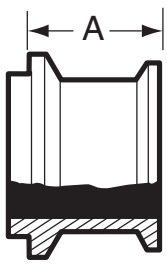
Size Tube OD	A
1	1.562
1 1/2	1.875
2	2.062
2 1/2	2.312
3	2.437
4	2.687
6	2.250

E17-14I-14-ADAPTER MALE X 13H NUT



Size Tube OD	A
1	1.968
1 1/2	2.250
2	2.250
2 1/2	2.562
3	2.687
4	2.812

E17-14I-14MP - ADAPTER MALE X CLAMP



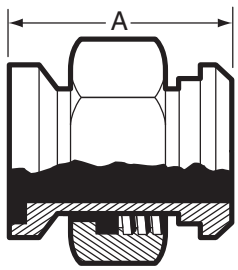
Size Tube OD	A
1	1.093
1 1/2	1.250
2	1.250
2 1/2	1.312
3	1.406
4	1.656
6	1.687

E17-14I-15 - ADAPTER MALE X ACME THREAD



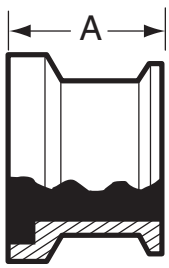
Size Tube OD	A
1	1.031
1 1/2	1.468
2	1.500
2 1/2	1.687
3	1.812
4	2.062

E17-15I-14 - ADAPTER FEMALE X 13H NUT



Size Tube OD	A
1	2.156
1 1/2	2.437
2	2.500
2 1/2	2.875
3	3.000
4	3.093

E17-15I-14MP - ADAPTER FEMALE X CLAMP



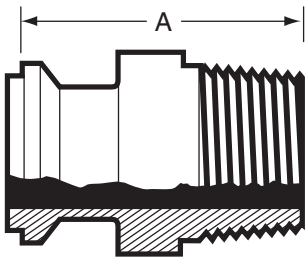
Size Tube OD	A
1	1.281
1 1/2	1.437
2	1.500
2 1/2	1.625
3	1.718
4	1.968
6	2.000

E17-15I-15 - ADAPTER FEMALE X ACME THREAD



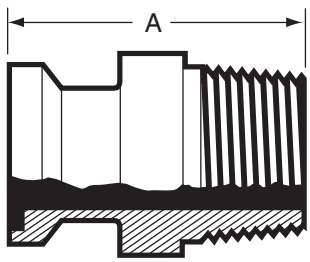
Size Tube OD	A
1	1.562
1 1/2	1.656
2	1.750
2 1/2	2.000
3	2.125
4	2.375

E21I-14I - ADAPTER MALE X MNPT



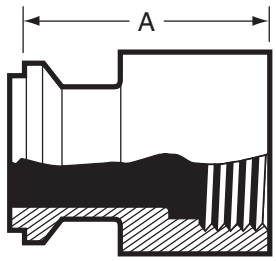
Size Tube OD	A
1	2.343
1 1/2	2.500
2	2.593
2 1/2	3.125
3	3.406
4	3.593
6	4.812

E21I-15I - ADAPTER FEMALE X MNPT



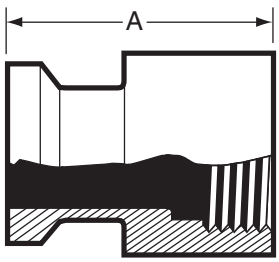
Size Tube OD	A
1	2.531
1 1/2	2.687
2	2.843
2 1/2	3.437
3	3.718
4	3.906
6	5.125

E22I-14I - ADAPTER MALE X FNPT



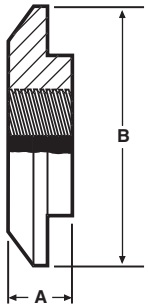
Size Tube OD	A
1	1.687
1 1/2	2.187
2	2.218
2 1/2	2.437
3	2.718
4	3.031

E22I-15I - ADAPTER FEMALE X FNPT



Size Tube OD	A
1	1.906
1 1/2	2.375
2	2.468
2 1/2	2.781
3	3.031
4	3.343

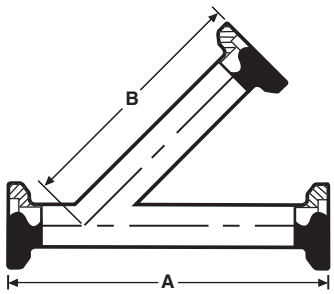
E23BI - THERMOMETER CAP



Size Tube OD	A	B
*1	0.500	2.000
1 1/2	0.500	2.000
2	0.562	2.625
2 1/2	0.750	3.312
3	0.750	3.875
4	0.750	4.875

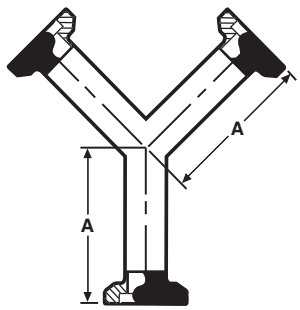
*STD 1/2″ FNPT. All others 3/4″ FNPT.

E28AI - LATERAL ALL ENDS FEMALE



Size Tube OD	A	B
1	7.562	5.781
1 1/2	9.250	7.125
2	10.687	8.156
2 1/2	12.437	9.656
3	13.187	10.093
4	15.500	12.093
6	19.125	15.625

E28BI - TRUE Y ALL ENDS FEMALE



Size Tube OD	A
1	3.781
1 1/2	3.937
2	5.031
2 1/2	6.156
3	7.218
4	9.343
6	9.125

E16AI-14I - MALE END CAP



Size Tube OD	A	B
1	2.000	0.500
1 1/2	2.000	0.500
2	2.625	0.562
2 1/2	3.312	0.750
3	3.875	0.750
4	4.875	0.750
6	7.500	0.875

E16AI-15I - FEMALE END CAP



Size Tube OD	A	B
1	2.000	0.500
1 1/2	2.000	0.500
2	2.625	0.687
2 1/2	3.312	0.750
3	3.875	0.750
4	4.875	0.750
6	7.500	0.750

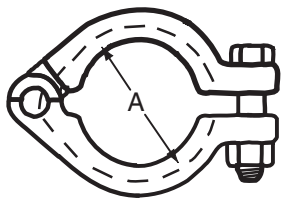
GASKETS



Gasket Materials	Part Number
Buna N	E40IH
EPDM	E40IE
Teflon	E40IT
Viton®	E40IV
Silicone	E40IS

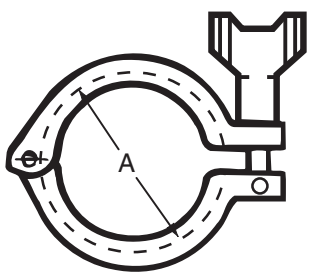
Available in 1″ to 6″ sizes.

E13IU - BOLTED CLAMP



Size Tube OD	A
1	2.122
1 1/2	2.122
2	2.800
2 1/2	3.500
3	4.060
4	5.000
6	7.625

E13IS - HEAVY DUTY CLAMP



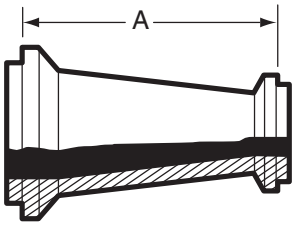
Size Tube OD	A
1	2.122
1 1/2	2.122
2	2.800
2 1/2	3.500
3	4.060
4	5.000
6	7.625

*PSI SERVICE RATINGS FOR SANITARY STAINLESS STEEL CLAMPS

Size Tube OD	E13IU		E13IS	
	@70°F	@250°F	@70°F	@250°F
1″ & 1 1/2″	500	250	500	250
2″	450	250	450	250
2 1/2″	400	200	400	200
3″	350	150	350	150
4″	200	125	200	125
6″	150	75	150	75

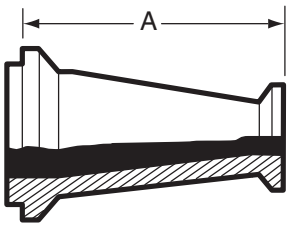
*Service ratings are based upon hydrostatic tests using Standard Molded Buna-N gasket material with proper expansion of ferrules, joint assembly, and the absence of shock pressure. All ratings systems are dependent upon related components in the system and proper installation.

E31I-14I - CONCENTRIC REDUCER MALE X MALE



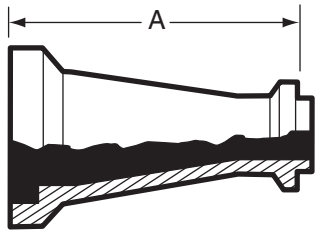
Size Tube OD	A
1 1/2 x 1	3.343
2 x 1	5.375
2 x 1 1/2	3.500
2 1/2 x 1 1/2	5.593
2 1/2 x 2	3.562
3 x 1 1/2	7.656
3 x 2	5.625
3 x 2 1/2	3.750
4 x 2	9.812
4 x 2 1/2	7.875
4 x 3	5.937
6 x 3	7.218
6 x 4	7.343

E31I-14I-15I - CONCENTRIC REDUCER MALE X FEMALE



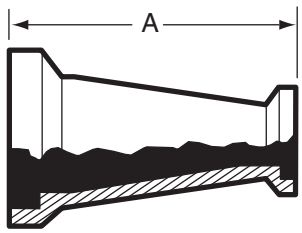
Size Tube OD	A
1 1/2 x 1	3.531
2 x 1	5.562
2 x 1 1/2	3.718
2 1/2 x 1 1/2	5.781
2 1/2 x 2	4.875
3 x 1 1/2	7.843
3 x 2	5.937
3 x 2 1/2	4.062
4 x 2	10.062
4 x 2 1/2	8.187
4 x 3	6.250
6 x 3	7.406
6 x 4	7.875

E31I-15I-14I - CONCENTRIC REDUCER FEMALE X MALE



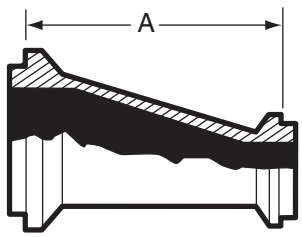
Size Tube OD	A
1 1/2 x 1	3.531
2 x 1	5.625
2 x 1 1/2	3.781
2 1/2 x 1 1/2	5.906
2 1/2 x 2	3.937
3 x 1 1/2	7.968
3 x 2	6.000
3 x 2 1/2	4.062
4 x 2	10.125
4 x 2 1/2	8.187
4 x 3	6.250
6 x 3	7.531
6 x 4	7.656

E31I-15I - CONCENTRIC REDUCER BOTH ENDS FEMALE



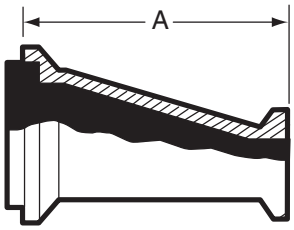
Size Tube OD	A
1 1/2 x 1	3.718
2 x 1	5.812
2 x 1 1/2	3.968
2 1/2 x 1 1/2	6.093
2 1/2 x 2	4.187
3 x 1 1/2	8.156
3 x 2	6.250
3 x 2 1/2	4.375
4 x 2	10.375
4 x 2 1/2	8.500
4 x 3	6.562
6 x 3	7.843
6 x 4	7.968

E32I-14I - ECCENTRIC REDUCER MALE X MALE



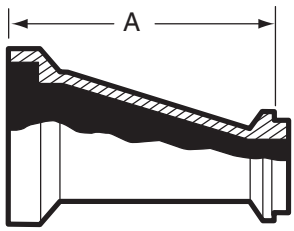
Size Tube OD	A
1 1/2 x 1	3.343
2 x 1	5.375
2 x 1 1/2	3.500
2 1/2 x 1 1/2	5.593
2 1/2 x 2	3.562
3 x 1 1/2	7.656
3 x 2	5.625
3 x 2 1/2	3.750
4 x 2	9.812
4 x 2 1/2	7.875
4 x 3	5.937
6 x 3	7.218
6 x 4	7.968

E32I-14I-15I - ECCENTRIC REDUCER MALE X FEMALE



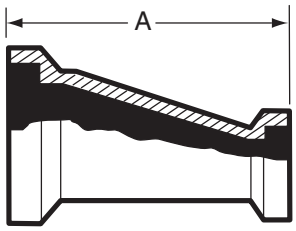
Size Tube OD	A
1 1/2 x 1	3.531
2 x 1	5.562
2 x 1 1/2	3.718
2 1/2 x 1 1/2	5.781
2 1/2 x 2	4.875
3 x 1 1/2	7.843
3 x 2	5.937
3 x 2 1/2	4.062
4 x 2	10.062
4 x 2 1/2	8.187
4 x 3	6.250
6 x 3	7.406
6 x 4	7.875

E32I-15I-14I - ECCENTRIC REDUCER FEMALE X MALE



Size Tube OD	A
1 1/2 x 1	3.531
2 x 1	5.625
2 x 1 1/2	3.781
2 1/2 x 1 1/2	5.906
2 1/2 x 2	3.937
3 x 1 1/2	7.968
3 x 2	6.000
3 x 2 1/2	4.062
4 x 2	10.125
4 x 2 1/2	8.187
4 x 3	6.250
6 x 3	7.531
6 x 4	7.656

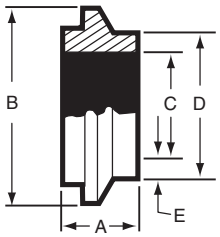
E32I-15I - ECCENTRIC REDUCER BOTH ENDS FEMALE



Size Tube OD	A
1 1/2 x 1	3.718
2 x 1	5.812
2 x 1 1/2	3.968
2 1/2 x 1 1/2	6.093
2 1/2 x 2	4.187
3 x 1 1/2	8.156
3 x 2	6.250
3 x 2 1/2	4.375
4 x 2	10.375
4 x 2 1/2	8.500
4 x 3	6.585
6 x 3	7.687
6 x 4	8.000

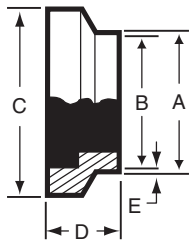
SCHEDULE 5 - (T316L)

E14WI-5 - SHORT MALE WELDING FERRULE



Size Pipe	A	B	C	D	E
1	0.945	2.000	1.185	1.315	0.065
1 1/2	1.024	2.648	1.770	1.900	0.065
2	1.142	3.317	2.245	2.375	0.065
2 1/2	1.220	3.868	2.709	2.875	0.083
3	1.343	4.882	3.334	3.500	0.083
4	1.343	5.882	4.334	4.500	0.083

E15WI-5 - SHORT FEMALE WELDING FERRULE



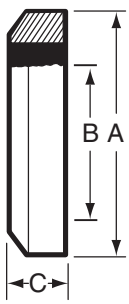
Size Pipe	A	B	C	D	E
1	1.315	1.185	2.000	0.945	0.065
1 1/2	1.900	1.770	2.648	1.024	0.065
2	2.375	2.245	3.317	1.142	0.065
2 1/2	2.875	2.709	3.868	1.220	0.083
3	3.500	3.334	4.882	1.343	0.083
4	4.500	4.334	5.882	1.343	0.083

E16AI-14I-5 - MALE END CAP



Size Pipe	A	B	C
1	2.000	1.751	0.500
1 1/2	2.648	2.244	0.585
2	3.317	2.746	0.750
2 1/2	3.868	3.307	0.750
3	4.882	4.295	0.750
4	5.882	5.295	0.750

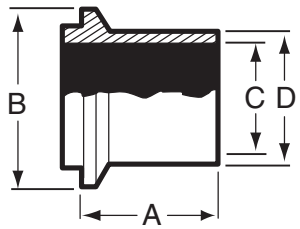
E16AI-15I-5 - FEMALE END CAP



Size Pipe	A	B	C
1	2.000	1.772	0.500
1 1/2	2.684	2.264	0.687
2	3.317	2.766	0.750
2 1/2	3.868	3.327	0.750
3	4.882	4.311	0.750
4	5.882	5.311	0.750

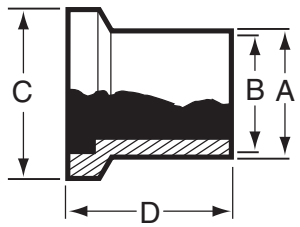
SCHEDULE 5 - (T316L)

E14WLI-5 - LONG MALE WELDING FERRULE



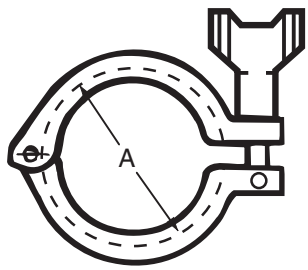
Size Pipe	A	B	C	D
1	1.562	2.000	1.185	1.315
1 1/2	1.843	2.648	1.770	1.900
2	2.062	3.317	2.245	2.375
2 1/2	1.562	3.868	2.709	2.875
3	1.562	4.882	3.334	3.500
4	1.562	5.882	4.334	4.500

E15WLI-5 - LONG FEMALE WELDING FERRULE



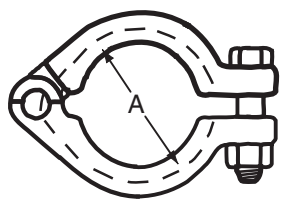
Size Pipe	A	B	C	D
1	1.315	1.185	2.000	1.750
1 1/2	1.900	1.770	2.648	2.031
2	2.375	2.245	3.317	2.312
2 1/2	2.875	2.370	3.868	2.500
3	3.500	2.870	4.882	2.687
4	4.500	3.834	5.882	3.000

E13IS-5 - HEAVY DUTY CLAMP - T304



Size Pipe	A
1	2.122
1 1/2	2.800
2	3.500
2 1/2	4.060
3	5.000
4	6.130

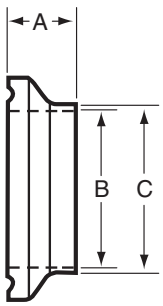
E13IU-5 - CLAMP BOLTED - T304



Size Pipe	A
1	2.122
1 1/2	2.800
2	3.500
2 2/1	4.060
3	5.000
4	6.130

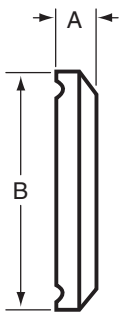
EQ - LINE

E14WQ-6L (T316L Material Only)



Size Tube OD	A	B	C
1	0.531	0.870	1.000
1 1/2	0.563	1.370	1.500
2	0.813	1.870	2.000
2 1/2	0.938	2.370	2.500
3	0.938	2.870	3.000
4	1.000	3.834	4.000

E16AQ-14Q



Size Tube OD	A	B
1	0.313	2.000
1 1/2	0.313	2.000
2	0.438	2.648
2 1/2	0.500	3.313
3	0.500	3.870
4	0.625	4.870



UNPOLISHED TUBE OD FITTINGS....

Unpolished Tube OD Weld Fittings are used in a wide variety of industrial applications where sanitary finishes are not generally required. Our tumbled finish presents a consistent uniform appearance.

Unpolished Weld Fittings are offered in nominal tube sizes 1/2″ through 8″ in T304 and T316L materials. Uniform wall thickness for 1/2″ through 3″ sizes measure .065 (16 ga). In 4″ size, wall thickness measure .083 (14 ga), 6″ and 8″ .109 (12 ga).

TUBE OD FITTING SPECIFICATIONS....

Size Range: 1/2″ OD through 8″ OD

Materials: T304
T316L

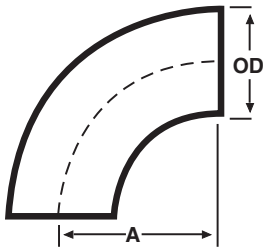
Finish: Unpolished - Tumbled

ORDERING SPECIFICATIONS....

Specify:

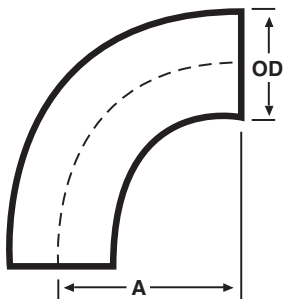
- Quantity
- Product description or Part No.
- Size
- Material Type
- Polish Requirements

V2WC - 90° ELBOW LESS TANGENTS



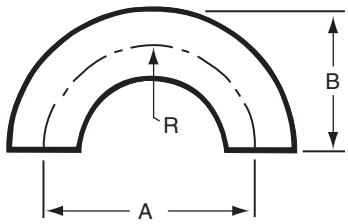
Size Tube OD	A	Nom. Wall
1/2	0.750	0.065
3/4	1.125	0.065
1	1.500	0.065
1 1/4	1.875	0.065
1 1/2	2.250	0.065
2	3.000	0.065
2 1/2	3.750	0.065
3	4.500	0.065
4	6.000	0.083
6	9.000	0.109
8	12.000	0.109

V2S - 90° ELBOW WITH TANGENTS



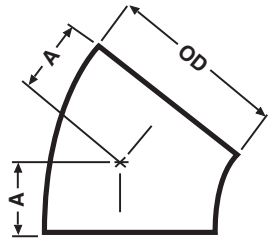
Size Tube OD	A	Nom. Wall
1	2.062	0.065
1 1/2	2.937	0.065
2	4.062	0.065
2 1/2	5.187	0.065
3	6.312	0.065
4	8.312	0.083

V2WU - 180° U BEND



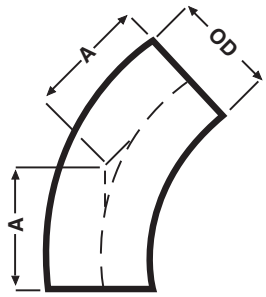
Size Tube OD	A	B	C	R	Nom. Wall
1/2	1.500	1.000	0.500	0.750	0.065
3/4	2.250	1.500	0.750	1.125	0.065
1	3.000	2.000	1.000	1.500	0.065
1 1/4	3.750	2.500	1.250	1.875	0.065
1 1/2	4.500	3.000	1.500	2.250	0.065
2	6.000	4.000	2.000	3.000	0.065
2 1/2	7.500	5.000	2.500	3.750	0.065
3	9.000	6.000	3.000	4.500	0.065
4	12.000	8.000	4.000	6.000	0.083
6	18.000	12.000	6.000	9.000	0.109

V2WK - 45° ELBOW LESS TANGENTS



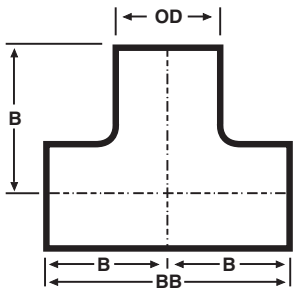
Size Tube OD	A	Nom. Wall
1/2	0.312	0.065
3/4	0.468	0.065
1	0.625	0.065
1 1/4	0.781	0.065
1 1/2	0.937	0.065
2	1.250	0.065
2 1/2	1.562	0.065
3	1.875	0.065
4	2.500	0.083
6	3.750	0.109
8	5.000	0.109

V2KS - 45° ELBOW WITH TANGENTS



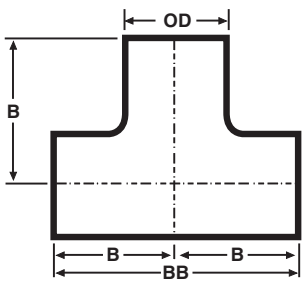
Size Tube OD	A	Nom. Wall
1	1.187	0.065
1 1/2	1.625	0.065
2	2.312	0.065
2 1/2	3.000	0.065
3	3.687	0.065
4	4.812	0.083

V7W - LONG TEE



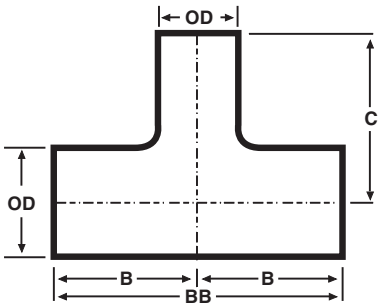
Size Tube OD	B	BB	Nom. Wall
1/2	CONTACT		
3/4			
1	1.875	3.750	0.065
1 1/2	2.250	4.500	0.065
1 1/4	2.250	4.500	0.065
2	3.000	6.000	0.065
2 1/2	3.000	6.000	0.065
3	3.250	6.500	0.065
4	3.875	7.750	0.083
6	5.625	11.250	0.109
8	7.000	14.000	0.109

V7WWW - SHORT TEE



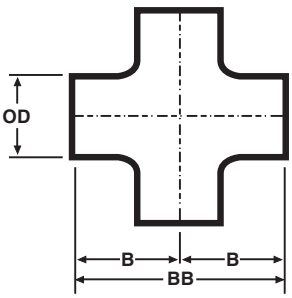
Size Tube OD	B	BB	Nom. Wall
1	1.125	2.250	0.065
1 1/2	1.656	3.312	0.065
2	2.062	4.125	0.065
2 1/2	2.343	4.687	0.065
3	2.593	5.187	0.065
4	3.430	6.875	0.083
6	5.625	11.250	0.109
8	7.000	14.000	0.109

V7WR - REDUCING TEE



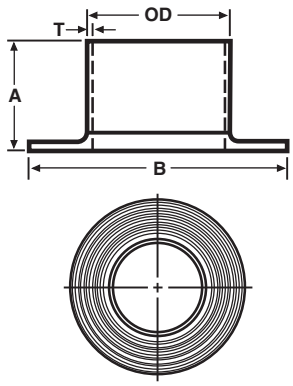
Size Tube OD	BB	C	B	Nom. Wall Run
3/4 x 1/2	Contact us for dimensions.			0.065
1 x 1/2				0.065
1 x 3/4				0.065
1 1/2 x 1/2				0.065
1 1/2 x 3/4				0.065
1 1/2 x 1	4.500	2.125	2.250	0.065
2 x 1	6.000	2.375	3.000	0.065
2 x 1 1/2	6.000	2.500	3.000	0.065
2 1/2 x 1 1/2	6.000	2.750	3.000	0.065
2 1/2 x 2	6.000	3.250	3.000	0.065
3 x 1 1/2	6.480	3.000	3.250	0.065
3 x 2	6.480	3.500	3.250	0.065
3 x 2 1/2	6.480	3.250	3.250	0.065
4 x 2	7.750	4.000	3.875	0.083
4 x 2 1/2	7.750	3.750	3.875	0.083
4 x 3	7.750	3.750	3.875	0.083
6 x 2	11.250	5.625	5.625	0.109
6 x 3	11.250	5.625	5.625	0.109
6 x 4	11.250	5.625	5.625	0.109

V9W - CROSS



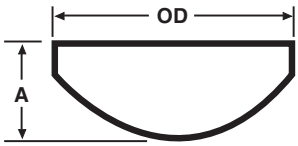
Size Tube OD	B	BB	Nom. Wall
1/2	Contact us for dimensions.		0.065
3/4			0.065
1	1.875	3.750	0.065
1 1/2	2.250	4.500	0.065
1 1/4	2.250	4.500	0.065
2	3.000	6.000	0.065
2 1/2	3.000	6.000	0.065
3	3.250	6.500	0.065
4	3.875	7.750	0.083
6	5.625	11.250	0.109

V14WA - TYPE A STUB END WITH GROOVES



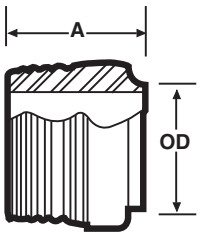
Size Tube OD	A	B	Nom. Wall (T)
1/2	1.375	1.625	0.065
3/4	1.375	1.687	0.065
1	1.625	2.000	0.065
1 1/4	1.375	2.500	0.065
1 1/2	1.750	2.875	0.065
2	1.500	3.625	0.065
2 1/2	2.000	4.125	0.065
3	2.250	5.000	0.065
4	2.625	6.187	0.083
6	3.000	8.500	0.109

V16W - WELD CAP



Size Tube OD	A	Nom. Wall
1/2	0.250	0.065
3/4	0.312	0.065
1	0.375	0.065
1 1/4	0.500	0.065
1 1/2	0.562	0.065
2	0.750	0.065
2 1/2	1.000	0.065
3	1.250	0.065
4	1.500	0.083
6	Contact us for dimensions.	
8		

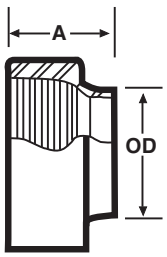
19WB / *19WBF - MALE NPT X WELD ADAPTER



Size Tube OD	A	Nom. Wall
1/2	1.625	0.065
3/4	1.625	0.065
1	1.750	0.065
1 1/4	1.750	0.065
1 1/2	1.750	0.065
2	1.812	0.065
2 1/2	2.312	0.065
3	2.500	0.065
4	2.562	0.083
6	4.000	0.109

***19WBF - 1 inch through 4 inch are supplied with wrench flats**

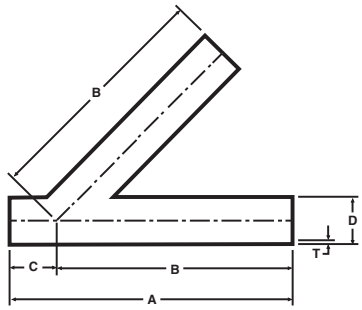
22WB / *22WBF - FEMALE NPT X WELD ADAPTER



Size Tube OD	A	Nom. Wall
1/2	1.125	0.065
3/4	1.125	0.065
1	1.125	0.065
1 1/4	1.437	0.065
1 1/2	1.437	0.065
2	1.437	0.065
2 1/2	1.625	0.065
3	1.812	0.065
4	2.000	0.083

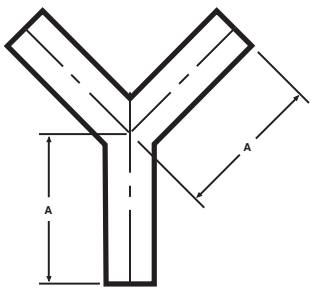
***22WBF - 1 inch through 4 inch are supplied with wrench flats**

V28WA - 45° LATERAL



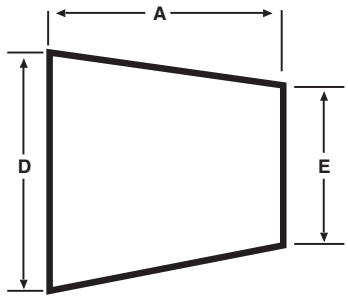
Size Tube OD	A	B	C	D	Nom. Wall (T)
1	6.000	5.000	1.000	1.000	0.065
1 1/2	7.375	6.187	1.187	1.500	0.065
2	8.625	7.125	1.500	2.000	0.065
2 1/2	10.125	8.500	1.625	2.500	0.065
3	10.750	8.875	1.875	3.000	0.065
4	12.812	10.750	2.062	4.000	0.083
6	18.000	14.500	3.500	6.000	0.109

V28WB - TRUE Y



Size Tube OD	A
1	3.000
1 1/2	3.000
2	4.000
2 1/2	5.000
3	6.000
4	8.000
6	8.000

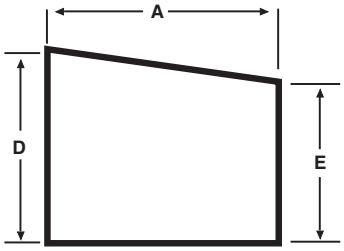
V31W - CONCENTRIC REDUCER



Size Tube OD D x E	A	Nom. Wall
3/4 x 1/2	*	0.065
1 x 1/2	*	0.065
1 x 3/4	*	0.065
1 1/2 x 1/2	*	0.065
1 1/2 x 3/4	*	0.065
1 1/2 x 1	2.000	0.065
1 1/2 x 1 1/4	1.000	0.065
2 x 1	4.000	0.065
2 x 1 1/4	3.000	0.065
2 x 1 1/2	2.000	0.065
2 1/2 x 1 1/2	4.000	0.065
2 1/2 x 2	2.000	0.065
3 x 1 1/2	6.000	0.065
3 x 2	4.000	0.065
3 x 2 1/2	2.000	0.065
4 x 2	8.000	0.083 x 0.065
4 x 2 1/2	6.000	0.083 x 0.065
4 x 3	4.000	0.083 x 0.065
6 x 3	5.500	0.109 x 0.083
6 x 4	5.500	0.109 x 0.083

* Contact us for dimensions.

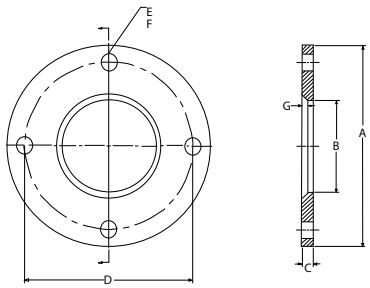
V32W - ECCENTRIC REDUCER



Size Tube OD D x E	A	Nom. Wall
3/4 x 1/2	*	0.065
1 x 1/2	*	0.065
1 x 3/4	*	0.065
1 1/2 x 1/2	*	0.065
1 1/2 x 3/4	*	0.065
1 1/2 x 1	2.000	0.065
1 1/2 x 1 1/4	1.000	0.065
2 x 1	4.000	0.065
2 x 1 1/4	3.000	0.065
2 x 1 1/2	2.000	0.065
2 1/2 x 1 1/2	4.000	0.065
2 1/2 x 2	2.000	0.065
3 x 1 1/2	6.000	0.065
3 x 2	4.000	0.065
3 x 2 1/2	2.000	0.065
4 x 2	8.000	0.083 x 0.065
4 x 2 1/2	6.000	0.083 x 0.065
4 x 3	4.000	0.083 x 0.065
6 x 3	5.500	0.109 x 0.083
6 x 4	5.500	0.109 x 0.083

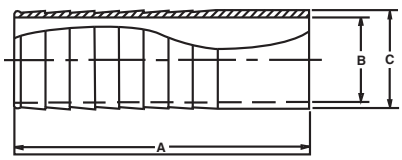
* Contact us for dimensions.

E38SL - SLIP ON FLANGE



Size Tube OD	A	B	C	D	E	F	G
1/2	3.500	0.56	0.375	2.375	0.625	4.000	0.188
3/4	3.875	0.81	0.375	2.075	0.625	4.000	0.188
1	4.025	1.06	0.375	3.125	0.625	4.000	0.188
1 1/2	5.000	1.56	0.375	3.875	0.625	4.000	0.188
2	6.000	2.06	0.4375	4.075	0.075	4.000	0.219
2 1/2	7.000	2.56	0.4375	5.500	0.075	4.000	0.219
3	7.500	3.06	0.500	6.000	0.075	4.000	0.250
4	9.000	4.06	0.500	7.500	0.075	8.000	0.250
6	11.00	6.06	0.813	9.500	0.875	8.000	0.250

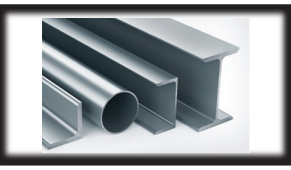
V14RH - 6L B/W Rubber Hose Barb Blank #1

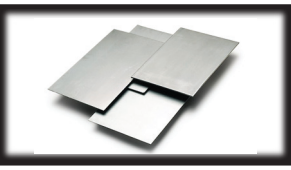


Size Tube OD	A	B	C
1/4	1.500	0.152	0.250
5/16	1.500	0.182	0.312
3/8	1.500	0.250	0.375
1/2	1.500	0.375	0.500
5/8	1.500	0.495	0.625
3/4	1.500	0.620	0.750
1	3.000	0.870	1.000
1 1/4	3.000	1.120	1.250
1 1/2	3.000	1.370	1.500
2	3.000	1.870	2.000
2 1/2	3.000	2.370	2.500
3	3.000	2.870	3.000

OD		WALL	LBS/FT
1/2	x	.065	.302
3/4	x	.065	.476
1	x	.065	.649
1 1/2	x	.065	.996
2	x	.065	1.343
2 1/2	x	.065	1.517
3	x	.065	2.037
4	x	.083	2.732
6	x	.083	4.120
6	x	.109	6.858
8	x	.109	10.099


PIPE & TUBE


STRUCTURAL

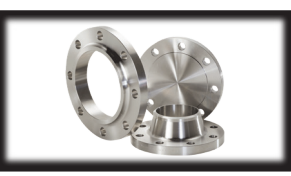

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