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PIPE CHART

White Shading: Wall Thickness in inches **Gray Shading:** Weight per Foot in LBS.

Grade: ☐ 304L ☐ 316L ☐ _____

Seam: ☐ Welded ☐ Seamless ☐ WPWX

Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

PIPE SIZE*	*O.D. (inches)*	5	10S	10	20	30	40	STD.	60	80	XH	100	120	140	160	XXH
1/8	0.405	0.035 0.1383	0.049 0.1863	0.049 0.1863			0.068 0.244 7	0.068 0.244 7		0.095 0.3145	0.095 0.3145					
1/4	0.54	0.049 0.257	0.065 0.3297	0.065 0.3297			0.088 0.424 8	0.088 0.424 8		0.119 0.5351	0.119 0.5351					
3/8	0.675	0.049 0.3276	0.065 0.4235	0.065 0.4235			0.091 0.567 5	0.091 0.567 5		0.126 0.7388	0.126 0.7388					
1/2	0.84	0.065 0.5383	0.083 0.671	0.083 0.671			0.109 0.851	0.109 0.851		0.147 1.088	0.147 1.088				0.187 1.304	0.294 1.714
3/4	1.05	0.065 0.6838	0.083 0.8572	0.083 0.8572			0.113 1.131	0.113 1.131		0.154 1.474	0.154 1.474				0.218 1.937	0.308 2.441
1	1.315	0.065 0.8678	0.109 1.404	0.109 1.404			0.133 1.679	0.133 1.679		0.179 2.172	0.179 2.172				0.25 2.844	0.358 3.659
1 1/4	1.66	0.065 1.107	0.109 1.806	0.109 1.806			0.14 2.273	0.14 2.273		0.191 2.997	0.191 2.997				0.25 3.765	0.382 5.214
1 1/2	1.9	0.065 1.274	0.109 2.085	0.109 2.085			0.145 2.718	0.145 2.718		0.2 3.631	0.2 3.361				0.281 4.859	0.4 6.408
2	2.375	0.065 1.604	0.109 2.638	0.109 2.638			0.154 3.653	0.154 3.653		0.218 5.022	0.218 5.022				0.343 7.444	0.436 9.029
2 1/2	2.875	0.083 2.475	0.12 3.531	0.12 3.531			0.203 5.793	0.203 5.793		0.276 7.661	0.276 7.661				0.375 10.01	0.552 13.7
3	3.5	0.083 3.029	0.12 4.332	0.12 4.332			0.216 7.576	0.216 7.576		0.3 10.25	0.3 10.25				0.437 14.32	0.6 18.58
3 1/2	4	0.083 3.472	0.12 4.937	0.12 4.937			0.226 9.109	0.226 9.109		0.318 12.51	0.318 12.51					0.636 22.85
4	4.5	0.083 3.915	0.12 5.613	0.12 5.613			0.237 10.79	0.237 10.79	0.281 12.66	0.337 14.98	0.337 14.98		0.437 19.01		0.531 22.51	0.674 27.54
5	5.563	0.109 6.349	0.134 7.77	0.134 7.77			0.258 14.62	0.258 14.62		0.375 20.78	0.375 20.78		0.5 27.04		0.625 32.96	0.75 38.55
6	6.625	0.109 7.585	0.134 9.289	0.134 9.289			0.28 18.97	0.28 18.97		0.432 28.57	0.432 28.57		0.562 36.39		0.718 45.3	0.864 53.16
8	8.625	0.109 9.914	0.148 13.4	0.148 13.4	0.25 22.36	0.277 24.7	0.322 28.55	0.322 28.55	0.406 35.64	0.5 43.39	0.5 43.49	0.593 50.87	0.718 60.63	0.812 67.76	0.906 74.69	0.875 72.42
9	9.625							0.342 33.9			0.5 48.72					
10	10.75	0.134 15.19	0.165 18.65	0.165 18.65	0.25 28.04	0.307 34.24	0.365 40.48	0.365 40.48	0.5 54.74	0.593 64.33	0.5 54.74	0.718 76.93	0.843 89.2	1 104	1.125 115.7	
12	12.75	0.165 22.18	0.18 24.16	0.18 24.2	0.25 33.38	0.33 43.77	0.406 53.33	0.375 49.56	0.562 73.16	0.688 88.51	0.5 65.42	0.843 107.2	1 125.5	1.125 139.7	1.312 160.3	
14	14		0.188 27.73	0.25 36.71	0.312 45.68	0.375 54.57	0.438 63.37	0.375 54.57	0.593 84.91	0.75 106.1	0.5 72.09	0.937 130.7	1.093 150.7	1.25 170.2	1.406 189.1	
16	16		0.188 31.75	0.25 42.05	0.312 52.36	0.375 62.58	0.5 82.77	0.375 62.58	0.656 107.5	0.844 136.5	0.5 82.77	1.031 164.8	1.218 192.3	1.437 223.5	1.593 245.1	
18	18		0.188 35.76	0.25 47.39	0.312 59.03	0.437 82.06	0.562 104.8	0.375 70.59	0.75 138.2	0.937 170.8	0.5 93.45	1.156 208	1.375 244.1	1.562 274.2	1.781 308.5	
20	20		0.218 46.05	0.25 52.73	0.375 78.6	0.5 140.1	0.593 122.9	0.375 78.6	0.812 166.4	1.031 208.9	0.5 104.1	1.28 256.1	1.5 296.4	1.75 341.1	1.968 379	
22	22			0.25 58.07	0.375 86.61	0.5 114.8		0.375 86.61	0.875 197.4	1.125 250.8	0.5 114.8	1.375 277	1.625 353.6	1.875 403	2.125 451.1	
24	24		0.25 63.41	0.25 63.41	0.375 94.62	0.562 140.8	0.687 171.2	0.375 94.62	0.968 238.1	1.218 296.4	0.5 125.5	1.531 367.4	1.812 429.4	2.062 483.1	2.343 541.9	
26	26			0.312 85.6	0.5 136.2			0.375 102.6			0.5 136.2					
28	28			0.312 92.26	0.5 146.8	0.625 182.7		0.375 110.6			0.5 146.8					
30	30		0.312 98.93	0.312 98.93	0.5 157.5	0.625 196.1		0.375 118.6			0.5 157.5					
32	32			0.312 105.6	0.5 168.2	0.625 209.4	0.688 230.1	0.375 126.7			0.5 168.2					
34	34			0.344 123.7	0.5 178.9	0.625 222.8	0.688 244.8	0.375 134.7			0.5 178.9					
36	36			0.312 118.9	0.5 189.6	0.625 236.1	0.75 282.3	0.375 142.7			0.5 189.6					
42	42							0.375 166.7			0.5 221.6					
48	48							0.375 190.7			0.5 253.6					

GAUGE APPROXIMATE DIMENSIONS

Grade: ☐ 304L ☐ 316L ☐ _____
 Seam: ☐ Welded ☐ Seamless ☐ WPWX
 Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

GAUGE NUMBER	APPROX. DIMENSIONS
10	0.135"
11	0.120"
12	0.105"
13	0.090"
14	0.075"
16	0.060"
18	0.048"
20	0.035"
22	0.030"
24	0.024"
25	0.020"
26	0.018"
28	0.015"

IDENTIFYING THREADS

Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

Thread Type	STEP 1 Determine Type	STEP 2 Determine Pitch	STEP 3 Determine Size	STEP 4 Define Thread
UN/UNF (SAE)	Parallel	12, 14, 16, 18, 20, 24	Measure with caliper	Size-pitch, type (3/4-16 UN/UNF)
NPT/NPTF (American Pipe)	Tapered	11.5, 14, 18, 27	Compare with profile	Size-pitch type (1/4-18 NPT)
BSPP (British Pipe)	Parallel	11, 14, 19, 28	Compare with profile	G, size (G1/8)
BSPT (British Pipe)	Tapered	11, 14, 19, 28	Compare with profile	R. size (R1/2)
Metric (Parallel)	Parallel	1.0, 1.5, 2.0	Measure with caliper	M, size x pitch (M1/4x1.5)
Metric (Tapered)	Tapered	1.0, 1.5, 2.0	Measure with caliper	M, size x pitch, keg or Taper (M10 x 1 keg or Taper)

PIPE AND TUBE CONVERSION

Grade: ☐ 304L ☐ 316L ☐ _____
 Seam: ☐ Welded ☐ Seamless ☐ WPWX
 Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

INCHES	MILLIMETERS
3/8"	9.525
1/2"	12.700
5/8"	15.875
3/4"	19.050
1"	25.400
1 1/8"	28.575
1 1/4"	31.750
1 1/2"	38.100
1 5/8"	41.275
1 3/4"	44.450
2"	50.800
2 1/4"	57.150
2 1/2"	63.500
3"	76.200
3 1/2"	88.900
4"	101.600

TUBE GAUGES (GA)	WALL THICKNESS
20 GA	0.035"
18 GA	0.047"
	0.049"
16 GA	0.060"
	0.062"
	0.065"
14 GA	0.078"
	0.083"
12 GA	0.109"
11 GA	0.120"
	0.125"
9 GA	0.140"
	0.145"
7 GA	0.180"
1/4"	0.250"

NOMINAL PIPE SIZE (Inches)	ACTUAL O.D. (Inches)	PIPE SCHEDULE = WALL THICKNESS		
		Sch 5S	Sch 10S	Sch 40S
1/4"	0.540	--	0.065"	0.088"
3/8"	0.675	--	0.065"	0.091"
1/2"	0.840	0.065"	0.083"	0.109"
3/4"	1.050	0.065"	0.083"	0.113"
1"	1.315	0.065"	0.109"	0.133"
1 1/4"	1.660	0.065"	0.109"	0.140"
1 1/2"	1.900	0.065"	0.109"	0.145"
2"	2.375	0.065"	0.109"	0.154"
2 1/2"	2.875	0.083"	0.120"	0.203"
3"	3.500	0.083"	0.120"	0.216"
3 1/2"	4.000	0.083"	0.120"	0.226"
4"	4.500	0.083"	0.120"	0.237"

PIPE BURSTING CHART

for Welded Pipe

Grade: ☐ 304L ☐ 316L ☐ _____
 Seam: ☐ Welded ☐ Seamless ☐ WPWX
 Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

Pipe Bursting Pressure									
Nominal I.P.S (in.)	OD (in.)	Schedule 5S		Schedule 10S		Schedule 40S		Schedule 80S	
		Wall (in.)	Pressure (p.s.i)	Wall (in.)	Pressure (p.s.i)	Wall (in.)	Pressure (p.s.i)	Wall (in.)	Pressure (p.s.i)
1/8	0.405			0.049	18150	0.068	25175	0.095	35175
1/4	0.540			0.065	18050	0.088	24450	0.119	33050
3/8	0.675			0.065	14450	0.091	20225	0.126	28000
1/2	0.840	0.065	11600	0.083	14825	0.109	19475	0.147	26250
3/4	1.050	0.065	9275	0.083	11850	0.113	16150	0.154	22000
1	1.315	0.065	7425	0.109	12450	0.133	15175	0.179	20425
1 1/4	1.660	0.065	5875	0.109	9850	0.140	12650	0.191	17250
1 1/2	1.900	0.065	5125	0.109	8600	0.145	11450	0.200	15800
2	2.375	0.065	4100	0.109	6875	0.154	9750	0.218	13775
2 1/2	2.875	0.830	4325	0.120	6250	0.203	10600	0.276	14400
3	3.500	0.830	3550	0.120	5150	0.216	9250		
3 1/2	4.000	0.830	3100	0.120	4500	0.226	8475		
4	4.500	0.830	2750	0.120	4000	0.237	7900		
5	5.563	0.830	2950	0.134	3625	0.258	6950		
6	6.625	0.109	2475	0.134	3050	0.280	6350		
8	8.625	0.109	1900	0.148	2575	0.322	5600		
10	10.75	0.134	1875	0.165	2300	0.365	5100		
12	12.75	0.156	1825	0.180	2125	0.375	4400		
14	14.00	0.156	1675	0.188	2025				
16	16.00	0.165	1550	0.188	1775				
18	18.00	0.165	1375	0.188	1575				
20	20.00	0.188	1400	0.218	1625				
24	24.00	0.218	1375	0.250	1550				
30	30.00	0.250	1250	0.312	1550				

SPECIFICATIONS

Grade: ☐ 304L ☐ 316L ☐ _____
 Seam: ☐ Welded ☐ Seamless ☐ WPWX
 Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

GRADE	Stainless 304	Stainless 316	Stainless 317	Stainless 321	Stainless 347	Duplex 2205
BAR	A276/479	A276/479	A276/479	A276/479	A276/479	A/SA182 A/SA479 A/SA276 A/SA193
FITTINGS	A403	A403	A403	A403	A403	A/SA182 A/SA815
FLANGES	A182 F304	A182 F316	A182 F317	A182 F321	A182 F347	A/SA479 A/SA182
FORGINGS	A182	A182	A182	A182	A182	A/SA182
PIPE	A312	A312	A312	A312	A312	A/SA790
PLATE	A240	A240	A240	A240	A240	A/SA240
TUBE	A213/249/ 269	A213/249/ 269	A213/249/ 269	A213/249/ 269	A213/249/ 269	A/SA789

STAINLESS STEEL CHARACTERISTICS AND PROPERTIES

Grade: ☐ 304L ☐ 316L ☐ _____
 Seam: ☐ Welded ☐ Seamless ☐ WPWX
 Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

Stainless Steel Characteristics									
Stainless Steel Grades	Chemical Composition Principal Elements %				Mechanical Properties Annealed Condition				Typical Characteristics
	CR	NI	C	Other Elements	Tensile PSI	Yield PSI	Elong. % IN 2"	Hardness Rockwell	
304	18.00-	8.00-11.00	0.08 max	-	85,000 105,000	35,000	55 / 20	B80 Ann	
304L	18.00-	8.00-13.00	0.035 max	-	80,000	30,000	55	B75	
304H	18.00-	8.00-11.00	0.04-0.10	-	85,000	35,000	55	B80	
310	24.00-	19.00-22.00	0.15 max	-	95,000	45,000	45	B85	
316	16.00-18.00	11.00-14.00	0.08 max	Mo 2.00- 3.00	85,000	35,000	50	B80	
316L	16.00-18.00	10.00-15.00	0.035 max	Mo 2.00- 3.00	75,000	30,000	50	B75	
316H	16.00-18.00	11.00-14.00	0.04-0.10	Mo 2.00- 3.00	85,000	35,000	50	B80	
317	18.00-20.00	11.00-14.00	0.08 max	Mo 2.00- 4.00	90,000	40,000	45	B85	
321	17.00-	9.00-13.00	0.08 max	Ti 5XC-0.60	90,000	35,000	55	B80	
347	17.00-20.00	9.00-13.00	0.08 max	Cb + Ta 10XC-1.00	95,000	40,000	50	B85	

Physical Properties (Annealed)								
Type	Density LBS/CU. INC.	Specific Elect. Resist OMHS CM/CM2	Specific Heat BTU/LB ° F	Thermal Conduct BTU/HR SQ FT/ ° F (212 °)	Mean Coefficient of Expansions ° F		Tension PSI Modulus of Elasticity	Magnetic Permeability
					32-312	32-1200		
304/304L	0.29	72	0.12	9.4	9.6 x 10 ⁻⁶	10.4 x 10 ⁻⁶	28.0 x 10 ⁶	1.003
310	0.29	78	0.12	8.2	8.8 x 10 ⁻⁶	9.7 x 10 ⁻⁶	29.0 x 10 ⁶	1.003
316/316L	0.29	74	0.12	9.4	8.9 x 10 ⁻⁶	10.3 x 10 ⁻⁶	28.0 x 10 ⁶	1.003
317	0.29	74	0.12	9.4	8.9 x 10 ⁻⁶	10.3 x 10 ⁻⁶	28.0 x 10 ⁶	1.003
321	0.29	72	0.12	9.3	9.3 x 10 ⁻⁶	10.7 x 10 ⁻⁶	28.0 x 10 ⁶	1.003
347	0.29	73	0.12	9.3	9.3 x 10 ⁻⁶	10.6 x 10 ⁻⁶	28.0 x 10 ⁶	1.003
21-6-9	0.29	-	0.12	9.5	9.3 x 10 ⁻⁶	-	28.5 x 10 ⁶	1.002

STAINLESS STEEL REFERENCES

Grade: ☐ 304L ☐ 316L ☐ _____
 Seam: ☐ Welded ☐ Seamless ☐ WPWX
 Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

TYPES			
4 Major Types of Stainless Steel		Description	Common Uses
Austenitic	most widely used, 7% Nickel Content, Flexible, not hardenable by heat treating		houseware products, industrial piping and vessels, constructional structures, architectural facades
Ferritic	better corrosion resistance than mild steel, similar properties to mild steel		washing machines, boilers, indoor architecture
Martensitic	very strong steel, ~13% Chromium, Duplex : higher resistance to chloride than austenitic, contains about 22-25% Chrome and 5% Nickel with Moly and Nitrogen.		knives and turbine blades, Duplex : chemical plants and piping applications
Precipitation Hardening Subtypes	Chrome-Nickel Stainless, contain alloying additions like: aluminum, copper or titanium, allows for steels to be hardened by a solution of aging treatment.		can be either austenitic or martensitic in ages condition, commonly used in aerospace and energy industries
Subtypes	Major Type	Description	Common Uses
303	Austenitic	most machinable of austenitic ss grades, added sulfur to enhance machinability, resistant to atmospheric corrosion, food products, sterilization solutions, organic and inorganic chemicals	shafts, valve bodies, valve trim and food industry applications
304	Austenitic	most common stainless, low carbon austenitic alloy, contains max .03% of carbon, minimizes carbide precipitation during welding	welding, shafts, valve bodies, valve trim and food industry applications
310	Austenitic	superb high temperature properties, good ductility and weldability, resists oxidation in continuous service at a temp up to 1150° C without the presence of sulfur gases, can be used for intermittent service at temperature 1040° C	molten salt, sulfur bearing gas, heat exchanger and recuperator tubing
316	Austenitic	second most common ss, added moly to prevent specific forms of corrosion, carbon is kept at .03% max to show minimized carbide precipitation, decreased sulfur, resistant to chloride corrosion	electro-polishing, welding, marine applications, textile industry, food industry, watches, pharmaceutical equipment, valve bodies, bleaching and dyeing equipment
317	Austenitic	molybdenum-bearing austenitic chrome nickel, higher alloy content than 316 ss	developed to resist the attack of sulfurous acid compounds
321	Austenitic	titanium bearing stainless, stabilized against carbide precipitation, combines with titanium in higher temperatures to form harmless titanium carbide, chrome maintains full corrosion resistance, titanium added at least 5x carbon plus nitrogen contents	aircraft exhaust stacks, manifolds, chemical processing equipment, welding, jet engine parts
347	Austenitic	columbium/tantalum stabilized austenitic ss, good intergranular corrosion, resistant to atmospheric conditions	aircraft exhausts, expansion joints, high chemical processing, should be considered for application in intermittent heating between 800° F and 1650° F
410	Martensitic	hardenable martensitic alloy, good corrosion resistance, designed for high stress parts that need high ductility and corrosion resistance	for working temps up to 1200° F, blades, buckets, steam turbines, turbine wheels, valves, aircraft parts, pumps, and pump shafts
416	Martensitic	highest machinability of any ss, made up of ~85% of a free-machining carbon steel, added sulfur to form manganese sulfide inclusions, less corrosion resistance than 410	welding, used in hardened/unhardened and highly tempered conditions because of low cost and ready machinability
630	Precipitation Hardening	Chromium-copper precipitation hardening stainless steel, high strength is maintained to approx. 316° C	used for applications requiring high strength and a moderate level of corrosion resistance
17-4 PH	Precipitation Hardening	precipitation hardening martensitic ss, with Cu and Nb/Co additions, high strength, hardness (in temps up to 572° F/300° C), and adequate corrosion resistance	aircraft and aerospace materials, fasteners, base plates, oil and petroleum refining equipment
15-5 PH	Precipitation Hardening	martensitic precipitation hardened steel, offers high strength, excellent corrosion resistance, similar properties to 17-4 ph, more chemically balanced	valve parts, paper mills, aircraft, power generation chemical processing, nuclear and space craft
904L	Austenitic	non-stabilized low carbon high alloy austenitic ss, added copper for improved resistance, highly resistant to chloride attack, non-magnetic in all conditions, excellent weldability and formability	used less due to cheaper substitute duplex stainless steel 2205 (S31803 or S32205)
2205	Austenitic and Ferritic	Duplex 2205, has microstructure that contains both austenitic and ferritic phases, good strength and corrosion resistance, twice the strength of typical austenitic stainless	oil, pump and pump parts, valves, chemical and paper manufacturing
2507	Austenitic and Ferritic	Super Duplex 2507; similar to UNS S31803 Duplex; longer lifespan, higher corrosion resistance; composed of: 24-26% of chromium, 6- 8% nickel, 3% molybdenum, 1.2% manganese; more cost effective than high nickel alloys, high level of thermal conductivity	oil and gas, chemical processing, desalination equipment, paper mill equipment, hydraulic and instrumentation products
Alloy 20	Austenitic	super-austenitic stainless alloy, max corrosion resistance to sulfuric acid and other aggressive environments, nickel-iron-chromium based alloy with additions of copper and molybdenum	pharmaceuticals, food, explosives, chemical processing, petroleum refinement
Nickel 200	-	essentially pure nickel, good corrosion resistance, ferromagnetic, low electrical resistivity	food handling equipment, caustic solution, for devices requiring magnetic actuated parts
Nickel 201	-	low carbon modification of Nickel 200, preferred over Nickel 200 in temps above 600° F (315° F)	for electronic industry at temps up to 1200° F (649° C)
Alloys	Alloy Type	Description	Common Uses
Alloy 400	Monel, nickel/copper alloy	machinable, easily fabricated, excellent strength, corrosion resistance, ductility, and weldability	areas with salt water and brackish water, not susceptible to stress corrosion cracking
Alloy 600	Inconel, nickel/chrome/iron alloy	acid resistant, high strength & good workability under various temperatures, resistance to corrosion and heat	jet engines, super heaters, food processing, steam generators
Alloy 625	UNS N06625, nickel-chromium-molybdenum alloy	high strength in temps up to 1500° F, oxidation resistance up to 1800° F, good corrosion resistance	aerospace and marine engineering, chemical processing, pollution-control equipment, nuclear reactors
Alloy 800	Incoloy, nickel-iron/chrome alloy + copper and moly	general corrosion resistance, pitting and crevice corrosion in chemicals containing chlorides, sulfuric, nitric, and phosphoric acids	tanks, piping, heat exchangers, pumps, valves
Alloy 825	titanium stabilized austenitic nickel/iron/chrome alloy + copper and moly	resistance to oxidizing and non-oxidizing hot acids, resistant to pitting and crevice corrosion	salt-water cooled heat exchangers, offshore piping tube systems, evaporators, scrubbers
Alloy C-276	Hastelloy, nickel-moly-chrome alloy + tungsten	corrosion resistant, resistant to pitting and crevice corrosion, resists stress corrosion cracking, oxidation resistant up to 1900° F	tanks, piping, heat exchangers, pumps, valves

THREAD COMPATIBILITY

Grade: ☐ 304L ☐ 316L ☐ _____
 Seam: ☐ Welded ☐ Seamless ☐ WPWX
 Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

Thread	System Name	Compatibility	Seal Name
BSPP	British Standard Pipe Parallel	Male BSPP with Female BSPP Female BSPP with Male BSPP Female BSPP with Male BSPT _r	Washer Washer Washer
BSPT _r	British Standard Pipe Taper	Male BSPT _r with Female BSPT _r Male BSPT _r with Female BSPP Female BSPT _r with Male BSPT _r	Thread Washer Thread
IPS	Iron Pipe Straight Thread	Generic Name for Straight Pipe Thread <i>See NPSH for compatibility</i>	Washer
IPT	Iron Pipe Thread	Generic Name for All Pipe Thread <i>More information required</i>	
NH or NST	American Standard Fire Hose Coupling Thread (National Hose thread also known as National Standard Thread)	Male NH (NST) with Female NH (NST) Female NH (NST) with Male NH (NST) <i>Not compatible with other systems</i>	Washer Washer
NPT	American Standard Taper Pipe Thread (National Pipe Tapered)	Male NPT with Female NPT Male NPT with Female NPTF Male NPT with Female NPSM Male NPT with Female NPSH Female NPT with Male NPT Female NPT with Male NPTF	Thread Thread Washer Washer Thread Thread
NPSM	American Standard Straight Mechanical Joints (National Pipe Straight Mechanical)	Male NPSM with Female NPSM Male NPSM with Female NPSH Female NPSM with Male NPSM Female NPSM with Male NPT Female NPSM with Male NPTF	Seal can be either mechanical or washer. Mating fittings must be of same type
SIPT	Straight Iron Pipe Thread	Generic Name for Straight Pipe Thread	Washer
TIPT	Tapered Iron Pipe Thread	Generic Name for Tapered Pipe Thread	Thread

API 600 NUMBER CHART

Important Note: Data provided in this chart is for informational purposes only.

Grade: ☐ 304L ☐ 316L ☐ _____
 Seam: ☐ Welded ☐ Seamless ☐ WPWX
 Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

API Trim Number	Material	Seat/Disc		Backseat	Stem	Notes
1	410	410	410	410	410	
2	304	304	304	304	304	
3	F310	310	310	310	310	Seats 750 BHN min.
4	Hard F410	Hard F410	Hard F410	410	410	
5	Hardfaced	Stellite	Stellite	410	410	
5A	Hardfaced	Ni-Cr	Ni-Cr	410	410	
6	410 and Cu-Ni	Cu-Ni	Cu-Ni	410	410	Seats 750 BHN min.
7	410 and Hard 410			410	410	
8	410 and Hardfaced			410	410	
8A	410 and Hardfaced			410	410	
9	Monel	Monel	Monel	Monel	Monel	
10	316	316	316	316	316	
11	Monel and Hardfaced	Stellite	Monel	Monel	Monel	
12	316 and Hardfaced	Stellite	316	316	316	
13	Alloy 20	Alloy 20	Alloy 20	Alloy 20	Alloy 20	
14	Alloy 20 and Hardfaced	Stellite	Alloy 20	Alloy 20	Alloy 20	
15	304 and Hardfaced	Stellite	Stellite	304	304	
16	316 and Hardfaced	Stellite	Stellite	316	316	
17	347 and Hardfaced	Stellite	Stellite	347	347	
18	Alloy 20 and Hardfaced	Stellite	Stellite	Alloy 20	Alloy 20	

FORGING	CASTING
A105	WCB
LF2	LCC
F11	WC6
A182-F22	WC9
A182-F5	C5
A182-F9	C12
F304	CF8
F340L	CF3
F316	CF8M
F316L	CF3M
F317	CG8M
F347H	CF8C
Alloy 20	CN7M
Duplex 2205	CD3MN
Hastelloy C	CW12MW
Monel 400	M35-1
Inconel 600	CY40-1
Nickel 200	CZ100
Inconel 625	CW6MC
Incoloy 825	CU5MCUC

X

TUBE BURSTING CHART

Note: The information above are typical or average values and are not guarantee of maximum or minimum values

Grade: ☐ 304L ☐ 316L ☐ _____
 Seam: ☐ Welded ☐ Seamless ☐ WPWX
 Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

Tube Theoretical Bursting Pressure																		
OD	Wall Thickness																	
(in.)	0.016	0.02	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.12	0.134	0.156	0.188	0.25	0.313	0.375	0.5	0.75
1/16	38,400	48,000																
1/8	19,200	24,000	39,000	42,000	58,800									Working pressures for 304/L and 316/L A269 tubing between -20° and 100° F.				
3/16	12,800	15,998	22,403	29,498	39,203	51,863												
1/4		12,000	16,800	21,000	29,400	39,000	49,800	57,000						The ASME code suggests a safety factor of four. [1/4" OD. X .035 = 5250 PSI]				
5/16		9,600	13,440	16,800	23,520	31,200	39,780	45,750										
3/8		8,003	11,998	14,003	19,598	26,003	33,203	38,003	43,598	48,000				For higher temperatures, multiply working pressure by the following:				
7/16		6,857	9,600	12,000	16,800	22,285	28,457	32,571	37,371	41,143								
1/2		6,000	8,400	10,500	14,700	19,500	24,900	28,500	32,700	36,000						300° F	500° F	1000° F
9/16		5,333	7,467	9,333	13,067	17,333	22,133	25,333	29,066	32,000					304/L	0.828	0.744	0.665
5/8		4,800	6,720	8,400	11,760	15,600	19,920	22,888	26,160	28,800	32,160	37,440	44,880		316/L	0.9	0.853	0.746
3/4		3,998	5,603	6,998	9,803	12,997	16,598	18,998	21,803	24,000	26,800	31,200	37,403					
7/8		3,428	4,800	6,000	8,400	11,145	14,228	16,283	18,683	20,573	22,971	26,745	32,055					
1		3,000	4,200	5,250	7,350	9,750	12,450	14,250	16,350	18,000	20,100	23,400	28,050	37,500				
1 1/8		2,663	3,735	4,665	6,533	8,670	11,070	12,668	14,535	15,998	17,866	20,798	24,930	33,330				
1 1/4		2,400	3,360	4,200	5,880	7,800	9,960	11,400	13,080	14,400	16,080	18,720	22,440	30,000				
1 3/8		2,400	3,053	3,818	5,348	7,087	9,053	10,365	11,888	13,088	14,618	17,018	20,400	27,270				
1 1/2			2,948	3,503	4,898	6,503	8,303	9,503	10,890	12,000	13,400	15,600	18,698	24,998				
1 5/8				3,230	4,523	6,000	7,662	8,769	10,062	11,077	12,369	14,400	17,354	23,077				
1 3/4				3,000	4,200	5,573	7,118	8,145	9,345	10,283	11,486	13,373	16,028	21,428				
2				2,625	3,675	4,875	6,225	7,125	8,175	9,000	10,050	11,700	14,025	18,750	23,475	28,125	37,500	
2 1/4				2,333	3,270	4,335	5,535	6,330	7,268	8,003	8,933	10,403	12,465	16,665	20,865	24,998	33,330	
2 1/2				2,100	2,940	3,900	4,980	5,700	6,540	7,200	8,040	9,360	11,220	15,000	18,780	22,500	30,000	
2 3/4				1,913	2,670	3,548	4,530	5,183	5,948	6,548	7,309	8,513	10,200	13,636	17,070	20,453	27,270	40,913
3				1,748	2,453	3,248	4,148	4,748	5,453	6,000	6,700	7,800	9,353	12,503	15,653	18,750	24,998	37,500
3 1/4					2,453	3,000	3,833	4,388	5,033	5,535	6,185	7,200	8,633	11,535	14,445	17,310	23,078	34,613
3 1/2						2,783	3,555	4,073	4,673	5,145	5,743	6,683	8,018	10,718	13,418	16,073	21,428	32,146
3 3/4						2,603	3,323	3,803	4,358	4,800	5,360	6,240	7,478	9,998	12,518	15,000	20,003	30,000
4						2,438	3,113	3,563	4,088	4,500	5,025	5,850	7,013	9,375	11,738	14,063	18,750	28,125

ANSI TO DIN CONVERSION CHART

Grade: ☐ 304L ☐ 316L ☐ _____
 Seam: ☐ Welded ☐ Seamless ☐ WPWX
 Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

ANSI (Common US Pipe Standard)	DIN Number (mm)
1/2	15
3/4	20
1	25
1 1/4	32
1 1/2	40
2	50
2 1/2	65
3	80
4	10
5	12
6	15
7	17
8	20
9	22
10	25
12	30

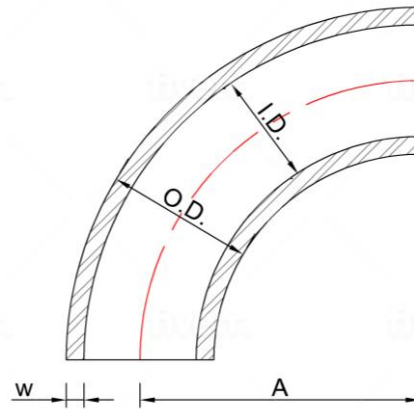
Note: Unless stated otherwise all units of measurement are in pounds (lbs) and/or inches (in).

Project Name: _____
Job #: _____

FITTINGS
A403
(LR90)

ASTM A403, B16.9

90° ELBOW - LONG RADIUS



90° LONG RADIUS ELBOWS

Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

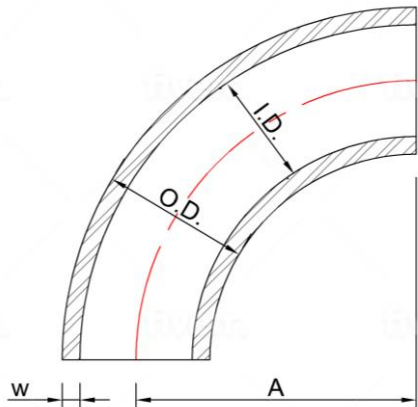
UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	CENTER TO FACE (A)	SCHEDULE 5S ☐ < SELECT			SCHEDULE 10S ☐ < SELECT		
				Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight	Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight
☐	½	0.840	1 ½	0.710	0.065	0.12	0.674	0.083	0.14
☐	¾	1.050	1 ½	0.920	0.065	0.13	0.884	0.083	0.15
☐	1	1.315	1 ½	1.185	0.065	0.19	1.097	0.109	0.30
☐	1 ¼	1.660	1 ⅞	1.530	0.065	0.31	1.442	0.109	0.50
☐	1 ½	1.900	2 ¼	1.770	0.065	0.38	1.682	0.109	0.69
☐	2	2.375	3	2.245	0.065	0.64	2.157	0.109	1.13
☐	2 ½	2.875	3 ¾	2.709	0.083	1.50	2.635	0.120	1.88
☐	3	3.500	4 ½	3.334	0.083	2.00	3.260	0.120	2.69
☐	3 ½	4.000	5 ¼	3.834	0.083	2.62	3.760	0.120	3.75
☐	4	4.500	6	4.334	0.083	3.31	4.260	0.120	4.75
☐	5	5.563	7 ½	5.345	0.109	6.50	5.295	0.134	8.00
☐	6	6.625	9	6.407	0.109	10.00	6.357	0.134	12.00
☐	8	8.625	12	8.407	0.109	17.30	8.329	0.148	23.50
☐	10	10.750	15	10.482	0.134	32.00	10.420	0.165	43.00
☐	12	12.750	18	12.438	0.156	51.00	12.390	0.180	60.00
☐	14	14.000	21	13.688	0.156	68.00	13.624	0.188	80.00
☐	16	16.000	24	15.670	0.165	100.00	15.624	0.188	105.00
☐	18	18.000	27	17.670	0.165	125.00	17.624	0.188	132.00
☐	20	20.000	30	19.624	0.188	165.00	19.564	0.218	220.00
☐	24	24.000	36	23.564	0.218	280.00	23.500	0.250	310.00

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9
90° ELBOW - LONG RADIUS



90° LONG RADIUS ELBOWS

Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	CENTER TO FACE (A)	SCHEDULE 40S ☐ < SELECT			SCHEDULE 80S ☐ < SELECT		
				Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight	Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight
☐	½	0.840	1 ½	0.622	0.109	0.18	0.546	0.147	0.23
☐	¾	1.050	1 ½	0.824	0.113	0.19	0.742	0.154	0.25
☐	1	1.315	1 ½	1.049	0.133	0.35	0.957	0.179	0.48
☐	1 ¼	1.660	1 ¾	1.380	0.140	0.56	1.278	0.191	0.88
☐	1 ½	1.900	2 ¼	1.610	0.145	0.88	1.500	0.200	1.13
☐	2	2.375	3	2.067	0.154	1.56	1.939	0.218	2.00
☐	2 ½	2.875	3 ¾	2.469	0.203	3.00	2.323	0.276	4.00
☐	3	3.500	4 ½	3.068	0.216	4.81	2.900	0.300	6.56
☐	3 ½	4.000	5 ¼	3.548	0.226	6.25	3.364	0.318	8.80
☐	4	4.500	6	4.026	0.237	9.19	3.826	0.337	13.63
☐	5	5.563	7 ½	5.047	0.258	15.13	4.813	0.375	21.13
☐	6	6.625	9	6.065	0.280	24.00	5.761	0.432	36.00
☐	8	8.625	12	7.981	0.322	47.50	7.625	0.500	73.00
☐	10	10.750	15	10.020	0.365	85.00	9.750	0.500	114.00
☐	12	12.750	18	12.000	0.375	131.00	11.750	0.500	175.00
☐	14	14.000	21	13.250	0.375	155.00	13.000	0.500	206.00
☐	16	16.000	24	15.250	0.375	202.00	15.000	0.500	269.00
☐	18	18.000	27	17.250	0.375	269.00	17.000	0.500	350.00
☐	20	20.000	30	19.250	0.375	330.00	19.000	0.500	439.00
☐	24	24.000	36	23.250	0.375	464.00	23.000	0.500	617.00

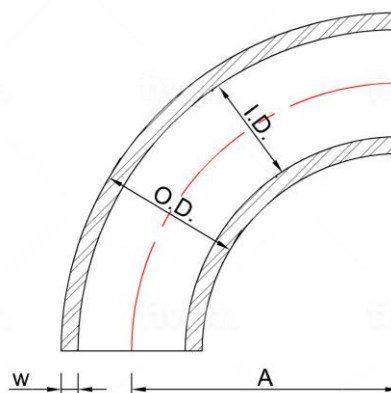
ss wld fgt and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all fgt conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____

Job #: _____

ASTM A403, B16.9

90° ELBOW - LONG RADIUS



90° LONG RADIUS ELBOWS

Grade: ☐ 304L ☐ 316L ☐ _____

Seam: ☐ Welded ☐ Seamless ☐ WPWX

Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

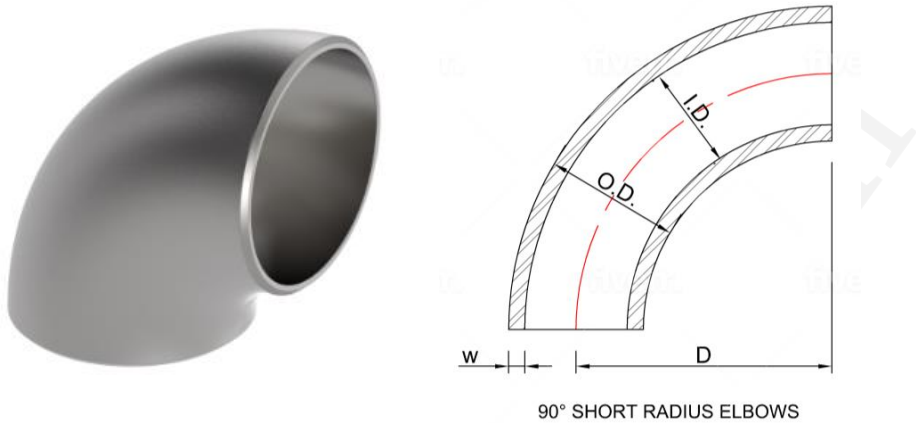
UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	CENTER TO FACE (A)	SCHEDULE 160S ☐ < SELECT			XX STRONG WALL ☐ < SELECT		
				Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight	Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight
☐	½	0.840	1 ½	0.464	0.188	0.29	0.252	0.294	0.46
☐	¾	1.050	1 ½	0.612	0.219	0.35	0.434	0.308	0.50
☐	1	1.315	1 ½	0.815	0.250	0.67	0.599	0.358	0.96
☐	1 ¼	1.660	1 ¾	1.160	0.250	1.15	0.896	0.382	1.76
☐	1 ½	1.900	2 ¼	1.338	0.281	1.59	1.100	0.400	2.26
☐	2	2.375	3	1.689	0.343	3.14	1.503	0.436	4.00
☐	2 ½	2.875	3 ¾	2.125	0.375	5.44	1.771	0.552	8.00
☐	3	3.500	4 ½	2.624	0.438	9.58	2.300	0.600	13.12
☐	3 ½	4.000	5 ¼	----	----	----	2.728	0.636	17.60
☐	4	4.500	6	3.438	0.531	21.53	3.152	0.674	27.26
☐	5	5.563	7 ½	4.313	0.625	35.29	4.063	0.750	42.26
☐	6	6.625	9	5.187	0.719	56.76	4.897	0.864	72.00
☐	8	8.625	12	6.813	0.906	132.00	6.875	0.875	127.00
☐	10	10.750	15	8.500	1.125	256.00	----	----	----
☐	12	12.750	18	10.126	1.312	458.00	----	----	----
☐	14	14.000	21	11.188	1.406	----	----	----	----
☐	16	16.000	24	12.812	1.594	----	----	----	----
☐	18	18.000	27	14.438	1.781	----	----	----	----
☐	20	20.000	30	16.062	1.969	----	----	----	----
☐	24	24.000	36	19.312	2.344	----	----	----	----

ss wld fgt and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all fgt conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9
90° ELBOW – SHORT RADIUS



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

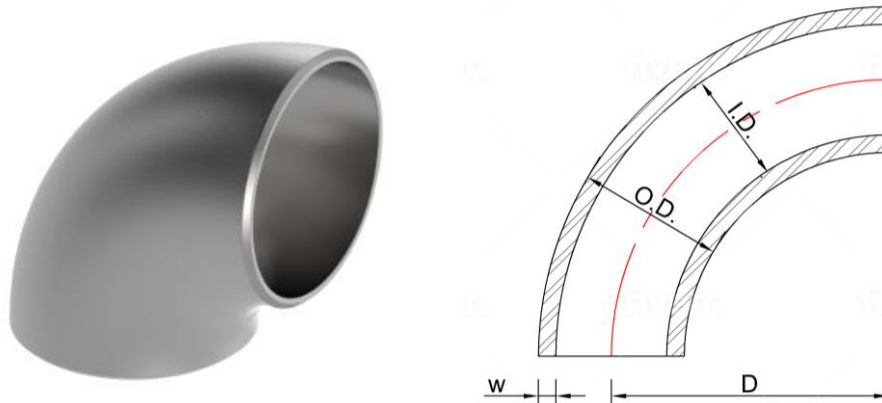
SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	CENTER TO FACE (A)	SCHEDULE 5S ☐ < SELECT			SCHEDULE 10S ☐ < SELECT		
				Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight	Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight
☐	1	1.315	1	1.185	0.065	0.17	1.097	0.109	0.23
☐	1 ¼	1.660	1 ¼	1.530	0.065	0.31	1.442	0.109	0.38
☐	1 ½	1.900	1 ½	1.770	0.065	0.43	1.682	0.109	0.49
☐	2	2.375	2	2.245	0.065	0.63	2.157	0.109	0.81
☐	2 ½	2.875	2 ½	2.709	0.083	1.25	2.635	0.120	1.36
☐	3	3.500	3	3.334	0.083	1.75	3.260	0.120	2.17
☐	3 ½	4.000	3 ½	3.834	0.083	2.35	3.760	0.120	3.05
☐	4	4.500	4	4.334	0.083	3.12	4.260	0.120	3.79
☐	5	5.563	5	5.345	0.109	4.94	5.295	0.134	6.12
☐	6	6.625	6	6.407	0.109	7.75	6.357	0.134	9.15
☐	8	8.625	8	8.407	0.109	15.44	8.329	0.148	17.63
☐	10	10.750	10	10.482	0.134	27.40	10.420	0.165	35.00
☐	12	12.750	12	12.438	0.156	35.00	12.390	0.180	40.00
☐	14	14.000	14	13.688	0.156	44.00	13.624	0.188	52.00
☐	16	16.000	16	15.670	0.165	65.00	15.624	0.188	68.00
☐	18	18.000	18	17.670	0.165	81.00	17.624	0.188	86.00
☐	20	20.000	20	19.624	0.188	107.00	19.564	0.218	143.00
☐	24	24.000	24	23.564	0.218	182.00	23.500	0.250	202.00

ss wld fgt and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all fgt conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

90° ELBOW – SHORT RADIUS



90° SHORT RADIUS ELBOWS

Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

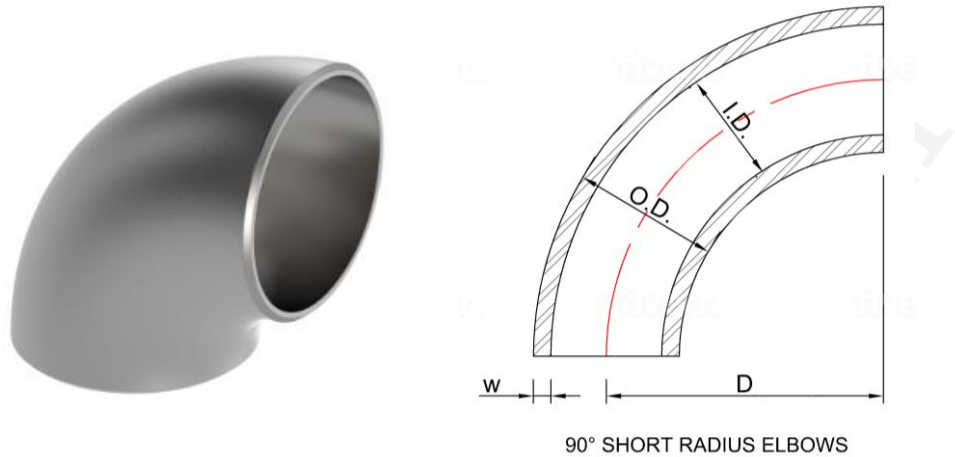
UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	CENTER TO FACE (A)	SCHEDULE 40S ☐ < SELECT			SCHEDULE 80S ☐ < SELECT		
				Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight	Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight
☐	1	1.315	1	1.049	0.133	0.26	0.957	0.179	0.38
☐	1 ¼	1.660	1 ¼	1.380	0.140	0.45	1.278	0.191	0.63
☐	1 ½	1.900	1 ½	1.610	0.145	0.63	1.500	0.200	0.88
☐	2	2.375	2	2.067	0.154	1.13	1.939	0.218	1.55
☐	2 ½	2.875	2 ½	2.469	0.203	2.25	2.323	0.276	2.88
☐	3	3.500	3	3.068	0.216	3.31	2.900	0.300	4.20
☐	3 ½	4.000	3 ½	3.548	0.226	4.54	3.364	0.318	5.35
☐	4	4.500	4	4.026	0.237	6.88	3.826	0.337	9.06
☐	5	5.563	5	5.047	0.258	11.63	4.813	0.375	16.10
☐	6	6.625	6	6.065	0.280	17.50	5.761	0.432	26.00
☐	8	8.625	8	7.981	0.322	37.60	7.625	0.500	54.80
☐	10	10.750	10	10.020	0.365	63.00	9.750	0.500	99.80
☐	12	12.750	12	12.000	0.375	80.00	11.750	0.500	125.00
☐	14	14.000	14	13.250	0.375	101.00	13.000	0.500	135.00
☐	16	16.000	16	15.250	0.375	131.00	15.000	0.500	175.00
☐	18	18.000	18	17.250	0.375	175.00	17.000	0.500	228.00
☐	20	20.000	20	19.250	0.375	215.00	19.000	0.500	285.00
☐	24	24.000	24	23.250	0.375	302.00	23.000	0.500	401.00

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9
90° ELBOW – SHORT RADIUS



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

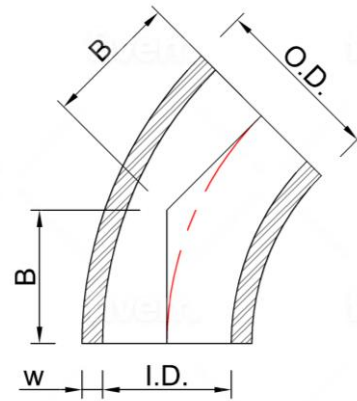
SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	CENTER TO FACE (A)	SCHEDULE 160S ☐ < SELECT			XX STRONG WALL ☐ < SELECT		
				Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight	Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight
☐	1	1.315	1	0.815	0.250	0.53	0.599	0.358	0.76
☐	1 ¼	1.660	1 ¼	1.160	0.250	0.82	0.896	0.382	1.26
☐	1 ½	1.900	1 ½	1.338	0.281	1.23	1.100	0.400	1.76
☐	2	2.375	2	1.689	0.343	2.43	1.503	0.436	3.10
☐	2 ½	2.875	2 ½	2.125	0.375	3.88	1.771	0.552	5.76
☐	3	3.500	3	2.624	0.438	6.09	2.300	0.600	8.40
☐	3 ½	4.000	3 ½	-----	-----	-----	2.728	0.636	10.70
☐	4	4.500	4	3.438	0.531	14.22	3.152	0.674	18.12
☐	5	5.563	5	4.313	0.625	26.72	4.063	0.750	32.20
☐	6	6.625	6	5.187	0.719	43.16	4.897	0.864	52.00
☐	8	8.625	8	6.813	0.906	99.18	6.875	0.875	109.00
☐	10	10.750	10	8.500	1.125	224.00	-----	-----	-----
☐	12	12.750	12	10.126	1.312	327.00	-----	-----	-----
☐	14	14.000	14	11.188	1.406	-----	-----	-----	-----
☐	16	16.000	16	12.812	1.594	-----	-----	-----	-----
☐	18	18.000	18	14.438	1.781	-----	-----	-----	-----
☐	20	20.000	20	16.062	1.969	-----	-----	-----	-----
☐	24	24.000	24	19.312	2.344	-----	-----	-----	-----

ss wld fgt and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all fgt conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

45° ELBOW - LONG RADIUS



45° LONG RADIUS ELBOWS

Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

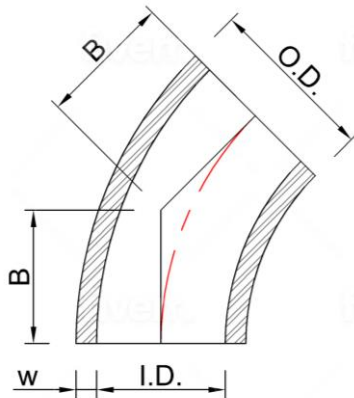
UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	CENTER TO FACE (B)	SCHEDULE 5S ☐ < SELECT			SCHEDULE 10S ☐ < SELECT		
				Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight	Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight
☐	1/2	0.840	5/8	0.710	0.065	0.06	0.674	0.083	0.07
☐	3/4	1.050	7/16	0.920	0.065	0.06	0.884	0.083	0.07
☐	1	1.315	7/8	1.185	0.065	0.12	1.097	0.109	0.19
☐	1 1/4	1.660	1	1.530	0.065	0.19	1.442	0.109	0.25
☐	1 1/2	1.900	1 1/8	1.770	0.065	0.25	1.682	0.109	0.38
☐	2	2.375	1 3/8	2.245	0.065	0.31	2.157	0.109	0.56
☐	2 1/2	2.875	1 3/4	2.709	0.083	0.75	2.635	0.120	1.06
☐	3	3.500	2	3.334	0.083	1.06	3.260	0.120	1.38
☐	3 1/2	4.000	2 1/4	3.834	0.083	1.16	3.760	0.120	1.66
☐	4	4.500	2 1/2	4.334	0.083	1.66	4.260	0.120	2.38
☐	5	5.563	3 1/8	5.345	0.109	3.25	5.295	0.134	4.00
☐	6	6.625	3 3/4	6.407	0.109	5.00	6.357	0.134	6.00
☐	8	8.625	5	8.407	0.109	8.65	8.329	0.148	11.75
☐	10	10.750	6 1/4	10.482	0.134	16.00	10.420	0.165	21.50
☐	12	12.750	7 1/2	12.438	0.156	25.50	12.390	0.180	30.00
☐	14	14.000	8 3/4	13.688	0.156	34.00	13.624	0.188	40.00
☐	16	16.000	10	15.670	0.165	50.00	15.624	0.188	52.50
☐	18	18.000	11 1/4	17.670	0.165	62.50	17.624	0.188	66.00
☐	20	20.000	12 1/2	19.624	0.188	82.50	19.564	0.218	110.00
☐	24	24.000	15	23.564	0.218	140.00	23.500	0.250	155.00

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9
45° ELBOW - LONG RADIUS



45° LONG RADIUS ELBOWS

Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

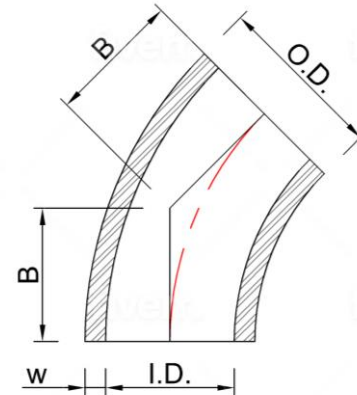
SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	CENTER TO FACE (B)	SCHEDULE 40S ☐ < SELECT			SCHEDULE 80S ☐ < SELECT		
				Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight	Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight
☐	½	0.840	5/8	0.622	0.109	0.09	0.546	0.147	0.12
☐	¾	1.050	7/16	0.824	0.113	0.09	0.742	0.154	0.12
☐	1	1.315	7/8	1.049	0.133	0.25	0.957	0.179	0.31
☐	1 ¼	1.660	1	1.380	0.140	0.38	1.278	0.191	0.50
☐	1 ½	1.900	1 1/8	1.610	0.145	0.50	1.500	0.200	0.63
☐	2	2.375	1 3/8	2.067	0.154	0.88	1.939	0.218	1.13
☐	2 ½	2.875	1 3/4	2.469	0.203	1.69	2.323	0.276	2.19
☐	3	3.500	2	3.068	0.216	2.38	2.900	0.300	3.31
☐	3 ½	4.000	2 1/4	3.548	0.226	3.13	3.364	0.318	4.40
☐	4	4.500	2 1/2	4.026	0.237	4.60	3.826	0.337	6.82
☐	5	5.563	3 1/8	5.047	0.258	7.57	4.813	0.375	10.56
☐	6	6.625	3 3/4	6.065	0.280	12.00	5.761	0.432	18.00
☐	8	8.625	5	7.981	0.322	23.75	7.625	0.500	36.50
☐	10	10.750	6 1/4	10.020	0.365	42.50	9.750	0.500	57.00
☐	12	12.750	7 1/2	12.000	0.375	65.50	11.750	0.500	87.50
☐	14	14.000	8 3/4	13.250	0.375	77.50	13.000	0.500	103.00
☐	16	16.000	10	15.250	0.375	101.00	15.000	0.500	134.00
☐	18	18.000	11 1/4	17.250	0.375	131.00	17.000	0.500	175.00
☐	20	20.000	12 1/2	19.250	0.375	165.00	19.000	0.500	219.00
☐	24	24.000	15	23.250	0.375	232.00	23.000	0.500	308.00

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

45° ELBOW - LONG RADIUS



45° LONG RADIUS ELBOWS

Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

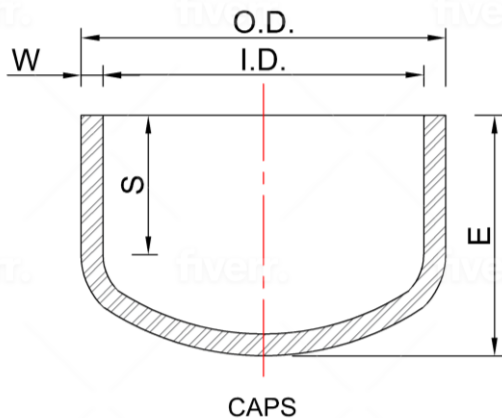
SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	CENTER TO FACE (B)	SCHEDULE 160S ☐ < SELECT			XX STRONG WALL ☐ < SELECT		
				Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight	Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight
☐	½	0.840	5/8	0.464	0.188	0.16	0.252	0.294	0.24
☐	¾	1.050	7/16	0.612	0.219	0.16	0.434	0.308	0.24
☐	1	1.315	7/8	0.815	0.250	0.43	0.599	0.358	0.62
☐	1 ¼	1.660	1	1.160	0.250	0.85	0.896	0.382	1.00
☐	1 ½	1.900	1 1/8	1.338	0.281	0.88	1.100	0.400	1.26
☐	2	2.375	1 3/8	1.689	0.343	1.77	1.503	0.436	2.26
☐	2 ½	2.875	1 3/4	2.125	0.375	2.95	1.771	0.552	4.38
☐	3	3.500	2	2.624	0.438	4.80	2.300	0.600	6.62
☐	3 ½	4.000	2 1/4	-----	-----	-----	2.728	0.636	8.80
☐	4	4.500	2 1/2	3.438	0.531	10.87	3.152	0.674	13.64
☐	5	5.563	3 1/8	4.313	0.625	17.52	4.063	0.750	21.12
☐	6	6.625	3 3/4	5.187	0.719	20.88	4.897	0.864	36.00
☐	8	8.625	5	6.813	0.906	64.24	6.875	0.875	63.87
☐	10	10.750	6 1/4	8.500	1.125	127.00	-----	-----	-----
☐	12	12.750	7 1/2	10.126	1.312	229.00	-----	-----	-----
☐	14	14.000	8 3/4	11.188	1.406	-----	-----	-----	-----
☐	16	16.000	10	12.812	1.594	-----	-----	-----	-----
☐	18	18.000	11 1/4	14.438	1.781	-----	-----	-----	-----
☐	20	20.000	12 1/2	16.062	1.969	-----	-----	-----	-----
☐	24	24.000	15	19.312	2.344	-----	-----	-----	-----

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

CAPS



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

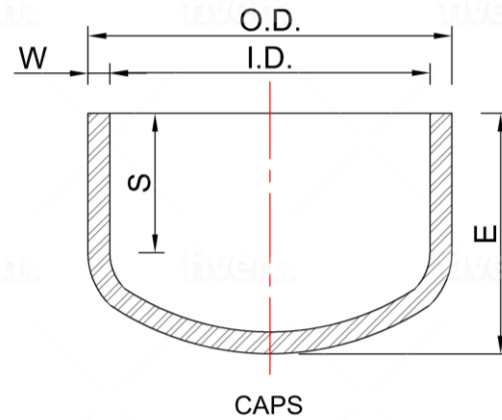
SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	LENGTH (E)	TANGENT LENGTH (S)	SCHEDULE 5S ☐ < SELECT			SCHEDULE 10S ☐ < SELECT		
					Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight	Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight
☐	1/2	0.840	1	0.74	0.710	0.065	0.08	0.674	0.083	0.09
☐	3/4	1.050	1	0.68	0.920	0.065	0.11	0.884	0.083	0.12
☐	1	1.315	1 1/2	1.10	1.185	0.065	0.18	1.097	0.109	0.19
☐	1 1/4	1.660	1 1/2	1.02	1.530	0.065	0.20	1.442	0.109	0.28
☐	1 1/2	1.900	1 1/2	0.95	1.770	0.065	0.22	1.682	0.109	0.31
☐	2	2.375	1 1/2	0.83	2.245	0.065	0.36	2.157	0.109	0.38
☐	2 1/2	2.875	1 1/2	0.68	2.709	0.083	0.50	2.635	0.120	0.56
☐	3	3.500	2	1.02	3.334	0.083	0.86	3.260	0.120	0.88
☐	3 1/2	4.000	2 1/2	1.40	3.834	0.083	1.20	3.760	0.120	1.25
☐	4	4.500	2 1/2	1.26	4.334	0.083	1.25	4.260	0.120	1.44
☐	5	5.563	3	1.48	5.345	0.109	2.00	5.295	0.134	2.25
☐	6	6.625	3 1/2	1.70	6.407	0.109	2.75	6.357	0.134	3.00
☐	8	8.625	4	1.68	8.407	0.109	4.50	8.329	0.148	5.50
☐	10	10.750	5	2.13	10.482	0.134	9.50	10.420	0.165	10.80
☐	12	12.750	6	2.63	12.438	0.156	14.00	12.390	0.180	14.40
☐	14	14.000	6 1/2	2.81	13.688	0.156	17.00	13.624	0.188	18.00
☐	16	16.000	7	2.81	15.670	0.165	30.00	15.624	0.188	32.00
☐	18	18.000	8	3.31	17.670	0.165	38.00	17.624	0.188	39.60
☐	20	20.000	9	3.81	19.624	0.188	55.00	19.564	0.218	60.00
☐	24	24.000	10 1/2	4.31	23.564	0.218	75.00	23.500	0.250	76.00

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

CAPS



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

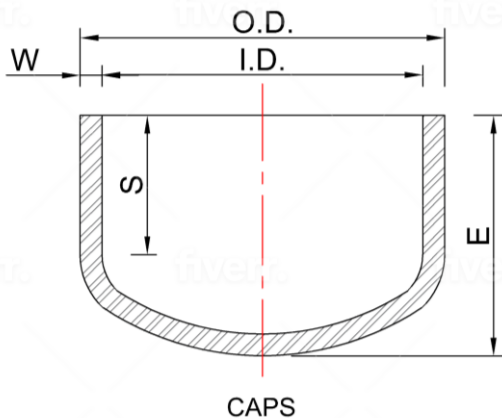
DIMENSIONS

UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	LENGTH (E)	TANGENT LENGTH (S)	SCHEDULE 40S ☐ < SELECT		
					Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight
☐	½	0.840	1	0.74	0.622	0.109	0.10
☐	¾	1.050	1	0.68	0.824	0.113	0.13
☐	1	1.315	1 ½	1.10	1.049	0.133	0.28
☐	1 ¼	1.660	1 ½	1.02	1.380	0.140	0.38
☐	1 ½	1.900	1 ½	0.95	1.610	0.145	0.50
☐	2	2.375	1 ½	0.83	2.067	0.154	0.60
☐	2 ½	2.875	1 ½	0.68	2.469	0.203	1.00
☐	3	3.500	2	1.02	3.068	0.216	1.56
☐	3 ½	4.000	2 ½	1.40	3.548	0.226	2.25
☐	4	4.500	2 ½	1.26	4.026	0.237	2.69
☐	5	5.563	3	1.48	5.047	0.258	4.06
☐	6	6.625	3 ½	1.70	6.065	0.280	7.12
☐	8	8.625	4	1.68	7.981	0.322	12.50
☐	10	10.750	5	2.13	10.020	0.365	20.30
☐	12	12.750	6	2.63	12.000	0.375	28.80
☐	14	14.000	6 ½	2.81	13.250	0.375	35.70
☐	16	16.000	7	2.81	15.250	0.375	48.50
☐	18	18.000	8	3.31	17.250	0.375	59.40
☐	20	20.000	9	3.81	19.250	0.375	75.00
☐	24	24.000	10 ½	4.31	23.250	0.375	98.00

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(= Wall) & MSS SP-43

ASTM A403, B16.9
CAPS



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	LENGTH (E) TANGENT LENGTH (S)	LENGTH (E1) TANGENT LENGTH (S)	SCHEDULE 80S ☐ < SELECT			SCHEDULE 160S ☐ < SELECT		
					Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight	Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight
☐	1/2	0.840	E 1 S 0.72	E 1 S 0.64	0.546	0.147	0.11	0.464	0.188	0.14
☐	3/4	1.050	E 1 S 0.66	E 1 S 0.58	0.742	0.154	0.14	0.612	0.219	0.20
☐	1	1.315	E 1 1/2 S 1.08	E 1 1/2 S 0.99	0.957	0.179	0.29	0.815	0.250	0.40
☐	1 1/4	1.660	E 1 1/2 S 0.99	E 1 1/2 S 0.89	1.278	0.191	0.39	1.160	0.250	0.50
☐	1 1/2	1.900	E 1 1/2 S 0.93	E 1 1/2 S 0.83	1.500	0.200	0.54	1.338	0.281	0.75
☐	2	2.375	E 1 1/2 S 0.80	E 1 1/2 S 0.95	1.939	0.218	0.75	1.689	0.343	1.17
☐	2 1/2	2.875	E 1 1/2 S 0.64	E 2 S 1.01	2.323	0.276	1.12	2.125	0.375	1.48
☐	3	3.500	E 2 S 0.98	E 2 1/2 S 1.32	2.900	0.300	1.87	2.624	0.438	2.71
☐	3 1/2	4.000	E 2 1/2 S 1.34	E 3 S 1.70	3.364	0.318	2.50	-----	-----	-----
☐	4	4.500	E 2 1/2 S 1.21	E 3 S 1.60	3.826	0.337	3.54	3.438	0.531	5.55
☐	5	5.563	E 3 S 1.42	E 3 1/2 S 1.73	4.813	0.375	5.63	4.313	0.625	9.34
☐	6	6.625	E 3 1/2 S 1.63	E 4 S 1.91	5.761	0.432	10.00	5.187	0.719	16.00
☐	8	8.625	E 4 S 1.59	E 5 S 2.41	7.625	0.500	16.38	6.813	0.906	29.64
☐	10	10.750	E 5 S 2.06	E 6 S 2.75	9.750	0.500	27.30	8.500	1.125	61.42
☐	12	12.750	E 6 S 2.56	E 7 S 3.16	11.750	0.500	36.60	10.126	1.312	95.00
☐	14	14.000	E 6 1/2 S 2.75	-----	13.000	0.500	48.00	11.188	1.406	-----
☐	16	16.000	E 7 S 2.75	-----	15.000	0.500	65.00	12.812	1.594	-----
☐	18	18.000	E 8 S 3.25	-----	17.000	0.500	79.20	14.438	1.781	-----
☐	20	20.000	E 9 S 3.75	-----	19.000	0.500	88.00	16.062	1.969	-----
☐	24	24.000	E 10 1/2 S 4.25	-----	23.000	0.500	135.00	19.312	2.344	-----

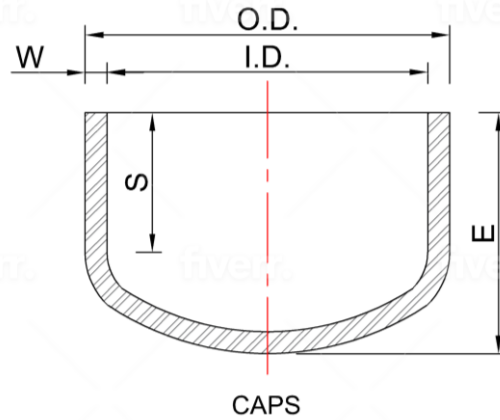
ss wld fgt and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all fgt conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

FITTINGS
A403
(Cap)

ASTM A403, B16.9

CAPS



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

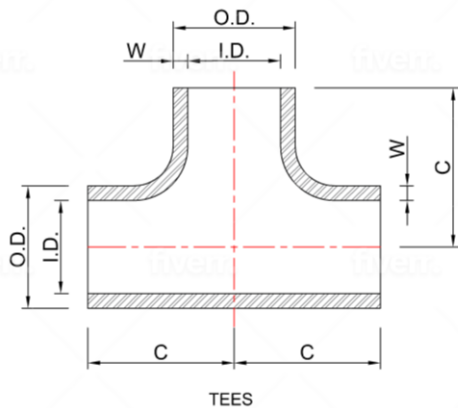
UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	LENGTH (E) TANGENT LENGTH (S)	LENGTH (E1) TANGENT LENGTH (S)	XX STRONG WALL ☐ <- SELECT		
					Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight
☐	1/2	0.840	E 1 S 0.72	E1 1 S 0.64	0.252	0.294	0.22
☐	3/4	1.050	E 1 S 0.66	E1 1 S 0.58	0.434	0.308	0.28
☐	1	1.315	E 1 1/2 S 1.08	E1 1 1/2 S 0.99	0.599	0.358	0.58
☐	1 1/4	1.660	E 1 1/2 S 0.99	E1 1 1/2 S 0.89	0.896	0.382	0.78
☐	1 1/2	1.900	E 1 1/2 S 0.93	E1 1 1/2 S 0.83	1.100	0.400	1.08
☐	2	2.375	E 1 1/2 S 0.80	E1 1 1/2 S 0.95	1.503	0.436	1.50
☐	2 1/2	2.875	E 1 1/2 S 0.64	E1 2 S 1.01	1.771	0.552	2.24
☐	3	3.500	E 2 S 0.98	E1 2 1/2 S 1.32	2.300	0.600	3.74
☐	3 1/2	4.000	E 2 1/2 S 1.34	E1 3 S 1.70	2.728	0.636	5.00
☐	4	4.500	E 2 1/2 S 1.21	E1 3 S 1.60	3.152	0.674	7.08
☐	5	5.563	E 3 S 1.42	E1 3 1/2 S 1.73	4.063	0.750	11.26
☐	6	6.625	E 3 1/2 S 1.63	E1 4 S 1.91	4.897	0.864	20.00
☐	8	8.625	E 4 S 1.59	E1 5 S 2.41	6.875	0.875	22.76
☐	10	10.750	E 5 S 2.06	E1 6 S 2.75	-----	-----	-----
☐	12	12.750	E 6 S 2.56	E1 7 S 3.16	-----	-----	-----
☐	14	14.000	E 6 1/2 S 2.75	-----	-----	-----	-----
☐	16	16.000	E 7 S 2.75	-----	-----	-----	-----
☐	18	18.000	E 8 S 3.25	-----	-----	-----	-----
☐	20	20.000	E 9 S 3.75	-----	-----	-----	-----
☐	24	24.000	E 10 1/2 S 4.25	-----	-----	-----	-----

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(= Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9
TEES



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS
UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	CENTER TO END (C)	SCHEDULE 5S ☐ < SELECT			SCHEDULE 10S ☐ < SELECT		
				Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight	Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight
☐	1/2	0.840	1	0.710	0.065	0.19	0.674	0.083	0.21
☐	3/4	1.050	1 1/8	0.920	0.065	0.22	0.884	0.083	0.28
☐	1	1.315	1 1/2	1.185	0.065	0.40	1.097	0.109	0.63
☐	1 1/4	1.660	1 7/8	1.530	0.065	0.75	1.442	0.109	1.10
☐	1 1/2	1.900	2 1/4	1.770	0.065	0.95	1.682	0.109	1.50
☐	2	2.375	2 1/2	2.245	0.065	1.20	2.157	0.109	1.87
☐	2 1/2	2.875	3	2.709	0.083	2.15	2.635	0.120	3.10
☐	3	3.500	3 3/8	3.334	0.083	3.40	3.260	0.120	3.90
☐	3 1/2	4.000	3 3/4	3.834	0.083	5.50	3.760	0.120	5.88
☐	4	4.500	4 1/8	4.334	0.083	7.20	4.260	0.120	7.63
☐	5	5.563	4 7/8	5.345	0.109	13.00	5.295	0.134	13.45
☐	6	6.625	5 5/8	6.407	0.109	17.20	6.357	0.134	17.80
☐	8	8.625	7	8.407	0.109	31.00	8.329	0.148	34.50
☐	10	10.750	8 1/2	10.482	0.134	55.00	10.420	0.165	59.00
☐	12	12.750	10	12.438	0.156	83.00	12.390	0.180	87.00
☐	14	14.000	11	13.688	0.156	89.00	13.624	0.188	107.00
☐	16	16.000	12	15.670	0.165	115.00	15.624	0.188	130.00
☐	18	18.000	13 1/2	17.670	0.165	149.00	17.624	0.188	169.00
☐	20	20.000	15	19.624	0.188	171.00	19.564	0.218	228.00
☐	24	24.000	17	23.564	0.218	298.00	23.500	0.250	343.00

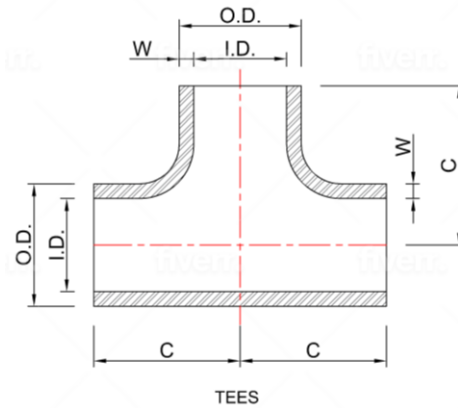
ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
 Job #: _____

FITTINGS
A403
(TEE)

ASTM A403, B16.9

TEES



Grade: ☐ 304L ☐ 316L ☐ _____
 Seam: ☐ Welded ☐ Seamless ☐ WPWX
 Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

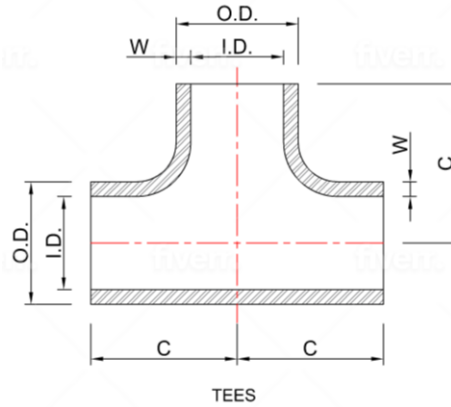
SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	CENTER TO END (C)	SCHEDULE 40S ☐ < SELECT			SCHEDULE 80S ☐ < SELECT		
				Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight	Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight
☐	½	0.840	1	0.622	0.109	0.23	0.546	0.147	0.30
☐	¾	1.050	1 ⅛	0.824	0.113	0.38	0.742	0.154	0.45
☐	1	1.315	1 ½	1.049	0.133	0.65	0.957	0.179	0.85
☐	1 ¼	1.660	1 ⅞	1.380	0.140	1.31	1.278	0.191	1.50
☐	1 ½	1.900	2 ¼	1.610	0.145	1.90	1.500	0.200	2.25
☐	2	2.375	2 ½	2.067	0.154	2.83	1.939	0.218	3.50
☐	2 ½	2.875	3	2.469	0.203	4.85	2.323	0.276	6.90
☐	3	3.500	3 ⅜	3.068	0.216	7.30	2.900	0.300	9.80
☐	3 ½	4.000	3 ¾	3.548	0.226	9.00	3.364	0.318	12.00
☐	4	4.500	4 ⅛	4.026	0.237	11.63	3.826	0.337	17.00
☐	5	5.563	4 ⅞	5.047	0.258	20.75	4.813	0.375	25.00
☐	6	6.625	5 ⅝	6.065	0.280	24.25	5.761	0.432	30.00
☐	8	8.625	7	7.981	0.322	46.10	7.625	0.500	62.00
☐	10	10.750	8 ½	10.020	0.365	78.00	9.750	0.500	110.00
☐	12	12.750	10	12.000	0.375	137.00	11.750	0.500	185.00
☐	14	14.000	11	13.250	0.375	175.00	13.000	0.500	210.00
☐	16	16.000	12	15.250	0.375	220.00	15.000	0.500	265.00
☐	18	18.000	13 ½	17.250	0.375	286.00	17.000	0.500	344.00
☐	20	20.000	15	19.250	0.375	358.00	19.000	0.500	430.00
☐	24	24.000	17	23.250	0.375	498.00	23.000	0.500	600.00

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
 (= Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

TEES



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

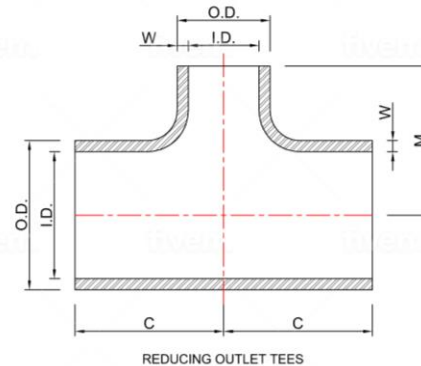
SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	CENTER TO END (C)	SCHEDULE 160S ☐ < SELECT			XX STRONG WALL ☐ < SELECT		
				Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight	Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight
☐	1/2	0.840	1 1/2	0.464	0.188	0.38	0.252	0.294	0.60
☐	3/4	1.050	1 1/2	0.612	0.219	0.64	0.434	0.308	0.90
☐	1	1.315	1 1/2	0.815	0.250	1.19	0.599	0.358	1.70
☐	1 1/4	1.660	1 7/8	1.160	0.250	1.97	0.896	0.382	3.00
☐	1 1/2	1.900	2 1/4	1.338	0.281	3.15	1.100	0.400	4.50
☐	2	2.375	3	1.689	0.343	5.50	1.503	0.436	7.00
☐	2 1/2	2.875	3 3/4	2.125	0.375	9.38	1.771	0.552	13.80
☐	3	3.500	4 1/2	2.624	0.438	14.31	2.300	0.600	19.60
☐	3 1/2	4.000	5 1/4	----	----	----	2.728	0.636	24.00
☐	4	4.500	6	3.438	0.531	26.86	3.152	0.674	34.00
☐	5	5.563	7 1/2	4.313	0.625	41.75	4.063	0.750	50.00
☐	6	6.625	9	5.187	0.719	49.80	4.897	0.864	60.00
☐	8	8.625	12	6.813	0.906	112.00	6.875	0.875	108.00
☐	10	10.750	15	8.500	1.125	247.00	----	----	----
☐	12	12.750	18	10.126	1.312	484.00	----	----	----
☐	14	14.000	21	11.188	1.406	590.00	----	----	----
☐	16	16.000	24	12.812	1.594	812.00	----	----	----
☐	18	18.000	27	14.438	1.781	1097.00	----	----	----
☐	20	20.000	30	16.062	1.969	1690.00	----	----	----
☐	24	24.000	36	19.312	2.344	2950.00	----	----	----

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

FITTINGS
A403
(T RED)

ASTM A403, B16.9 REDUCING TEES



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

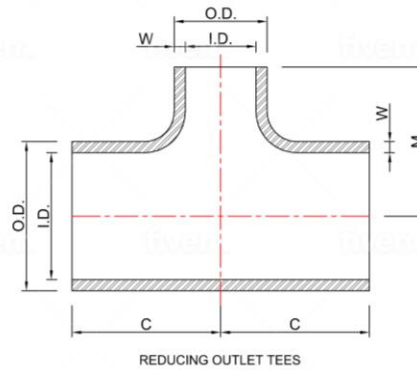
SELECT	NOMINAL PIPE SIZE Run x Outlet	OUTSIDE DIAMETER RUN (O.D.)	OUTSIDE DIAMETER OUTLET (O.D.)	CENTER TO END RUN (C)	CENTER TO END OUTLET (M)	SCHEDULE 5S ☐ <- SELECT				
						Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (W)	Wall Thickness Outlet (W)	Approx Weight
☐	½ x ¼	0.840	0.540	1	1	0.710	0.410	0.065	0.065	0.16
☐	½ x ⅜	0.840	0.675	1	1	0.710	0.545	0.065	0.065	0.17
☐	¾ x ⅜	1.050	0.675	1 ⅛	1 ⅛	0.920	0.545	0.065	0.065	0.19
☐	¾ x ½	1.050	0.840	1 ⅛	1 ⅛	0.920	0.710	0.065	0.065	0.20
☐	1 x ⅜	1.315	0.675	1 ½	1 ½	1.185	0.545	0.065	0.065	0.34
☐	1 x ½	1.315	0.840	1 ½	1 ½	1.185	0.710	0.065	0.065	0.35
☐	1 x ¾	1.315	1.050	1 ½	1 ½	1.185	0.920	0.065	0.065	0.36
☐	1 ¼ x ½	1.660	0.840	1 ⅞	1 ⅞	1.530	0.710	0.065	0.065	0.64
☐	1 ¼ x ¾	1.660	1.050	1 ⅞	1 ⅞	1.530	0.920	0.065	0.065	0.66
☐	1 ¼ x 1	1.660	1.315	1 ⅞	1 ⅞	1.530	1.185	0.065	0.065	0.68
☐	1 ½ x ½	1.900	0.840	2 ¼	2 ¼	1.770	0.710	0.065	0.065	0.81
☐	1 ½ x ¾	1.900	1.050	2 ¼	2 ¼	1.770	0.920	0.065	0.065	0.82
☐	1 ½ x 1	1.900	1.315	2 ¼	2 ¼	1.770	1.185	0.065	0.065	0.83
☐	1 ½ x 1 ¼	1.900	1.660	2 ¼	2 ¼	1.770	1.530	0.065	0.065	0.85
☐	2 x ½	2.375	0.840	2 ½	1 ¾	-----	-----	-----	-----	-----
☐	2 x ¾	2.375	1.050	2 ½	1 ¾	2.245	0.920	0.065	0.065	1.02
☐	2 x 1	2.375	1.315	2 ½	2	2.245	1.185	0.065	0.065	1.03
☐	2 x 1 ¼	2.375	1.660	2 ½	2 ¼	2.245	1.530	0.065	0.065	1.05
☐	2 x 1 ½	2.375	1.900	2 ½	2 ⅝	2.245	1.770	0.065	0.065	1.08
☐	2 ½ x 1	2.875	1.315	3	2 ¼	2.709	1.185	0.083	0.065	1.83
☐	2 ½ x 1 ¼	2.875	1.660	3	2 ½	2.709	1.530	0.083	0.065	1.85
☐	2 ½ x 1 ½	2.875	1.900	3	2 ⅝	2.709	1.770	0.083	0.065	1.89
☐	2 ½ x 2	2.875	2.375	3	2 ¾	2.709	2.245	0.083	0.065	1.93
☐	3 x 1	3.500	1.315	3 ⅜	2 ⅝	3.334	1.185	0.083	0.065	2.85
☐	3 x 1 ¼	3.500	1.660	3 ⅜	2 ¾	3.334	1.530	0.083	0.065	2.89
☐	3 x 1 ½	3.500	1.900	3 ⅜	2 ⅞	3.334	1.770	0.083	0.065	2.93
☐	3 x 2	3.500	2.375	3 ⅜	3	3.334	2.245	0.083	0.065	2.99
☐	3 x 2 ½	3.500	2.875	3 ⅜	3 ¼	3.334	2.709	0.083	0.065	3.06
☐	3 ½ x 1 ½	4.000	1.900	3 ¾	3 ⅝	3.834	1.770	0.083	0.065	4.67

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(= Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

REDUCING TEES



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

SELECT	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 10S ☐ < SELECT				
						Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (W)	Wall Thickness Outlet (W)	Approx Weight
☐	1/2 x 1/4	0.840	0.540	1	1	0.674	0.410	0.083	0.065	0.18
☐	1/2 x 3/8	0.840	0.675	1	1	0.674	0.545	0.083	0.065	0.19
☐	3/4 x 3/8	1.050	0.675	1 1/8	1 1/8	0.884	0.545	0.083	0.065	0.24
☐	3/4 x 1/2	1.050	0.840	1 1/8	1 1/8	0.884	0.674	0.083	0.083	0.25
☐	1 x 3/8	1.315	0.675	1 1/2	1 1/2	1.097	0.545	0.109	0.065	0.54
☐	1 x 1/2	1.315	0.840	1 1/2	1 1/2	1.097	0.674	0.109	0.083	0.55
☐	1 x 3/4	1.315	1.050	1 1/2	1 1/2	1.097	0.884	0.109	0.083	0.56
☐	1 1/4 x 1/2	1.660	0.840	1 7/8	1 7/8	1.442	0.674	0.109	0.083	0.95
☐	1 1/4 x 3/4	1.660	1.050	1 7/8	1 7/8	1.442	0.884	0.109	0.083	0.97
☐	1 1/4 x 1	1.660	1.315	1 7/8	1 7/8	1.442	1.097	0.109	0.109	0.99
☐	1 1/2 x 1/2	1.900	0.840	2 1/4	2 1/4	1.682	0.674	0.109	0.083	1.27
☐	1 1/2 x 3/4	1.900	1.050	2 1/4	2 1/4	1.682	0.884	0.109	0.083	1.29
☐	1 1/2 x 1	1.900	1.315	2 1/4	2 1/4	1.682	1.097	0.109	0.109	1.32
☐	1 1/2 x 1 1/4	1.900	1.660	2 1/4	2 1/4	1.682	1.442	0.109	0.109	1.35
☐	2 x 1/2	2.375	0.840	2 1/2	1 3/4	2.157	0.674	0.109	0.083	1.12
☐	2 x 3/4	2.375	1.050	2 1/2	1 3/4	2.157	0.884	0.109	0.083	1.59
☐	2 x 1	2.375	1.315	2 1/2	2	2.157	1.097	0.109	0.109	1.60
☐	2 x 1 1/4	2.375	1.660	2 1/2	2 1/4	2.157	1.442	0.109	0.109	1.64
☐	2 x 1 1/2	2.375	1.900	2 1/2	2 3/8	2.157	1.682	0.109	0.109	1.68
☐	2 1/2 x 1	2.875	1.315	3	2 1/4	2.635	1.097	0.120	0.109	2.63
☐	2 1/2 x 1 1/4	2.875	1.660	3	2 1/2	2.635	1.442	0.120	0.109	2.66
☐	2 1/2 x 1 1/2	2.875	1.900	3	2 3/8	2.635	1.682	0.120	0.109	2.73
☐	2 1/2 x 2	2.875	2.375	3	2 3/4	2.635	2.157	0.120	0.109	2.79
☐	3 x 1	3.500	1.315	3 3/8	2 3/8	3.260	1.097	0.120	0.109	3.27
☐	3 x 1 1/4	3.500	1.660	3 3/8	2 3/4	3.260	1.442	0.120	0.109	3.31
☐	3 x 1 1/2	3.500	1.900	3 3/8	2 7/8	3.260	1.682	0.120	0.109	3.35
☐	3 x 2	3.500	2.375	3 3/8	3	3.260	2.157	0.120	0.109	3.43
☐	3 x 2 1/2	3.500	2.875	3 3/8	3 1/4	3.260	2.635	0.120	0.120	3.51
☐	3 1/2 x 1 1/2	4.000	1.900	3 3/4	3 1/8	3.760	1.682	0.120	0.109	4.99

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(= Wall) & MSS SP-43

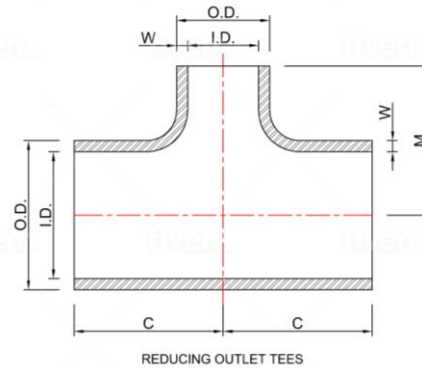
Project Name: _____
Job #: _____

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9 (≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

REDUCING TEES



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

SELECT	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 40S ☐ < SELECT				
						Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (W)	Wall Thickness Outlet (W)	Approx Weight
☐	1/2 x 1/4	0.840	0.540	1	1	0.622	0.364	0.109	0.088	0.20
☐	1/2 x 3/8	0.840	0.675	1	1	0.622	0.493	0.109	0.091	0.21
☐	3/4 x 3/8	1.050	0.675	1 1/8	1 1/8	0.824	0.493	0.113	0.091	0.32
☐	3/4 x 1/2	1.050	0.840	1 1/8	1 1/8	0.824	0.622	0.113	0.109	0.34
☐	1 x 3/8	1.315	0.675	1 1/2	1 1/2	1.049	0.493	0.133	0.091	0.56
☐	1 x 1/2	1.315	0.840	1 1/2	1 1/2	1.049	0.622	0.133	0.109	0.57
☐	1 x 3/4	1.315	1.050	1 1/2	1 1/2	1.049	0.824	0.133	0.113	0.59
☐	1 1/4 x 1/2	1.660	0.840	1 7/8	1 7/8	1.380	0.622	0.140	0.109	.12
☐	1 1/4 x 3/4	1.660	1.050	1 7/8	1 7/8	1.380	0.824	0.140	0.113	1.15
☐	1 1/4 x 1	1.660	1.315	1 7/8	1 7/8	1.380	1.049	0.140	0.133	1.7
☐	1 1/2 x 1/2	1.900	0.840	2 1/4	2 1/4	1.610	0.622	0.145	0.109	1.61
☐	1 1/2 x 3/4	1.900	1.050	2 1/4	2 1/4	1.610	0.824	0.145	0.113	1.63
☐	1 1/2 x 1	1.900	1.315	2 1/4	2 1/4	1.610	1.049	0.145	0.133	1.67
☐	1 1/2 x 1 1/4	1.900	1.660	2 1/4	2 1/4	1.610	1.380	0.145	0.140	1.71
☐	2 x 1/2	2.375	0.840	2 1/2	1 3/4	2.067	0.622	0.154	0.109	1.68
☐	2 x 3/4	2.375	1.050	2 1/2	1 3/4	2.067	0.824	0.154	0.113	2.40
☐	2 x 1	2.375	1.315	2 1/2	2	2.067	1.049	0.154	0.133	2.43
☐	2 x 1 1/4	2.375	1.660	2 1/2	2 1/4	2.067	1.380	0.154	0.140	2.46
☐	2 x 1 1/2	2.375	1.900	2 1/2	2 3/8	2.067	1.610	0.154	0.145	2.54
☐	2 1/2 x 1	2.875	1.315	3	2 1/4	2.469	1.049	0.203	0.133	4.12
☐	2 1/2 x 1 1/4	2.875	1.660	3	2 1/2	2.469	1.380	0.203	0.140	4.17
☐	2 1/2 x 1 1/2	2.875	1.900	3	2 3/8	2.469	1.610	0.203	0.145	4.27
☐	2 1/2 x 2	2.875	2.375	3	2 3/4	2.469	2.067	0.203	0.154	4.36
☐	3 x 1	3.500	1.315	3 3/8	2 3/8	3.068	1.049	0.216	0.133	6.13
☐	3 x 1 1/4	3.500	1.660	3 3/8	2 3/4	3.068	1.380	0.216	0.140	6.20
☐	3 x 1 1/2	3.500	1.900	3 3/8	2 7/8	3.068	1.610	0.216	0.145	6.28
☐	3 x 2	3.500	2.375	3 3/8	3	3.068	2.067	0.216	0.154	6.42
☐	3 x 2 1/2	3.500	2.875	3 3/8	3 1/4	3.068	2.469	0.216	0.203	6.57
☐	3 1/2 x 1 1/2	4.000	1.900	3 3/4	3 1/8	3.548	1.610	0.226	0.145	7.65

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

SELECT	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 40S ☐ < SELECT				
						Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (W)	Wall Thickness Outlet (W)	Approx Weight
☐	3 1/2 x 2	4.000	2.375	3 3/4	3 3/4	3.548	2.067	0.226	0.154	7.74
☐	3 1/2 x 2 1/2	4.000	2.875	3 3/4	3 1/2	3.548	2.469	0.226	0.203	8.97
☐	3 1/2 x 3	4.000	3.500	3 3/4	3 5/8	3.548	3.068	0.226	0.216	9.10
☐	4 x 1 1/2	4.500	1.900	4 1/8	3 3/8	4.026	1.610	0.237	0.145	9.76
☐	4 x 2	4.500	2.375	4 1/8	3 1/2	4.026	2.067	0.237	0.154	9.88
☐	4 x 2 1/2	4.500	2.875	4 1/8	3 3/4	4.026	2.469	0.237	0.203	10.00
☐	4 x 3	4.500	3.500	4 1/8	3 7/8	4.026	3.068	0.237	0.216	10.23
☐	4 x 3 1/2	4.500	4.000	4 1/8	4	4.026	3.548	0.237	0.226	10.40
☐	5 x 2	5.563	2.375	4 7/8	4 1/8	5.047	2.067	0.258	0.154	17.43
☐	5 x 2 1/2	5.563	2.875	4 7/8	4 1/4	5.047	2.469	0.258	0.203	17.63
☐	5 x 3	5.563	3.500	4 7/8	4 3/8	5.047	3.068	0.258	0.216	17.84
☐	5 x 3 1/2	5.563	4.000	4 7/8	4 1/2	5.047	3.548	0.258	0.226	18.26
☐	5 x 4	5.563	4.500	4 7/8	4 3/4	5.047	4.026	0.258	0.237	18.67
☐	6 x 2	6.625	2.375	5 3/8	4 3/4	6.065	2.067	0.280	0.154	20.37
☐	6 x 2 1/2	6.625	2.875	5 3/8	4 3/4	6.065	2.469	0.280	0.203	20.37
☐	6 x 3	6.625	3.500	5 3/8	4 7/8	6.065	3.068	0.280	0.216	26.32
☐	6 x 3 1/2	6.625	4.000	5 3/8	5	6.065	3.548	0.280	0.226	20.85
☐	6 x 4	6.625	4.500	5 3/8	5 1/8	6.065	4.026	0.280	0.237	21.34
☐	6 x 5	6.625	5.563	5 3/8	5 3/8	6.065	5.047	0.280	0.258	21.82
☐	8 x 3	8.625	3.500	7	6	7.981	3.068	0.322	0.216	38.72
☐	8 x 3 1/2	8.625	4.000	7	6	7.981	3.548	0.322	0.226	39.18
☐	8 x 4	8.625	4.500	7	6 1/8	7.981	4.026	0.322	0.237	39.64
☐	8 x 5	8.625	5.563	7	6 3/8	7.981	5.047	0.322	0.258	40.56
☐	8 x 6	8.625	6.625	7	6 3/8	7.981	6.065	0.322	0.280	41.49
☐	10 x 4	10.750	4.500	8 1/2	7 1/4	10.020	4.026	0.365	0.237	66.30
☐	10 x 5	10.750	5.563	8 1/2	7 1/2	10.020	5.047	0.365	0.258	67.80
☐	10 x 6	10.750	6.625	8 1/2	7 3/8	10.020	6.065	0.365	0.280	68.64
☐	10 x 8	10.750	8.625	8 1/2	8	10.020	7.981	0.365	0.322	70.20
☐	12 x 5	12.750	5.563	10	8 1/2	12.000	5.047	0.375	0.258	116.00
☐	12 x 6	12.750	6.625	10	8 3/8	12.000	6.065	0.375	0.280	118.00
☐	12 x 8	12.750	8.625	10	9	12.000	7.981	0.375	0.322	120.00
☐	12 x 10	12.750	10.750	10	9 1/2	12.000	10.020	0.375	0.365	123.00
☐	14 x 6	14.000	6.625	11	9 3/8	13.250	6.065	0.375	0.280	148.00
☐	14 x 8	14.000	8.625	11	9 3/4	13.250	7.981	0.375	0.322	150.00
☐	14 x 10	14.000	10.750	11	10 1/8	13.250	10.020	0.375	0.365	154.00
☐	14 x 12	14.000	12.750	11	10 3/8	13.250	12.000	0.375	0.375	157.00
☐	16 x 6	16.000	6.625	12	10 3/4	15.250	6.065	0.375	0.280	184.00
☐	16 x 8	16.000	8.625	12	10 3/4	15.250	7.981	0.375	0.322	187.00
☐	16 x 10	16.000	10.750	12	11 1/8	15.250	10.020	0.375	0.365	189.00
☐	16 x 12	16.000	12.750	12	11 3/8	15.250	12.000	0.375	0.375	193.00
☐	16 x 14	16.000	14.000	12	12	15.250	13.250	0.375	0.375	198.00
☐	18 x 8	18.000	8.625	13 1/2	11 3/4	17.250	7.981	0.375	0.322	240.00
☐	18 x 10	18.000	10.750	13 1/2	12 1/8	17.250	10.020	0.375	0.365	243.00
☐	18 x 12	18.000	12.750	13 1/2	12 3/8	17.250	12.000	0.375	0.375	246.00
☐	18 x 14	18.000	14.000	13 1/2	13	17.250	13.250	0.375	0.375	251.00
☐	18 x 16	18.000	16.000	13 1/2	13	17.250	15.250	0.375	0.375	257.00
☐	20 x 8	20.000	8.625	15	12 3/4	19.250	7.981	0.375	0.322	297.00
☐	20 x 10	20.000	10.750	15	13 1/8	19.250	10.020	0.375	0.365	300.00
☐	20 x 12	20.000	12.750	15	13 3/8	19.250	12.000	0.375	0.375	304.00
☐	20 x 14	20.000	14.000	15	14	19.250	13.250	0.375	0.375	308.00
☐	20 x 16	20.000	16.000	15	14	19.250	15.250	0.375	0.375	315.00
☐	20 x 18	20.000	18.000	15	14 1/2	19.250	17.250	0.375	0.375	322.00
☐	24 x 10	24.000	10.750	17	15 1/8	23.250	10.020	0.375	0.375	413.00
☐	24 x 12	24.000	12.750	17	15 3/8	23.250	12.000	0.375	0.375	418.00
☐	24 x 14	24.000	14.000	17	16	23.250	13.250	0.375	0.375	423.00
☐	24 x 16	24.000	16.000	17	16	23.250	15.250	0.375	0.375	428.00
☐	24 x 18	24.000	18.000	17	16 1/2	23.250	17.250	0.375	0.375	438.00
☐	24 x 20	24.000	20.000	17	17	23.250	19.250	0.375	0.375	448.00

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

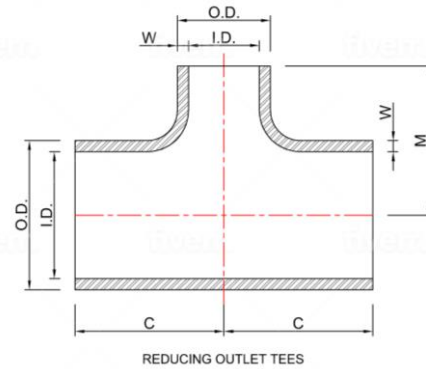


Project Name: _____

Job #: _____

ASTM A403, B16.9

REDUCING TEES



Grade: ☐ 304L ☐ 316L ☐ _____

Seam: ☐ Welded ☐ Seamless ☐ WPWX

Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

SELECT	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 ☐ < SELECT				
						Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (W)	Wall Thickness Outlet (W)	Approx Weight
☐	½ x ¼	0.840	0.540	1	1	0.546	0.302	0.147	0.119	0.25
☐	½ x ⅜	0.840	0.675	1	1	0.546	0.423	0.147	0.126	0.27
☐	¾ x ⅜	1.050	0.675	1 ⅛	1 ⅛	0.742	0.423	0.154	0.126	0.38
☐	¾ x ½	1.050	0.840	1 ⅛	1 ⅛	0.742	0.546	0.154	0.147	0.40
☐	1 x ⅜	1.315	0.675	1 ½	1 ½	0.957	0.423	0.179	0.126	0.73
☐	1 x ½	1.315	0.840	1 ½	1 ½	0.957	0.546	0.179	0.147	0.75
☐	1 x ¾	1.315	1.050	1 ½	1 ½	0.957	0.742	0.179	0.154	0.76
☐	1 ¼ x ½	1.660	0.840	1 ⅞	1 ⅞	1.278	0.546	0.191	0.147	1.29
☐	1 ¼ x ¾	1.660	1.050	1 ⅞	1 ⅞	1.278	0.742	0.191	0.154	1.32
☐	1 ¼ x 1	1.660	1.315	1 ⅞	1 ⅞	1.278	0.957	0.191	0.179	1.35
☐	1 ½ x ½	1.900	0.840	2 ¼	2 ¼	1.500	0.546	0.200	0.147	1.91
☐	1 ½ x ¾	1.900	1.050	2 ¼	2 ¼	1.500	0.742	0.200	0.154	1.93
☐	1 ½ x 1	1.900	1.315	2 ¼	2 ¼	1.500	0.957	0.200	0.179	1.98
☐	1 ½ x 1 ¼	1.900	1.660	2 ¼	2 ¼	1.500	1.278	0.200	0.191	2.02
☐	2 x ¾	2.375	1.050	2 ½	1 ¾	1.939	0.742	0.218	0.154	2.97
☐	2 x 1	2.375	1.315	2 ½	2	1.939	0.957	0.218	0.179	3.01
☐	2 x 1 ½	2.375	1.660	2 ½	2 ¼	1.939	1.278	0.218	0.191	3.08
☐	2 x 1 ¾	2.375	1.900	2 ½	2 ⅝	1.939	1.500	0.218	0.200	3.15
☐	2 ½ x 1	2.875	1.315	3	2 ¼	2.323	0.957	0.276	0.179	5.86
☐	2 ½ x 1 ¼	2.875	1.660	3	2 ½	2.323	1.278	0.276	0.191	5.93
☐	2 ½ x 1 ½	2.875	1.900	3	2 ⅝	2.323	1.500	0.276	0.200	6.07
☐	2 ½ x 2	2.875	2.375	3	2 ¾	2.323	1.939	0.276	0.218	6.21
☐	3 x 1	3.500	1.315	3 ⅜	2 ⅝	2.900	0.957	0.300	0.179	8.23
☐	3 x 1 ¼	3.500	1.660	3 ⅜	2 ¾	2.900	1.278	0.300	0.191	8.33
☐	3 x 1 ½	3.500	1.900	3 ⅜	2 ⅞	2.900	1.500	0.300	0.200	8.43
☐	3 x 2	3.500	2.375	3 ⅜	3	2.900	1.939	0.300	0.218	8.62
☐	3 x 2 ½	3.500	2.875	3 ⅜	3 ¼	2.900	2.323	0.300	0.276	8.82
☐	3 ½ x 1 ½	4.000	1.900	3 ¾	3 ⅞	3.364	1.500	0.318	0.200	10.20
☐	3 ½ x 2	4.000	2.375	3 ¾	3 ¾	3.364	1.939	0.318	0.218	10.32

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

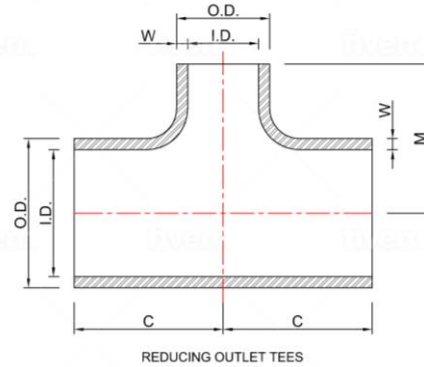
SELECT	NOMINAL PIPE SIZE Run x Outlet	OUTSIDE DIAMETER RUN (O.D.)	OUTSIDE DIAMETER OUTLET (O.D.)	CENTER TO END RUN (C)	CENTER TO END OUTLET (M)	SCHEDULE 80S ☐ < SELECT				
						Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (W)	Wall Thickness Outlet (W)	Approx Weight
☐	3 ½ x 2 ½	4.000	2.875	3 ¾	3 ½	3.364	2.323	0.318	0.276	10.56
☐	3 ½ x 3	4.000	3.500	3 ¾	3 ¾	3.364	2.900	0.318	0.300	10.80
☐	4 x 1 ½	4.500	1.900	4 ¼	3 ¾	3.826	1.500	0.337	0.200	14.28
☐	4 x 2	4.500	2.375	4 ¼	3 ½	3.826	1.939	0.337	0.218	14.45
☐	4 x 2 ½	4.500	2.875	4 ¼	3 ¾	3.826	2.323	0.337	0.276	14.62
☐	4 x 3	4.500	3.500	4 ¼	3 ¾	3.826	2.900	0.337	0.300	14.96
☐	4 x 3 ½	4.500	4.000	4 ¼	4	3.826	3.364	0.337	0.318	15.30
☐	5 x 2	5.563	2.375	4 ¾	4 ¼	4.813	1.939	0.375	0.337	21.00
☐	5 x 2 ½	5.563	2.875	4 ¾	4 ¾	4.813	2.323	0.375	0.276	21.25
☐	5 x 3	5.563	3.500	4 ¾	4 ¾	4.813	2.900	0.375	0.300	21.50
☐	5 x 3 ½	5.563	4.000	4 ¾	4 ½	4.813	3.364	0.375	0.318	22.00
☐	5 x 4	5.563	4.500	4 ¾	4 ¾	4.813	3.826	0.375	0.337	22.50
☐	6 x 2 ½	6.625	2.875	5 ¾	4 ¾	5.761	2.323	0.432	0.276	25.20
☐	6 x 3	6.625	3.500	5 ¾	4 ¾	5.761	2.900	0.432	0.300	25.50
☐	6 x 3 ½	6.625	4.000	5 ¾	5	5.761	3.364	0.432	0.318	25.80
☐	6 x 4	6.625	4.500	5 ¾	5 ½	5.761	3.826	0.432	0.337	26.40
☐	6 x 5	6.625	5.563	5 ¾	5 ¾	5.761	4.813	0.432	0.375	27.00
☐	8 x 3	8.625	3.500	7	6	7.625	2.900	0.500	0.300	52.08
☐	8 x 3 ½	8.625	4.000	7	6	7.625	3.364	0.500	0.318	52.70
☐	8 x 4	8.625	4.500	7	6 ¼	7.625	3.826	0.500	0.337	53.32
☐	8 x 5	8.625	5.563	7	6 ¾	7.625	4.813	0.500	0.375	54.56
☐	8 x 6	8.625	6.625	7	6 ¾	7.625	5.761	0.500	0.432	55.80
☐	10 x 4	10.750	4.500	8 ½	7 ¼	9.750	3.826	0.500	0.337	93.50
☐	10 x 5	10.750	5.563	8 ½	7 ½	9.750	4.813	0.500	0.375	94.60
☐	10 x 6	10.750	6.625	8 ½	7 ¾	9.750	5.761	0.500	0.432	96.80
☐	10 x 8	10.750	8.625	8 ½	8	9.750	7.625	0.500	0.500	99.00
☐	12 x 5	12.750	5.563	10	8 ½	11.750	4.813	0.500	0.375	157.00
☐	12 x 6	12.750	6.625	10	8 ¾	11.750	5.761	0.500	0.432	159.00
☐	12 x 8	12.750	8.625	10	9	11.750	7.625	0.500	0.500	163.00
☐	12 x 10	12.750	10.750	10	9 ½	11.750	9.750	0.500	0.500	166.00
☐	14 x 6	14.000	6.625	11	9 ¾	13.000	5.761	0.500	0.432	178.00
☐	14 x 8	14.000	8.625	11	9 ¾	13.000	7.625	0.500	0.500	180.00
☐	14 x 10	14.000	10.750	11	10 ¼	13.000	9.750	0.500	0.500	185.00
☐	14 x 12	14.000	12.750	11	10 ¾	13.000	11.750	0.500	0.500	189.00
☐	16 x 6	16.000	6.625	12	10 ¾	15.000	5.761	0.500	0.432	222.00
☐	16 x 8	16.000	8.625	12	10 ¾	15.000	7.625	0.500	0.500	225.00
☐	16 x 10	16.000	10.750	12	11 ¼	15.000	9.750	0.500	0.500	228.00
☐	16 x 12	16.000	12.750	12	11 ¾	15.000	11.750	0.500	0.500	233.00
☐	16 x 14	16.000	14.000	12	12	15.000	13.000	0.500	0.500	238.00
☐	18 x 8	18.000	8.625	13 ½	11 ¾	17.000	7.625	0.500	0.500	289.00
☐	18 x 10	18.000	10.750	13 ½	12 ¼	17.000	9.750	0.500	0.500	292.00
☐	18 x 12	18.000	12.750	13 ½	12 ¾	17.000	11.750	0.500	0.500	296.00
☐	18 x 14	18.000	14.000	13 ½	13	17.000	13.000	0.500	0.500	303.00
☐	18 x 16	18.000	16.000	13 ½	13	17.000	15.000	0.500	0.500	309.00
☐	20 x 8	20.000	8.625	15	12 ¾	19.000	7.625	0.500	0.500	357.00
☐	20 x 10	20.000	10.750	15	13 ¼	19.000	9.750	0.500	0.500	361.00
☐	20 x 12	20.000	12.750	15	13 ¾	19.000	11.750	0.500	0.500	365.00
☐	20 x 14	20.000	14.000	15	14	19.000	13.000	0.500	0.500	370.00
☐	20 x 16	20.000	16.000	15	14	19.000	15.000	0.500	0.500	378.00
☐	20 x 18	20.000	18.000	15	14 ½	19.000	17.000	0.500	0.500	387.00
☐	24 x 10	24.000	10.750	17	15 ¼	23.000	9.750	0.500	0.500	498.00
☐	24 x 12	24.000	12.750	17	15 ¾	23.000	11.750	0.500	0.500	504.00
☐	24 x 14	24.000	14.000	17	16	23.000	13.000	0.500	0.500	510.00
☐	24 x 16	24.000	16.000	17	16	23.000	15.000	0.500	0.500	516.00
☐	24 x 18	24.000	18.000	17	16 ½	23.000	17.000	0.500	0.500	528.00
☐	24 x 20	24.000	20.000	17	17	23.000	19.000	0.500	0.500	540.00

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

REDUCING TEES



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

SELECT	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 160S ☐ <- SELECT				
						Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (W)	Wall Thickness Outlet (W)	Approx Weight
☐	1/2 x 1/4	0.840	0.540	1	1	----	----	----	----	----
☐	1/2 x 3/8	0.840	0.675	1	1	----	----	----	----	----
☐	3/4 x 3/8	1.050	0.675	1 1/8	1 1/8	0.612	0.301	0.219	0.187	0.55
☐	3/4 x 1/2	1.050	0.840	1 1/8	1 1/8	0.612	0.466	0.219	0.187	0.57
☐	1 x 3/8	1.315	0.675	1 1/2	1 1/2	0.815	0.301	0.250	0.187	1.02
☐	1 x 1/2	1.315	0.840	1 1/2	1 1/2	0.815	0.466	0.250	0.187	1.04
☐	1 x 3/4	1.315	1.050	1 1/2	1 1/2	0.815	0.614	0.250	0.218	1.07
☐	1 1/4 x 1/2	1.660	0.840	1 7/8	1 7/8	1.160	0.466	0.250	0.187	1.69
☐	1 1/4 x 3/4	1.660	1.050	1 7/8	1 7/8	1.160	0.614	0.250	0.218	1.73
☐	1 1/4 x 1	1.660	1.315	1 7/8	1 7/8	1.160	0.815	0.250	0.250	1.77
☐	1 1/2 x 1/2	1.900	0.840	2 1/4	2 1/4	1.338	0.466	0.281	0.187	2.67
☐	1 1/2 x 3/4	1.900	1.050	2 1/4	2 1/4	1.338	0.614	0.281	0.218	2.71
☐	1 1/2 x 1	1.900	1.315	2 1/4	2 1/4	1.338	0.815	0.281	0.250	2.77
☐	1 1/2 x 1 1/4	1.900	1.660	2 1/4	2 1/4	1.338	1.160	0.281	0.250	2.83
☐	2 x 3/4	2.375	1.050	2 1/2	1 3/4	1.689	0.614	0.343	0.218	4.67
☐	2 x 1	2.375	1.315	2 1/2	2	1.689	0.815	0.343	0.250	4.73
☐	2 x 1 1/4	2.375	1.660	2 1/2	2 1/4	1.689	1.160	0.343	0.250	4.84
☐	2 x 1 1/2	2.375	1.900	2 1/2	2 3/8	1.689	1.338	0.343	0.281	4.95
☐	2 1/2 x 1	2.875	1.315	3	2 1/4	2.125	0.815	0.375	0.250	7.97
☐	2 1/2 x 1 1/4	2.875	1.660	3	2 1/2	2.125	1.160	0.375	0.250	8.06
☐	2 1/2 x 1 1/2	2.875	1.900	3	2 3/8	2.125	1.338	0.375	0.281	8.25
☐	2 1/2 x 2	2.875	2.375	3	2 3/4	2.125	1.689	0.375	0.343	8.44
☐	3 x 1	3.500	1.315	3 3/8	2 3/8	2.624	0.815	0.438	0.250	12.02
☐	3 x 1 1/4	3.500	1.660	3 3/8	2 3/4	2.624	1.160	0.438	0.250	2.16
☐	3 x 1 1/2	3.500	1.900	3 3/8	2 7/8	2.624	1.338	0.438	0.281	12.30
☐	3 x 2	3.500	2.375	3 3/8	3	2.624	1.689	0.438	0.343	12.59
☐	3 x 2 1/2	3.500	2.875	3 3/8	3 1/4	2.624	2.125	0.438	0.375	12.88
☐	3 1/2 x 1 1/2	4.000	1.900	3 3/4	3 1/8	----	----	----	----	----
☐	3 1/2 x 2	4.000	2.375	3 3/4	3 1/4	----	----	----	----	----

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(= Wall) & MSS SP-43

SELECT	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 160S ☐ < SELECT				
						Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (W)	Wall Thickness Outlet (W)	Approx Weight
☐	3 ½ x 2 ½	4.000	2.875	3 ¾	3 ½	----	----	----	----	----
☐	3 ½ x 3	4.000	3.500	3 ¾	3 ⅝	----	----	----	----	----
☐	4 x 1 ½	4.500	1.900	4 ⅞	3 ⅝	3.438	1.338	0.531	0.281	22.56
☐	4 x 2	4.500	2.375	4 ⅞	3 ½	3.438	1.689	0.531	0.343	22.83
☐	4 x 2 ½	4.500	2.875	4 ⅞	3 ¾	3.438	2.125	0.531	0.375	23.10
☐	4 x 3	4.500	3.500	4 ⅞	3 ⅝	3.438	2.624	0.531	0.438	23.63
☐	4 x 3 ½	4.500	4.000	4 ⅞	4	----	----	----	----	----
☐	5 x 2	5.563	2.375	4 ⅞	4 ⅞	4.313	1.689	0.625	0.343	35.07
☐	5 x 2 ½	5.563	2.875	4 ⅞	4 ¾	4.313	2.125	0.625	0.375	35.48
☐	5 x 3	5.563	3.500	4 ⅞	4 ⅝	4.313	2.624	0.625	0.438	35.90
☐	5 x 3 ½	5.563	4.000	4 ⅞	4 ½	----	----	----	----	----
☐	5 x 4	5.563	4.500	4 ⅞	4 ⅞	4.313	3.438	0.625	0.531	37.57
☐	6 x 2 ½	6.625	2.875	5 ⅞	4 ¾	5.187	2.125	0.719	0.375	41.83
☐	6 x 3	6.625	3.500	5 ⅞	4 ⅞	5.187	2.624	0.719	0.438	42.33
☐	6 x 3 ½	6.625	4.000	5 ⅞	5	----	----	----	----	----
☐	6 x 4	6.625	4.500	5 ⅞	5 ⅞	5.187	3.438	0.719	0.531	43.82
☐	6 x 5	6.625	5.563	5 ⅞	5 ⅝	5.187	4.313	0.719	0.625	44.82
☐	8 x 3	8.625	3.500	7	6	6.813	2.624	0.906	0.438	94.00
☐	8 x 3 ½	8.625	4.000	7	6	----	----	----	----	----
☐	8 x 4	8.625	4.500	7	6 ⅞	6.813	3.438	0.906	0.531	96.30
☐	8 x 5	8.625	5.563	7	6 ⅝	6.813	4.313	0.906	0.625	98.50
☐	8 x 6	8.625	6.625	7	6 ⅝	6.813	5.187	0.906	0.719	101.00
☐	10 x 4	10.750	4.500	8 ½	7 ¾	8.500	3.438	1.125	0.531	210.00
☐	10 x 5	10.750	5.563	8 ½	7 ½	8.500	4.313	1.125	0.625	212.00
☐	10 x 6	10.750	6.625	8 ½	7 ⅝	8.500	5.187	1.125	0.719	217.00
☐	10 x 8	10.750	8.625	8 ½	8	8.500	6.813	1.125	0.906	222.00
☐	12 x 5	12.750	5.563	10	8 ½	10.126	4.313	1.312	0.625	411.00
☐	12 x 6	12.750	6.625	10	8 ⅝	10.126	5.187	1.312	0.719	416.00
☐	12 x 8	12.750	8.625	10	9	10.126	6.813	1.312	0.906	426.00
☐	12 x 10	12.750	10.750	10	9 ½	10.126	8.500	1.312	1.125	435.00
☐	14 x 6	14.000	6.625	11	9 ⅝	11.188	5.187	1.406	0.719	----
☐	14 x 8	14.000	8.625	11	9 ¾	11.188	6.813	1.406	0.906	----
☐	14 x 10	14.000	10.750	11	10 ⅞	11.188	8.500	1.406	1.125	----
☐	14 x 12	14.000	12.750	11	10 ⅝	11.188	10.126	1.406	1.312	----
☐	16 x 6	16.000	6.625	12	10 ⅝	12.812	5.187	1.594	0.719	----
☐	16 x 8	16.000	8.625	12	10 ¾	12.812	6.813	1.594	0.906	----
☐	16 x 10	16.000	10.750	12	11 ⅞	12.812	8.500	1.594	1.125	----
☐	16 x 12	16.000	12.750	12	11 ⅝	12.812	10.126	1.594	1.312	----
☐	16 x 14	16.000	14.000	12	12	12.812	11.188	1.594	1.406	----
☐	18 x 8	18.000	8.625	13 ½	11 ¾	14.438	6.813	1.781	0.906	----
☐	18 x 10	18.000	10.750	13 ½	12 ⅞	14.438	8.500	1.781	1.125	----
☐	18 x 12	18.000	12.750	13 ½	12 ⅝	14.438	10.126	1.781	1.312	----
☐	18 x 14	18.000	14.000	13 ½	13	14.438	11.188	1.781	1.406	----
☐	18 x 16	18.000	16.000	13 ½	13	14.438	12.812	1.781	1.594	----
☐	20 x 8	20.000	8.625	15	12 ¾	16.062	6.813	1.969	0.906	----
☐	20 x 10	20.000	10.750	15	13 ⅞	16.062	8.500	1.969	1.125	----
☐	20 x 12	20.000	12.750	15	13 ⅝	16.062	10.126	1.969	1.312	----
☐	20 x 14	20.000	14.000	15	14	16.062	11.188	1.969	1.406	----
☐	20 x 16	20.000	16.000	15	14	16.062	12.812	1.969	1.594	----
☐	20 x 18	20.000	18.000	15	14 ½	16.062	14.438	1.969	1.781	----
☐	24 x 10	24.000	10.750	17	15 ⅞	19.312	8.500	2.344	1.125	----
☐	24 x 12	24.000	12.750	17	15 ⅝	19.312	10.126	2.344	1.312	----
☐	24 x 14	24.000	14.000	17	16	19.312	11.188	2.344	1.406	----
☐	24 x 16	24.000	16.000	17	16	19.312	12.812	2.344	1.594	----
☐	24 x 18	24.000	18.000	17	16 ½	19.312	14.438	2.344	1.781	----
☐	24 x 20	24.000	20.000	17	17	19.312	16.062	2.344	1.969	----

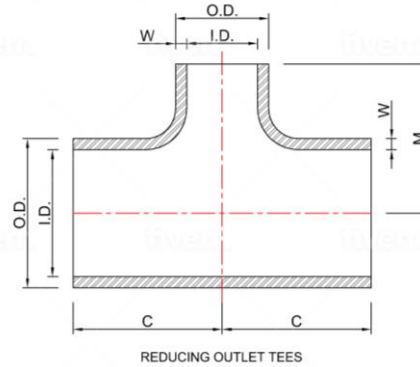
ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(= Wall) & MSS SP-43



Project Name: _____
Job #: _____

ASTM A403, B16.9

REDUCING TEES



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

SELECT	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)	XX STRONG WALL ☐ <- SELECT				
						Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (W)	Wall Thickness Outlet (W)	Approx Weight
☐	1/2 x 1/4	0.840	0.540	1	1	----	----	----	----	----
☐	1/2 x 3/8	0.840	0.675	1	1	----	----	----	----	----
☐	3/4 x 3/8	1.050	0.675	1 1/8	1 1/8	----	----	----	----	----
☐	3/4 x 1/2	1.050	0.840	1 1/8	1 1/8	0.434	0.252	0.308	0.294	0.81
☐	1 x 3/8	1.315	0.675	1 1/2	1 1/2	----	----	----	----	----
☐	1 x 1/2	1.315	0.840	1 1/2	1 1/2	0.599	0.252	0.358	0.294	1.49
☐	1 x 3/4	1.315	1.050	1 1/2	1 1/2	0.599	0.434	0.358	0.308	1.53
☐	1 1/4 x 1/2	1.660	0.840	1 7/8	1 7/8	0.896	0.252	0.382	0.294	2.58
☐	1 1/4 x 3/4	1.660	1.050	1 7/8	1 7/8	0.896	0.434	0.382	0.308	2.64
☐	1 1/4 x 1	1.660	1.315	1 7/8	1 7/8	0.896	0.599	0.382	0.358	2.70
☐	1 1/2 x 1/2	1.900	0.840	2 1/4	2 1/4	1.100	0.252	0.400	0.294	3.82
☐	1 1/2 x 3/4	1.900	1.050	2 1/4	2 1/4	1.100	0.434	0.400	0.308	3.87
☐	1 1/2 x 1	1.900	1.315	2 1/4	2 1/4	1.100	0.599	0.400	0.358	3.96
☐	1 1/2 x 1 1/4	1.900	1.660	2 1/4	2 1/4	1.100	0.896	0.400	0.382	4.05
☐	2 x 3/4	2.375	1.050	2 1/2	1 3/4	1.503	0.434	0.436	0.308	5.95
☐	2 x 1	2.375	1.315	2 1/2	2	1.503	0.599	0.436	0.358	6.02
☐	2 x 1 1/4	2.375	1.660	2 1/2	2 1/4	1.503	0.896	0.436	0.382	6.16
☐	2 x 1 1/2	2.375	1.900	2 1/2	2 3/8	1.503	1.110	0.436	0.400	6.30
☐	2 1/2 x 1	2.875	1.315	3	2 1/4	1.771	0.599	0.552	0.358	11.73
☐	2 1/2 x 1 1/4	2.875	1.660	3	2 1/2	1.771	0.896	0.552	0.382	11.87
☐	2 1/2 x 1 1/2	2.875	1.900	3	2 3/8	1.771	1.110	0.552	0.400	12.14
☐	2 1/2 x 2	2.875	2.375	3	2 3/4	1.771	1.503	0.552	0.436	12.42
☐	3 x 1	3.500	1.315	3 3/8	2 3/8	2.300	0.599	0.600	0.358	16.46
☐	3 x 1 1/4	3.500	1.660	3 3/8	2 3/4	2.300	0.896	0.600	0.382	16.66
☐	3 x 1 1/2	3.500	1.900	3 3/8	2 7/8	2.300	1.110	0.600	0.400	16.85
☐	3 x 2	3.500	2.375	3 3/8	3	2.300	1.503	0.600	0.436	17.24
☐	3 x 2 1/2	3.500	2.875	3 3/8	3 1/4	2.300	1.771	0.600	0.552	17.64
☐	3 1/2 x 1 1/2	4.000	1.900	3 3/4	3 1/8	2.728	1.110	0.636	0.400	20.40
☐	3 1/2 x 2	4.000	2.375	3 3/4	3 3/4	2.728	1.503	0.636	0.436	20.64

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(= Wall) & MSS SP-43

Project Name: _____
Job #: _____

SELECT	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)	XX STRONG WALL ☐ < SELECT				
						Inside Diameter Run (I.D.)	Inside Diameter Outlet (I.D.)	Wall Thickness Run (W)	Wall Thickness Outlet (W)	Approx Weight
☐	3 ½ x 2 ½	4.000	2.875	3 ¾	3 ½	2.728	1.771	0.636	0.552	21.12
☐	3 ½ x 3	4.000	3.500	3 ¾	3 ¾	2.728	2.300	0.636	0.600	21.60
☐	4 x 1 ½	4.500	1.900	4 ⅞	3 ¾	3.152	1.100	0.674	0.400	28.56
☐	4 x 2	4.500	2.375	4 ⅞	3 ½	3.152	1.503	0.674	0.436	28.90
☐	4 x 2 ½	4.500	2.875	4 ⅞	3 ¾	3.152	1.771	0.674	0.552	29.24
☐	4 x 3	4.500	3.500	4 ⅞	3 ¾	3.152	2.300	0.674	0.600	29.92
☐	4 x 3 ½	4.500	4.000	4 ⅞	4	3.152	2.728	0.674	0.636	30.60
☐	5 x 2	5.563	2.375	4 ⅞	4 ⅞	4.063	1.503	0.750	0.436	42.00
☐	5 x 2 ½	5.563	2.875	4 ⅞	4 ¾	4.063	1.771	0.750	0.552	42.50
☐	5 x 3	5.563	3.500	4 ⅞	4 ¾	4.063	2.300	0.750	0.600	43.00
☐	5 x 3 ½	5.563	4.000	4 ⅞	4 ½	4.063	2.728	0.750	0.636	44.00
☐	5 x 4	5.563	4.500	4 ⅞	4 ¾	4.063	3.152	0.750	0.674	45.00
☐	6 x 2 ½	6.625	2.875	5 ⅞	4 ¾	4.897	1.771	0.864	0.552	50.40
☐	6 x 3	6.625	3.500	5 ⅞	4 ¾	4.897	2.300	0.864	0.600	51.00
☐	6 x 3 ½	6.625	4.000	5 ⅞	5	4.897	2.728	0.864	0.636	51.60
☐	6 x 4	6.625	4.500	5 ⅞	5 ½	4.897	3.152	0.864	0.674	52.80
☐	6 x 5	6.625	5.563	5 ⅞	5 ¾	4.897	4.063	0.864	0.750	54.00
☐	8 x 3	8.625	3.500	7	6	6.875	2.300	0.875	0.600	90.70
☐	8 x 3 ½	8.625	4.000	7	6	6.875	2.728	0.875	0.636	91.80
☐	8 x 4	8.625	4.500	7	6 ⅞	6.875	3.152	0.875	0.674	92.90
☐	8 x 5	8.625	5.563	7	6 ¾	6.875	4.063	0.875	0.750	95.00
☐	8 x 6	8.625	6.625	7	6 ¾	6.875	4.897	0.875	0.864	97.20
☐	10 x 4	10.750	4.500	8 ½	7 ¼	-----	-----	-----	-----	-----
☐	10 x 5	10.750	5.563	8 ½	7 ½	-----	-----	-----	-----	-----
☐	10 x 6	10.750	6.625	8 ½	7 ¾	-----	-----	-----	-----	-----
☐	10 x 8	10.750	8.625	8 ½	8	-----	-----	-----	-----	-----
☐	12 x 5	12.750	5.563	10	8 ½	-----	-----	-----	-----	-----
☐	12 x 6	12.750	6.625	10	8 ¾	-----	-----	-----	-----	-----
☐	12 x 8	12.750	8.625	10	9	-----	-----	-----	-----	-----
☐	12 x 10	12.750	10.750	10	9 ½	-----	-----	-----	-----	-----
☐	14 x 6	14.000	6.625	11	9 ¾	-----	-----	-----	-----	-----
☐	14 x 8	14.000	8.625	11	9 ¾	-----	-----	-----	-----	-----
☐	14 x 10	14.000	10.750	11	10 ⅞	-----	-----	-----	-----	-----
☐	14 x 12	14.000	12.750	11	10 ¾	-----	-----	-----	-----	-----
☐	16 x 6	16.000	6.625	12	10 ¾	-----	-----	-----	-----	-----
☐	16 x 8	16.000	8.625	12	10 ¾	-----	-----	-----	-----	-----
☐	16 x 10	16.000	10.750	12	11 ⅞	-----	-----	-----	-----	-----
☐	16 x 12	16.000	12.750	12	11 ¾	-----	-----	-----	-----	-----
☐	16 x 14	16.000	14.000	12	12	-----	-----	-----	-----	-----
☐	18 x 8	18.000	8.625	13 ½	11 ¾	-----	-----	-----	-----	-----
☐	18 x 10	18.000	10.750	13 ½	12 ⅞	-----	-----	-----	-----	-----
☐	18 x 12	18.000	12.750	13 ½	12 ¾	-----	-----	-----	-----	-----
☐	18 x 14	18.000	14.000	13 ½	13	-----	-----	-----	-----	-----
☐	18 x 16	18.000	16.000	13 ½	13	-----	-----	-----	-----	-----
☐	20 x 8	20.000	8.625	15	12 ¾	-----	-----	-----	-----	-----
☐	20 x 10	20.000	10.750	15	13 ⅞	-----	-----	-----	-----	-----
☐	20 x 12	20.000	12.750	15	13 ¾	-----	-----	-----	-----	-----
☐	20 x 14	20.000	14.000	15	14	-----	-----	-----	-----	-----
☐	20 x 16	20.000	16.000	15	14	-----	-----	-----	-----	-----
☐	20 x 18	20.000	18.000	15	14 ½	-----	-----	-----	-----	-----
☐	24 x 10	24.000	10.750	17	15 ⅞	-----	-----	-----	-----	-----
☐	24 x 12	24.000	12.750	17	15 ¾	-----	-----	-----	-----	-----
☐	24 x 14	24.000	14.000	17	16	-----	-----	-----	-----	-----
☐	24 x 16	24.000	16.000	17	16	-----	-----	-----	-----	-----
☐	24 x 18	24.000	18.000	17	16 ½	-----	-----	-----	-----	-----
☐	24 x 20	24.000	20.000	17	17	-----	-----	-----	-----	-----

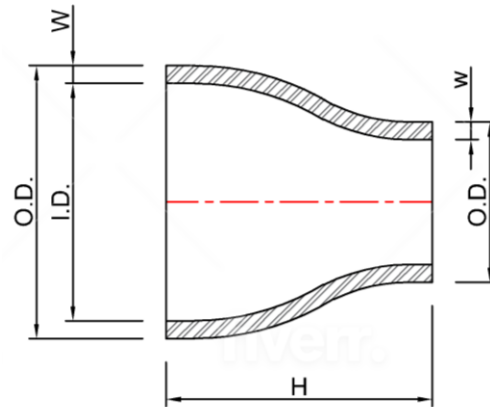
ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

FITTINGS
A403
(CR)

ASTM A403, B16.9

CONCENTRIC REDUCERS



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	SCHEDULE 5S ☐ <- SELECT				
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	Approx Weight
☐	3/4 x 3/8	1.050	0.675	1 1/2	0.920	0.545	0.065	0.065	0.15
☐	3/4 x 1/2	1.050	0.840	1 1/2	0.920	0.710	0.065	0.065	0.17
☐	1 x 3/8	1.315	0.675	2	1.185	0.545	0.065	0.065	0.16
☐	1 x 1/2	1.315	0.840	2	1.185	0.710	0.065	0.065	0.16
☐	1 x 3/4	1.315	1.050	2	1.185	0.920	0.065	0.065	0.17
☐	1 1/4 x 1/2	1.660	0.840	2	1.530	0.710	0.065	0.065	0.21
☐	1 1/4 x 3/4	1.660	1.050	2	1.530	0.920	0.065	0.065	0.22
☐	1 1/4 x 1	1.660	1.315	2	1.530	1.185	0.065	0.065	0.22
☐	1 1/2 x 1/2	1.900	0.840	2 1/2	1.770	0.710	0.065	0.065	0.23
☐	1 1/2 x 3/4	1.900	1.050	2 1/2	1.770	0.920	0.065	0.065	0.24
☐	1 1/2 x 1	1.900	1.315	2 1/2	1.770	1.185	0.065	0.065	0.25
☐	1 1/2 x 1 1/4	1.900	1.660	2 1/2	1.770	1.530	0.065	0.065	0.27
☐	2 x 3/4	2.375	1.050	3	2.245	0.920	0.065	0.065	0.33
☐	2 x 1	2.375	1.315	3	2.245	1.185	0.065	0.065	0.37
☐	2 x 1 1/4	2.375	1.660	3	2.245	1.530	0.065	0.065	0.40
☐	2 x 1 1/2	2.375	1.900	3	2.245	1.770	0.065	0.065	0.41
☐	2 1/2 x 1	2.875	1.315	3 1/2	2.709	1.185	0.083	0.065	0.56
☐	2 1/2 x 1 1/4	2.875	1.660	3 1/2	2.709	1.530	0.083	0.065	0.64
☐	2 1/2 x 1 1/2	2.875	1.900	3 1/2	2.709	1.770	0.083	0.065	0.67
☐	2 1/2 x 2	2.875	2.375	3 1/2	2.709	2.245	0.083	0.065	0.70
☐	3 x 1	3.500	1.315	3 1/2	3.334	1.185	0.083	0.065	0.70
☐	3 x 1 1/4	3.500	1.660	3 1/2	3.334	1.530	0.083	0.065	0.70
☐	3 x 1 1/2	3.500	1.900	3 1/2	3.334	1.770	0.083	0.065	0.78
☐	3 x 2	3.500	2.375	3 1/2	3.334	2.245	0.083	0.065	0.83
☐	3 x 2 1/2	3.500	2.875	3 1/2	3.334	2.709	0.083	0.083	0.90
☐	3 1/2 x 1 1/4	4.000	1.660	4	3.834	1.530	0.083	0.065	0.93
☐	3 1/2 x 1 1/2	4.000	1.900	4	3.834	1.770	0.083	0.065	0.99

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

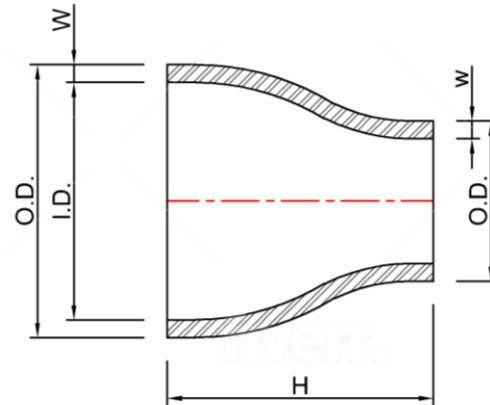
SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	SCHEDULE 5S ☐ < SELECT				
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	Approx Weight
☐	3 ½ x 2	4.000	2.375	4	3.834	2.245	0.083	0.065	1.06
☐	3 ½ x 2 ½	4.000	2.875	4	3.834	2.709	0.083	0.083	1.17
☐	3 ½ x 3	4.000	3.500	4	3.834	3.334	0.083	0.083	1.20
☐	4 x 1 ½	4.500	1.900	4	4.334	1.770	0.083	0.083	1.05
☐	4 x 2	4.500	2.375	4	4.334	2.245	0.083	0.083	1.21
☐	4 x 2 ½	4.500	2.875	4	4.334	2.709	0.083	0.083	1.28
☐	4 x 3	4.500	3.500	4	4.334	3.334	0.083	0.083	1.34
☐	4 x 3 ½	4.500	4.000	4	4.334	3.834	0.083	0.083	1.38
☐	5 x 2	5.563	2.375	5	5.345	2.245	0.109	0.065	2.33
☐	5 x 2 ½	5.563	2.875	5	5.345	2.709	0.109	0.083	2.55
☐	5 x 3	5.563	3.500	5	5.345	3.334	0.109	0.083	2.64
☐	5 x 3 ½	5.563	4.000	5	5.345	3.834	0.109	0.083	2.71
☐	5 x 4	5.563	4.500	5	5.345	4.334	0.109	0.083	2.76
☐	6 x 2 ½	6.625	2.875	5 ½	6.407	2.709	0.109	0.083	3.18
☐	6 x 3	6.625	3.500	5 ½	6.407	3.334	0.109	0.083	3.33
☐	6 x 3 ½	6.625	4.000	5 ½	6.407	3.834	0.109	0.083	3.39
☐	6 x 4	6.625	4.500	5 ½	6.407	4.334	0.109	0.083	3.41
☐	6 x 5	6.625	5.563	5 ½	6.407	5.345	0.109	0.109	3.60
☐	8 x 3 ½	8.625	4.000	6	8.407	3.834	0.109	0.083	4.65
☐	8 x 4	8.625	4.500	6	8.407	4.334	0.109	0.083	4.76
☐	8 x 5	8.625	5.563	6	8.407	5.345	0.109	0.109	4.87
☐	8 x 6	8.625	6.625	6	8.407	6.407	0.109	0.109	5.05
☐	10 x 4	10.750	4.500	7	10.482	4.334	0.134	0.083	8.34
☐	10 x 5	10.750	5.563	7	10.482	5.345	0.134	0.109	8.62
☐	10 x 6	10.750	6.625	7	10.482	6.407	0.134	0.109	8.82
☐	10 x 8	10.750	8.625	7	10.482	8.407	0.134	0.109	9.17
☐	12 x 5	12.750	5.563	8	12.438	5.345	0.156	0.109	13.72
☐	12 x 6	12.750	6.625	8	12.438	6.407	0.156	0.109	14.01
☐	12 x 8	12.750	8.625	8	12.438	8.407	0.156	0.109	14.45
☐	12 x 10	12.750	10.750	8	12.438	10.482	0.156	0.134	15.03
☐	14 x 6	14.000	6.625	13	13.688	6.407	0.156	0.109	23.78
☐	14 x 8	14.000	8.625	13	13.688	8.407	0.156	0.109	25.10
☐	14 x 10	14.000	10.750	13	13.688	10.482	0.156	0.134	26.05
☐	14 x 12	14.000	12.750	13	13.688	12.438	0.156	0.156	27.64
☐	16 x 8	16.000	8.625	14	15.670	8.407	0.165	0.109	32.39
☐	16 x 10	16.000	10.750	14	15.670	10.482	0.165	0.134	34.37
☐	16 x 12	16.000	12.750	14	15.670	12.438	0.165	0.156	35.60
☐	16 x 14	16.000	14.000	14	15.670	13.688	0.165	0.156	36.48
☐	18 x 10	18.000	10.750	15	17.670	10.482	0.165	0.134	40.78
☐	18 x 12	18.000	12.750	15	17.670	12.438	0.165	0.156	41.66
☐	18 x 14	18.000	14.000	15	17.670	13.688	0.165	0.156	42.48
☐	18 x 16	18.000	16.000	15	17.670	15.670	0.165	0.165	43.64
☐	20 x 12	20.000	12.750	20	19.624	12.438	0.188	0.156	71.50
☐	20 x 14	20.000	14.000	20	19.624	13.688	0.188	0.156	72.50
☐	20 x 16	20.000	16.000	20	19.624	15.670	0.188	0.165	73.00
☐	20 x 18	20.000	18.000	20	19.624	17.670	0.188	0.165	75.50
☐	24 x 16	24.000	16.000	20	23.564	15.670	0.218	0.165	98.02
☐	24 x 18	24.000	18.000	20	23.564	17.670	0.218	0.165	100.00
☐	24 x 20	24.000	20.000	20	23.564	19.624	0.218	0.188	103.00

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9 (≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

CONCENTRIC REDUCERS



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	SCHEDULE 10S ☐ < SELECT				
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	Approx Weight
☐	3/4 x 3/8	1.050	0.675	1 1/2	0.884	0.545	0.083	0.065	0.20
☐	3/4 x 1/2	1.050	0.840	1 1/2	0.884	0.674	0.083	0.083	0.22
☐	1 x 3/8	1.315	0.675	2	1.097	0.545	0.109	0.065	0.21
☐	1 x 1/2	1.315	0.840	2	1.097	0.674	0.109	0.083	0.27
☐	1 x 3/4	1.315	1.050	2	1.097	0.884	0.109	0.083	0.29
☐	1 1/4 x 1/2	1.660	0.840	2	1.442	0.674	0.109	0.083	0.35
☐	1 1/4 x 3/4	1.660	1.050	2	1.442	0.884	0.109	0.083	0.39
☐	1 1/4 x 1	1.660	1.315	2	1.442	1.097	0.109	0.109	0.39
☐	1 1/2 x 1/2	1.900	0.840	2 1/2	1.682	0.674	0.109	0.083	0.37
☐	1 1/2 x 3/4	1.900	1.050	2 1/2	1.682	0.884	0.109	0.083	0.39
☐	1 1/2 x 1	1.900	1.315	2 1/2	1.682	1.097	0.109	0.109	0.43
☐	1 1/2 x 1 1/4	1.900	1.660	2 1/2	1.682	1.442	0.109	0.109	0.46
☐	2 x 3/4	2.375	1.050	3	2.157	0.884	0.109	0.083	0.56
☐	2 x 1	2.375	1.315	3	2.157	1.097	0.109	0.109	0.62
☐	2 x 1 1/4	2.375	1.660	3	2.157	1.442	0.109	0.109	0.67
☐	2 x 1 1/2	2.375	1.900	3	2.157	1.682	0.109	0.109	0.69
☐	2 1/2 x 1	2.875	1.315	3 1/2	2.635	1.097	0.120	0.109	0.83
☐	2 1/2 x 1 1/4	2.875	1.660	3 1/2	2.635	1.442	0.120	0.109	0.95
☐	2 1/2 x 1 1/2	2.875	1.900	3 1/2	2.635	1.682	0.120	0.109	0.98
☐	2 1/2 x 2	2.875	2.375	3 1/2	2.635	2.157	0.120	0.109	1.03
☐	3 x 1	3.500	1.315	3 1/2	3.260	1.097	0.120	0.109	1.03
☐	3 x 1 1/4	3.500	1.660	3 1/2	3.260	1.442	0.120	0.109	1.03
☐	3 x 1 1/2	3.500	1.900	3 1/2	3.260	1.682	0.120	0.109	1.13
☐	3 x 2	3.500	2.375	3 1/2	3.260	2.157	0.120	0.109	1.21
☐	3 x 2 1/2	3.500	2.875	3 1/2	3.260	2.635	0.120	0.120	1.30
☐	3 1/2 x 1 1/4	4.000	1.660	4	3.760	1.442	0.120	0.109	1.37
☐	3 1/2 x 1 1/2	4.000	1.900	4	3.760	1.682	0.120	0.109	1.46

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	SCHEDULE 10S ☐ < SELECT				
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	Approx Weight
☐	3 ½ x 2	4.000	2.375	4	3.760	2.157	0.120	0.109	1.57
☐	3 ½ x 2 ½	4.000	2.875	4	3.760	2.635	0.120	0.120	1.72
☐	3 ½ x 3	4.000	3.500	4	3.760	3.260	0.120	0.120	1.77
☐	4 x 1 ½	4.500	1.900	4	4.260	1.682	0.120	0.109	1.50
☐	4 x 2	4.500	2.375	4	4.260	2.157	0.120	0.109	1.73
☐	4 x 2 ½	4.500	2.875	4	4.260	2.635	0.120	0.120	1.83
☐	4 x 3	4.500	3.500	4	4.260	3.260	0.120	0.120	1.92
☐	4 x 3 ½	4.500	4.000	4	4.260	3.760	0.120	0.120	1.98
☐	5 x 2	5.563	2.375	5	5.295	2.157	0.134	0.109	2.83
☐	5 x 2 ½	5.563	2.875	5	5.295	2.635	0.134	0.120	3.09
☐	5 x 3	5.563	3.500	5	5.295	3.260	0.134	0.120	3.20
☐	5 x 3 ½	5.563	4.000	5	5.295	3.760	0.134	0.120	3.28
☐	5 x 4	5.563	4.500	5	5.295	4.260	0.134	0.120	3.29
☐	6 x 2 ½	6.625	2.875	5 ½	6.357	2.635	0.134	0.120	3.35
☐	6 x 3	6.625	3.500	5 ½	6.357	3.260	0.134	0.120	4.01
☐	6 x 3 ½	6.625	4.000	5 ½	6.357	3.760	0.134	0.120	4.20
☐	6 x 4	6.625	4.500	5 ½	6.357	4.260	0.134	0.120	4.31
☐	6 x 5	6.625	5.563	5 ½	6.357	5.295	0.134	0.134	4.45
☐	8 x 3 ½	8.625	4.000	6	8.329	3.760	0.148	0.120	6.48
☐	8 x 4	8.625	4.500	6	8.329	4.260	0.148	0.120	6.64
☐	8 x 5	8.625	5.563	6	8.329	5.295	0.148	0.134	6.79
☐	8 x 6	8.625	6.625	6	8.329	6.357	0.148	0.134	7.04
☐	10 x 4	10.750	4.500	7	10.420	4.260	0.165	0.120	10.43
☐	10 x 5	10.750	5.563	7	10.420	5.295	0.165	0.134	10.87
☐	10 x 6	10.750	6.625	7	10.420	6.357	0.165	0.134	11.03
☐	10 x 8	10.750	8.625	7	10.420	8.329	0.165	0.148	11.46
☐	12 x 5	12.750	5.563	8	12.390	5.295	0.180	0.134	16.07
☐	12 x 6	12.750	6.625	8	12.390	6.357	0.180	0.134	16.38
☐	12 x 8	12.750	8.625	8	12.390	8.329	0.180	0.148	16.91
☐	12 x 10	12.750	10.750	8	12.390	10.420	0.180	0.165	17.60
☐	14 x 6	14.000	6.625	13	13.624	6.357	0.188	0.134	29.00
☐	14 x 8	14.000	8.625	13	13.624	8.329	0.188	0.148	30.61
☐	14 x 10	14.000	10.750	13	13.624	10.420	0.188	0.165	31.77
☐	14 x 12	14.000	12.750	13	13.624	12.390	0.188	0.180	33.71
☐	16 x 8	16.000	8.625	14	15.624	8.329	0.188	0.148	36.81
☐	16 x 10	16.000	10.750	14	15.624	10.420	0.188	0.165	39.06
☐	16 x 12	16.000	12.750	14	15.624	12.390	0.188	0.180	40.45
☐	16 x 14	16.000	14.000	14	15.624	13.624	0.188	0.188	41.46
☐	18 x 10	18.000	10.750	15	17.624	10.420	0.188	0.165	46.34
☐	18 x 12	18.000	12.750	15	17.624	12.390	0.188	0.180	47.35
☐	18 x 14	18.000	14.000	15	17.624	13.624	0.188	0.188	48.28
☐	18 x 16	18.000	16.000	15	17.624	15.624	0.188	0.188	49.60
☐	20 x 12	20.000	12.750	20	19.564	12.390	0.218	0.180	71.50
☐	20 x 14	20.000	14.000	20	19.564	13.624	0.218	0.188	84.10
☐	20 x 16	20.000	16.000	20	19.564	15.624	0.218	0.188	84.68
☐	20 x 18	20.000	18.000	20	19.564	17.624	0.218	0.188	87.58
☐	24 x 16	24.000	16.000	20	23.500	15.624	0.250	0.188	98.02
☐	24 x 18	24.000	18.000	20	23.500	17.624	0.250	0.188	100.00
☐	24 x 20	24.000	20.000	20	23.500	19.564	0.250	0.218	103.00

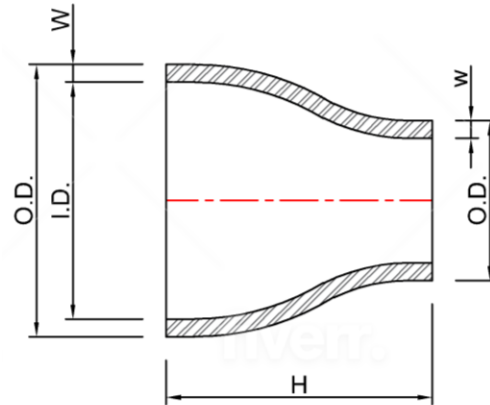
ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9 (≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

FITTINGS
A403
(CR)

ASTM A403, B16.9

CONCENTRIC REDUCERS



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	SCHEDULE 40S ☐ < SELECT				Approx Weight
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	
☐	3/4 x 3/8	1.050	0.675	1 1/2	0.824	0.493	0.113	0.091	0.27
☐	3/4 x 1/2	1.050	0.840	1 1/2	0.824	0.622	0.113	0.109	0.31
☐	1 x 3/8	1.315	0.675	2	1.049	0.493	0.133	0.091	0.33
☐	1 x 1/2	1.315	0.840	2	1.049	0.622	0.133	0.109	0.34
☐	1 x 3/4	1.315	1.050	2	1.049	0.824	0.133	0.113	0.36
☐	1 1/4 x 1/2	1.660	0.840	2	1.380	0.622	0.140	0.109	0.46
☐	1 1/4 x 3/4	1.660	1.050	2	1.380	0.824	0.140	0.113	0.49
☐	1 1/4 x 1	1.660	1.315	2	1.380	1.049	0.140	0.133	0.49
☐	1 1/2 x 1/2	1.900	0.840	2 1/2	1.610	0.622	0.145	0.109	0.50
☐	1 1/2 x 3/4	1.900	1.050	2 1/2	1.610	0.824	0.145	0.113	0.52
☐	1 1/2 x 1	1.900	1.315	2 1/2	1.610	1.049	0.145	0.133	0.28
☐	1 1/2 x 1 1/4	1.900	1.660	2 1/2	1.610	1.380	0.145	0.140	0.62
☐	2 x 3/4	2.375	1.050	3	2.067	0.824	0.154	0.113	0.80
☐	2 x 1	2.375	1.315	3	2.067	1.049	0.154	0.133	0.89
☐	2 x 1 1/4	2.375	1.660	3	2.067	1.380	0.154	0.140	0.96
☐	2 x 1 1/2	2.375	1.900	3	2.067	1.610	0.154	0.145	0.99
☐	2 1/2 x 1	2.875	1.315	3 1/2	2.469	1.049	0.203	0.133	1.42
☐	2 1/2 x 1 1/4	2.875	1.660	3 1/2	2.469	1.380	0.203	0.140	1.61
☐	2 1/2 x 1 1/2	2.875	1.900	3 1/2	2.469	1.610	0.203	0.145	1.67
☐	2 1/2 x 2	2.875	2.375	3 1/2	2.469	2.067	0.203	0.154	1.76
☐	3 x 1	3.500	1.315	3 1/2	3.068	1.049	0.216	0.133	1.81
☐	3 x 1 1/4	3.500	1.660	3 1/2	3.068	1.380	0.216	0.140	1.86
☐	3 x 1 1/2	3.500	1.900	3 1/2	3.068	1.610	0.216	0.145	2.07
☐	3 x 2	3.500	2.375	3 1/2	3.068	2.067	0.216	0.154	2.20
☐	3 x 2 1/2	3.500	2.875	3 1/2	3.068	2.469	0.216	0.203	2.38
☐	3 1/2 x 1 1/4	4.000	1.660	4	3.548	1.380	0.226	0.140	2.60
☐	3 1/2 x 1 1/2	4.000	1.900	4	3.548	1.610	0.226	0.145	2.76

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

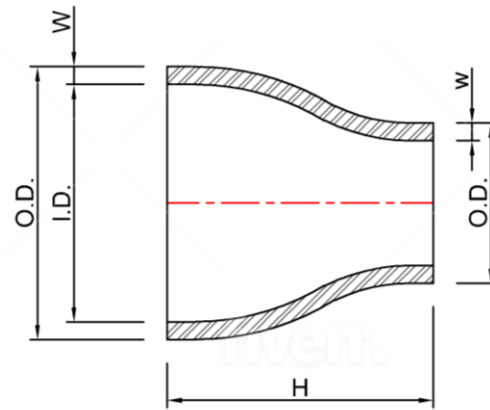
SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	SCHEDULE 40S ☐ < SELECT				
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	Approx Weight
☐	3 ½ x 2	4.000	2.375	4	3.548	2.067	0.226	0.154	2.97
☐	3 ½ x 2 ½	4.000	2.875	4	3.548	2.469	0.226	0.203	3.25
☐	3 ½ x 3	4.000	3.500	4	3.548	3.068	0.226	0.216	3.35
☐	4 x 1 ½	4.500	1.900	4	4.026	1.610	0.237	0.145	3.00
☐	4 x 2	4.500	2.375	4	4.026	2.067	0.237	0.154	3.47
☐	4 x 2 ½	4.500	2.875	4	4.026	2.469	0.237	0.203	3.66
☐	4 x 3	4.500	3.500	4	4.026	3.068	0.237	0.216	3.84
☐	4 x 3 ½	4.500	4.000	4	4.026	3.548	0.237	0.226	3.97
☐	5 x 2	5.563	2.375	5	5.047	2.067	0.258	0.154	5.55
☐	5 x 2 ½	5.563	2.875	5	5.047	2.469	0.258	0.203	6.07
☐	5 x 3	5.563	3.500	5	5.047	3.068	0.258	0.216	6.29
☐	5 x 3 ½	5.563	4.000	5	5.047	3.548	0.258	0.226	6.45
☐	5 x 4	5.563	4.500	5	5.047	4.026	0.258	0.237	6.57
☐	6 x 2 ½	6.625	2.875	5 ½	6.065	2.469	0.280	0.203	8.37
☐	6 x 3	6.625	3.500	5 ½	6.065	3.068	0.280	0.216	8.77
☐	6 x 3 ½	6.625	4.000	5 ½	6.065	3.548	0.280	0.226	8.93
☐	6 x 4	6.625	4.500	5 ½	6.065	4.026	0.280	0.237	8.99
☐	6 x 5	6.625	5.563	5 ½	6.065	5.047	0.280	0.258	9.48
☐	8 x 3 ½	8.625	4.000	6	7.981	3.548	0.322	0.226	14.10
☐	8 x 4	8.625	4.500	6	7.981	4.026	0.322	0.237	14.44
☐	8 x 5	8.625	5.563	6	7.981	5.047	0.322	0.258	14.78
☐	8 x 6	8.625	6.625	6	7.981	6.065	0.322	0.280	15.31
☐	10 x 4	10.750	4.500	7	10.020	4.026	0.365	0.237	23.19
☐	10 x 5	10.750	5.563	7	10.020	5.047	0.365	0.258	23.96
☐	10 x 6	10.750	6.625	7	10.020	6.065	0.365	0.280	24.52
☐	10 x 8	10.750	8.625	7	10.020	7.981	0.365	0.322	25.48
☐	12 x 5	12.750	5.563	8	12.000	5.047	0.375	0.258	33.48
☐	12 x 6	12.750	6.625	8	12.000	6.065	0.375	0.280	34.13
☐	12 x 8	12.750	8.625	8	12.000	7.981	0.375	0.322	35.24
☐	12 x 10	12.750	10.750	8	12.000	10.020	0.375	0.365	36.67
☐	14 x 6	14.000	6.625	13	13.250	6.065	0.375	0.280	58.00
☐	14 x 8	14.000	8.625	13	13.250	7.981	0.375	0.322	61.22
☐	14 x 10	14.000	10.750	13	13.250	10.020	0.375	0.365	63.55
☐	14 x 12	14.000	12.750	13	13.250	12.000	0.375	0.375	67.42
☐	16 x 8	16.000	8.625	14	15.250	7.981	0.375	0.322	73.6
☐	16 x 10	16.000	10.750	14	15.250	10.020	0.375	0.365	78.12
☐	16 x 12	16.000	12.750	14	15.250	12.000	0.375	0.375	80.91
☐	16 x 14	16.000	14.000	14	15.250	13.250	0.375	0.375	82.92
☐	18 x 10	18.000	10.750	15	17.250	10.020	0.375	0.365	92.69

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9 (≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

CONCENTRIC REDUCERS



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

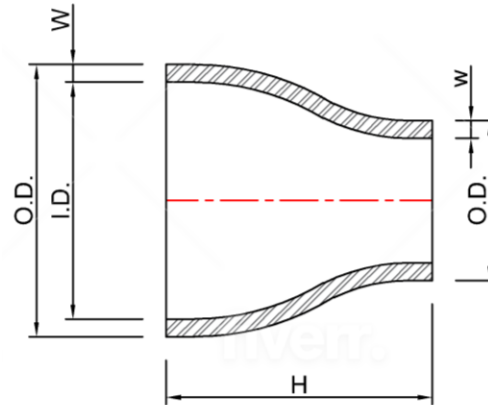
SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	SCHEDULE 80S ☐ < SELECT				
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	Approx Weight
☐	3/4 x 3/8	1.050	0.675	1 1/2	0.742	0.423	0.154	0.126	0.37
☐	3/4 x 1/2	1.050	0.840	1 1/2	0.742	0.546	0.154	0.147	0.40
☐	1 x 3/8	1.315	0.675	2	0.957	0.423	0.179	0.126	0.42
☐	1 x 1/2	1.315	0.840	2	0.957	0.546	0.179	0.147	0.44
☐	1 x 3/4	1.315	1.050	2	0.957	0.742	0.179	0.154	0.49
☐	1 1/4 x 1/2	1.660	0.840	2	1.278	0.546	0.191	0.147	0.52
☐	1 1/4 x 3/4	1.660	1.050	2	1.278	0.742	0.191	0.154	0.56
☐	1 1/4 x 1	1.660	1.315	2	1.278	0.957	0.191	0.179	0.59
☐	1 1/2 x 1/2	1.900	0.840	2 1/2	1.500	0.546	0.200	0.147	0.68
☐	1 1/2 x 3/4	1.900	1.050	2 1/2	1.500	0.742	0.200	0.154	0.71
☐	1 1/2 x 1	1.900	1.315	2 1/2	1.500	0.957	0.200	0.179	0.74
☐	1 1/2 x 1 1/4	1.900	1.660	2 1/2	1.500	1.278	0.200	0.191	0.80
☐	2 x 3/4	2.375	1.050	3	1.939	0.742	0.218	0.154	1.11
☐	2 x 1	2.375	1.315	3	1.939	0.957	0.218	0.179	1.18
☐	2 x 1 1/4	2.375	1.660	3	1.939	1.278	0.218	0.191	1.27
☐	2 x 1 1/2	2.375	1.900	3	1.939	1.500	0.218	0.200	1.30
☐	2 1/2 x 1	2.875	1.315	3 1/2	2.323	0.957	0.276	0.179	1.92
☐	2 1/2 x 1 1/4	2.875	1.660	3 1/2	2.323	1.278	0.276	0.191	1.98
☐	2 1/2 x 1 1/2	2.875	1.900	3 1/2	2.323	1.500	0.276	0.200	2.07
☐	2 1/2 x 2	2.875	2.375	3 1/2	2.323	1.939	0.276	0.218	2.26
☐	3 x 1	3.500	1.315	3 1/2	2.900	0.957	0.300	0.179	2.39
☐	3 x 1 1/4	3.500	1.660	3 1/2	2.900	1.278	0.300	0.191	2.51
☐	3 x 1 1/2	3.500	1.900	3 1/2	2.900	1.500	0.300	0.200	2.66
☐	3 x 2	3.500	2.375	3 1/2	2.900	1.939	0.300	0.218	2.85
☐	3 x 2 1/2	3.500	2.875	3 1/2	2.900	2.323	0.300	0.276	3.28
☐	3 1/2 x 1 1/4	4.000	1.660	4	3.364	1.278	0.318	0.191	3.53
☐	3 1/2 x 1 1/2	4.000	1.900	4	3.364	1.500	0.318	0.200	3.69

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

CONCENTRIC REDUCERS



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	SCHEDULE 160S ☐ <- SELECT				
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	Approx Weight
☐	3/4 x 3/8	1.050	0.675	1 1/2	----	----	----	----	----
☐	3/4 x 1/2	1.050	0.840	1 1/2	0.612	0.466	0.219	0.187	0.55
☐	1 x 3/8	1.315	0.675	2	----	----	----	----	----
☐	1 x 1/2	1.315	0.840	2	0.815	0.466	0.250	0.187	0.57
☐	1 x 3/4	1.315	1.050	2	0.815	0.614	0.250	0.218	0.61
☐	1 1/4 x 1/2	1.660	0.840	2	1.160	0.466	0.250	0.187	0.67
☐	1 1/4 x 3/4	1.660	1.050	2	1.160	0.614	0.250	0.218	0.73
☐	1 1/4 x 1	1.660	1.315	2	1.160	0.815	0.250	0.250	0.82
☐	1 1/2 x 1/2	1.900	0.840	2 1/2	1.338	0.466	0.281	0.187	0.95
☐	1 1/2 x 3/4	1.900	1.050	2 1/2	1.338	0.614	0.281	0.218	0.99
☐	1 1/2 x 1	1.900	1.315	2 1/2	1.338	0.815	0.281	0.250	1.03
☐	1 1/2 x 1 1/4	1.900	1.660	2 1/2	1.338	1.160	0.281	0.250	1.12
☐	2 x 3/4	2.375	1.050	3	1.689	0.614	0.343	0.218	1.74
☐	2 x 1	2.375	1.315	3	1.689	0.815	0.343	0.250	1.85
☐	2 x 1 1/4	2.375	1.660	3	1.689	1.160	0.343	0.250	1.99
☐	2 x 1 1/2	2.375	1.900	3	1.689	1.338	0.343	0.281	2.04
☐	2 1/2 x 1	2.875	1.315	3 1/2	2.125	0.815	0.375	0.250	2.59
☐	2 1/2 x 1 1/4	2.875	1.660	3 1/2	2.125	1.160	0.375	0.250	2.67
☐	2 1/2 x 1 1/2	2.875	1.900	3 1/2	2.125	1.338	0.375	0.281	2.79
☐	2 1/2 x 2	2.875	2.375	3 1/2	2.125	1.689	0.375	0.343	3.05
☐	3 x 1	3.500	1.315	3 1/2	2.624	0.815	0.438	0.250	3.32
☐	3 x 1 1/4	3.500	1.660	3 1/2	2.624	1.160	0.438	0.250	3.63
☐	3 x 1 1/2	3.500	1.900	3 1/2	2.624	1.338	0.438	0.281	3.85
☐	3 x 2	3.500	2.375	3 1/2	2.624	1.689	0.438	0.343	4.13
☐	3 x 2 1/2	3.500	2.875	3 1/2	2.624	2.125	0.438	0.375	4.75
☐	3 1/2 x 1 1/4	4.000	1.660	4	----	----	----	----	----
☐	3 1/2 x 1 1/2	4.000	1.900	4	----	----	----	----	----

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	SCHEDULE 160S ☐ < SELECT				
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	Approx Weight
☐	3 ½ x 2	4.000	2.375	4	----	----	----	----	----
☐	3 ½ x 2 ½	4.000	2.875	4	----	----	----	----	----
☐	3 ½ x 3	4.000	3.500	4	----	----	----	----	----
☐	4 x 1 ½	4.500	1.900	4	3.438	1.338	0.531	0.281	6.56
☐	4 x 2	4.500	2.375	4	3.438	1.689	0.531	0.343	6.76
☐	4 x 2 ½	4.500	2.875	4	3.438	2.125	0.531	0.375	7.58
☐	4 x 3	4.500	3.500	4	3.438	2.624	0.531	0.438	8.07
☐	4 x 3 ½	4.500	4.000	4	----	----	----	----	----
☐	5 x 2	5.563	2.375	5	4.313	1.689	0.625	0.343	12.03
☐	5 x 2 ½	5.563	2.875	5	4.313	2.125	0.625	0.375	13.16
☐	5 x 3	5.563	3.500	5	4.313	2.624	0.625	0.438	14.19
☐	5 x 3 ½	5.563	4.000	5	----	----	----	----	----
☐	5 x 4	5.563	4.500	5	4.313	3.438	0.625	0.531	15.12
☐	6 x 2 ½	6.625	2.875	5 ½	5.187	2.125	0.719	0.375	18.06
☐	6 x 3	6.625	3.500	5 ½	5.187	2.624	0.719	0.438	20.17
☐	6 x 3 ½	6.625	4.000	5 ½	----	----	----	----	----
☐	6 x 4	6.625	4.500	5 ½	5.187	3.438	0.719	0.531	21.81
☐	6 x 5	6.625	5.563	5 ½	5.187	4.313	0.719	0.625	22.89
☐	8 x 3 ½	8.625	4.000	6	----	----	----	----	----
☐	8 x 4	8.625	4.500	6	6.813	3.438	0.906	0.531	36.85
☐	8 x 5	8.625	5.563	6	6.813	4.313	0.906	0.625	38.50
☐	8 x 6	8.625	6.625	6	6.813	5.187	0.906	0.719	40.30
☐	10 x 4	10.750	4.500	7	8.500	3.438	1.125	0.531	62.30
☐	10 x 5	10.750	5.563	7	8.500	4.313	1.125	0.625	70.60
☐	10 x 6	10.750	6.625	7	8.500	5.187	1.125	0.719	73.30
☐	10 x 8	10.750	8.625	7	8.500	6.813	1.125	0.906	77.10
☐	12 x 5	12.750	5.563	8	10.126	4.313	1.312	0.625	112.00
☐	12 x 6	12.750	6.625	8	10.126	5.187	1.312	0.719	116.00
☐	12 x 8	12.750	8.625	8	10.126	6.813	1.312	0.906	120.00
☐	12 x 10	12.750	10.750	8	10.126	8.500	1.312	1.125	124.00
☐	14 x 6	14.000	6.625	13	11.188	5.187	1.406	0.719	----
☐	14 x 8	14.000	8.625	13	11.188	6.813	1.406	0.906	----
☐	14 x 10	14.000	10.750	13	11.188	8.500	1.406	1.125	----
☐	14 x 12	14.000	12.750	13	11.188	10.126	1.406	1.312	----
☐	16 x 8	16.000	8.625	14	12.812	6.813	1.594	0.906	----
☐	16 x 10	16.000	10.750	14	12.812	8.500	1.594	1.125	----
☐	16 x 12	16.000	12.750	14	12.812	10.126	1.594	1.312	----
☐	16 x 14	16.000	14.000	14	12.812	11.188	1.594	1.406	----
☐	18 x 10	18.000	10.750	15	14.438	8.500	1.781	1.125	----
☐	18 x 12	18.000	12.750	15	14.438	10.126	1.781	1.312	----
☐	18 x 14	18.000	14.000	15	14.438	11.188	1.781	1.406	----
☐	18 x 16	18.000	16.000	15	14.438	12.812	1.781	1.594	----
☐	20 x 12	20.000	12.750	20	19.624	16.062	10.126	1.969	----
☐	20 x 14	20.000	14.000	20	19.624	16.062	11.188	1.969	----
☐	20 x 16	20.000	16.000	20	19.624	16.062	12.812	1.969	----
☐	20 x 18	20.000	18.000	20	19.624	16.062	14.438	1.969	----
☐	24 x 16	24.000	16.000	20	23.564	19.312	12.812	2.344	----
☐	24 x 18	24.000	18.000	20	23.564	19.312	14.438	2.344	----
☐	24 x 20	24.000	20.000	20	23.564	19.312	16.062	2.344	----

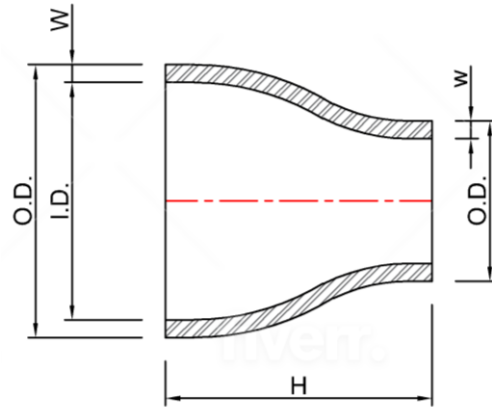
ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9 (≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

FITTINGS
A403
(CR)

ASTM A403, B16.9

CONCENTRIC REDUCERS



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	XX STRONG WALL ☐ < SELECT				Approx Weight
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	
☐	3/4 x 3/8	1.050	0.675	1 1/2	-----	-----	-----	-----	-----
☐	3/4 x 1/2	1.050	0.840	1 1/2	0.434	0.252	0.308	0.294	0.80
☐	1 x 3/8	1.315	0.675	2	-----	-----	-----	-----	-----
☐	1 x 1/2	1.315	0.840	2	0.599	0.252	0.358	0.294	0.88
☐	1 x 3/4	1.315	1.050	2	0.599	0.434	0.358	0.308	0.98
☐	1 1/4 x 1/2	1.660	0.840	2	0.896	0.252	0.382	0.294	1.04
☐	1 1/4 x 3/4	1.660	1.050	2	0.896	0.434	0.382	0.308	1.12
☐	1 1/4 x 1	1.660	1.315	2	0.896	0.599	0.382	0.358	1.18
☐	1 1/2 x 1/2	1.900	0.840	2 1/2	1.100	0.252	0.400	0.294	1.36
☐	1 1/2 x 3/4	1.900	1.050	2 1/2	1.100	0.434	0.400	0.308	1.42
☐	1 1/2 x 1	1.900	1.315	2 1/2	1.100	0.599	0.400	0.358	1.48
☐	1 1/2 x 1 1/4	1.900	1.660	2 1/2	1.100	0.896	0.400	0.382	1.60
☐	2 x 3/4	2.375	1.050	3	1.503	0.434	0.436	0.308	2.22
☐	2 x 1	2.375	1.315	3	1.503	0.599	0.436	0.358	2.36
☐	2 x 1 1/4	2.375	1.660	3	1.503	0.896	0.436	0.382	2.54
☐	2 x 1 1/2	2.375	1.900	3	1.503	1.110	0.436	0.400	2.60
☐	2 1/2 x 1	2.875	1.315	3 1/2	1.771	0.599	0.552	0.358	3.84
☐	2 1/2 x 1 1/4	2.875	1.660	3 1/2	1.771	0.896	0.552	0.382	3.96
☐	2 1/2 x 1 1/2	2.875	1.900	3 1/2	1.771	1.110	0.552	0.400	4.14
☐	2 1/2 x 2	2.875	2.375	3 1/2	1.771	1.503	0.552	0.436	4.52
☐	3 x 1	3.500	1.315	3 1/2	2.300	0.599	0.600	0.358	4.76
☐	3 x 1 1/4	3.500	1.660	3 1/2	2.300	0.896	0.600	0.382	5.02
☐	3 x 1 1/2	3.500	1.900	3 1/2	2.300	1.110	0.600	0.400	5.23
☐	3 x 2	3.500	2.375	3 1/2	2.300	1.503	0.600	0.436	5.70
☐	3 x 2 1/2	3.500	2.875	3 1/2	2.300	1.771	0.600	0.552	6.56
☐	3 1/2 x 1 1/4	4.000	1.660	4	2.728	0.896	0.636	0.382	7.06
☐	3 1/2 x 1 1/2	4.000	1.900	4	2.728	1.100	0.636	0.400	7.38

ss wld fgt and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all fgt conform to ASME B16.9
(≠ Wall) & MSS SP-43

SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	XX STRONG WALL ☐ <- SELECT				
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	Approx Weight
☐	3 ½ x 2	4.000	2.375	4	2.728	1.771	0.636	0.552	7.74
☐	3 ½ x 2 ½	4.000	2.875	4	2.728	2.300	0.636	0.600	8.42
☐	3 ½ x 3	4.000	3.500	4	3.152	1.100	0.674	0.400	8.92
☐	4 x 1 ½	4.500	1.900	4	3.152	1.503	0.674	0.436	8.36
☐	4 x 2	4.500	2.375	4	3.152	1.771	0.674	0.552	8.62
☐	4 x 2 ½	4.500	2.875	4	3.152	2.300	0.674	0.600	9.66
☐	4 x 3	4.500	3.500	4	3.152	2.728	0.674	0.636	10.28
☐	4 x 3 ½	4.500	4.000	4	4.063	1.503	0.750	0.436	10.66
☐	5 x 2	5.563	2.375	5	4.063	1.771	0.750	0.552	14.50
☐	5 x 2 ½	5.563	2.875	5	4.063	2.300	0.750	0.600	15.86
☐	5 x 3	5.563	3.500	5	4.063	2.728	0.750	0.636	17.10
☐	5 x 3 ½	5.563	4.000	5	4.063	3.152	0.750	0.674	17.60
☐	5 x 4	5.563	4.500	5	4.897	1.771	0.864	0.552	18.22
☐	6 x 2 ½	6.625	2.875	5 ½	4.897	2.300	0.864	0.600	21.76
☐	6 x 3	6.625	3.500	5 ½	4.897	2.728	0.864	0.636	24.30
☐	6 x 3 ½	6.625	4.000	5 ½	4.897	3.152	0.864	0.674	25.34
☐	6 x 4	6.625	4.500	5 ½	4.897	4.063	0.864	0.750	26.28
☐	6 x 5	6.625	5.563	5 ½	2.728	1.771	0.636	0.552	27.58
☐	8 x 3 ½	8.625	4.000	6	6.875	2.728	0.875	0.636	30.81
☐	8 x 4	8.625	4.500	6	6.875	3.152	0.875	0.674	35.63
☐	8 x 5	8.625	5.563	6	6.875	4.063	0.875	0.750	37.31
☐	8 x 6	8.625	6.625	6	6.875	4.897	0.875	0.864	39.06
☐	10 x 4	10.750	4.500	7	-----	-----	-----	-----	-----
☐	10 x 5	10.750	5.563	7	-----	-----	-----	-----	-----
☐	10 x 6	10.750	6.625	7	-----	-----	-----	-----	-----
☐	10 x 8	10.750	8.625	7	-----	-----	-----	-----	-----
☐	12 x 5	12.750	5.563	8	-----	-----	-----	-----	-----
☐	12 x 6	12.750	6.625	8	-----	-----	-----	-----	-----
☐	12 x 8	12.750	8.625	8	-----	-----	-----	-----	-----
☐	12 x 10	12.750	10.750	8	-----	-----	-----	-----	-----
☐	14 x 6	14.000	6.625	13	-----	-----	-----	-----	-----
☐	14 x 8	14.000	8.625	13	-----	-----	-----	-----	-----
☐	14 x 10	14.000	10.750	13	-----	-----	-----	-----	-----
☐	14 x 12	14.000	12.750	13	-----	-----	-----	-----	-----
☐	16 x 8	16.000	8.625	14	-----	-----	-----	-----	-----
☐	16 x 10	16.000	10.750	14	-----	-----	-----	-----	-----
☐	16 x 12	16.000	12.750	14	-----	-----	-----	-----	-----
☐	16 x 14	16.000	14.000	14	-----	-----	-----	-----	-----
☐	18 x 10	18.000	10.750	15	-----	-----	-----	-----	-----
☐	18 x 12	18.000	12.750	15	-----	-----	-----	-----	-----
☐	18 x 14	18.000	14.000	15	-----	-----	-----	-----	-----
☐	18 x 16	18.000	16.000	15	-----	-----	-----	-----	-----
☐	20 x 12	20.000	12.750	20	-----	-----	-----	-----	-----
☐	20 x 14	20.000	14.000	20	-----	-----	-----	-----	-----
☐	20 x 16	20.000	16.000	20	-----	-----	-----	-----	-----
☐	20 x 18	20.000	18.000	20	-----	-----	-----	-----	-----
☐	24 x 16	24.000	16.000	20	-----	-----	-----	-----	-----
☐	24 x 18	24.000	18.000	20	-----	-----	-----	-----	-----
☐	24 x 20	24.000	20.000	20	-----	-----	-----	-----	-----

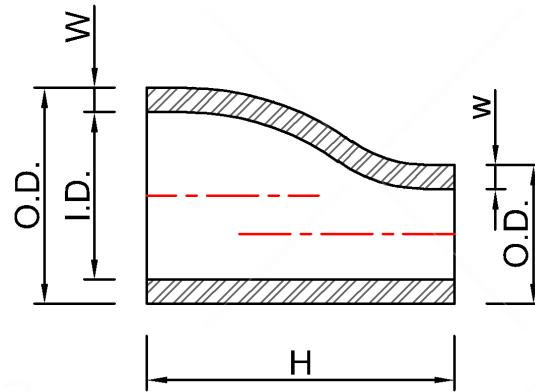
ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9 (≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

FITTINGS
A403
(ER)

ASTM A403, B16.9

ECCENTRIC REDUCERS



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

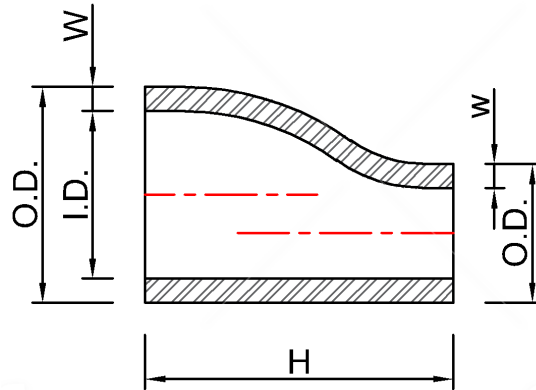
SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	SCHEDULE 5S ☐ < SELECT				
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	Approx Weight
☐	3/4 x 3/8	1.050	0.675	1 1/2	0.920	0.545	0.065	0.065	0.15
☐	3/4 x 1/2	1.050	0.840	1 1/2	0.920	0.710	0.065	0.065	0.17
☐	1 x 3/8	1.315	0.675	2	1.185	0.545	0.065	0.065	0.16
☐	1 x 1/2	1.315	0.840	2	1.185	0.710	0.065	0.065	0.16
☐	1 x 3/4	1.315	1.050	2	1.185	0.920	0.065	0.065	0.17
☐	1 1/4 x 1/2	1.660	0.840	2	1.530	0.710	0.065	0.065	0.21
☐	1 1/4 x 3/4	1.660	1.050	2	1.530	0.920	0.065	0.065	0.22
☐	1 1/4 x 1	1.660	1.315	2	1.530	1.185	0.065	0.065	0.22
☐	1 1/2 x 1/2	1.900	0.840	2 1/2	1.770	0.710	0.065	0.065	0.23
☐	1 1/2 x 3/4	1.900	1.050	2 1/2	1.770	0.920	0.065	0.065	0.24
☐	1 1/2 x 1	1.900	1.315	2 1/2	1.770	1.185	0.065	0.065	0.25
☐	1 1/2 x 1 1/4	1.900	1.660	2 1/2	1.770	1.530	0.065	0.065	0.27
☐	2 x 3/4	2.375	1.050	3	2.245	0.920	0.065	0.065	0.33
☐	2 x 1	2.375	1.315	3	2.245	1.185	0.065	0.065	0.37
☐	2 x 1 1/4	2.375	1.660	3	2.245	1.530	0.065	0.065	0.40
☐	2 x 1 1/2	2.375	1.900	3	2.245	1.770	0.065	0.065	0.41
☐	2 1/2 x 1	2.875	1.315	3 1/2	2.709	1.185	0.083	0.065	0.56
☐	2 1/2 x 1 1/4	2.875	1.660	3 1/2	2.709	1.530	0.083	0.065	0.64
☐	2 1/2 x 1 1/2	2.875	1.900	3 1/2	2.709	1.770	0.083	0.065	0.67
☐	2 1/2 x 2	2.875	2.375	3 1/2	2.709	2.245	0.083	0.065	0.70
☐	3 x 1	3.500	1.315	3 1/2	3.334	1.185	0.083	0.065	0.70
☐	3 x 1 1/4	3.500	1.660	3 1/2	3.334	1.530	0.083	0.065	0.70
☐	3 x 1 1/2	3.500	1.900	3 1/2	3.334	1.770	0.083	0.065	0.78
☐	3 x 2	3.500	2.375	3 1/2	3.334	2.245	0.083	0.065	0.83
☐	3 x 2 1/2	3.500	2.875	3 1/2	3.334	2.709	0.083	0.083	0.90
☐	3 1/2 x 1 1/4	4.000	1.660	4	3.834	1.530	0.083	0.065	0.93
☐	3 1/2 x 1 1/2	4.000	1.900	4	3.834	1.770	0.083	0.065	0.99

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

ECCENTRIC REDUCERS



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	SCHEDULE 10S ☐ < SELECT				
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	Approx Weight
☐	3/4 x 3/8	1.050	0.675	1 1/2	0.884	0.545	0.083	0.065	0.20
☐	3/4 x 1/2	1.050	0.840	1 1/2	0.884	0.674	0.083	0.083	0.22
☐	1 x 3/8	1.315	0.675	2	1.097	0.545	0.109	0.065	0.21
☐	1 x 1/2	1.315	0.840	2	1.097	0.674	0.109	0.083	0.27
☐	1 x 3/4	1.315	1.050	2	1.097	0.884	0.109	0.083	0.29
☐	1 1/4 x 1/2	1.660	0.840	2	1.442	0.674	0.109	0.083	0.35
☐	1 1/4 x 3/4	1.660	1.050	2	1.442	0.884	0.109	0.083	0.39
☐	1 1/4 x 1	1.660	1.315	2	1.442	1.097	0.109	0.109	0.39
☐	1 1/2 x 1/2	1.900	0.840	2 1/2	1.682	0.674	0.109	0.083	0.37
☐	1 1/2 x 3/4	1.900	1.050	2 1/2	1.682	0.884	0.109	0.083	0.39
☐	1 1/2 x 1	1.900	1.315	2 1/2	1.682	1.097	0.109	0.109	0.43
☐	1 1/2 x 1 1/4	1.900	1.660	2 1/2	1.682	1.442	0.109	0.109	0.46
☐	2 x 3/4	2.375	1.050	3	2.157	0.884	0.109	0.083	0.56
☐	2 x 1	2.375	1.315	3	2.157	1.097	0.109	0.109	0.62
☐	2 x 1 1/4	2.375	1.660	3	2.157	1.442	0.109	0.109	0.67
☐	2 x 1 1/2	2.375	1.900	3	2.157	1.682	0.109	0.109	0.69
☐	2 1/2 x 1	2.875	1.315	3 1/2	2.635	1.097	0.120	0.109	0.83
☐	2 1/2 x 1 1/4	2.875	1.660	3 1/2	2.635	1.442	0.120	0.109	0.95
☐	2 1/2 x 1 1/2	2.875	1.900	3 1/2	2.635	1.682	0.120	0.109	0.98
☐	2 1/2 x 2	2.875	2.375	3 1/2	2.635	2.157	0.120	0.109	1.03
☐	3 x 1	3.500	1.315	3 1/2	3.260	1.097	0.120	0.109	1.03
☐	3 x 1 1/4	3.500	1.660	3 1/2	3.260	1.442	0.120	0.109	1.03
☐	3 x 1 1/2	3.500	1.900	3 1/2	3.260	1.682	0.120	0.109	1.13
☐	3 x 2	3.500	2.375	3 1/2	3.260	2.157	0.120	0.109	1.21
☐	3 x 2 1/2	3.500	2.875	3 1/2	3.260	2.635	0.120	0.120	1.30
☐	3 1/2 x 1 1/4	4.000	1.660	4	3.760	1.442	0.120	0.109	1.37
☐	3 1/2 x 1 1/2	4.000	1.900	4	3.760	1.682	0.120	0.109	1.46

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

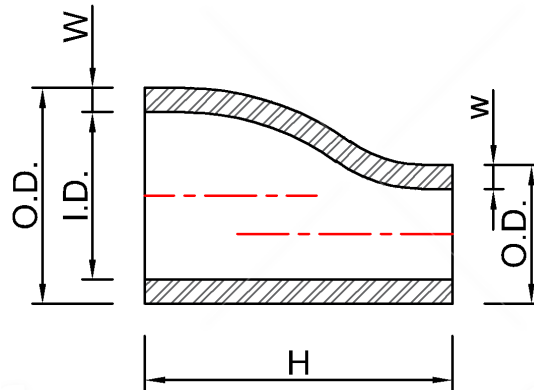
SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	SCHEDULE 10S ☐ < SELECT				
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	Approx Weight
☐	3 ½ x 2	4.000	2.375	4	3.760	2.157	0.120	0.109	1.57
☐	3 ½ x 2 ½	4.000	2.875	4	3.760	2.635	0.120	0.120	1.72
☐	3 ½ x 3	4.000	3.500	4	3.760	3.260	0.120	0.120	1.77
☐	4 x 1 ½	4.500	1.900	4	4.260	1.682	0.120	0.109	1.50
☐	4 x 2	4.500	2.375	4	4.260	2.157	0.120	0.109	1.73
☐	4 x 2 ½	4.500	2.875	4	4.260	2.635	0.120	0.120	1.83
☐	4 x 3	4.500	3.500	4	4.260	3.260	0.120	0.120	1.92
☐	4 x 3 ½	4.500	4.000	4	4.260	3.760	0.120	0.120	1.98
☐	5 x 2	5.563	2.375	5	5.295	2.157	0.134	0.109	2.83
☐	5 x 2 ½	5.563	2.875	5	5.295	2.635	0.134	0.120	3.09
☐	5 x 3	5.563	3.500	5	5.295	3.260	0.134	0.120	3.20
☐	5 x 3 ½	5.563	4.000	5	5.295	3.760	0.134	0.120	3.28
☐	5 x 4	5.563	4.500	5	5.295	4.260	0.134	0.120	3.29
☐	6 x 2 ½	6.625	2.875	5 ½	6.357	2.635	0.134	0.120	3.35
☐	6 x 3	6.625	3.500	5 ½	6.357	3.260	0.134	0.120	4.01
☐	6 x 3 ½	6.625	4.000	5 ½	6.357	3.760	0.134	0.120	4.20
☐	6 x 4	6.625	4.500	5 ½	6.357	4.260	0.134	0.120	4.31
☐	6 x 5	6.625	5.563	5 ½	6.357	5.295	0.134	0.134	4.45
☐	8 x 3 ½	8.625	4.000	6	8.329	3.760	0.148	0.120	6.48
☐	8 x 4	8.625	4.500	6	8.329	4.260	0.148	0.120	6.64
☐	8 x 5	8.625	5.563	6	8.329	5.295	0.148	0.134	6.79
☐	8 x 6	8.625	6.625	6	8.329	6.357	0.148	0.134	7.04
☐	10 x 4	10.750	4.500	7	10.420	4.260	0.165	0.120	10.43
☐	10 x 5	10.750	5.563	7	10.420	5.295	0.165	0.134	10.87
☐	10 x 6	10.750	6.625	7	10.420	6.357	0.165	0.134	11.03
☐	10 x 8	10.750	8.625	7	10.420	8.329	0.165	0.148	11.46
☐	12 x 5	12.750	5.563	8	12.390	5.295	0.180	0.134	16.07
☐	12 x 6	12.750	6.625	8	12.390	6.357	0.180	0.134	16.38
☐	12 x 8	12.750	8.625	8	12.390	8.329	0.180	0.148	16.91
☐	12 x 10	12.750	10.750	8	12.390	10.420	0.180	0.165	17.60
☐	14 x 6	14.000	6.625	13	13.624	6.357	0.188	0.134	29.00
☐	14 x 8	14.000	8.625	13	13.624	8.329	0.188	0.148	30.61
☐	14 x 10	14.000	10.750	13	13.624	10.420	0.188	0.165	31.77
☐	14 x 12	14.000	12.750	13	13.624	12.390	0.188	0.180	33.71
☐	16 x 8	16.000	8.625	14	15.624	8.329	0.188	0.148	36.81
☐	16 x 10	16.000	10.750	14	15.624	10.420	0.188	0.165	39.06
☐	16 x 12	16.000	12.750	14	15.624	12.390	0.188	0.180	40.45
☐	16 x 14	16.000	14.000	14	15.624	13.624	0.188	0.188	41.46
☐	18 x 10	18.000	10.750	15	17.624	10.420	0.188	0.165	46.34
☐	18 x 12	18.000	12.750	15	17.624	12.390	0.188	0.180	47.35
☐	18 x 14	18.000	14.000	15	17.624	13.624	0.188	0.188	48.28
☐	18 x 16	18.000	16.000	15	17.624	15.624	0.188	0.188	49.60
☐	20 x 12	20.000	12.750	20	19.564	12.390	0.218	0.180	71.50
☐	20 x 14	20.000	14.000	20	19.564	13.624	0.218	0.188	84.10
☐	20 x 16	20.000	16.000	20	19.564	15.624	0.218	0.188	84.68
☐	20 x 18	20.000	18.000	20	19.564	17.624	0.218	0.188	87.58
☐	24 x 16	24.000	16.000	20	23.500	15.624	0.250	0.188	98.02
☐	24 x 18	24.000	18.000	20	23.500	17.624	0.250	0.188	100.00
☐	24 x 20	24.000	20.000	20	23.500	19.564	0.250	0.218	103.00

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9 (≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

ECCENTRIC REDUCERS



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	SCHEDULE 40S ☐ < SELECT				
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	Approx Weight
☐	3/4 x 3/8	1.050	0.675	1 1/2	0.824	0.493	0.113	0.091	0.27
☐	3/4 x 1/2	1.050	0.840	1 1/2	0.824	0.622	0.113	0.109	0.31
☐	1 x 3/8	1.315	0.675	2	1.049	0.493	0.133	0.091	0.33
☐	1 x 1/2	1.315	0.840	2	1.049	0.622	0.133	0.109	0.34
☐	1 x 3/4	1.315	1.050	2	1.049	0.824	0.133	0.113	0.36
☐	1 1/4 x 1/2	1.660	0.840	2	1.380	0.622	0.140	0.109	0.46
☐	1 1/4 x 3/4	1.660	1.050	2	1.380	0.824	0.140	0.113	0.49
☐	1 1/4 x 1	1.660	1.315	2	1.380	1.049	0.140	0.133	0.49
☐	1 1/2 x 1/2	1.900	0.840	2 1/2	1.610	0.622	0.145	0.109	0.50
☐	1 1/2 x 3/4	1.900	1.050	2 1/2	1.610	0.824	0.145	0.113	0.52
☐	1 1/2 x 1	1.900	1.315	2 1/2	1.610	1.049	0.145	0.133	0.28
☐	1 1/2 x 1 1/4	1.900	1.660	2 1/2	1.610	1.380	0.145	0.140	0.62
☐	2 x 3/4	2.375	1.050	3	2.067	0.824	0.154	0.113	0.80
☐	2 x 1	2.375	1.315	3	2.067	1.049	0.154	0.133	0.89
☐	2 x 1 1/4	2.375	1.660	3	2.067	1.380	0.154	0.140	0.96
☐	2 x 1 1/2	2.375	1.900	3	2.067	1.610	0.154	0.145	0.99
☐	2 1/2 x 1	2.875	1.315	3 1/2	2.469	1.049	0.203	0.133	1.42
☐	2 1/2 x 1 1/4	2.875	1.660	3 1/2	2.469	1.380	0.203	0.140	1.61
☐	2 1/2 x 1 1/2	2.875	1.900	3 1/2	2.469	1.610	0.203	0.145	1.67
☐	2 1/2 x 2	2.875	2.375	3 1/2	2.469	2.067	0.203	0.154	1.76
☐	3 x 1	3.500	1.315	3 1/2	3.068	1.049	0.216	0.133	1.81
☐	3 x 1 1/4	3.500	1.660	3 1/2	3.068	1.380	0.216	0.140	1.86
☐	3 x 1 1/2	3.500	1.900	3 1/2	3.068	1.610	0.216	0.145	2.07
☐	3 x 2	3.500	2.375	3 1/2	3.068	2.067	0.216	0.154	2.20
☐	3 x 2 1/2	3.500	2.875	3 1/2	3.068	2.469	0.216	0.203	2.38
☐	3 1/2 x 1 1/4	4.000	1.660	4	3.548	1.380	0.226	0.140	2.60
☐	3 1/2 x 1 1/2	4.000	1.900	4	3.548	1.610	0.226	0.145	2.76

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

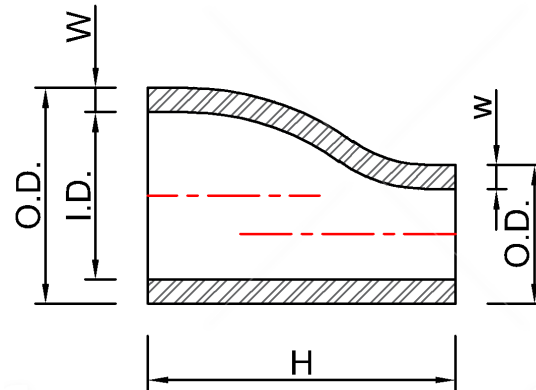
SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	SCHEDULE 40S ☐ < SELECT				
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	Approx Weight
☐	3 ½ x 2	4.000	2.375	4	3.548	2.067	0.226	0.154	2.97
☐	3 ½ x 2 ½	4.000	2.875	4	3.548	2.469	0.226	0.203	3.25
☐	3 ½ x 3	4.000	3.500	4	3.548	3.068	0.226	0.216	3.35
☐	4 x 1 ½	4.500	1.900	4	4.026	1.610	0.237	0.145	3.00
☐	4 x 2	4.500	2.375	4	4.026	2.067	0.237	0.154	3.47
☐	4 x 2 ½	4.500	2.875	4	4.026	2.469	0.237	0.203	3.66
☐	4 x 3	4.500	3.500	4	4.026	3.068	0.237	0.216	3.84
☐	4 x 3 ½	4.500	4.000	4	4.026	3.548	0.237	0.226	3.97
☐	5 x 2	5.563	2.375	5	5.047	2.067	0.258	0.154	5.55
☐	5 x 2 ½	5.563	2.875	5	5.047	2.469	0.258	0.203	6.07
☐	5 x 3	5.563	3.500	5	5.047	3.068	0.258	0.216	6.29
☐	5 x 3 ½	5.563	4.000	5	5.047	3.548	0.258	0.226	6.45
☐	5 x 4	5.563	4.500	5	5.047	4.026	0.258	0.237	6.57
☐	6 x 2 ½	6.625	2.875	5 ½	6.065	2.469	0.280	0.203	8.37
☐	6 x 3	6.625	3.500	5 ½	6.065	3.068	0.280	0.216	8.77
☐	6 x 3 ½	6.625	4.000	5 ½	6.065	3.548	0.280	0.226	8.93
☐	6 x 4	6.625	4.500	5 ½	6.065	4.026	0.280	0.237	8.99
☐	6 x 5	6.625	5.563	5 ½	6.065	5.047	0.280	0.258	9.48
☐	8 x 3 ½	8.625	4.000	6	7.981	3.548	0.322	0.226	14.10
☐	8 x 4	8.625	4.500	6	7.981	4.026	0.322	0.237	14.44
☐	8 x 5	8.625	5.563	6	7.981	5.047	0.322	0.258	14.78
☐	8 x 6	8.625	6.625	6	7.981	6.065	0.322	0.280	15.31
☐	10 x 4	10.750	4.500	7	10.020	4.026	0.365	0.237	23.19
☐	10 x 5	10.750	5.563	7	10.020	5.047	0.365	0.258	23.96
☐	10 x 6	10.750	6.625	7	10.020	6.065	0.365	0.280	24.52
☐	10 x 8	10.750	8.625	7	10.020	7.981	0.365	0.322	25.48
☐	12 x 5	12.750	5.563	8	12.000	5.047	0.375	0.258	33.48
☐	12 x 6	12.750	6.625	8	12.000	6.065	0.375	0.280	34.13
☐	12 x 8	12.750	8.625	8	12.000	7.981	0.375	0.322	35.24
☐	12 x 10	12.750	10.750	8	12.000	10.020	0.375	0.365	36.67
☐	14 x 6	14.000	6.625	13	13.250	6.065	0.375	0.280	58.00
☐	14 x 8	14.000	8.625	13	13.250	7.981	0.375	0.322	61.22
☐	14 x 10	14.000	10.750	13	13.250	10.020	0.375	0.365	63.55
☐	14 x 12	14.000	12.750	13	13.250	12.000	0.375	0.375	67.42
☐	16 x 8	16.000	8.625	14	15.250	7.981	0.375	0.322	73.6
☐	16 x 10	16.000	10.750	14	15.250	10.020	0.375	0.365	78.12
☐	16 x 12	16.000	12.750	14	15.250	12.000	0.375	0.375	80.91
☐	16 x 14	16.000	14.000	14	15.250	13.250	0.375	0.375	82.92
☐	18 x 10	18.000	10.750	15	17.250	10.020	0.375	0.365	92.69
☐	18 x 12	18.000	12.750	15	17.250	12.000	0.375	0.375	94.70
☐	18 x 14	18.000	14.000	15	17.250	13.250	0.375	0.375	96.56
☐	18 x 16	18.000	16.000	15	17.250	15.250	0.375	0.375	99.20
☐	20 x 12	20.000	12.750	20	19.250	12.000	0.375	0.375	143.00
☐	20 x 14	20.000	14.000	20	19.250	13.250	0.375	0.375	145.00
☐	20 x 16	20.000	16.000	20	19.250	15.250	0.375	0.375	146.00
☐	20 x 18	20.000	18.000	20	19.250	17.250	0.375	0.375	151.00
☐	24 x 16	24.000	16.000	20	23.250	15.250	0.375	0.375	169.00
☐	24 x 18	24.000	18.000	20	23.250	17.250	0.375	0.375	173.00
☐	24 x 20	24.000	20.000	20	23.250	19.250	0.375	0.375	179.00

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9 (≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

ECCENTRIC REDUCERS



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	SCHEDULE 80S ☐ < SELECT				
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	Approx Weight
☐	3/4 x 3/8	1.050	0.675	1 1/2	0.742	0.423	0.154	0.126	0.37
☐	3/4 x 1/2	1.050	0.840	1 1/2	0.742	0.546	0.154	0.147	0.40
☐	1 x 3/8	1.315	0.675	2	0.957	0.423	0.179	0.126	0.42
☐	1 x 1/2	1.315	0.840	2	0.957	0.546	0.179	0.147	0.44
☐	1 x 3/4	1.315	1.050	2	0.957	0.742	0.179	0.154	0.49
☐	1 1/4 x 1/2	1.660	0.840	2	1.278	0.546	0.191	0.147	0.52
☐	1 1/4 x 3/4	1.660	1.050	2	1.278	0.742	0.191	0.154	0.56
☐	1 1/4 x 1	1.660	1.315	2	1.278	0.957	0.191	0.179	0.59
☐	1 1/2 x 1/2	1.900	0.840	2 1/2	1.500	0.546	0.200	0.147	0.68
☐	1 1/2 x 3/4	1.900	1.050	2 1/2	1.500	0.742	0.200	0.154	0.71
☐	1 1/2 x 1	1.900	1.315	2 1/2	1.500	0.957	0.200	0.179	0.74
☐	1 1/2 x 1 1/4	1.900	1.660	2 1/2	1.500	1.278	0.200	0.191	0.80
☐	2 x 3/4	2.375	1.050	3	1.939	0.742	0.218	0.154	1.11
☐	2 x 1	2.375	1.315	3	1.939	0.957	0.218	0.179	1.18
☐	2 x 1 1/4	2.375	1.660	3	1.939	1.278	0.218	0.191	1.27
☐	2 x 1 1/2	2.375	1.900	3	1.939	1.500	0.218	0.200	1.30
☐	2 1/2 x 1	2.875	1.315	3 1/2	2.323	0.957	0.276	0.179	1.92
☐	2 1/2 x 1 1/4	2.875	1.660	3 1/2	2.323	1.278	0.276	0.191	1.98
☐	2 1/2 x 1 1/2	2.875	1.900	3 1/2	2.323	1.500	0.276	0.200	2.07
☐	2 1/2 x 2	2.875	2.375	3 1/2	2.323	1.939	0.276	0.218	2.26
☐	3 x 1	3.500	1.315	3 1/2	2.900	0.957	0.300	0.179	2.39
☐	3 x 1 1/4	3.500	1.660	3 1/2	2.900	1.278	0.300	0.191	2.51
☐	3 x 1 1/2	3.500	1.900	3 1/2	2.900	1.500	0.300	0.200	2.66
☐	3 x 2	3.500	2.375	3 1/2	2.900	1.939	0.300	0.218	2.85
☐	3 x 2 1/2	3.500	2.875	3 1/2	2.900	2.323	0.300	0.276	3.28
☐	3 1/2 x 1 1/4	4.000	1.660	4	3.364	1.278	0.318	0.191	3.53
☐	3 1/2 x 1 1/2	4.000	1.900	4	3.364	1.500	0.318	0.200	3.69

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

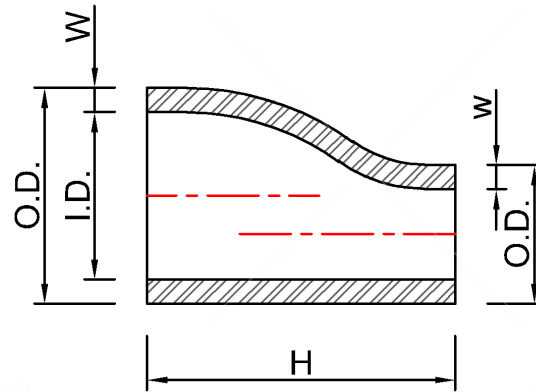
SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	SCHEDULE 80S ☐ < SELECT				
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	Approx Weight
☐	3 ½ x 2	4.000	2.375	4	3.364	2.323	0.318	0.276	3.87
☐	3 ½ x 2 ½	4.000	2.875	4	3.364	2.900	0.318	0.300	4.21
☐	3 ½ x 3	4.000	3.500	4	3.826	1.500	0.337	0.200	4.46
☐	4 x 1 ½	4.500	1.900	4	3.826	1.939	0.337	0.218	4.18
☐	4 x 2	4.500	2.375	4	3.826	2.323	0.337	0.276	4.31
☐	4 x 2 ½	4.500	2.875	4	3.826	2.900	0.337	0.300	4.83
☐	4 x 3	4.500	3.500	4	3.826	3.364	0.337	0.318	5.14
☐	4 x 3 ½	4.500	4.000	4	4.813	1.939	0.375	0.337	5.33
☐	5 x 2	5.563	2.375	5	4.813	2.323	0.375	0.276	7.25
☐	5 x 2 ½	5.563	2.875	5	4.813	2.900	0.375	0.300	7.93
☐	5 x 3	5.563	3.500	5	4.813	3.364	0.375	0.318	8.55
☐	5 x 3 ½	5.563	4.000	5	4.813	3.826	0.375	0.337	8.80
☐	5 x 4	5.563	4.500	5	5.761	2.323	0.432	0.276	9.11
☐	6 x 2 ½	6.625	2.875	5 ½	5.761	2.900	0.432	0.300	10.88
☐	6 x 3	6.625	3.500	5 ½	5.761	3.364	0.432	0.318	12.15
☐	6 x 3 ½	6.625	4.000	5 ½	5.761	3.826	0.432	0.337	12.67
☐	6 x 4	6.625	4.500	5 ½	5.761	4.813	0.432	0.375	13.14
☐	6 x 5	6.625	5.563	5 ½	3.364	2.323	0.318	0.276	13.79
☐	8 x 3 ½	8.625	4.000	6	7.625	3.364	0.500	0.318	17.61
☐	8 x 4	8.625	4.500	6	7.625	3.826	0.500	0.337	20.36
☐	8 x 5	8.625	5.563	6	7.625	4.813	0.500	0.375	21.32
☐	8 x 6	8.625	6.625	6	7.625	5.761	0.500	0.432	22.32
☐	10 x 4	10.750	4.500	7	9.750	3.826	0.500	0.337	27.68
☐	10 x 5	10.750	5.563	7	9.750	4.813	0.500	0.375	31.40
☐	10 x 6	10.750	6.625	7	9.750	5.761	0.500	0.432	32.61
☐	10 x 8	10.750	8.625	7	9.750	7.625	0.500	0.500	34.34
☐	12 x 5	12.750	5.563	8	11.750	4.813	0.500	0.375	42.78
☐	12 x 6	12.750	6.625	8	11.750	5.761	0.500	0.432	44.42
☐	12 x 8	12.750	8.625	8	11.750	7.625	0.500	0.500	46.06
☐	12 x 10	12.750	10.750	8	11.750	9.750	0.500	0.500	47.70
☐	14 x 6	14.000	6.625	13	13.000	5.761	0.500	0.432	77.81
☐	14 x 8	14.000	8.625	13	13.000	7.625	0.500	0.500	81.22
☐	14 x 10	14.000	10.750	13	13.000	9.750	0.500	0.500	85.40
☐	14 x 12	14.000	12.750	13	13.000	11.750	0.500	0.500	88.97
☐	16 x 8	16.000	8.625	14	15.000	7.625	0.500	0.500	97.49
☐	16 x 10	16.000	10.750	14	15.000	9.750	0.500	0.500	102.00
☐	16 x 12	16.000	12.750	14	15.000	11.750	0.500	0.500	105.00
☐	16 x 14	16.000	14.000	14	15.000	13.000	0.500	0.500	108.00
☐	18 x 10	18.000	10.750	15	17.000	9.750	0.500	0.500	120.00
☐	18 x 12	18.000	12.750	15	17.000	11.750	0.500	0.500	126.00
☐	18 x 14	18.000	14.000	15	17.000	13.000	0.500	0.500	127.00
☐	18 x 16	18.000	16.000	15	17.000	15.000	0.500	0.500	130.00
☐	20 x 12	20.000	12.750	20	19.000	11.750	0.500	0.500	189.00
☐	20 x 14	20.000	14.000	20	19.000	13.000	0.500	0.500	192.00
☐	20 x 16	20.000	16.000	20	19.000	15.000	0.500	0.500	195.00
☐	20 x 18	20.000	18.000	20	19.000	17.000	0.500	0.500	198.00
☐	24 x 16	24.000	16.000	20	23.000	15.000	0.500	0.500	226.00
☐	24 x 18	24.000	18.000	20	23.000	17.000	0.500	0.500	230.00
☐	24 x 20	24.000	20.000	20	23.000	19.000	0.500	0.500	234.00

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9 (≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

ECCENTRIC REDUCERS



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	SCHEDULE 160S ☐ < SELECT				
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	Approx Weight
☐	3/4 x 3/8	1.050	0.675	1 1/2	-----	-----	-----	-----	-----
☐	3/4 x 1/2	1.050	0.840	1 1/2	0.612	0.466	0.219	0.187	0.55
☐	1 x 3/8	1.315	0.675	2	-----	-----	-----	-----	-----
☐	1 x 1/2	1.315	0.840	2	0.815	0.466	0.250	0.187	0.57
☐	1 x 3/4	1.315	1.050	2	0.815	0.614	0.250	0.218	0.61
☐	1 1/4 x 1/2	1.660	0.840	2	1.160	0.466	0.250	0.187	0.67
☐	1 1/4 x 3/4	1.660	1.050	2	1.160	0.614	0.250	0.218	0.73
☐	1 1/4 x 1	1.660	1.315	2	1.160	0.815	0.250	0.250	0.82
☐	1 1/2 x 1/2	1.900	0.840	2 1/2	1.338	0.466	0.281	0.187	0.95
☐	1 1/2 x 3/4	1.900	1.050	2 1/2	1.338	0.614	0.281	0.218	0.99
☐	1 1/2 x 1	1.900	1.315	2 1/2	1.338	0.815	0.281	0.250	1.03
☐	1 1/2 x 1 1/4	1.900	1.660	2 1/2	1.338	1.160	0.281	0.250	1.12
☐	2 x 3/4	2.375	1.050	3	1.689	0.614	0.343	0.218	1.74
☐	2 x 1	2.375	1.315	3	1.689	0.815	0.343	0.250	1.85
☐	2 x 1 1/4	2.375	1.660	3	1.689	1.160	0.343	0.250	1.99
☐	2 x 1 1/2	2.375	1.900	3	1.689	1.338	0.343	0.281	2.04
☐	2 1/2 x 1	2.875	1.315	3 1/2	2.125	0.815	0.375	0.250	2.59
☐	2 1/2 x 1 1/4	2.875	1.660	3 1/2	2.125	1.160	0.375	0.250	2.67
☐	2 1/2 x 1 1/2	2.875	1.900	3 1/2	2.125	1.338	0.375	0.281	2.79
☐	2 1/2 x 2	2.875	2.375	3 1/2	2.125	1.689	0.375	0.343	3.05
☐	3 x 1	3.500	1.315	3 1/2	2.624	0.815	0.438	0.250	3.32
☐	3 x 1 1/4	3.500	1.660	3 1/2	2.624	1.160	0.438	0.250	3.63
☐	3 x 1 1/2	3.500	1.900	3 1/2	2.624	1.338	0.438	0.281	3.85
☐	3 x 2	3.500	2.375	3 1/2	2.624	1.689	0.438	0.343	4.13
☐	3 x 2 1/2	3.500	2.875	3 1/2	2.624	2.125	0.438	0.375	4.75
☐	3 1/2 x 1 1/4	4.000	1.660	4	-----	-----	-----	-----	-----
☐	3 1/2 x 1 1/2	4.000	1.900	4	-----	-----	-----	-----	-----

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

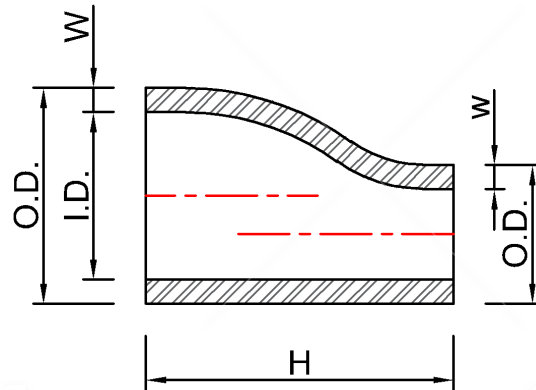
SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	SCHEDULE 160S ☐ < SELECT				
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	Approx Weight
☐	3 ½ x 2	4.000	2.375	4	----	----	----	----	----
☐	3 ½ x 2 ½	4.000	2.875	4	----	----	----	----	----
☐	3 ½ x 3	4.000	3.500	4	----	----	----	----	----
☐	4 x 1 ½	4.500	1.900	4	3.438	1.338	0.531	0.281	6.56
☐	4 x 2	4.500	2.375	4	3.438	1.689	0.531	0.343	6.76
☐	4 x 2 ½	4.500	2.875	4	3.438	2.125	0.531	0.375	7.58
☐	4 x 3	4.500	3.500	4	3.438	2.624	0.531	0.438	8.07
☐	4 x 3 ½	4.500	4.000	4	----	----	----	----	----
☐	5 x 2	5.563	2.375	5	4.313	1.689	0.625	0.343	12.03
☐	5 x 2 ½	5.563	2.875	5	4.313	2.125	0.625	0.375	13.16
☐	5 x 3	5.563	3.500	5	4.313	2.624	0.625	0.438	14.19
☐	5 x 3 ½	5.563	4.000	5	----	----	----	----	----
☐	5 x 4	5.563	4.500	5	4.313	3.438	0.625	0.531	15.12
☐	6 x 2 ½	6.625	2.875	5 ½	5.187	2.125	0.719	0.375	18.06
☐	6 x 3	6.625	3.500	5 ½	5.187	2.624	0.719	0.438	20.17
☐	6 x 3 ½	6.625	4.000	5 ½	----	----	----	----	----
☐	6 x 4	6.625	4.500	5 ½	5.187	3.438	0.719	0.531	21.81
☐	6 x 5	6.625	5.563	5 ½	5.187	4.313	0.719	0.625	22.89
☐	8 x 3 ½	8.625	4.000	6	----	----	----	----	----
☐	8 x 4	8.625	4.500	6	6.813	3.438	0.906	0.531	36.85
☐	8 x 5	8.625	5.563	6	6.813	4.313	0.906	0.625	38.50
☐	8 x 6	8.625	6.625	6	6.813	5.187	0.906	0.719	40.30
☐	10 x 4	10.750	4.500	7	8.500	3.438	1.125	0.531	62.30
☐	10 x 5	10.750	5.563	7	8.500	4.313	1.125	0.625	70.60
☐	10 x 6	10.750	6.625	7	8.500	5.187	1.125	0.719	73.30
☐	10 x 8	10.750	8.625	7	8.500	6.813	1.125	0.906	77.10
☐	12 x 5	12.750	5.563	8	10.126	4.313	1.312	0.625	112.00
☐	12 x 6	12.750	6.625	8	10.126	5.187	1.312	0.719	116.00
☐	12 x 8	12.750	8.625	8	10.126	6.813	1.312	0.906	120.00
☐	12 x 10	12.750	10.750	8	10.126	8.500	1.312	1.125	124.00
☐	14 x 6	14.000	6.625	13	11.188	5.187	1.406	0.719	----
☐	14 x 8	14.000	8.625	13	11.188	6.813	1.406	0.906	----
☐	14 x 10	14.000	10.750	13	11.188	8.500	1.406	1.125	----
☐	14 x 12	14.000	12.750	13	11.188	10.126	1.406	1.312	----
☐	16 x 8	16.000	8.625	14	12.812	6.813	1.594	0.906	----
☐	16 x 10	16.000	10.750	14	12.812	8.500	1.594	1.125	----
☐	16 x 12	16.000	12.750	14	12.812	10.126	1.594	1.312	----
☐	16 x 14	16.000	14.000	14	12.812	11.188	1.594	1.406	----
☐	18 x 10	18.000	10.750	15	14.438	8.500	1.781	1.125	----
☐	18 x 12	18.000	12.750	15	14.438	10.126	1.781	1.312	----
☐	18 x 14	18.000	14.000	15	14.438	11.188	1.781	1.406	----
☐	18 x 16	18.000	16.000	15	14.438	12.812	1.781	1.594	----
☐	20 x 12	20.000	12.750	20	19.624	16.062	10.126	1.969	----
☐	20 x 14	20.000	14.000	20	19.624	16.062	11.188	1.969	----
☐	20 x 16	20.000	16.000	20	19.624	16.062	12.812	1.969	----
☐	20 x 18	20.000	18.000	20	19.624	16.062	14.438	1.969	----
☐	24 x 16	24.000	16.000	20	23.564	19.312	12.812	2.344	----
☐	24 x 18	24.000	18.000	20	23.564	19.312	14.438	2.344	----
☐	24 x 20	24.000	20.000	20	23.564	19.312	16.062	2.344	----

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9 (≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

FITTINGS
A403
(ER)

ASTM A403, B16.9 ECCENTRIC REDUCERS



Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	XX STRONG WALL ☐ < SELECT				Approx Weight
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	
☐	3/4 x 3/8	1.050	0.675	1 1/2	-----	-----	-----	-----	-----
☐	3/4 x 1/2	1.050	0.840	1 1/2	0.434	0.252	0.308	0.294	0.80
☐	1 x 3/8	1.315	0.675	2	-----	-----	-----	-----	-----
☐	1 x 1/2	1.315	0.840	2	0.599	0.252	0.358	0.294	0.88
☐	1 x 3/4	1.315	1.050	2	0.599	0.434	0.358	0.308	0.98
☐	1 1/4 x 1/2	1.660	0.840	2	0.896	0.252	0.382	0.294	1.04
☐	1 1/4 x 3/4	1.660	1.050	2	0.896	0.434	0.382	0.308	1.12
☐	1 1/4 x 1	1.660	1.315	2	0.896	0.599	0.382	0.358	1.18
☐	1 1/2 x 1/2	1.900	0.840	2 1/2	1.100	0.252	0.400	0.294	1.36
☐	1 1/2 x 3/4	1.900	1.050	2 1/2	1.100	0.434	0.400	0.308	1.42
☐	1 1/2 x 1	1.900	1.315	2 1/2	1.100	0.599	0.400	0.358	1.48
☐	1 1/2 x 1 1/4	1.900	1.660	2 1/2	1.100	0.896	0.400	0.382	1.60
☐	2 x 3/4	2.375	1.050	3	1.503	0.434	0.436	0.308	2.22
☐	2 x 1	2.375	1.315	3	1.503	0.599	0.436	0.358	2.36
☐	2 x 1 1/4	2.375	1.660	3	1.503	0.896	0.436	0.382	2.54
☐	2 x 1 1/2	2.375	1.900	3	1.503	1.110	0.436	0.400	2.60
☐	2 1/2 x 1	2.875	1.315	3 1/2	1.771	0.599	0.552	0.358	3.84
☐	2 1/2 x 1 1/4	2.875	1.660	3 1/2	1.771	0.896	0.552	0.382	3.96
☐	2 1/2 x 1 1/2	2.875	1.900	3 1/2	1.771	1.110	0.552	0.400	4.14
☐	2 1/2 x 2	2.875	2.375	3 1/2	1.771	1.503	0.552	0.436	4.52
☐	3 x 1	3.500	1.315	3 1/2	2.300	0.599	0.600	0.358	4.76
☐	3 x 1 1/4	3.500	1.660	3 1/2	2.300	0.896	0.600	0.382	5.02
☐	3 x 1 1/2	3.500	1.900	3 1/2	2.300	1.110	0.600	0.400	5.23
☐	3 x 2	3.500	2.375	3 1/2	2.300	1.503	0.600	0.436	5.70
☐	3 x 2 1/2	3.500	2.875	3 1/2	2.300	1.771	0.600	0.552	6.56
☐	3 1/2 x 1 1/4	4.000	1.660	4	2.728	0.896	0.636	0.382	7.06
☐	3 1/2 x 1 1/2	4.000	1.900	4	2.728	1.100	0.636	0.400	7.38

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

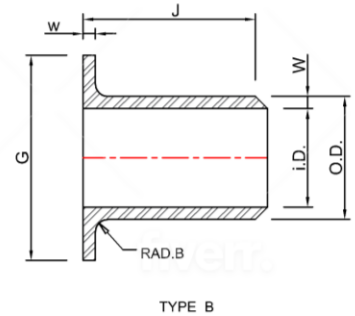
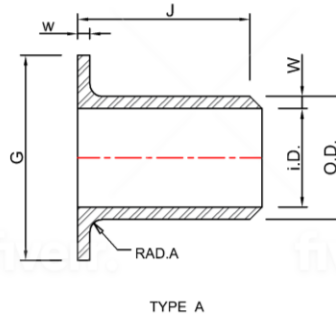
SELECT	NOMINAL PIPE SIZE Large End x Small End	OUTSIDE DIAMETER LARGE END (O.D.)	OUTSIDE DIAMETER SMALL END (O.D.)	LENGTH (L)	XX STRONG WALL ■ < SELECT				
					Inside Diameter Large End (I.D.)	Inside Diameter Small End (I.D.)	Wall Thickness Large End (W)	Wall Thickness Small End (w)	Approx Weight
☐	3 ½ x 2	4.000	2.375	4	2.728	1.771	0.636	0.552	7.74
☐	3 ½ x 2 ½	4.000	2.875	4	2.728	2.300	0.636	0.600	8.42
☐	3 ½ x 3	4.000	3.500	4	3.152	1.100	0.674	0.400	8.92
☐	4 x 1 ½	4.500	1.900	4	3.152	1.503	0.674	0.436	8.36
☐	4 x 2	4.500	2.375	4	3.152	1.771	0.674	0.552	8.62
☐	4 x 2 ½	4.500	2.875	4	3.152	2.300	0.674	0.600	9.66
☐	4 x 3	4.500	3.500	4	3.152	2.728	0.674	0.636	10.28
☐	4 x 3 ½	4.500	4.000	4	4.063	1.503	0.750	0.436	10.66
☐	5 x 2	5.563	2.375	5	4.063	1.771	0.750	0.552	14.50
☐	5 x 2 ½	5.563	2.875	5	4.063	2.300	0.750	0.600	15.86
☐	5 x 3	5.563	3.500	5	4.063	2.728	0.750	0.636	17.10
☐	5 x 3 ½	5.563	4.000	5	4.063	3.152	0.750	0.674	17.60
☐	5 x 4	5.563	4.500	5	4.897	1.771	0.864	0.552	18.22
☐	6 x 2 ½	6.625	2.875	5 ½	4.897	2.300	0.864	0.600	21.76
☐	6 x 3	6.625	3.500	5 ½	4.897	2.728	0.864	0.636	24.30
☐	6 x 3 ½	6.625	4.000	5 ½	4.897	3.152	0.864	0.674	25.34
☐	6 x 4	6.625	4.500	5 ½	4.897	4.063	0.864	0.750	26.28
☐	6 x 5	6.625	5.563	5 ½	2.728	1.771	0.636	0.552	27.58
☐	8 x 3 ½	8.625	4.000	6	6.875	2.728	0.875	0.636	30.81
☐	8 x 4	8.625	4.500	6	6.875	3.152	0.875	0.674	35.63
☐	8 x 5	8.625	5.563	6	6.875	4.063	0.875	0.750	37.31
☐	8 x 6	8.625	6.625	6	6.875	4.897	0.875	0.864	39.06
☐	10 x 4	10.750	4.500	7	-----	-----	-----	-----	-----
☐	10 x 5	10.750	5.563	7	-----	-----	-----	-----	-----
☐	10 x 6	10.750	6.625	7	-----	-----	-----	-----	-----
☐	10 x 8	10.750	8.625	7	-----	-----	-----	-----	-----
☐	12 x 5	12.750	5.563	8	-----	-----	-----	-----	-----
☐	12 x 6	12.750	6.625	8	-----	-----	-----	-----	-----
☐	12 x 8	12.750	8.625	8	-----	-----	-----	-----	-----
☐	12 x 10	12.750	10.750	8	-----	-----	-----	-----	-----
☐	14 x 6	14.000	6.625	13	-----	-----	-----	-----	-----
☐	14 x 8	14.000	8.625	13	-----	-----	-----	-----	-----
☐	14 x 10	14.000	10.750	13	-----	-----	-----	-----	-----
☐	14 x 12	14.000	12.750	13	-----	-----	-----	-----	-----
☐	16 x 8	16.000	8.625	14	-----	-----	-----	-----	-----
☐	16 x 10	16.000	10.750	14	-----	-----	-----	-----	-----
☐	16 x 12	16.000	12.750	14	-----	-----	-----	-----	-----
☐	16 x 14	16.000	14.000	14	-----	-----	-----	-----	-----
☐	18 x 10	18.000	10.750	15	-----	-----	-----	-----	-----
☐	18 x 12	18.000	12.750	15	-----	-----	-----	-----	-----
☐	18 x 14	18.000	14.000	15	-----	-----	-----	-----	-----
☐	18 x 16	18.000	16.000	15	-----	-----	-----	-----	-----
☐	20 x 12	20.000	12.750	20	-----	-----	-----	-----	-----
☐	20 x 14	20.000	14.000	20	-----	-----	-----	-----	-----
☐	20 x 16	20.000	16.000	20	-----	-----	-----	-----	-----
☐	20 x 18	20.000	18.000	20	-----	-----	-----	-----	-----
☐	24 x 16	24.000	16.000	20	-----	-----	-----	-----	-----
☐	24 x 18	24.000	18.000	20	-----	-----	-----	-----	-----
☐	24 x 20	24.000	20.000	20	-----	-----	-----	-----	-----

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9 (≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

STUB ENDS TYPE A OR B



STUB ENDS - SHORT TYPE A OR B

Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

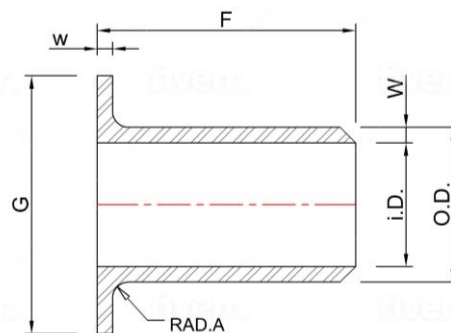
UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	DIAMETER (G)	LENGTH (J)		RADIUS (A)		SCHEDULE 40S ☐ < SELECT			
				Short	Long	A	B	Inside Diameter (I.D.)	Wall Thickness (W)	Lap Thickness (w)	Approx Weight
☐	1/2	0.840	1.375	2	3	1/8	1/32	0.622	0.109	0.109	0.19
☐	3/4	1.050	1.688	2	3	1/8	1/32	0.824	0.113	0.113	0.26
☐	1	1.315	2.000	2	4	1/8	1/32	1.049	0.133	0.133	0.38
☐	1 1/4	1.660	2.500	2	4	3/16	1/32	1.380	0.140	0.140	0.55
☐	1 1/2	1.900	2.875	2	4	1/4	1/32	1.610	0.145	0.145	0.69
☐	2	2.375	3.625	2 1/2	6	5/16	1/32	2.067	0.154	0.154	1.35
☐	2 1/2	2.875	4.125	2 1/2	6	5/16	1/32	2.469	0.203	0.203	1.77
☐	3	3.500	5.000	2 1/2	6	3/8	1/32	3.068	0.216	0.216	2.50
☐	3 1/2	4.000	5.500	3	6	3/8	1/32	3.548	0.226	0.226	3.58
☐	4	4.500	6.188	3	6	7/16	1/32	4.026	0.237	0.237	4.13
☐	5	5.563	7.313	3	8	7/16	1/16	5.047	0.258	0.258	6.15
☐	6	6.625	8.500	3 1/2	8	1/2	1/16	6.065	0.280	0.280	7.88
☐	8	8.625	10.625	4	8	1/2	1/16	7.981	0.322	0.322	13.38
☐	10	10.750	12.750	5	10	1/2	1/16	10.020	0.365	0.365	22.20
☐	12	12.750	15.000	6	10	1/2	1/16	12.000	0.375	0.375	31.50
☐	14	14.000	16.250	6	12	1/2	1/16	13.250	0.375	0.375	373.80
☐	16	16.000	18.500	6	12	1/2	1/16	15.250	0.375	0.375	45.00
☐	18	18.000	21.000	6	12	1/2	1/16	17.250	0.375	0.375	60.00
☐	20	20.000	23.000	6	12	1/2	1/16	19.250	0.375	0.375	66.00
☐	24	24.000	27.250	6	12	1/2	1/16	23.250	0.375	0.375	85.00

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

ASTM A403, B16.9

STUB ENDS TYPE A - LONG



TYPE A

STUB ENDS - LONG TYPE A

Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

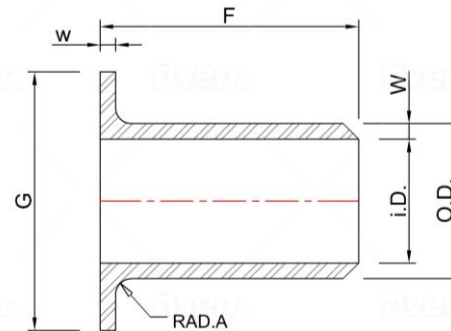
SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	DIAMETER (G)	LENGTH (F)	RADIUS (A)	SCHEDULE 10S ☐ < SELECT			
						Inside Diameter (I.D.)	Wall Thickness (W)	Lap Thickness (w)	Approx Weight
☐	½	0.840	1.375	3	1/8	0.674	0.083	0.083	0.16
☐	¾	1.050	1.688	3	1/8	0.884	0.083	0.083	0.21
☐	1	1.315	2.000	4	1/8	1.097	0.109	0.109	0.35
☐	1 ¼	1.660	2.500	4	3/16	1.442	0.109	0.109	0.49
☐	1 ½	1.900	2.875	4	1/4	1.682	0.109	0.109	0.56
☐	2	2.375	3.625	6	5/16	2.157	0.109	0.109	0.94
☐	2 ½	2.875	4.125	6	5/16	2.635	0.120	0.120	1.25
☐	3	3.500	5.000	6	3/8	3.260	0.120	0.120	1.60
☐	3 ½	4.000	5.500	6	3/8	3.760	0.120	0.120	1.90
☐	4	4.500	6.188	6	7/16	4.260	0.120	0.120	2.40
☐	5	5.563	7.313	8	7/16	5.295	0.134	0.134	3.25
☐	6	6.625	8.500	8	1/2	6.357	0.134	0.134	4.75
☐	8	8.625	10.625	8	1/2	8.329	0.148	0.148	7.10
☐	10	10.750	12.750	10	1/2	10.420	0.165	0.165	11.30
☐	12	12.750	15.000	10	1/2	12.390	0.180	0.180	18.00
☐	14	14.000	16.250	12	1/2	13.624	0.188	0.188	24.00
☐	16	16.000	18.500	12	1/2	15.624	0.188	0.188	28.00
☐	18	18.000	21.000	12	1/2	17.624	0.188	0.188	38.00
☐	20	20.000	23.000	12	1/2	19.564	0.218	0.218	48.00
☐	24	24.000	27.250	12	1/2	23.500	0.250	0.250	60.00

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(* Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

STUB ENDS TYPE A - LONG



TYPE A

STUB ENDS - LONG TYPE A

Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

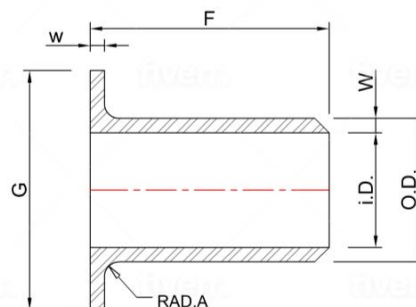
SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	DIAMETER (G)	LENGTH (F)	RADIUS (A)	SCHEDULE 40S ☐ < SELECT			
						Inside Diameter (I.D.)	Wall Thickness (W)	Lap Thickness (w)	Approx Weight
☐	1/2	0.840	1.375	3	1/8	0.622	0.109	0.109	0.26
☐	3/4	1.050	1.688	3	1/8	0.824	0.113	0.113	0.36
☐	1	1.315	2.000	4	1/8	1.049	0.133	0.133	0.68
☐	1 1/4	1.660	2.500	4	3/16	1.380	0.140	0.140	0.97
☐	1 1/2	1.900	2.875	4	1/4	1.610	0.145	0.145	1.20
☐	2	2.375	3.625	6	5/16	2.067	0.154	0.154	2.25
☐	2 1/2	2.875	4.125	6	5/16	2.469	0.203	0.203	3.40
☐	3	3.500	5.000	6	3/8	3.068	0.216	0.216	4.65
☐	3 1/2	4.000	5.500	6	3/8	3.548	0.226	0.226	5.89
☐	4	4.500	6.188	6	7/16	4.026	0.237	0.237	6.83
☐	5	5.563	7.313	8	7/16	5.047	0.258	0.258	11.88
☐	6	6.625	8.500	8	1/2	6.065	0.280	0.280	15.18
☐	8	8.625	10.625	8	1/2	7.981	0.322	0.322	23.81
☐	10	10.750	12.750	10	1/2	10.020	0.365	0.365	39.50
☐	12	12.750	15.000	10	1/2	12.000	0.375	0.375	48.50
☐	14	14.000	16.250	12	1/2	13.250	0.375	0.375	63.00
☐	16	16.000	18.500	12	1/2	15.250	0.375	0.375	73.50
☐	18	18.000	21.000	12	1/2	17.250	0.375	0.375	99.00
☐	20	20.000	23.000	12	1/2	19.250	0.375	0.375	108.00
☐	24	24.000	27.250	12	1/2	23.250	0.375	0.375	139.00

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

STUB ENDS TYPE A - LONG



TYPE A

STUB ENDS - LONG TYPE A

Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

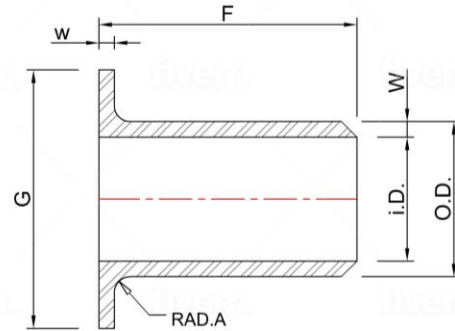
SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	DIAMETER (G)	LENGTH (F)	RADIUS (A)	SCHEDULE 80S ☐ < SELECT			
						Inside Diameter (I.D.)	Wall Thickness (W)	Lap Thickness (w)	Approx Weight
☐	1/2	0.840	1.375	3	1/8	0.546	0.147	0.147	0.34
☐	3/4	1.050	1.688	3	1/8	0.742	0.154	0.154	0.47
☐	1	1.315	2.000	4	1/8	0.957	0.179	0.179	0.88
☐	1 1/4	1.660	2.500	4	3/16	1.278	0.191	0.191	1.26
☐	1 1/2	1.900	2.875	4	1/4	1.500	0.200	0.200	1.49
☐	2	2.375	3.625	6	5/16	1.939	0.218	0.218	3.05
☐	2 1/2	2.875	4.125	6	5/16	2.323	0.276	0.276	4.40
☐	3	3.500	5.000	6	3/8	2.900	0.300	0.300	6.50
☐	3 1/2	4.000	5.500	6	3/8	3.364	0.318	0.318	7.75
☐	4	4.500	6.188	6	7/16	3.826	0.337	0.337	9.65
☐	5	5.563	7.313	8	7/16	4.813	0.375	0.375	16.33
☐	6	6.625	8.500	8	1/2	5.761	0.432	0.432	22.63
☐	8	8.625	10.625	8	1/2	7.625	0.500	0.500	34.12
☐	10	10.750	12.750	10	1/2	9.750	0.500	0.500	54.00
☐	12	12.750	15.000	10	1/2	11.750	0.500	0.500	64.50
☐	14	14.000	16.250	12	1/2	13.000	0.500	0.500	84.00
☐	16	16.000	18.500	12	1/2	15.000	0.500	0.500	98.00
☐	18	18.000	21.000	12	1/2	17.000	0.500	0.500	136.00
☐	20	20.000	23.000	12	1/2	19.000	0.500	0.500	157.00
☐	24	24.000	27.250	12	1/2	23.000	0.500	0.500	178.00

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(= Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

STUB ENDS TYPE A - LONG



TYPE A

STUB ENDS - LONG TYPE A

Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

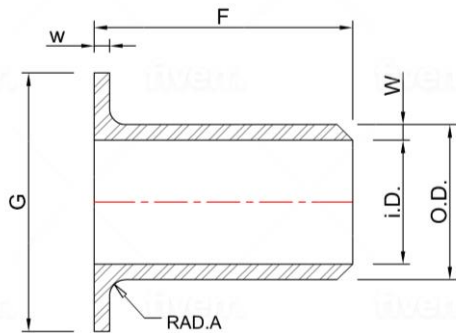
UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	DIAMETER (G)	LENGTH (F)		RADIUS (A)	SCHEDULE 160S ☐ < SELECT			
				Short	Long		Inside Diameter (I.D.)	Wall Thickness (W)	Lap Thickness (w)	Approx Weight
☐	1/2	0.840	1.375	2	3	1/8	0.464	0.188	0.188	0.43
☐	3/4	1.050	1.688	2	3	1/8	0.612	0.219	0.218	0.66
☐	1	1.315	2.000	2	4	1/8	0.815	0.250	0.250	1.22
☐	1 1/4	1.660	2.500	2	4	3/16	1.160	0.250	0.250	1.4
☐	1 1/2	1.900	2.875	2	4	1/4	1.338	0.281	0.281	2.08
☐	2	2.375	3.625	2 1/2	6	5/16	1.689	0.343	0.343	4.79
☐	2 1/2	2.875	4.125	2 1/2	6	5/16	2.125	0.375	0.375	5.94
☐	3	3.500	5.000	2 1/2	6	3/8	2.624	0.438	0.438	7.10
☐	3 1/2	4.000	5.500	3	6	3/8	----	----	----	----
☐	4	4.500	6.188	3	6	7/16	3.438	0.531	0.531	15.15
☐	5	5.563	7.313	3	8	7/16	4.313	0.625	0.625	27.10
☐	6	6.625	8.500	3 1/2	8	1/2	5.187	0.719	0.719	37.56
☐	8	8.625	10.625	4	8	1/2	6.813	0.906	0.906	61.75
☐	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

ss wld fgt and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all fgt conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9
STUB ENDS TYPE A - LONG



TYPE A

STUB ENDS - LONG TYPE A

Grade: ☐304L ☐316L ☐_____
Seam: ☐Welded ☐Seamless ☐WPWX
Source: ☐Import ☐Domestic ☐BAA ☐AIS ☐_____

DIMENSIONS

UOM: Inches/LBS

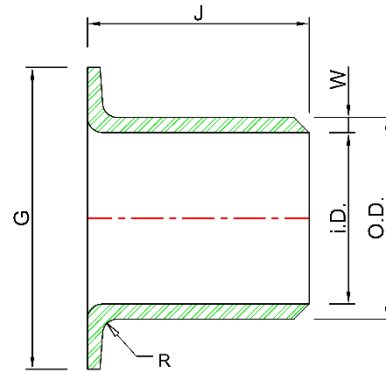
SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	DIAMETER (G)	LENGTH (F)		RADIUS (A)	XX STRONG WALL ☐ <- SELECT			
				Short	Long		Inside Diameter (I.D.)	Wall Thickness (W)	Lap Thickness (w)	Approx Weight
☐	½	0.840	1.375	2	3	1/8	0.252	0.294	0.294	0.68
☐	¾	1.050	1.688	2	3	1/8	0.434	0.308	0.308	0.94
☐	1	1.315	2.000	2	4	1/8	0.599	0.358	0.358	1.76
☐	1 ¼	1.660	2.500	2	4	3/16	0.896	0.382	0.382	2.52
☐	1 ½	1.900	2.875	2	4	1/4	1.100	0.400	0.400	2.98
☐	2	2.375	3.625	2 ½	6	5/16	1.503	0.436	0.436	6.10
☐	2 ½	2.875	4.125	2 ½	6	5/16	1.771	0.552	0.552	8.80
☐	3	3.500	5.000	2 ½	6	3/8	2.300	0.600	0.600	9.80
☐	3 ½	4.000	5.500	3	6	3/8	2.728	0.636	0.636	15.50
☐	4	4.500	6.188	3	6	7/16	3.152	0.674	0.674	19.30
☐	5	5.563	7.313	3	8	7/16	4.063	0.750	0.750	32.66
☐	6	6.625	8.500	3 ½	8	1/2	4.897	0.864	0.864	45.26
☐	8	8.625	10.625	4	8	1/2	6.875	0.875	0.875	59.71
☐	10	10.750	12.750	5	10	1/2	-----	-----	-----	-----
☐	12	12.750	15.000	6	10	1/2	-----	-----	-----	-----

ss wld fgt and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all fgt conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

ASTM A403, B16.9

STUB ENDS TYPE C - SHORT



TYPE C

STUB ENDS - SHORT TYPE C

Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

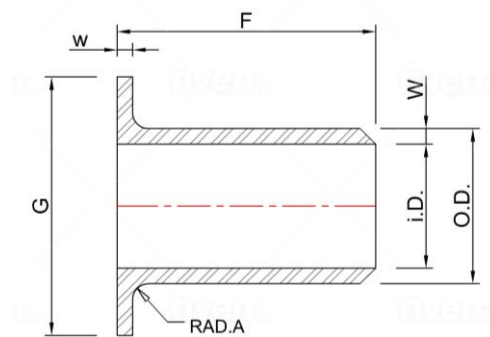
UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	DIAMETER (G)	LENGTH (F)	RADIUS (A)	SCHEDULE 5S ☐ < SELECT		
						Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight
☐	½	0.840	1.375	2	1/32	0.710	0.065	0.13
☐	¾	1.050	1.688	2	1/32	0.920	0.065	0.14
☐	1	1.315	2.000	2	1/32	1.185	0.065	0.19
☐	1 ¼	1.660	2.500	2	1/32	1.530	0.065	0.21
☐	1 ½	1.900	2.875	2	1/32	1.770	0.065	0.29
☐	2	2.375	3.625	2 ½	1/32	2.245	0.065	0.44
☐	2 ½	2.875	4.125	2 ½	1/32	2.709	0.083	0.75
☐	3	3.500	5.000	2 ½	1/32	3.334	0.083	0.94
☐	4	4.500	6.188	3	1/32	4.334	0.083	1.38
☐	5	5.563	7.313	3	1/16	5.345	0.109	2.06
☐	6	6.625	8.500	3 ½	1/16	6.407	0.109	2.75
☐	8	8.625	10.625	4	1/16	8.407	0.109	3.88
☐	10	10.750	12.750	5	1/16	10.482	0.134	7.48
☐	12	12.750	15.000	6	1/16	12.438	0.156	15.00
☐	14	14.000	16.250	6	1/16	13.688	0.156	19.20
☐	16	16.000	18.500	6	1/16	15.670	0.165	23.90
☐	18	18.000	21.000	6	1/16	17.670	0.165	28.50
☐	20	20.000	23.000	6	1/16	19.624	0.188	36.30
☐	24	24.000	27.250	6	1/16	23.564	0.218	56.00

ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(* Wall) & MSS SP-43

ASTM A403, B16.9

STUB ENDS TYPE C - SHORT



TYPE A

STUB ENDS - LONG TYPE A

Grade: ☐ 304L ☐ 316L ☐ _____
Seam: ☐ Welded ☐ Seamless ☐ WPWX
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____

DIMENSIONS

UOM: Inches/LBS

SELECT	NOMINAL PIPE SIZE	OUTSIDE DIAMETER (O.D.)	DIAMETER (G)	LENGTH (F)	RADIUS (A)	SCHEDULE 10S ☐ < SELECT		
						Inside Diameter (I.D.)	Wall Thickness (W)	Approx Weight
☐	1/2	0.840	1.375	2	1/32	0.674	0.083	0.14
☐	3/4	1.050	1.688	2	1/32	0.884	0.083	0.18
☐	1	1.315	2.000	2	1/32	1.097	0.109	0.31
☐	1 1/4	1.660	2.500	2	1/32	1.442	0.109	0.42
☐	1 1/2	1.900	2.875	2	1/32	1.682	0.109	0.44
☐	2	2.375	3.625	2 1/2	1/32	2.157	0.109	0.81
☐	2 1/2	2.875	4.125	2 1/2	1/32	2.635	0.120	1.00
☐	3	3.500	5.000	2 1/2	1/32	3.260	0.120	1.25
☐	4	4.500	6.188	3	1/32	4.260	0.120	1.88
☐	5	5.563	7.313	3	1/16	5.295	0.134	2.63
☐	6	6.625	8.500	3 1/2	1/16	6.357	0.134	3.56
☐	8	8.625	10.625	4	1/16	8.329	0.148	6.19
☐	10	10.750	12.750	5	1/16	10.420	0.165	9.46
☐	12	12.750	15.000	6	1/16	12.390	0.180	16.07
☐	14	14.000	16.250	6	1/16	13.624	0.188	23.10
☐	16	16.000	18.500	6	1/16	15.624	0.188	27.20
☐	18	18.000	21.000	6	1/16	17.624	0.188	32.40
☐	20	20.000	23.000	6	1/16	19.564	0.218	47.70
☐	24	24.000	27.250	6	1/16	23.500	0.250	58.27

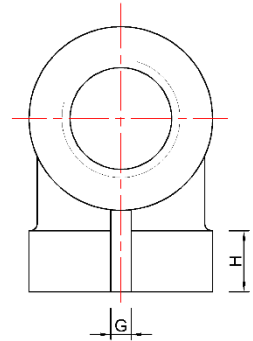
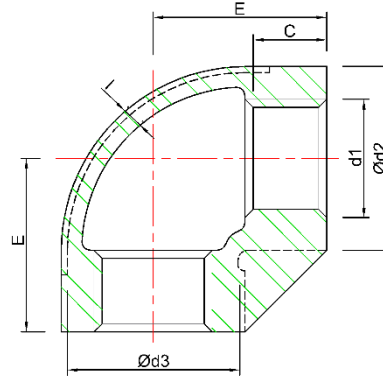
ss wld ftg and pipe conform to ASTM A403 & MSS SP-43; dimensionally, all ftg conform to ASME B16.9
(≠ Wall) & MSS SP-43

Project Name: _____
Job #: _____

150# CAST
A351
(90 Ell)

Class 150 # - CAST FITTINGS, ASTM A351 - Regular Pattern

90° ELBOW



Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	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

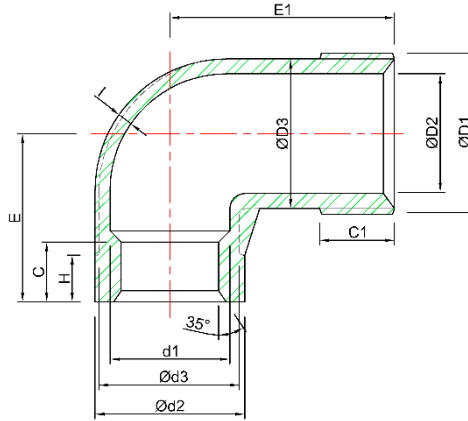
Thread Pattern conform to ANSI / ASME B1.20.1, NPT

No Lead

Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Class 150 # - CAST FITTINGS, ASTM A351 - Regular Pattern

90° ELBOW - STREET



Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	SIZE	d1	d2	d3	C	E	H	D1	D2	D3	C1	E1	I
☐	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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT

No Lead

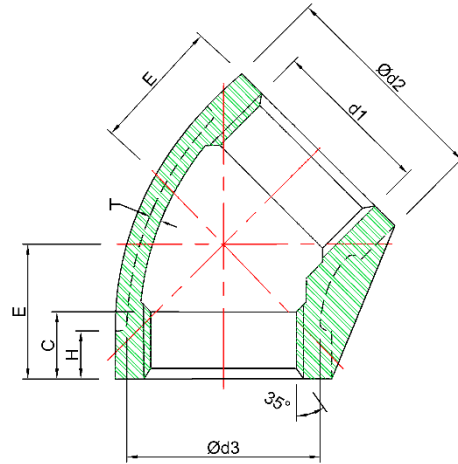
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Project Name: _____
 Job #: _____

150# CAST
 A351
 (45 Ell)

Class 150 # - CAST FITTINGS, ASTM A351 - Regular Pattern

45° ELBOW



Grade: ☐ T304/CF8 ☐ T316/CF8M
 Connection: ☐ Threaded
 Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	SIZE	d1	d2	d3	C	E	H	I
☐	1/8	1/8	0.63	0.53	0.24	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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT

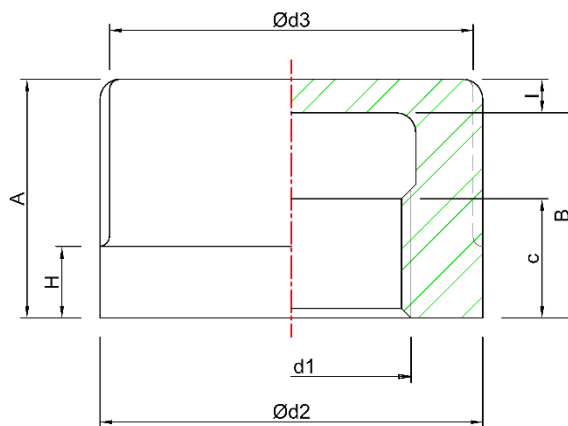
No Lead

Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Project Name: _____
Job #: _____

Class 150 # - CAST FITTINGS, ASTM A351 - Regular Pattern

ROUND CAPS



Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded ☐ Socket weld
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	SIZE	d1	d2	d3	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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT

No Lead

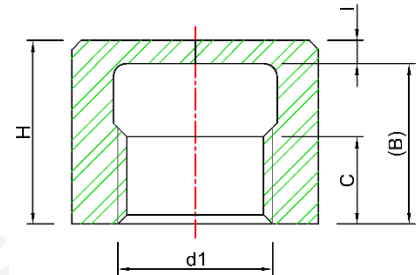
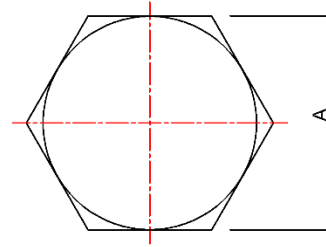
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Project Name: _____
Job #: _____

150# CAST
A351
(Hex Cap)

Class 150 # - CAST FITTINGS, ASTM A351 - Regular Pattern

HEX CAPS



Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT

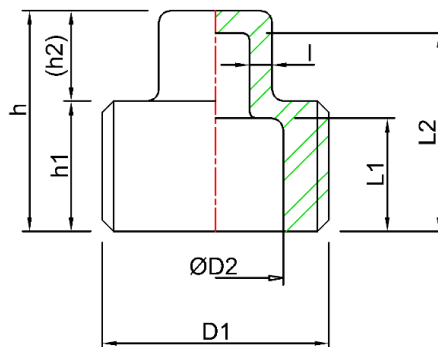
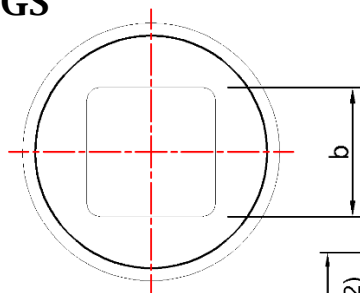
No Lead

Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Project Name: _____
Job #: _____

Class 150 # - CAST FITTINGS, ASTM A351 - Regular Pattern

SQUARE HEAD PLUGS



Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	SIZE	b	D1	D2	L1	L2	h	h1	(h2)	I
☐	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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT

No Lead

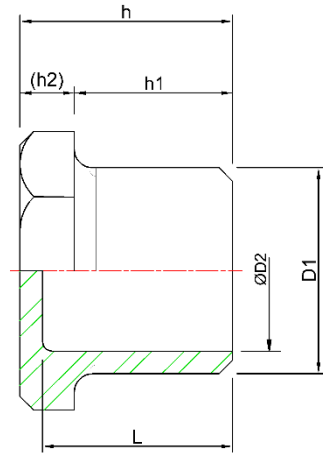
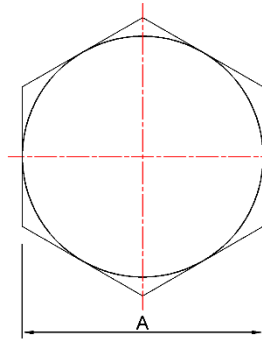
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Project Name: _____
 Job #: _____

150# CAST
 A351
 (HH Plug)

Class 150 # - CAST FITTINGS, ASTM A351 - Regular Pattern

HEX HEAD PLUGS



Grade: ☐ T304/CF8 ☐ T316/CF8M
 Connection: ☐ Threaded
 Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	SIZE	D1	D2	L	A	h	h1	(h2)
☐	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

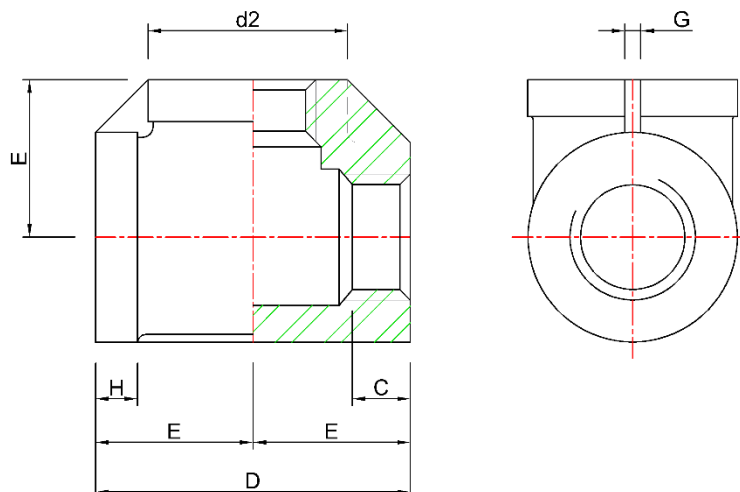
Thread Pattern conform to ANSI / ASME B1.20.1, NPT

No Lead

Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Class 150 # - CAST FITTINGS, ASTM A351 - Regular Pattern

TEES



Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	SIZE	d1	d2	d3	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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT, 1, NPT

No Lead/No Lead

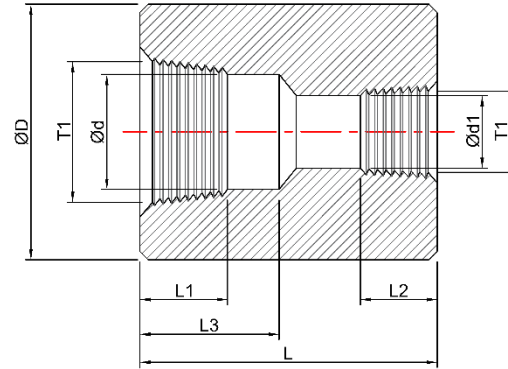
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479M A479

Project Name: _____
 Job #: _____

FORGED STEEL
A182
(Red Cplg)

ASTM A182, FORGED STEEL

REDUCING COUPLING - THREADED



Grade: ☐ T304L ☐ T316L
 Connection: ☐ Threaded
 Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS

DIMENSIONS

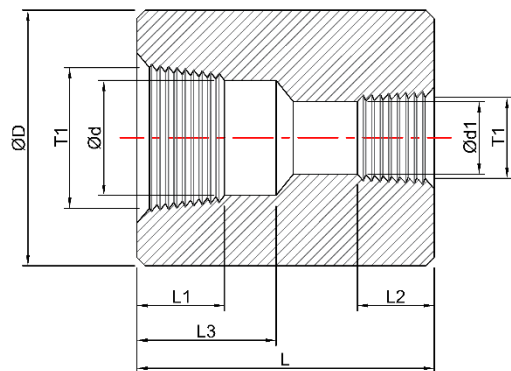
UOM: Inches/LBS

SELECT	SIZE	T1-n	T2-n	L	D	d	d1	L1	L2	L3
☐	¼ x ⅛	0.71	1.06	1.38	0.75	0.44	0.32	0.50	0.35	0.69
☐	⅜ x ⅛	0.71	1.06	1.50	0.87	0.57	0.32	0.52	0.35	0.75
☐	⅜ x ¼	0.71	0.71	1.50	0.87	0.57	0.44	0.52	0.50	0.75
☐	½ x ¼	0.55	0.71	1.89	1.10	0.68	0.44	0.68	0.50	0.94
☐	½ x ⅜	0.55	0.71	1.89	1.10	0.68	0.57	0.68	0.52	0.94
☐	¾ x ⅜	0.55	0.71	2.01	1.38	0.89	0.57	0.70	0.52	1.00
☐	¾ x ½	0.55	0.55	2.01	1.38	0.89	0.68	0.70	0.68	1.00
☐	1 x ⅜	0.45	0.71	2.36	1.73	1.12	0.57	0.83	0.52	1.18
☐	1 x ½	0.45	0.55	2.36	1.73	1.12	0.68	0.83	0.68	1.18
☐	1 x ¾	0.45	0.55	2.36	1.73	1.12	0.89	0.83	0.70	1.18
☐	1 ¼ x ½	0.45	0.55	2.64	2.24	1.46	0.68	0.85	0.68	1.32
☐	1 ¼ x ¾	0.45	0.55	2.64	2.24	1.46	0.89	0.85	0.70	1.32
☐	1 ¼ x 1	0.45	0.45	2.64	2.24	1.46	1.12	0.85	0.83	1.32
☐	1 ½ x ½	0.45	0.55	3.11	2.52	1.70	0.68	0.85	0.85	1.56
☐	1 ½ x ¾	0.45	0.55	3.11	2.52	1.70	0.89	0.85	0.70	1.56
☐	1 ½ x 1	0.45	0.45	3.11	2.52	1.70	1.12	0.85	0.83	1.56
☐	1 ½ x 1 ¼	0.45	0.45	3.11	2.52	1.70	1.46	0.85	0.85	1.56
☐	2 x ¾	0.45	0.55	3.39	2.99	2.17	0.89	0.87	0.70	1.69
☐	2 x 1	0.45	0.45	3.39	2.99	2.17	1.12	0.87	0.83	1.69
☐	2 x 1 ¼	0.45	0.45	3.39	2.99	2.17	1.46	0.87	0.85	1.69
☐	2 x 1 ½	0.45	0.45	3.39	2.99	2.17	1.70	0.87	0.85	1.69

3000# Forged 316 stainless steel material conforms to ASME A182
 Forged stainless steel fitting dimensions conform to ASME B16.11
 NPT threads conform to ASME B1.20.1
 Socket weld fittings conform to ASME B16.11
 Forged stainless union conform to MSS SP-83
 Forged stainless outlets conform to MSS SP-97
 Forged stainless socket weld inserts conform to MSS SP-79

Project Name: _____
Job #: _____

ASTM A182, FORGED STEEL
REDUCING COUPLING - THREADED



Grade: ☐ T304L ☐ T316L
Connection: ☐ Threaded
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS

DIMENSIONS

UOM: Inches/LBS

SELECT	SIZE	T1-n	T2-n	L	D	d	d1	L1	L2	L3
☐	2 ½ x 1	0.31	0.45	3.62	3.62	2.58	1.12	1.18	0.83	1.81
☐	2 ½ x 1 ¼	0.31	0.45	3.62	3.62	2.58	1.46	1.18	0.85	1.81
☐	2 ½ x 1 ½	0.31	0.45	3.62	3.62	2.58	1.70	1.18	0.85	1.81
☐	2 ½ x 2	0.31	0.45	3.62	3.62	2.58	2.17	1.18	0.87	1.81
☐	3 x 1	0.31	0.45	4.25	4.25	3.21	1.12	1.27	0.83	2.13
☐	3 x 1 ¼	0.31	0.45	4.25	4.25	3.21	1.46	1.27	0.85	2.13
☐	3 x 1 ½	0.31	0.45	4.25	4.25	3.21	1.70	1.27	0.85	2.13
☐	3 x 2	0.31	0.45	4.25	4.25	3.21	2.17	1.27	0.87	2.13
☐	3 x 2 ½	0.31	0.31	4.25	4.25	3.21	2.58	1.27	1.18	2.13
☐	4 x 1 ¼	0.31	0.45	4.76	5.51	4.20	1.46	1.34	0.85	2.38
☐	4 x 1 ½	0.31	0.45	4.76	5.51	4.20	1.70	1.34	0.85	2.38
☐	4 x 2	0.31	0.45	4.76	5.51	4.20	2.17	1.34	0.87	2.38
☐	4 x 2 ½	0.31	0.31	4.76	5.51	4.20	2.58	1.34	1.18	2.38

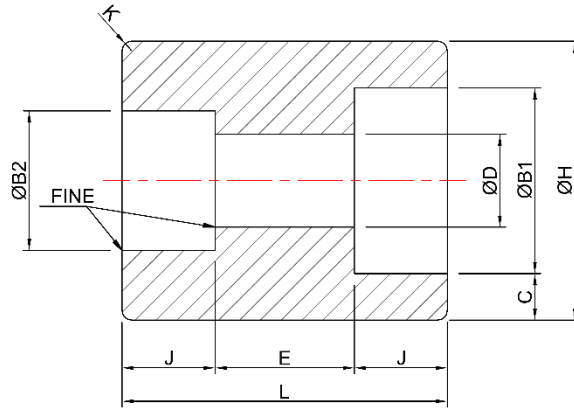
3000# Forged 316 stainless steel material conforms to ASME A182
Forged stainless steel fitting dimensions conform to ASME B16.11
NPT threads conform to ASME B1.20.1
Socket weld fittings conform to ASME B16.11
Forged stainless union conform to MSS SP-83
Forged stainless outlets conform to MSS SP-97
Forged stainless socket weld inserts conform to MSS SP-79

Project Name: _____
Job #: _____

FORGED STEEL
A182
(Red Cplg)

ASTM A182, FORGED STEEL

REDUCING COUPLING - SOCKETWELD



Grade: ☐ T304L ☐ T316L
Connection: ☐ Socket weld
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS

DIMENSIONS

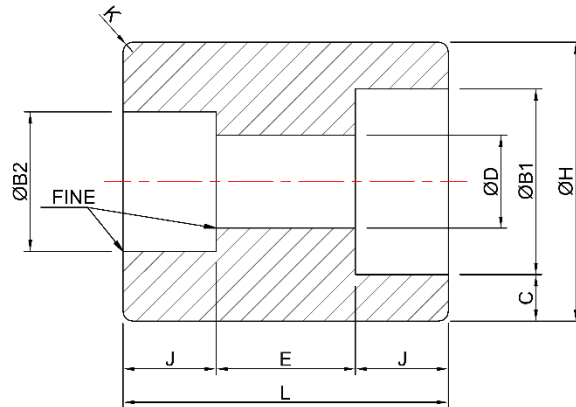
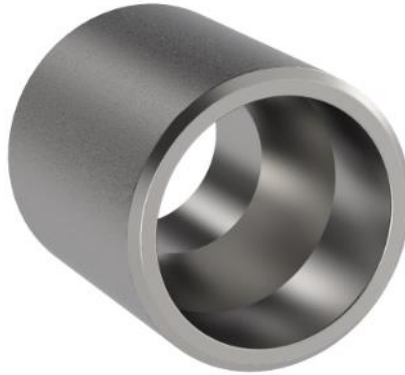
UOM: Inches/LBS

SELECT	SIZE	B1	B2	D	C (Min)	H (Min)	J	E	L
☐	¼ X ⅛	0.56	0.43	0.27	0.15	0.86	0.41	0.26	1.08
☐	⅜ X ⅛	0.70	0.43	0.27	0.16	1.02	0.41	0.26	1.12
☐	⅜ X ¼	0.70	0.56	0.37	0.16	1.02	0.41	0.26	1.12
☐	½ X ⅛	0.86	0.43	0.27	0.19	1.23	0.49	0.37	1.36
☐	½ X ¼	0.11	0.56	0.37	0.19	1.23	0.49	0.37	1.36
☐	½ X ⅜	0.86	0.70	0.50	0.19	1.23	0.49	0.37	1.36
☐	¾ X ⅛	1.07	0.43	0.27	0.19	1.46	0.55	0.37	1.48
☐	¾ X ¼	1.07	0.56	0.37	0.19	1.46	0.55	0.37	1.48
☐	¾ X ⅜	1.07	0.70	0.50	0.19	1.46	0.55	0.37	1.48
☐	¾ X ½	1.07	0.86	0.62	0.19	1.46	0.55	0.37	1.48
☐	1 X ⅛	1.34	0.43	0.27	0.22	1.79	0.59	0.49	1.69
☐	1 X ¼	1.34	0.56	0.37	0.22	1.79	0.59	0.49	1.69
☐	1 X ⅜	1.34	0.70	0.50	0.22	1.79	0.59	0.49	1.69
☐	1 X ½	1.34	0.86	0.62	0.22	1.79	0.59	0.49	1.69
☐	1 X ¾	1.34	1.07	0.83	0.22	1.79	0.59	0.49	1.69
☐	1 ¼ X ⅛	1.69	0.43	0.27	0.24	2.17	0.67	0.49	1.85
☐	1 ¼ X ¼	1.69	0.56	0.37	0.24	2.17	0.67	0.49	1.85
☐	1 ¼ X ⅜	1.69	0.70	0.50	0.24	2.17	0.67	0.49	1.85
☐	1 ¼ X ½	1.69	0.86	0.62	0.24	2.17	0.67	0.49	1.85
☐	1 ¼ X ¾	1.69	1.07	0.83	0.24	2.17	0.67	0.49	1.85
☐	1 ¼ X 1	1.69	1.34	1.05	0.24	2.17	0.67	0.49	1.85

3000# Forged 316 stainless steel material conforms to ASME A182
Forged stainless steel fitting dimensions conform to ASME B16.11
NPT threads conform to ASME B1.20.1
Socket weld fittings conform to ASME B16.11
Forged stainless union conform to MSS SP-83
Forged stainless outlets conform to MSS SP-97
Forged stainless socket weld inserts conform to MSS SP-79

ASTM A182, FORGED STEEL

REDUCING COUPLING - SOCKETWELD



Grade: ☐ T304L ☐ T316L
Connection: ☐ Socket weld
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS

DIMENSIONS

UOM: Inches/LBS

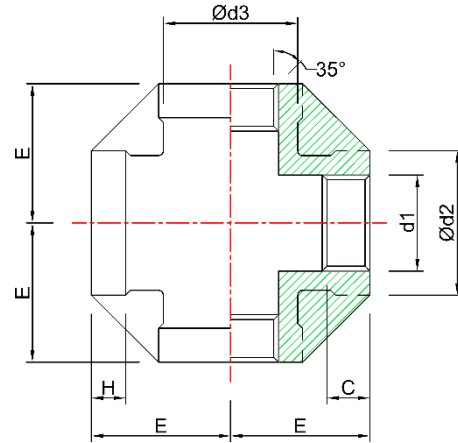
SELECT	SIZE	B1	B2	D	C (Min)	H (Min)	J	E	L
☐	1 ½ x ½	1.93	0.43	0.27	0.25	2.43	0.69	0.49	1.89
☐	1 ½ x ¾	1.93	0.56	0.37	0.25	2.43	0.69	0.49	1.89
☐	1 ½ x ¾	1.93	0.70	0.50	0.25	2.43	0.69	0.49	1.89
☐	1 ½ x 1	1.93	0.86	0.62	0.25	2.43	0.69	0.49	1.89
☐	1 ½ x 1 ¼	1.93	1.07	0.83	0.25	2.43	0.69	0.49	1.89
☐	1 ½ x 1 ½	1.93	1.34	1.05	0.25	2.43	0.69	0.49	1.89
☐	1 ½ x 2	1.93	1.69	1.38	0.25	2.43	0.69	0.49	1.89
☐	2 x ½	2.42	0.43	0.27	0.27	2.96	0.87	0.75	2.48
☐	2 x ¾	2.42	0.56	0.37	0.27	2.96	0.87	0.75	2.48
☐	2 x 1	2.42	0.70	0.50	0.27	2.96	0.87	0.75	2.48
☐	2 x 1 ¼	2.42	0.86	0.62	0.27	2.96	0.87	0.75	2.48
☐	2 x 1 ½	2.42	1.07	0.83	0.27	2.96	0.87	0.75	2.48
☐	2 x 2	2.42	1.34	1.05	0.27	2.96	0.87	0.75	2.48
☐	2 x 2 ½	2.42	1.69	1.38	0.27	2.96	0.87	0.75	2.48
☐	2 ½ x 1 ¼	2.92	1.69	1.38	0.35	3.61	0.87	0.75	2.48
☐	2 ½ x 1 ½	2.92	1.93	1.61	0.35	3.61	0.87	0.75	2.48
☐	2 ½ x 2	2.92	2.42	2.07	0.35	3.61	0.87	0.75	2.48
☐	3 x 1 ½	3.54	1.93	1.61	0.38	4.30	0.87	0.75	2.48
☐	3 x 2	3.54	2.42	2.07	0.38	4.30	0.87	0.75	2.48
☐	3 x 2 ½	3.54	2.92	2.47	0.38	4.30	0.87	0.75	2.48
☐	4 x 2	4.54	2.42	2.07	0.42	5.39	0.87	0.75	2.48
☐	4 x 2 ½	4.54	2.92	2.47	0.42	5.39	0.87	0.75	2.48
☐	4 x 3	4.54	3.54	3.07	0.42	5.39	0.87	0.75	2.48

3000# Forged 316 stainless steel material conforms to ASME A182
Forged stainless steel fitting dimensions conform to ASME B16.11
NPT threads conform to ASME B1.20.1
Socket weld fittings conform to ASME B16.11
Forged stainless union conform to MSS SP-83
Forged stainless outlets conform to MSS SP-97
Forged stainless socket weld inserts conform to MSS SP-79

Project Name: _____
 Job #: _____

150# CAST
 A351
 (CROSS)

Class 150 # - CAST FITTINGS, ASTM A351 -
Regular Pattern
CROSSES



Grade: ☐ T304/CF8 ☐ T316/CF8M
 Connection: ☐ Threaded
 Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	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

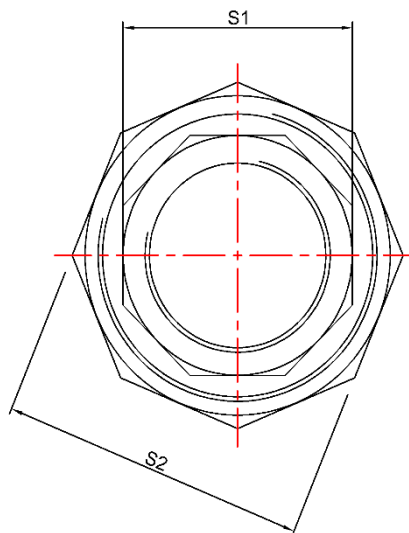
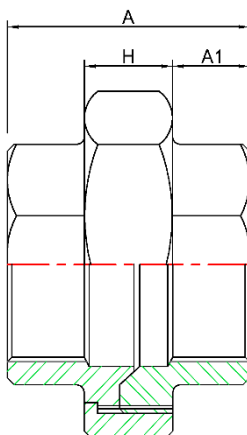
Thread Pattern conform to ANSI / ASME B1.20.1, NPT

No Lead

Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Class 150 # - CAST FITTINGS, ASTM A351 - Regular Pattern

UNION - THREADED



Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT

No Lead

Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

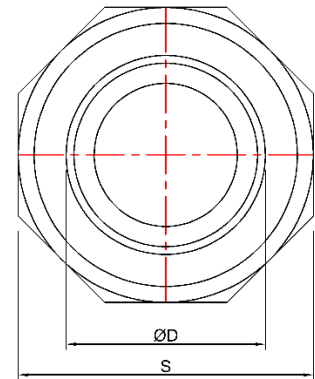
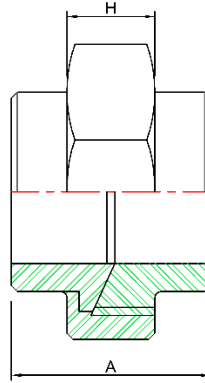
Project Name: _____

Job #: _____

150# CAST
A351
(Uni)

**Class 150 # - CAST FITTINGS, ASTM A351 -
Regular Pattern**

UNION - SOCKET WELD



Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Socket weld
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

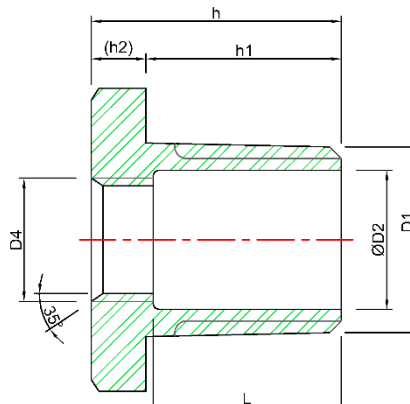
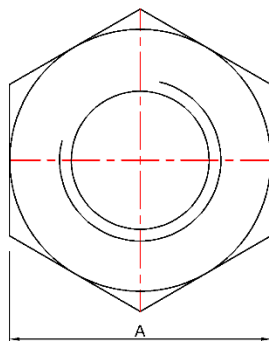
SELECT	SIZE	A	D	S	H
☐	1/4	1.26	0.54	1.14	0.55
☐	3/8	1.50	0.68	1.42	0.55
☐	1/2	1.57	0.85	1.61	0.55
☐	3/4	1.85	1.07	1.93	0.55
☐	1	1.95	1.34	2.58	0.71
☐	1 1/4	2.13	1.69	2.67	0.75
☐	1 1/2	2.24	1.91	3.02	0.83
☐	2	2.36	2.39	3.60	0.94
☐	2 1/2	2.76	3.00	4.29	0.94
☐	3	3.19	3.51	4.92	1.10

Thread Pattern conform to ANSI / ASME B1.20.1, NPT
No Lead

Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Class 150 # - CAST FITTINGS, ASTM A351 - Regular Pattern

HEX BUSHINGS



Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT

No Lead

Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Project Name: _____
Job #: _____

150# CAST
A351
(H Bush)

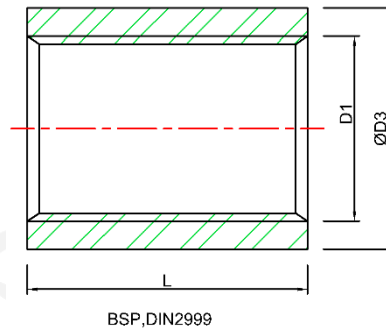
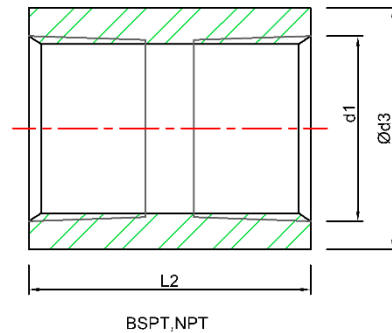
SELECT	SIZE	A	L	D1	D2	D4	h	h1	(h2)
☐	1 1/2 x 1/8	2.05	1.06	1 1/2	1.57	1/8	1.42	1.02	0.39
☐	1 1/2 x 1/4	2.05	1.06	1 1/2	1.57	1/4	1.42	1.02	0.39
☐	1 1/2 x 3/8	2.05	1.02	1 1/2	1.57	3/8	1.42	1.02	0.39
☐	1 1/2 x 1/2	2.05	0.94	1 1/2	1.57	1/2	1.42	1.02	0.39
☐	1 1/2 x 3/4	2.05	0.91	1 1/2	1.57	3/4	1.42	1.02	0.39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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT
No Lead

Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Class 150 # - CAST FITTINGS, ASTM A351 - Regular Pattern

COUPLINGS



Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

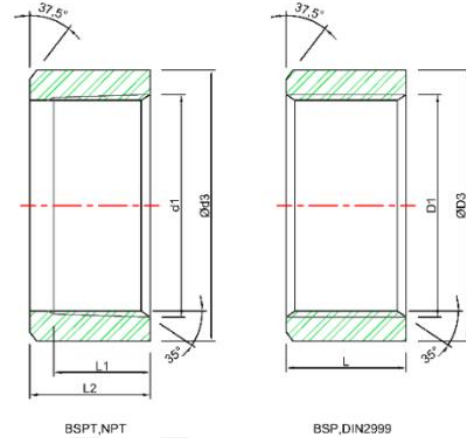
SELECT	SIZE	d1	BSPT., NPT		D1	BSP, D IN 2999	
			d3	L2		D3	L
☐	1/8	1/8	0.55	0.79	1/8	0.55	0.79
☐	1/4	1/4	0.73	1.06	1/4	0.73	0.98
☐	3/8	3/8	0.85	1.10	3/8	0.85	1.02
☐	1/2	1/2	1.04	1.42	1/2	1.04	1.34
☐	3/4	3/4	1.26	1.54	3/4	1.26	1.42
☐	1	1	1.56	1.69	1	1.56	1.69
☐	1 1/4	1 1/4	1.91	1.89	1 1/4	1.91	1.89
☐	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	----	----	----

Thread Pattern conform to ANSI / ASME B1.20.1, NPT
No Lead
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Project Name: _____
 Job #: _____

150# CAST
 A351
 (H Cplg)

Class 150 # - CAST FITTINGS, ASTM A351 -
Regular Pattern
HALF COUPLINGS



Grade: ☐ T304/CF8 ☐ T316/CF8M
 Connection: ☐ Threaded
 Source: ☐ Import ☐ Domestic

DIMENSIONS

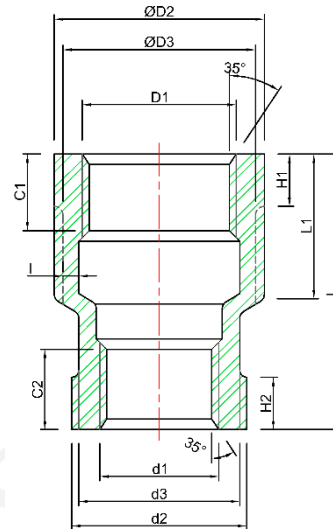
UOM: Inches/LBS

SELECT	SIZE	d1	BSPT., NPT		D1	BSP, D IN 2999	
			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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT
 No Lead
 Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Project Name: _____
Job #: _____

Class 150 # - CAST FITTINGS, ASTM A351 - Regular Pattern **REDUCING COUPLINGS**



Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	SIZE	D1	D2	D3	C1	H1	d1	d2	d3	C2	H2	L1	L	I
☐	1/4 x 1/8	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 x 1/8	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 x 1/4	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 x 1/8	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 x 1/4	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 x 3/8	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 x 1/8	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 x 1/4	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 x 3/8	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 x 1/2	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 x 1/8	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 x 1/4	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 x 3/8	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 x 1/2	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 x 3/4	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 x 1/4	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 x 3/8	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 x 1/2	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 x 3/4	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 x 1	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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT

No Lead

Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

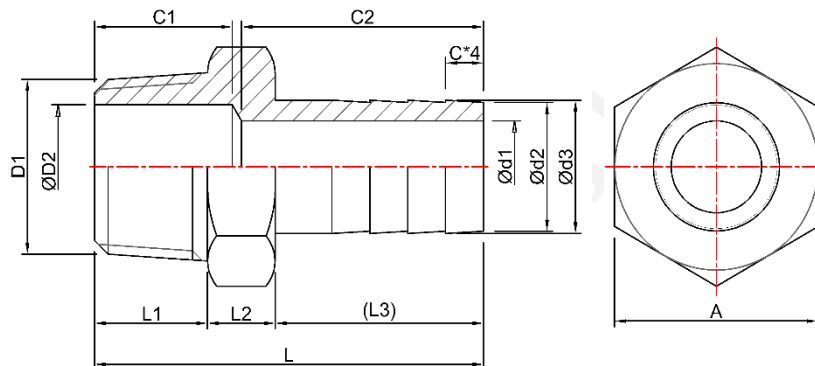
Project Name: _____
Job #: _____

150# CAST
A351
(Red Cplg)

SELECT	SIZE	D1	D2	D3	C1	H1	d1	d2	d3	C2	H2	L1	L	I
☐	1 1/2 x 1/4	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 x 3/8	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 x 1/2	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 x 3/4	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 x 1	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 x 1 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 x 1/4	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 x 3/8	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 x 1/2	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 x 3/4	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 x 1	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 x 1 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 x 1 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 x 3/4	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 x 1	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 x 1 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 x 1 1/2	2 1/2	3.54	3.39	0.91	0.55	1 1/2	2.36	2.22	0.91	0.47	1.69	2.99	0.26
☐	2 1/2 x 2	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 X 1/2	----	----	----	----	----	----	----	----	----	----	----	----	----
☐	3 x 3/4	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 x 1	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 x 1 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 x 1 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 x 2	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 x 2 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 x 1	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 x 1 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 x 1 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 x 2	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 x 2 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 x 3	4	5.43	5.20	0.98	0.63	3	4.29	4.09	0.98	0.63	2.17	3.86	0.26

Thread Pattern conform to ANSI / ASME B1.20.1, NPT
No Lead
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Class 150 # - CAST FITTINGS, ASTM A351 -
Regular Pattern
HOSE NIPPLES



Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT

No Lead

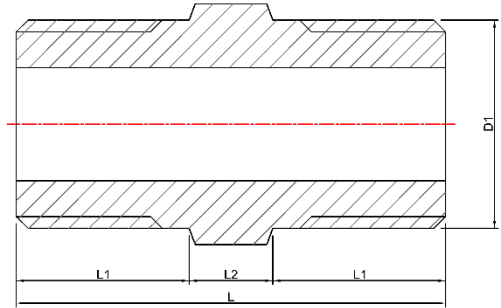
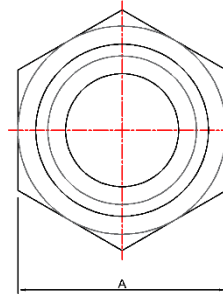
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Project Name: _____
 Job #: _____

**150# CAST
 A351
 (Hex Nip)**

Class 150 # - CAST FITTINGS, ASTM A351 - Regular Pattern

HEX NIPPLES



Grade: ☐ T304/CF8 ☐ T316/CF8M
 Connection: ☐ Threaded
 Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	SIZE	D1	A	L	L1	L2
☐	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	0.9	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

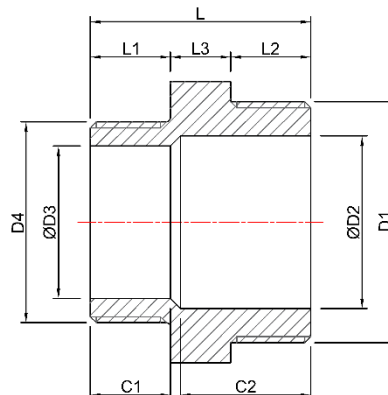
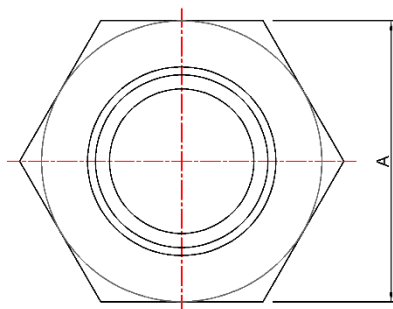
Thread Pattern conform to ANSI / ASME B1.20.1, NPT

No Lead

Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Class 150 # - CAST FITTINGS, ASTM A351 - Regular Pattern

REDUCING HEX NIPPLES



Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded ☐ Socket weld
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT

No Lead

Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Project Name: _____
Job #: _____

150# CAST
A351
(Red Hex Nip)

SELECT

SIZE	A	D1	D2	D3	D4	C1	C2	L	L1	L2	L3
☐ 1 1/2 x 1/4	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 x 3/8	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 x 1/2	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 x 3/4	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 x 1	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 x 1 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 x 1/4	2.48	2	2.01	0.33	1/4	0.63	1.46	2.17	0.51	1.02	0.63
☐ 2 x 3/8	2.48	2	2.01	0.41	3/8	0.67	1.46	2.24	0.59	1.02	0.63
☐ 2 x 1/2	2.48	2	2.01	0.57	1/2	0.71	1.46	2.28	0.667	0.98	0.63
☐ 2 x 3/4	2.48	2	2.01	0.79	3/4	0.71	1.42	2.36	0.71	1.02	0.63
☐ 2 x 1	2.48	2	2.01	1.00	1	0.87	1.42	2.44	0.79	1.02	0.63
☐ 2 x 1 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 x 1 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 x 1/2	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 x 3/4	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 x 1	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 x 1 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 x 1 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 x 2	3.15	2 1/2	2.52	2.01	2	1.10	1.46	2.72	0.98	1.10	0.63
☐ 3 x 1/2	3.74	3	2.99	0.57	1/2	1.04	1.65	2.60	0.63	1.30	0.67
☐ 3 x 3/4	3.74	3	2.99	0.79	3/4	0.87	1.69	2.83	0.91	1.26	0.67
☐ 3 x 1	3.74	3	2.99	1.00	1	0.94	1.69	2.76	0.79	1.30	0.67
☐ 3 x 1 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 x 1 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 x 2	3.74	3	2.99	2.01	2	1.14	1.69	2.95	0.98	1.30	0.67
☐ 3 x 2 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 x 3/4	4.72	4	4.02	0.79	3/4	0.87	1.89	2.87	0.71	1.50	0.67
☐ 4 x 1	4.72	4	4.02	1.00	1	0.98	1.89	2.95	0.79	1.50	0.67
☐ 4 x 1 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 x 1 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 x 2	4.72	4	4.02	2.01	2	1.14	1.89	3.15	0.98	1.50	0.67
☐ 4 x 2 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 x 3	4.72	4	4.02	3.03	3	1.42	1.89	3.43	1.26	1.50	0.67

Thread Pattern conform to ANSI / ASME B1.20.1, NPT

No Lead

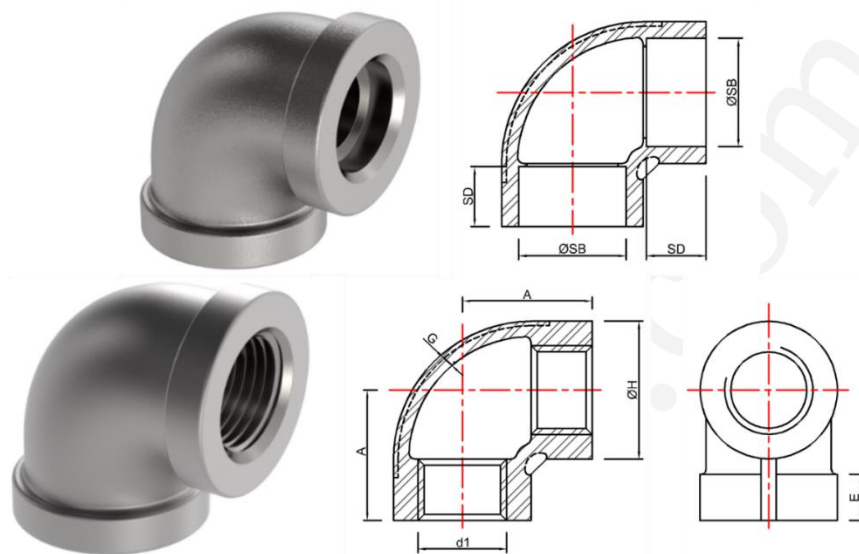
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Project Name: _____
Job #: _____

Class 150# - CAST FITTINGS, ASTM A351 - MSS **SP114 Heavy Pattern**

HEAVY PATTERN 90° ELBOW

SOCKET-WELD END



THREAD END

Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded ☐ Socket weld
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

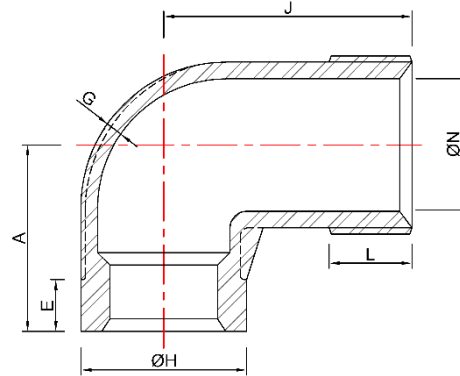
SELECT	SIZE	A	E	G	H	SB	SD
☐	1/8	0.81	0.20	0.09	0.75	0.43	0.39
☐	1/4	0.81	0.20	0.09	0.84	0.56	0.39
☐	3/8	0.93	0.21	0.10	1.02	0.69	0.39
☐	1/2	1.12	0.25	0.10	1.21	0.85	0.39
☐	3/4	1.31	0.27	0.12	1.46	1.07	0.51
☐	1	1.50	0.30	0.13	1.77	1.33	0.51
☐	1 1/4	1.75	0.34	0.14	2.15	1.68	0.51
☐	1 1/2	1.93	0.37	0.15	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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT
Stainless Castings conform to ASTM A351
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479
Manufactured in accordance to ISO 9001: 2000

Project Name: _____
Job #: _____

Class 150# - CAST FITTINGS, ASTM A351 – MSS
SP114 Heavy Pattern

HEAVY PATTERN STREET 90° ELBOW



Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

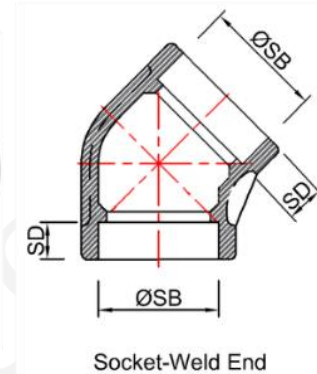
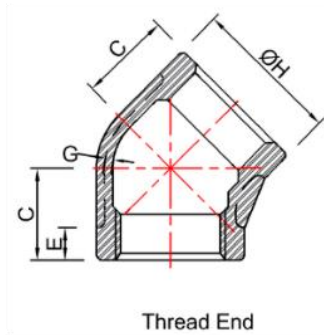
SELECT	SIZE	A	E	G	H	J	N	L
☐	1/8	0.81	0.20	0.09	0.75	1.06	0.19	0.26
☐	1/4	0.81	0.20	0.09	0.84	1.18	0.24	0.40
☐	3/8	0.93	0.21	0.10	1.01	1.43	0.36	0.41
☐	1/2	1.12	0.25	0.10	1.20	1.62	0.51	0.53
☐	3/4	1.31	0.27	0.12	1.46	1.87	0.69	0.55
☐	1	1.50	0.30	0.13	1.77	2.12	0.91	0.68
☐	1 1/4	1.75	0.34	0.14	2.15	2.50	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 Pattern conform to ANSI / ASME B1.20.1, NPT
Stainless Castings conform to ASTM A351
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479
Manufactured in accordance to ISO 9001: 2000

Project Name: _____
Job #: _____

Class 150# - CAST FITTINGS, ASTM A351 - MSS SP114 Heavy Pattern

HEAVY PATTERN 45° ELBOW



Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded ☐ Socket weld
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	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

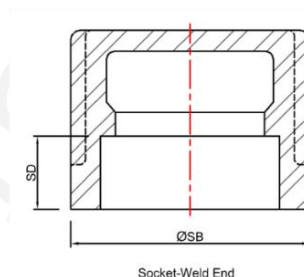
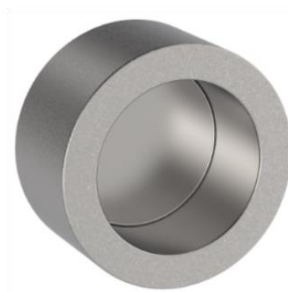
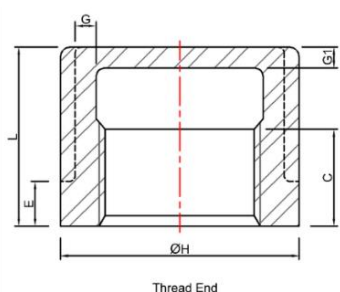
Thread Pattern conform to ANSI / ASME B1.20.1, NPT
Stainless Castings conform to ASTM A351
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479
Manufactured in accordance to ISO 9001: 2000

Project Name: _____

Job #: _____

Class 150# - CAST FITTINGS, ASTM A351 - MSS **SP114 Heavy Pattern**

HEAVY PATTERN CAPS



Grade: ☐ T304/CF8 ☐ T316/CF8M
 Connection: ☐ Threaded ☐ Socket weld
 Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT

Stainless Castings conform to ASTM A351

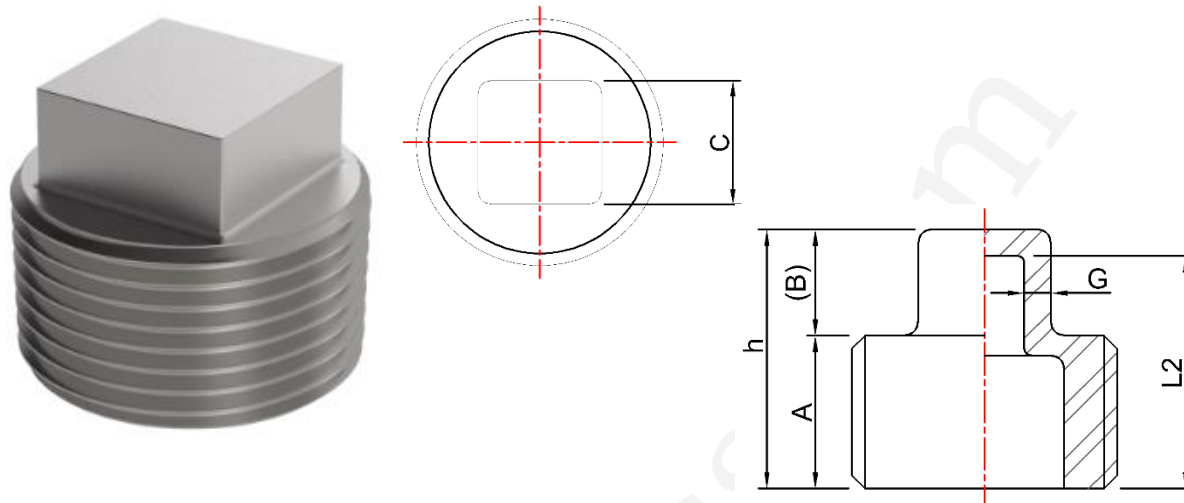
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Manufactured in accordance to ISO 9001: 2000

Project Name: _____
Job #: _____

Class 150# - CAST FITTINGS, ASTM A351 - MSS SP114 Heavy Pattern

HEAVY PATTERN SQUARE PLUG



Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT

Stainless Castings conform to ASTM A351

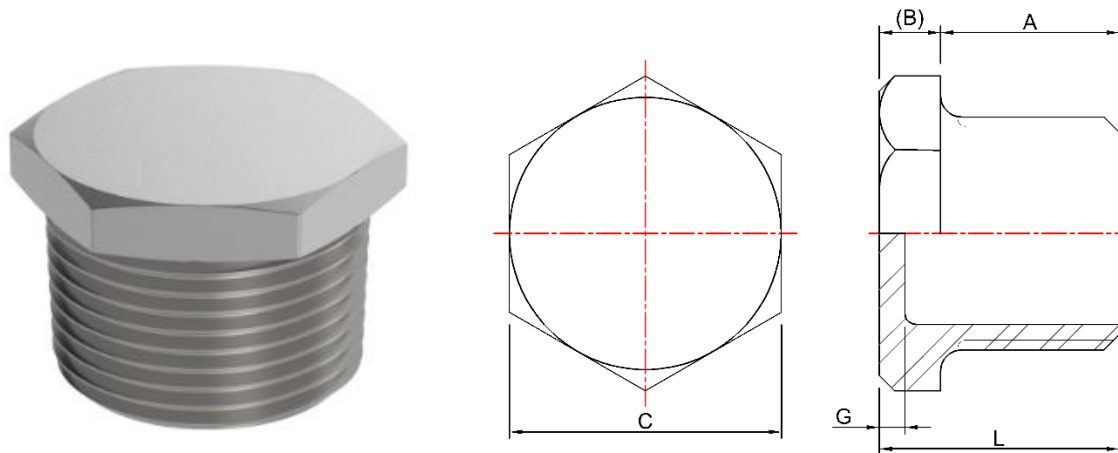
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Manufactured in accordance to ISO 9001: 2000

Project Name: _____
Job #: _____

Class 150# - CAST FITTINGS, ASTM A351 - MSS
SP114 Heavy Pattern

HEAVY PATTERN HEX HEAD PLUG



Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	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 Pattern conform to ANSI / ASME B1.20.1, NPT

Stainless Castings conform to ASTM A351

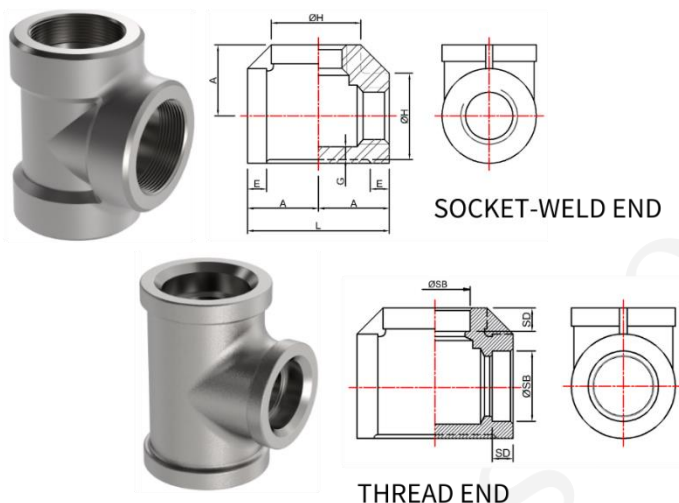
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Manufactured in accordance to ISO 9001: 2000

Project Name: _____
Job #: _____

Class 150# - CAST FITTINGS, ASTM A351 – MSS SP114 Heavy Pattern

HEAVY PATTERN TEE



Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded ☐ Socket weld
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	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

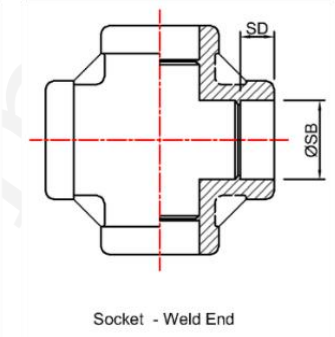
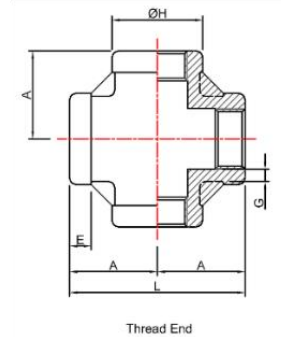
Thread Pattern conform to ANSI / ASME B1.20.1, NPT
Stainless Castings conform to ASTM A351
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479
Manufactured in accordance to ISO 9001: 2000

Project Name: _____
 Job #: _____

**MSS-HEAVY
 150# CAST
 A351
 (CROSS)**

Class 150# - CAST FITTINGS, ASTM A351 - MSS
SP114 Heavy Pattern

HEAVY PATTERN CROSS



Grade: ☐ T304/CF8 ☐ T316/CF8M
 Connection: ☐ Threaded ☐ Socket weld
 Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

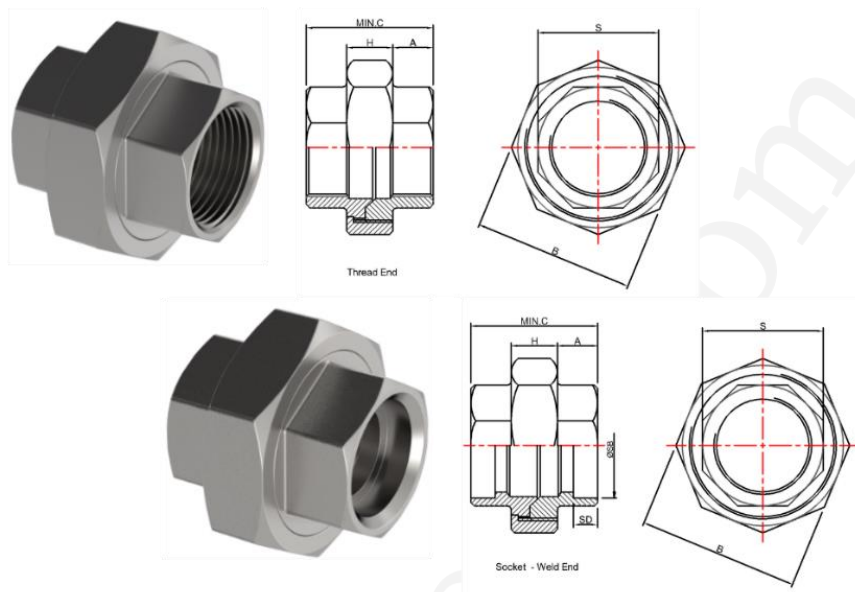
SELECT	SIZE	A	E	G	H	L	SB	SD
☐	1/8	0.81	0.20	0.09	0.75	1.62	0.43	0.39
☐	1/4	0.81	0.20	0.09	0.84	1.62	0.56	0.39
☐	3/8	0.93	0.21	0.10	1.01	1.86	0.69	0.39
☐	1/2	1.12	0.25	0.10	1.20	2.24	0.85	0.39
☐	3/4	1.31	0.27	0.12	1.46	2.62	1.07	0.51
☐	1	1.50	0.30	0.13	1.77	3.00	1.33	0.51
☐	1 1/4	1.75	0.34	0.14	2.15	3.50	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 Pattern conform to ANSI / ASME B1.20.1, NPT
 Stainless Castings conform to ASTM A351
 Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479
 Manufactured in accordance to ISO 9001: 2000

Project Name: _____
Job #: _____

Class 150# - CAST FITTINGS, ASTM A351 – MSS SP114 Heavy Pattern

HEAVY PATTERN UNION



Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded ☐ Socket weld
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT
Stainless Castings conform to ASTM A351
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479
Manufactured in accordance to ISO 9001: 2000

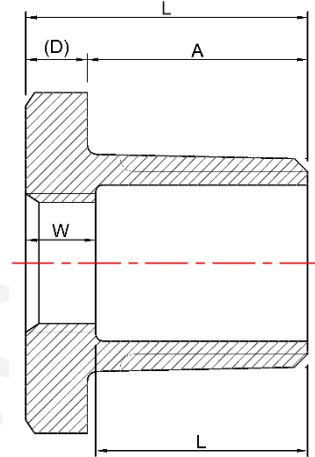
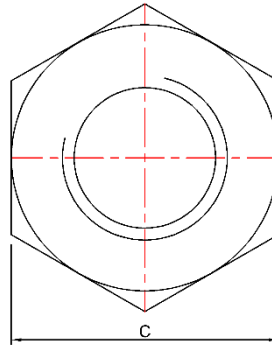
Project Name: _____

Job #: _____

MSS-HEAVY
150# CAST
A351
(H Bush)

Class 150# - CAST FITTINGS, ASTM A351 – MSS **SP114 Heavy Pattern**

HEAVY PATTERN HEX BUSHING



Grade: ☐ T304/CF8 ☐ T316/CF8M
 Connection: ☐ Threaded
 Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT

Stainless Castings conform to ASTM A351

Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Manufactured in accordance to ISO 9001: 2000

Project Name: _____

Job #: _____

SELECT	SIZE	A	C	D	L	T
☐	1 1/2 x 1/4	0.81	2.00	0.31	1.12	0.46
☐	1 1/2 x 3/8	0.81	2.00	0.31	1.12	0.46
☐	1 1/2 x 1/2	0.81	2.00	0.31	1.12	0.60
☐	1 1/2 x 3/4	0.81	2.00	0.31	1.12	0.62
☐	1 1/2 x 1	0.81	2.00	0.31	1.12	0.77
☐	1 1/2 x 1 1/4	0.81	2.00	0.31	1.12	0.80
☐	2 x 1/4	0.88	2.50	0.34	1.22	0.46
☐	2 x 3/8	0.88	2.50	0.34	1.22	0.46
☐	2 x 1/2	0.88	2.50	0.34	1.22	0.60
☐	2 x 3/4	0.88	2.50	0.34	1.22	0.62
☐	2 x 1	0.88	2.50	0.34	1.22	0.77
☐	2 x 1 1/4	0.88	2.50	0.34	1.22	0.80
☐	2 x 1 1/2	0.88	2.50	0.34	1.22	0.81
☐	2 1/2 x 1/2	1.06	3.00	0.38	1.44	0.65
☐	2 1/2 x 3/4	1.06	3.00	0.38	1.44	0.62
☐	2 1/2 x 1	1.06	3.00	0.38	1.44	0.75
☐	2 1/2 x 1 1/4	1.06	3.00	0.38	1.44	0.80
☐	2 1/2 x 1 1/2	1.06	3.00	0.38	1.44	0.81
☐	2 1/2 x 2	1.06	3.00	0.38	1.44	0.85
☐	3 x 1/2	1.12	3.74	0.41	1.54	0.65
☐	3 x 3/4	1.12	3.74	0.41	1.54	0.62
☐	3 x 1	1.12	3.74	0.41	1.54	0.75
☐	3 x 1 1/4	1.12	3.74	0.41	1.54	0.79
☐	3 x 1 1/2	1.12	3.74	0.41	1.54	0.81
☐	3 x 2	1.12	3.74	0.41	1.54	0.85
☐	3 x 2 1/2	1.12	3.74	0.41	1.54	1.23
☐	4 x 1	1.25	4.63	0.60	1.85	0.77
☐	4 x 1 1/4	1.25	4.63	0.60	1.85	0.79
☐	4 x 1 1/2	1.25	4.63	0.60	1.85	0.81
☐	4 x 2	1.25	4.63	0.60	1.85	0.85
☐	4 x 2 1/2	1.25	4.63	0.60	1.85	1.23
☐	4 x 3	1.25	4.63	0.60	1.85	1.33

Thread Pattern conform to ANSI / ASME B1.20.1, NPT

Stainless Castings conform to ASTM A351

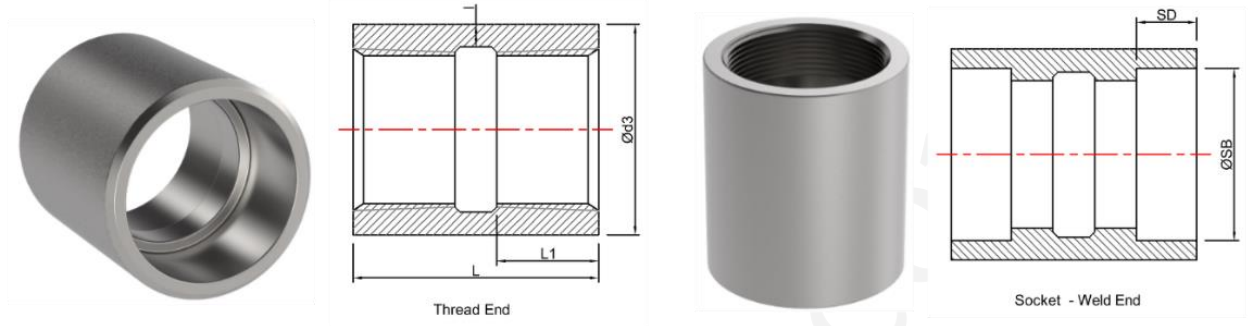
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Manufactured in accordance to ISO 9001: 2000

Project Name: _____
 Job #: _____

Class 150# - CAST FITTINGS, ASTM A351 – MSS
SP114 Heavy Pattern

HEAVY PATTERN COUPLING



Grade: ☐ T304/CF8 ☐ T316/CF8M
 Connection: ☐ Threaded ☐ Socket weld
 Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT

Stainless Castings conform to ASTM A351

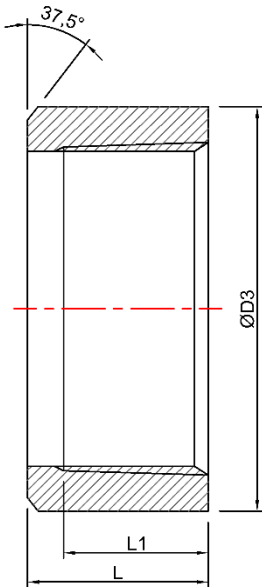
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Manufactured in accordance to ISO 9001: 2000

Project Name: _____
Job #: _____

Class 150# - CAST FITTINGS, ASTM A351 - MSS
SP114 Heavy Pattern

HEAVY PATTERN HALF COUPLING



- Grade: ☐ T304/CF8 ☐ T316/CF8M
Connection: ☐ Threaded ☐ Socket weld
Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

SELECT	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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT
Stainless Castings conform to ASTM A351
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479
Manufactured in accordance to ISO 9001: 2000

Project Name: _____

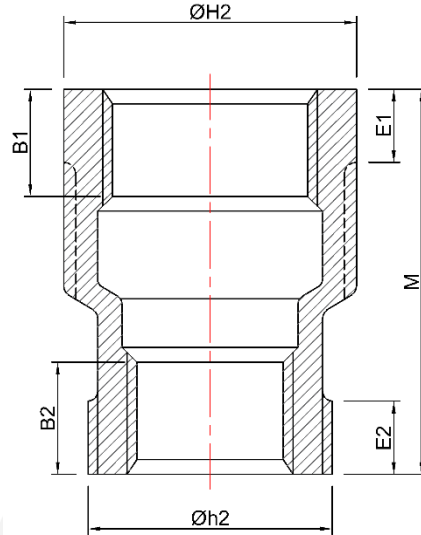
Job #: _____

MSS-HEAVY
150# CAST
A351
(Red Cplg)

Class 150# - CAST FITTINGS, ASTM A351 - MSS

SP114 Heavy Pattern

HEAVY PATTERN REDUCING COUPLING



Grade: ☐ T304/CF8 ☐ T316/CF8M
 Connection: ☐ Threaded
 Source: ☐ Import ☐ Domestic

DIMENSIONS

UOM: Inches/LBS

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

Thread Pattern conform to ANSI / ASME B1.20.1, NPT

Stainless Castings conform to ASTM A351

Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479

Manufactured in accordance to ISO 9001: 2000

Project Name: _____
Job #: _____

SELECT

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

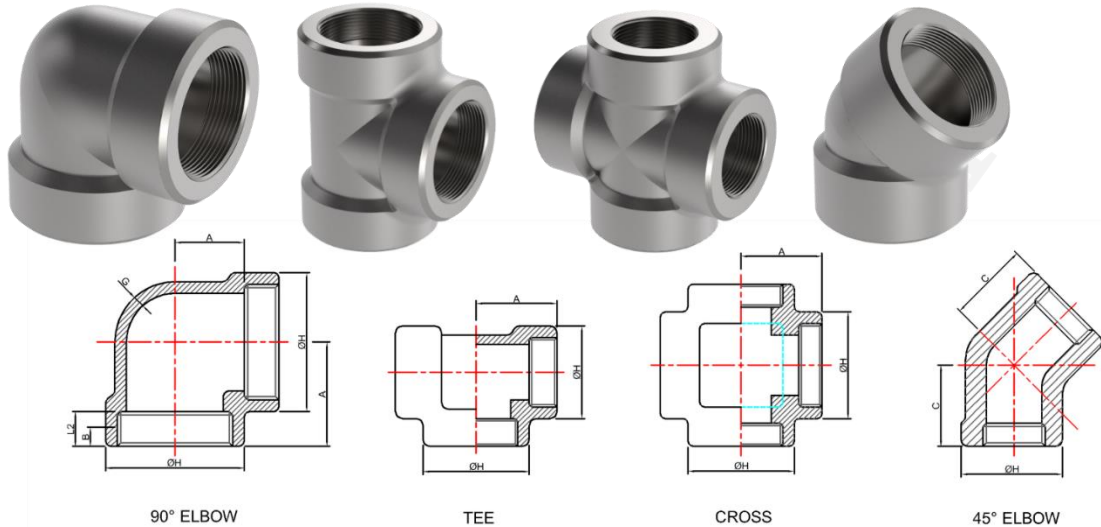
Thread Pattern conform to ANSI / ASME B1.20.1, NPT
Stainless Castings conform to ASTM A351
Stainless Wrought Fittings conform To ASTM A182, Barstock to ASTM A479
Manufactured in accordance to ISO 9001: 2000

Project Name: _____
Job #: _____

FORGED STEEL
A182
(90, X, T, & 45's)

ASTM A182, FORGED STEEL

90° ELBOW ♦ CROSS ♥ TEES ♣ 45° ELBOW - THREADED



Grade: ☐ T304L ☐ T316L
Connection: ☐ Threaded
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS

DIMENSIONS

UOM: Inches/LBS

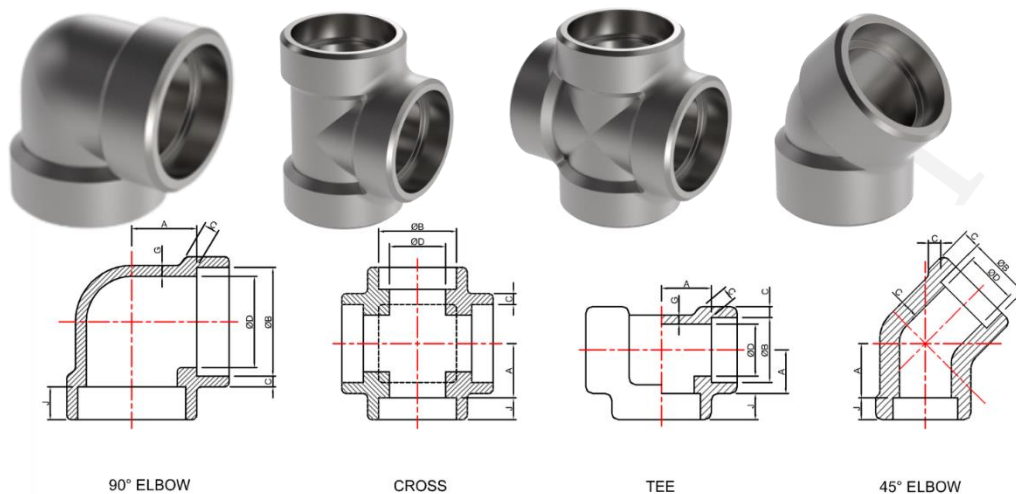
SELECT	DN	Nom. Pipe Size	Center To End Elbows, Tees, Cross A		Center to End 45° Elbow C		Outside Diameter of Band H		Minimum Wall Thickness G		Length of Thread Min. (1)	
			3000	6000	3000	6000	3000	6000	3000	6000	B	L2
☐	6	1/8	0.827	0.984	0.669	.0748	0.866	0.984	0.125	0.250	0.252	0.264
☐	8	1/4	0.984	1.102	.0748	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

3000# Forged 316 stainless steel material conforms to ASME A182
Forged stainless steel fitting dimensions conform to ASME B16.11
NPT threads conform to ASME B1.20.1
Socket weld fittings conform to ASME B16.11
Forged stainless union conform to MSS SP-83
Forged stainless outlets conform to MSS SP-97
Forged stainless socket weld inserts conform to MSS SP-79

Project Name: _____
Job #: _____

ASTM A182, FORGED STEEL

90° ELBOW ♠ CROSS ♦ TEES ♥ 45° ELBOW – SOCKET WELD



Grade: ☐ T304L ☐ T316L
Connection: ☐ Socket weld
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS

DIMENSIONS

UOM: Inches/LBS

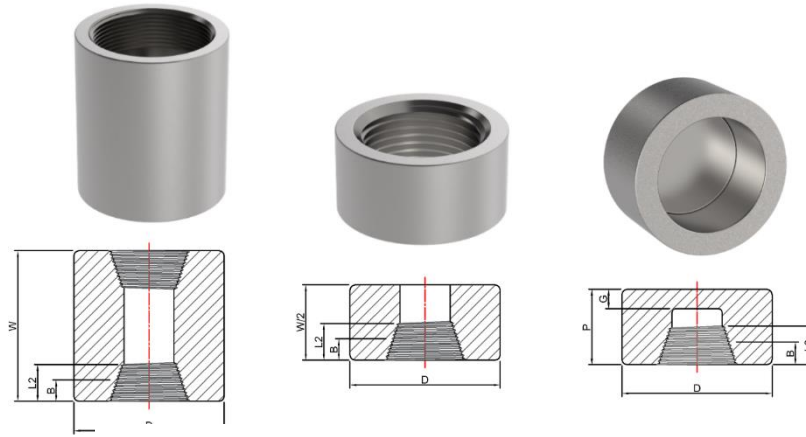
SELECT	DN	Nom. Pipe Size	Socket Bore Dia. (2) B	Bore Diameter of Fitting (2) D		Socket Wall Thickness (1) C				Body Wall Thickness G		Depth of Socket Min. J
						Class Designation				Class Designation		
				Class Designation		3000		6000		3000	6000	
				3000	6000	Ave.	Min.	Ave.	Min.	Min.	Min.	
☐	6	1/8	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

3000# Forged 316 stainless steel material conforms to ASME A182
Forged stainless steel fitting dimensions conform to ASME B16.11
NPT threads conform to ASME B1.20.1
Socket weld fittings conform to ASME B16.11
Forged stainless union conform to MSS SP-83
Forged stainless outlets conform to MSS SP-97
Forged stainless socket weld inserts conform to MSS SP-79

Project Name: _____
Job #: _____

ASTM A182, FORGED STEEL

COUPLINGS ♦ HALF COUPLINGS ♥ CAPS - THREADED



COUPLINGS / HALF COUPLINGS / CAPS - THREADED

Grade: ☐ T304L ☐ T316L
Connection: ☐ Threaded
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS

DIMENSIONS

UOM: Inches/LBS

SELECT

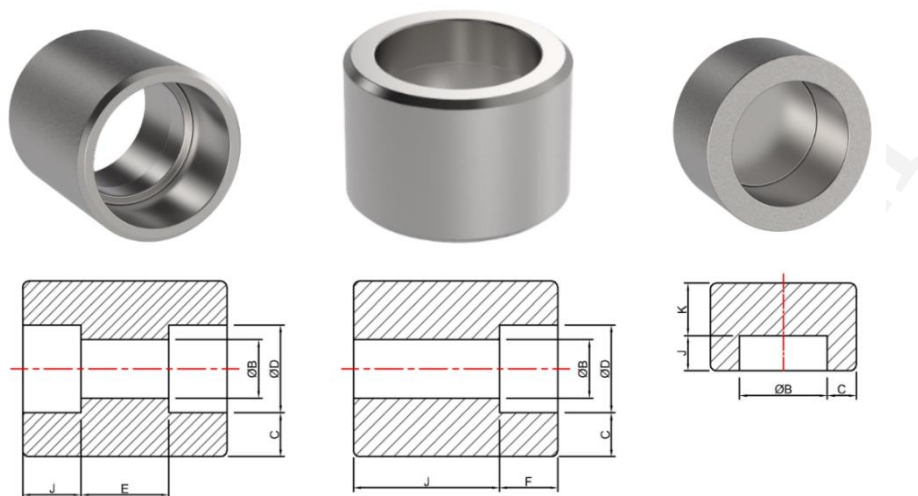
	DN	Nom. Pipe Size	End to End Couplings W	End to End Caps P		Outside Diameter D		Minimum Wall Thickness G Min.		Length of Thread Min. (1)	
			3000/6000	3000	6000	3000	6000	3000	6000	B	L2
☐	6	1/8	1.260	0.748	-----	0.630	0.899	0.189	-----	0.252	0.264
☐	8	1/4	1.378	0.984	1.063	0.748	0.984	0.189	0.252	0.319	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	.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	2.963	5.512	6.260	0.882	1.118	1.091	1.299

3000# Forged 316 stainless steel material conforms to ASME A182
Forged stainless steel fitting dimensions conform to ASME B16.11
NPT threads conform to ASME B1.20.1
Socket weld fittings conform to ASME B16.11
Forged stainless union conform to MSS SP-83
Forged stainless outlets conform to MSS SP-97
Forged stainless socket weld inserts conform to MSS SP-79

Project Name: _____
Job #: _____

ASTM A182, FORGED STEEL

COUPLINGS ♦ HALF COUPLINGS ♥ CAPS - SOCKETWELD



COUPLINGS / HALF COUPLINGS / CAPS - SOCKET

Grade: ☐ T304L ☐ T316L
Connection: ☐ Socket weld
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS

DIMENSIONS

UOM: Inches/LBS

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

3000# Forged 316 stainless steel material conforms to ASME A182
Forged stainless steel fitting dimensions conform to ASME B16.11
NPT threads conform to ASME B1.20.1
Socket weld fittings conform to ASME B16.11
Forged stainless union conform to MSS SP-83
Forged stainless outlets conform to MSS SP-97
Forged stainless socket weld inserts conform to MSS SP-79

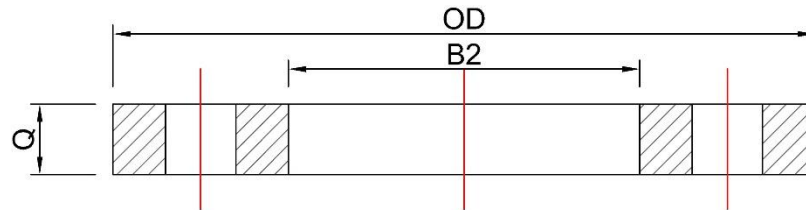
Project Name: _____

Job #: _____

FLANGES
150# - Drilling
(Tube)

150# BOLT PATTERN

TUBE PLATE FLANGES



150 BOLT PATTERN
TUBE PLATE FLANGES

Grade: ☐ T304L ☐ T316L
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS

DIMENSIONS

UOM: Inches/LBS

SELECT

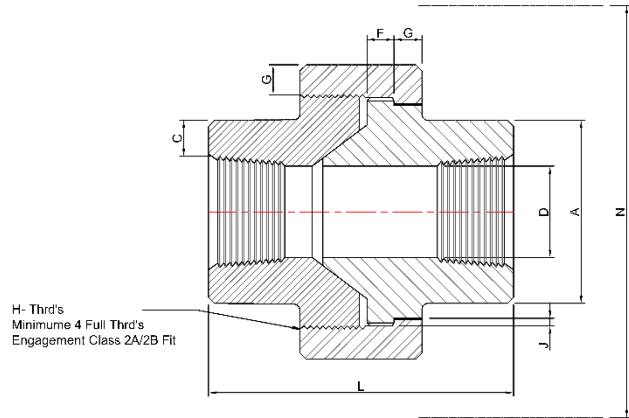
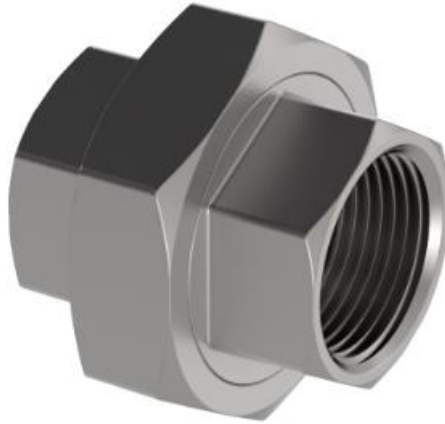
	SIZE	OUTSIDE DIAMETER (O.D.)	INSIDE DIAMETER (B2)	THICKNESS (Q)	DIA. OF BOLT HOLES	BOLT CIRCLE	NUMBER OF BOLT HOLES	WEIGHT
☐	1	4.25	1.063	0.500	0.62	3.12	4	1.74
☐	1 ¼	4.62	1.313	0.500	0.62	3.50	4	2.01
☐	1 ½	5.00	1.563	0.500	0.62	3.88	4	2.34
☐	2	6.00	2.063	0.500	0.75	4.75	4	3.28
☐	2 ½	7.00	2.563	0.500	0.75	5.50	4	4.52
☐	3	7.50	3.063	0.500	0.75	6.00	4	4.89
☐	4	9.00	4.063	0.500	0.75	7.50	8	6.59
☐	5	10.00	5.063	0.500	0.88	8.50	8	7.32
☐	6	11.00	6.063	0.500	0.88	9.50	8	8.27
☐	8	13.50	8.063	0.500	0.88	11.75	8	11.86
☐	10	16.00	10.063	0.500	1.00	14.25	12	18.39
☐	12	19.00	12.063	0.500	1.00	17.00	12	26.87

Plate Stainless Steel Flange Dimensions conform to ASME B16.5 Class 150
Plate Stainless Steel Flanges made from ASTM A240 Plate
Cast in conformance with ASTM A35

Project Name: _____
Job #: _____

**FORGED STEEL
A182
(Uni)**

ASTM A182, FORGED STEEL UNIONS - THREADED



Grade: ☐ T304L ☐ T316L
Connection: ☐ Threaded
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS

DIMENSIONS

UOM: Inches/LBS

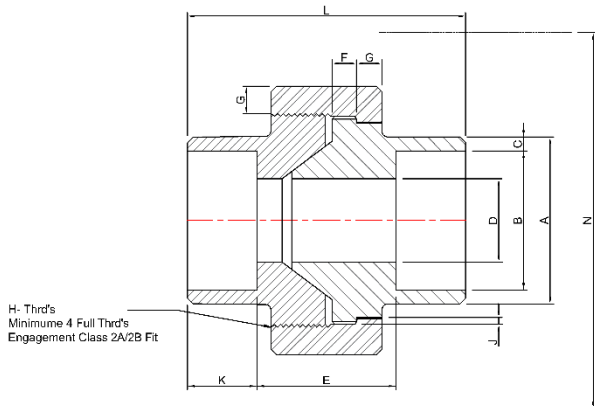
SELECT	Nom. Pipe Size	Pipe End Min. A	Wall Min. C	Water Way Bore D	Male Flange Min. F	Nut Min. G	Thrds. Per 25.4mm Max. H	Bearing Min. J	Length Assem. L	Clear Assem. Nut N.
☐	1/8	0.579	0.095	0.269 0.253	0.125	0.126	0.630	0.049	1.630	1.929
☐	1/4	0.748	0.119	0.388 0.372	0.125	0.126	0.630	0.049	1.630	1.929
☐	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

3000# Forged 316 stainless steel material conforms to ASME A182
Forged stainless steel fitting dimensions conform to ASME B16.11
NPT threads conform to ASME B1.20.1
Socket weld fittings conform to ASME B16.11
Forged stainless union conform to MSS SP-83
Forged stainless outlets conform to MSS SP-97
Forged stainless socket weld inserts conform to MSS SP-79

Project Name: _____
Job #: _____

ASTM A182, FORGED STEEL

UNIONS - SOCKETWELD



Grade: ☐ T304L ☐ T316L
Connection: ☐ Socket weld
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS

DIMENSIONS

UOM: Inches/LBS

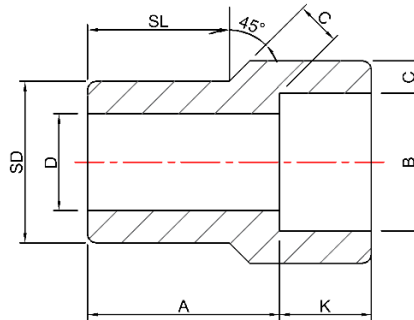
	Nom. Pipe Size	Pipe End Min. A	Socket Bore Dia. B	Socket Wall Min. C	Water Way Bore D	Laying Length E	Male Flange Min. F	Nut Min. G	Thrds. Per 25.4mm Max. H	Bearing Min. J	Depth of Socket Min. K	Length Assem. L	Clear Assem. Nut N.
☐	1/8	0.858	0.430 0.420	0.095	0.269 0.253	0.882 0.748	0.125	0.125	0.630	0.049	0.378	1.630	1.929
☐	1/4	0.858	0.560 0.550	0.119	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	0.126	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	0.147	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	0.154	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	0.179	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	0.191	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	0.200	1.638 1.622	1.661 1.339	0.230	0.220	0.394	0.091	0.500	3.008	4.370
☐	2	2.961	2.420 2.410	0.218	2.068 2.052	1.791 1.469	0.260	0.252	0.394	0.106	0.622	3.390	5.197
☐	2 1/2	3.610	2.920 2.900	0.276	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	0.300	3.058 3.042	2.512 2.110	0.325	0.325	0.315	0.139	0.622	4.291	6.890

3000# Forged 316 stainless steel material conforms to ASME A182
Forged stainless steel fitting dimensions conform to ASME B16.11
NPT threads conform to ASME B1.20.1
Socket weld fittings conform to ASME B16.11
Forged stainless union conform to MSS SP-83
Forged stainless outlets conform to MSS SP-97
Forged stainless socket weld inserts conform to MSS SP-79

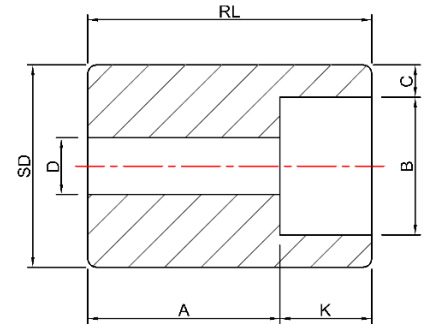
Project Name: _____
Job #: _____

FORGED STEEL
A182
(Red Insert)

ASTM A182, FORGED STEEL REDUCING INSERTS



TYPE 1



TYPE 2

Grade: ☐ T304L ☐ T316L
Connection: ☐ Socket weld
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS

DIMENSIONS

UOM: Inches/LBS

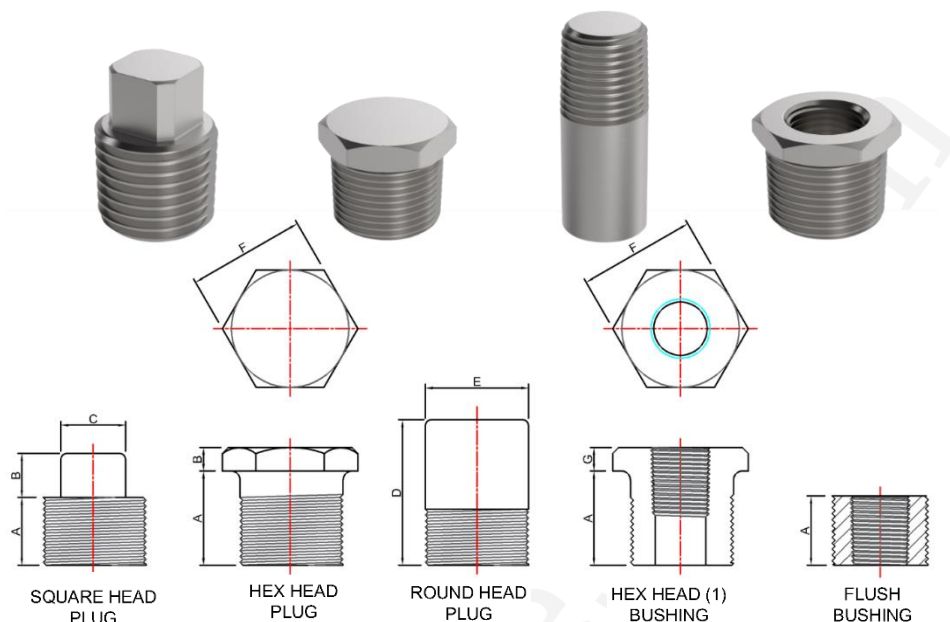
SELECT	Nom. Pipe Size	Type (2)		Socket		Shank Dia. SD	Laying Length A		Bore D		Wall (Min) C		Length			
				Dia.	Depth (Min)								SL		RL (Min)	
		3M	6M				B	K	3M	6M	3M	6M				
☐	¾ x ¼	1	1	0.56	0.39	0.68	0.75	0.83	0.35	0.26	0.15	0.18	0.55	0.63	----	----
☐	½ x ⅜	1	1	0.70	0.39	0.84	0.83	0.91	0.49	0.35	0.16	0.20	0.63	0.63	----	----
☐	½ x ¼	1	1	0.56	0.39	0.84	0.83	0.83	0.35	0.26	0.15	0.18	0.63	0.63	----	----
☐	¾ x ½	1	1	0.86	0.39	1.05	0.87	0.98	0.63	0.47	0.18	0.24	0.67	0.75	----	----
☐	¾ x ⅜	2	1	0.70	0.39	1.05	0.63	0.87	0.49	0.35	0.16	0.20	----	0.75	1.06	----
☐	¾ x ¼	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 ¾	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 ½	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 ⅜	2	2	0.70	0.39	1.31	0.71	0.87	0.49	0.35	0.16	0.20	----	----	1.10	1.30
☐	1x ¼	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 ¼ 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 ¼ x ¾	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 ¼ x ½	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 ¼ x ⅜	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 ¼ x ¼	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 ½ x 1 ¼	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 ½ x 1	2	1	1.34	0.51	1.90	0.71	1.13	1.04	0.81	0.22	0.3	----	0.98	1.30	----
☐	1 ½ x ¾	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 ½ x ½	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 ½ x ⅜	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 ½	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 ¼	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 ¾	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 ½	2	2	0.86	0.39	2.37	0.98	1.10	0.62	0.47	0.18	0.23	----	----	1.50	1.61

3000# Forged 316 stainless steel material conforms to ASME A182
Forged stainless steel fitting dimensions conform to ASME B16.11
NPT threads conform to ASME B1.20.1
Socket weld fittings conform to ASME B16.11
Forged stainless union conform to MSS SP-83
Forged stainless outlets conform to MSS SP-97
Forged stainless socket weld inserts conform to MSS SP-79

Project Name: _____
Job #: _____

ASTM A182, FORGED STEEL

**SQUARE HEAD PLUGS ♥ HEX HEAD PLUGS ♦ ROUND HEAD
PLUGS ♠ HEX HEAD BUSHING ♣ FLUSH BUSHING**



Grade: ☐ T304L ☐ T316L
Connection: ☐ Threaded
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS

DIMENSIONS

UOM: Inches/LBS

SELECT

- ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

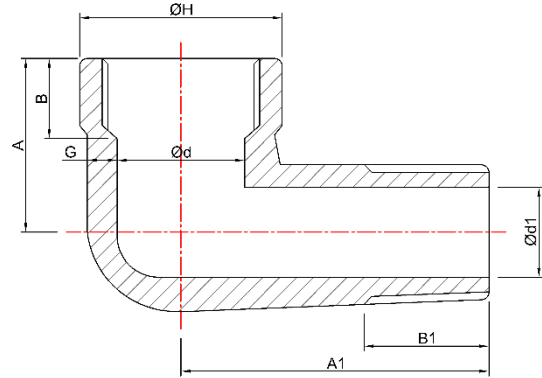
DN	Nom. Pipe Size	Length (Min) A	Plugs Square Head		Plugs Round Head		Hex Plugs & Bushings		
			Height of Square (Min) B	Width Flats (Min) C	Nominal Diameter of Head E	Length (Min) D	Width Flats (Nom) F	Hex Height (Min)	
								Bushing G	Plug H
6	1/8	0.394	0.236	0.276	0.394	1.378	0.433	----	0.236
8	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

3000# Forged 316 stainless steel material conforms to ASME A182
Forged stainless steel fitting dimensions conform to ASME B16.11
NPT threads conform to ASME B1.20.1
Socket weld fittings conform to ASME B16.11
Forged stainless union conform to MSS SP-83
Forged stainless outlets conform to MSS SP-97
Forged stainless socket weld inserts conform to MSS SP-79

Project Name: _____
Job #: _____

FORGED STEEL
A182
(STR90)

ASTM A182, FORGED STEEL STREET 90° ELBOW



Grade: ☐ T304L ☐ T316L
Connection: ☐ Threaded
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS

DIMENSIONS

UOM: Inches/LBS

3000 LBS

SELECT	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

6000 LBS

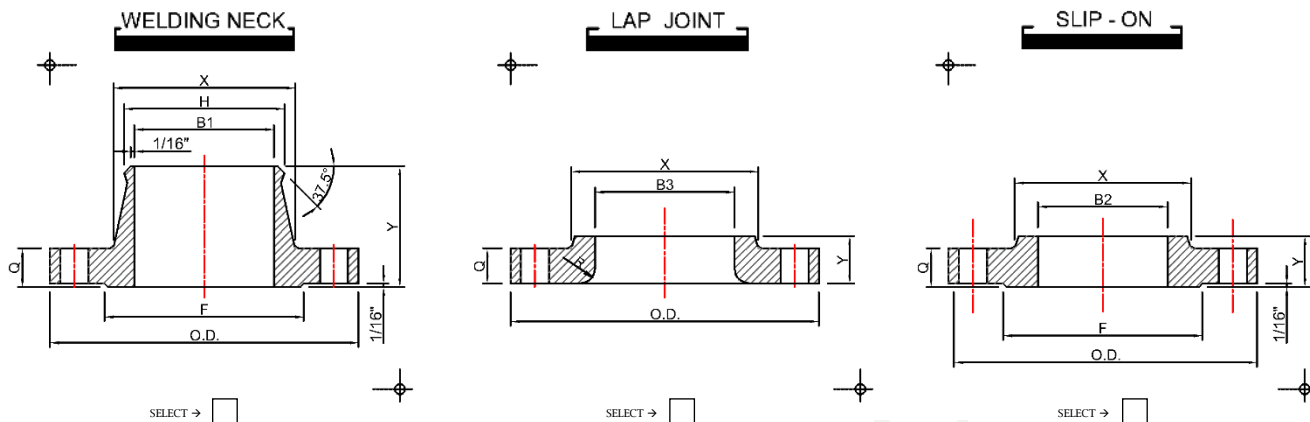
Nom. Pipe Size	H	A	A1	d	d1	G (Min)	B (Min)	B1 (Min)
1/4	1.299	1.000	1.500	0.441	0.118	0.260	0.315	0.406
3/8	1.496	1.126	1.622	0.571	0.185	0.275	0.354	0.409
1/2	1.811	1.374	1.874	0.618	0.248	0.321	0.433	0.535
3/4	2.205	1.752	2.252	0.823	0.437	0.336	0.492	0.543
1	2.441	2.000	2.626	1.047	0.598	0.391	0.571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

3000# Forged 316 stainless steel material conforms to ASME A182
Forged stainless steel fitting dimensions conform to ASME B16.11
NPT threads conform to ASME B1.20.1
Socket weld fittings conform to ASME B16.11
Forged stainless union conform to MSS SP-83
Forged stainless outlets conform to MSS SP-97
Forged stainless socket weld inserts conform to MSS SP-79

Project Name: _____
Job #: _____

CLASS 150# B16.5 FLANGES, A182

WELDING NECK ♥ LAP JOINT ♦ SLIP-ON



Grade: ☐ T304L ☐ T316L
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____
Face: ☐ Raised Face ☐ Flat Faced
Weldnecks & Socketwelds Only: Providing Schedule _____

DIMENSIONS

UOM: Inches/LBS

SELECT	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 REQUIRE 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
☐	3 1/2	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	14.00	12.75	12.00	12.88	12.92		1.56	4.50	2.19	2.19
☐	14	21.00	1.38	15.75	16.00	14.00	13.25	14.14	14.18		1.63	5.00	2.25	3.12
☐	16	23.50	1.14	18.00	18.00	16.00	15.25	16.16	16.19		1.75	5.00	2.50	3.44
☐	18	25.00	1.56	19.88	20.00	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

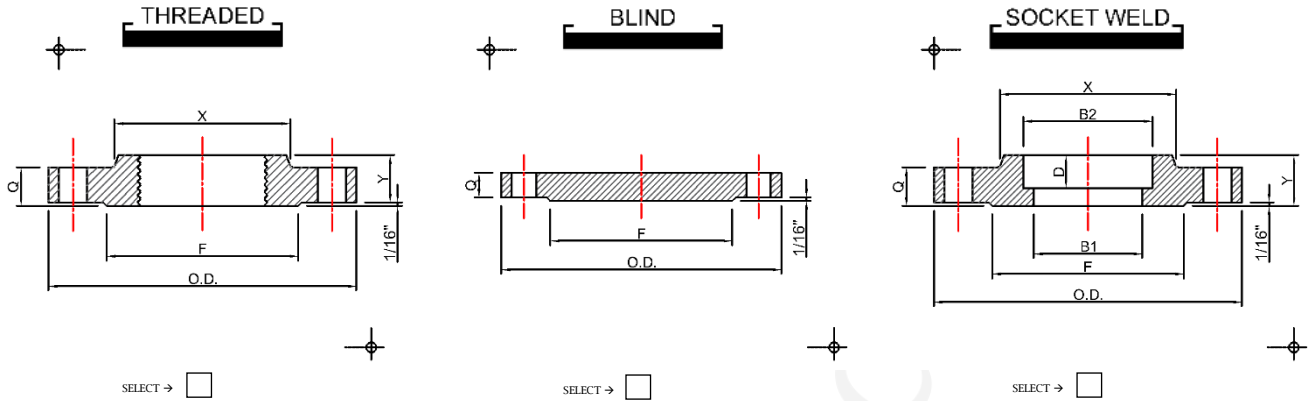
Forged Stainless Steel Material conforms to ASME A182
Forged Stainless Steel Flange Dimensions conform to ASME B16.5
NPT Threads conform to ASME B1.20.1
Plate Stainless Steel Flange Dimensions conform to ASME B16.5 Class 150
Plate Stainless Steel Flanges made from ASTM A240 Plate or
cast in conformance with ASTM A351

Project Name: _____
 Job #: _____

FLANGES
A182 - 150#
(Thrd, Blind, & Soc)

CLASS 150# B16.5 FLANGES, A182

THREADED ♣ BLIND ♠ SOCKET WELD



Grade: ☐ T304L ☐ T316L
 Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____
 Face: ☐ Raised Face ☐ Flat Faced
 Weldnecks & Socketwelds Only: Providing Schedule _____

DIMENSIONS

UOM: Inches/LBS

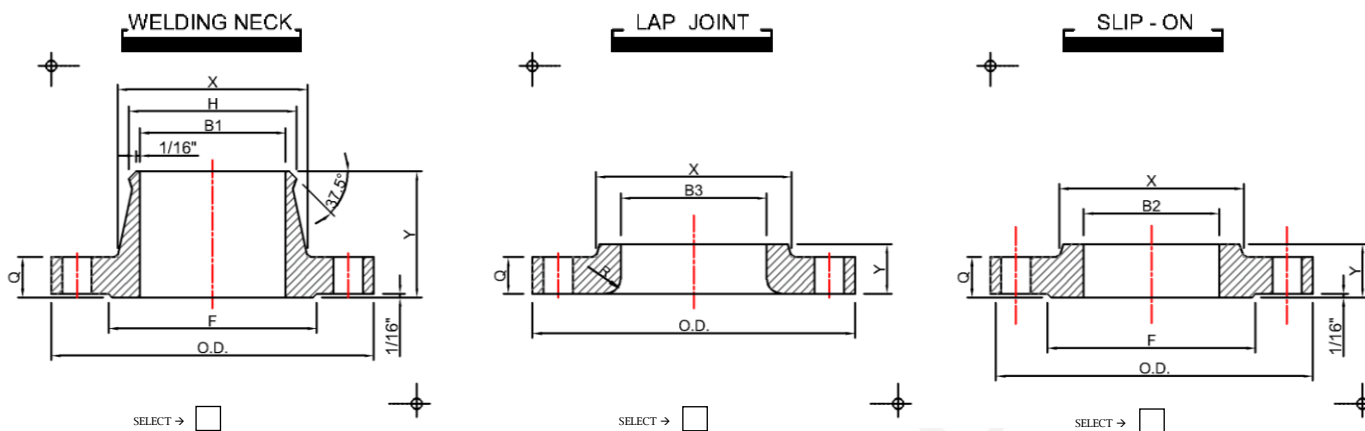
SELECT	NOM. PIPE SIZE	MIN. THREAD LENGTH	RADIUS (R) LAP JOINT	DRILLING			BOLTING				NOM. PIPE SIZE	APPROXIMATE WEIGHT EACH- POUNDS ±			
				DIAMETER OF BOLT CIRCLE	NO. OF HOLES	DIA. OF HOLES	DIA. OF BOLTS	MACHINE BOLT LENGTH	STUB BOT LENGTH			WELDING NECK	SLIP-ON SOCKET WELD AND THREADED	LAP JOINT	BLIND
									Raised Face 0.06"	Raised Face 0.06"					
☐	1/2	0.62	0.12	2.38	4	0.62	1/2	2.00	2.50	----	1/2	1.25	1.00	1.00	1.25
☐	3/4	0.62	0.12	2.75	4	0.62	1/2	2.25	2.50	----	3/4	2.00	1.50	1.50	1.50
☐	1	0.69	0.12	3.12	4	0.62	1/2	2.25	2.75	3.25	1	2.50	2.00	2.00	2.00
☐	1 1/4	0.81	0.19	3.50	4	0.62	1/2	2.50	2.75	3.25	1 1/4	3.00	3.00	3.00	3.00
☐	1 1/2	0.88	0.25	3.88	4	0.62	1/2	2.50	3.00	3.50	1 1/2	4.50	3.00	3.50	4.00
☐	2	1.00	0.31	4.75	4	0.75	5/8	2.75	3.25	3.75	2	6.00	5.25	5.00	6.50
☐	2 1/2	1.12	0.31	5.50	4	0.75	5/8	3.00	3.50	4.00	2 1/2	10.00	8.00	7.00	9.50
☐	3	1.19	0.38	6.00	4	0.75	5/8	3.25	3.75	4.25	3	12.00	9.00	9.25	12.50
☐	3 1/2	1.25	0.38	7.00	8	0.75	5/8	3.25	3.75	4.25	3 1/2	12.00	11.00	11.00	13.00
☐	4	1.31	0.44	7.50	8	0.75	5/8	3.25	3.75	4.25	4	16.50	12.50	12.50	17.00
☐	5	1.44	0.50	8.50	8	0.88	3/4	3.25	4.00	4.50	5	19.00	15.00	15.00	20.00
☐	6	1.56	0.50	9.50	8	0.88	3/4	3.50	4.00	4.50	6	25.00	19.00	19.00	26.50
☐	8	1.75	0.50	11.75	8	0.88	3/4	3.75	4.25	4.75	8	39.00	30.00	30.00	45.00
☐	10	1.94	0.50	14.25	12	1.00	7/8	4.00	4.75	5.25	10	52.00	43.00	43.00	70.00
☐	12	2.19	0.50	17.00	12	1.00	7/8	4.25	4.75	5.25	12	80.00	64.00	64.00	110.00
☐	14	2.25	0.50	18.75	12	1.12	1	4.50	5.25	5.75	14	110.00	90.00	105.00	140.00
☐	16	2.50	0.50	21.25	16	1.12	1	4.75	5.50	6.00	16	140.00	98.00	140.00	180.00
☐	18	2.69	0.50	22.75	16	1.25	1 1/8	5.00	6.00	6.50	18	150.00	130.00	160.00	220.00
☐	20	2.88	0.50	25.00	20	1.25	1 1/8	5.50	6.25	6.75	20	180.00	165.00	195.00	285.00
☐	24	3.25	0.50	29.50	20	1.38	1 1/4	6.00	7.00	7.50	24	260.00	220.00	275.00	430.00

Forged Stainless Steel Material conforms to ASME A182
 Forged Stainless Steel Flange Dimensions conform to ASME B16.5
 NPT Threads conform to ASME B1.20.1
 Plate Stainless Steel Flange Dimensions conform to ASME B16.5 Class 150
 Plate Stainless Steel Flanges made from ASTM A240 Plate or
 cast in conformance with ASTM A351

Project Name: _____
Job #: _____

CLASS 300# B16.5 FLANGES, A182

WELDING NECK ♥ LAP JOINT ♦ SLIP-ON



Grade: ☐ T304L ☐ T316L
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____
Face: ☐ Raised Face ☐ Flat Faced
Weldnecks & Socketwelds Only: Providing Schedule _____

DIMENSIONS

UOM: Inches/LBS

SELECT	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	3.75	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
☐	3 1/2	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	27.50	24.00	23.25	24.25	24.25	24.19	-----	6.62	4.19	6.00

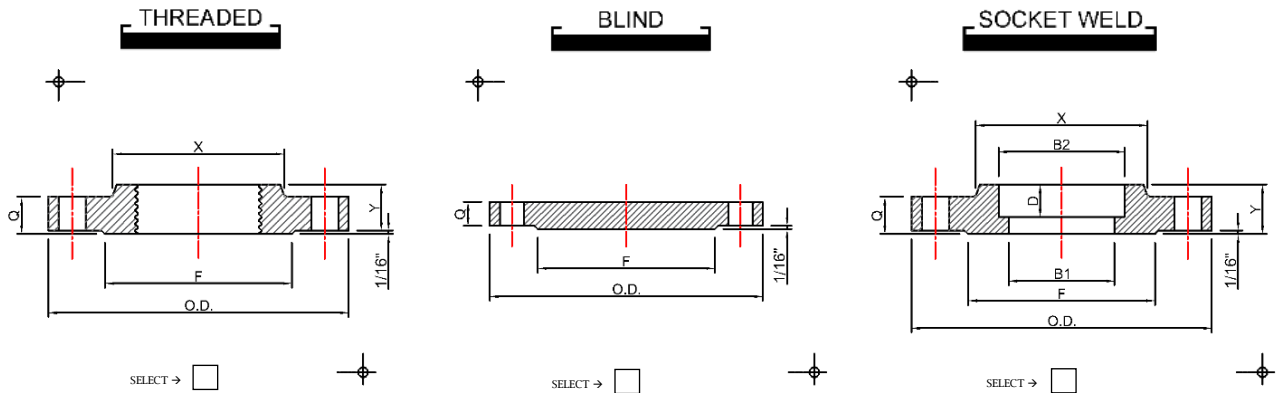
Forged Stainless Steel Material conforms to ASME A182
Forged Stainless Steel Flange Dimensions conform to ASME B16.5
NPT Threads conform to ASME B1.20.1
Plate Stainless Steel Flange Dimensions conform to ASME B16.5 Class 150
Plate Stainless Steel Flanges made from ASTM A240 Plate or
cast in conformance with ASTM A351

Project Name: _____
Job #: _____

FLANGES
A182 - 300#
(Thrd, Blind, &
Soc)

CLASS 300# B16.5 FLANGES, A182

THREADED ♣ BLIND ♠ SOCKET WELD



Grade: ☐ T304L ☐ T316L
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____
Face: ☐ Raised Face ☐ Flat Faced
Weldnecks & Socketwelds Only: Providing Schedule _____

DIMENSIONS

UOM: Inches/LBS

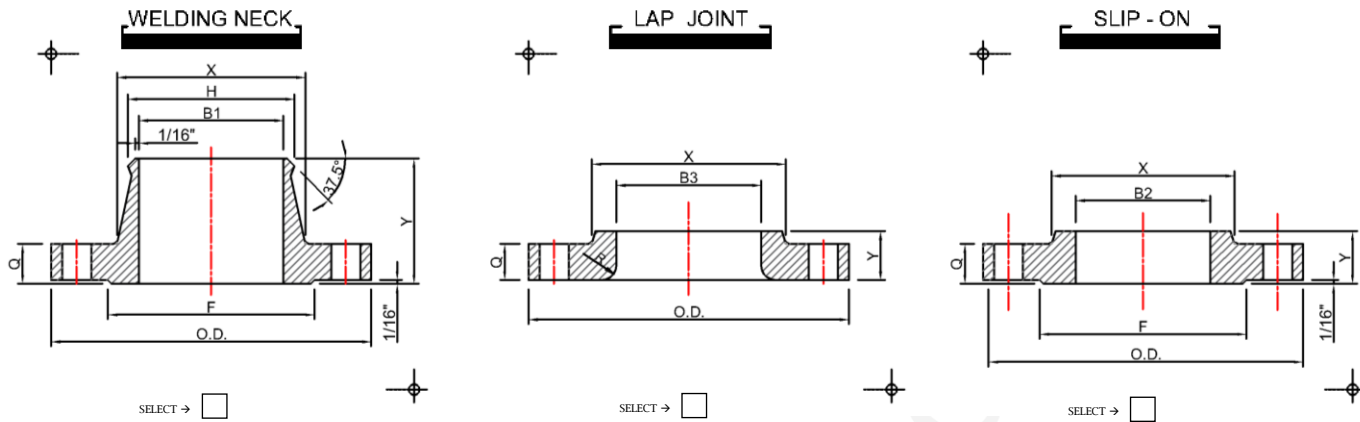
SELECT	NOM. PIPE SIZE	MIN. THREAD LENGTH	RADIUS (R) LAP JOINT	DRILLING			BOLTING				NOM. PIPE SIZE	APPROXIMATE WEIGHT EACH- POUNDS ±			
				DIAMETER OF BOLT CIRCLE	NO. OF HOLES	DIA. OF HOLES	DIA. OF BOLTS	MACHINE BOLT LENGTH	STUB BOT LENGTH			WELDING NECK	SLIP-ON SOCKET WELD AND THREADED	LAP JOINT	BLIND
									Raised Face 0.06"	Raised Face 0.06"					
☐	1/2	0.62	0.12	2.62	4	0.62	1/2	2.25	2.75	3.00	1/2	2	2	2	2
☐	3/4	0.62	0.12	3.25	4	0.75	5/8	2.50	3.00	3.50	3/4	3	3	3	3
☐	1	0.69	0.12	3.50	4	0.75	5/8	2.75	3.25	3.75	1	4	3	3	3
☐	1 1/4	0.81	0.19	3.88	4	0.75	5/8	2.75	3.25	3.75	1 1/4	5	4	4	4
☐	1 1/2	0.88	0.25	4.50	4	0.88	3/4	3.00	3.75	4.25	1 1/2	7	6	6	6
☐	2	1.00	0.31	5.00	8	0.75	5/8	3.00	3.50	4.25	2	9	7	7	8
☐	2 1/2	1.12	0.31	5.88	8	0.88	3/4	3.50	4.00	4.75	2 1/2	12	10	10	12
☐	3	1.19	0.38	6.62	8	0.88	3/4	3.75	4.25	5.00	3	15	13	13	16
☐	3 1/2	1.25	0.38	7.25	8	0.88	3/4	3.75	4.50	5.25	3 1/2	18	17	17	21
☐	4	1.31	0.44	7.88	8	0.88	5/8	4.00	4.50	5.25	4	25	22	22	27
☐	5	1.44	0.50	9.25	8	0.88	3/4	4.25	4.75	5.50	5	32	28	28	35
☐	6	1.56	0.50	10.62	12	0.75	3/4	4.25	5.00	5.75	6	42	39	39	50
☐	8	1.75	0.50	13.00	12	0.88	7/8	4.75	5.50	6.25	8	67	58	58	81
☐	10	1.94	0.50	15.25	16	1.00	1	5.50	6.25	7.00	10	91	81	91	125
☐	12	2.19	0.50	17.25	16	1.00	1 1/8	6.00	6.75	7.50	12	140	115	140	185
☐	14	2.25	0.50	20.25	20	1.12	1 1/8	6.25	7.00	7.75	14	180	165	190	250
☐	16	2.50	0.50	22.50	20	1.12	1 1/4	6.50	7.50	8.25	16	250	190	250	295
☐	18	2.69	0.50	24.75	24	1.25	1 1/4	6.75	7.75	8.50	18	320	250	295	395
☐	20	2.88	0.50	27.00	24	1.25	1 1/4	7.25	8.25	9.00	20	400	315	370	505
☐	24	3.25	0.50	32.00	24	1.38	1 1/2	8.00	9.25	10.25	24	580	475	550	790

Forged Stainless Steel Material conforms to ASME A182
Forged Stainless Steel Flange Dimensions conform to ASME B16.5
NPT Threads conform to ASME B1.20.1
Plate Stainless Steel Flange Dimensions conform to ASME B16.5 Class 150
Plate Stainless Steel Flanges made from ASTM A240 Plate or
cast in conformance with ASTM A351

Project Name: _____
Job #: _____

CLASS 600# B16.5 FLANGES, A182

WELDING NECK ♥ LAP JOINT ♦ SLIP-ON



Grade: ☐ T304L ☐ T316L
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____
Face: ☐ Raised Face ☐ Flat Faced
Weldnecks & Socketwelds Only: Providing Schedule _____

DIMENSIONS

UOM: Inches/LBS

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	3.75	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
☐ 3 1/2	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

Forged Stainless Steel Material conforms to ASME A182
Forged Stainless Steel Flange Dimensions conform to ASME B16.5
NPT Threads conform to ASME B1.20.1
Plate Stainless Steel Flange Dimensions conform to ASME B16.5 Class 150
Plate Stainless Steel Flanges made from ASTM A240 Plate or
cast in conformance with ASTM A351

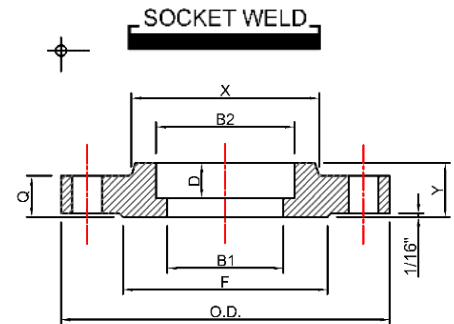
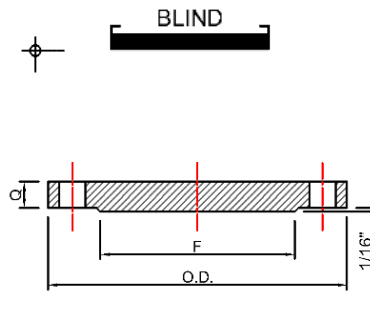
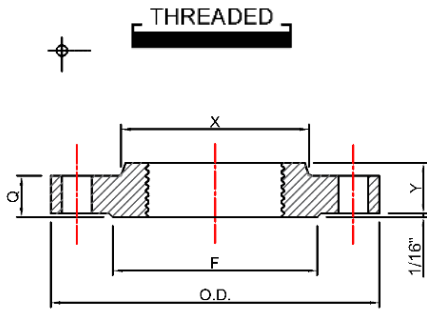
Project Name: _____

Job #: _____

FLANGES
A182 - 600#
(Thrd, Blind, &
Soc)

CLASS 600# B16.5 FLANGES, A182

THREADED ♣ BLIND ♠ SOCKET WELD



SELECT → ☐

SELECT → ☐

SELECT → ☐

Grade: ☐ T304L ☐ T316L
 Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____
 Face: ☐ Raised Face ☐ Flat Faced
 Weldnecks & Socketwelds Only: Providing Schedule _____

DIMENSIONS

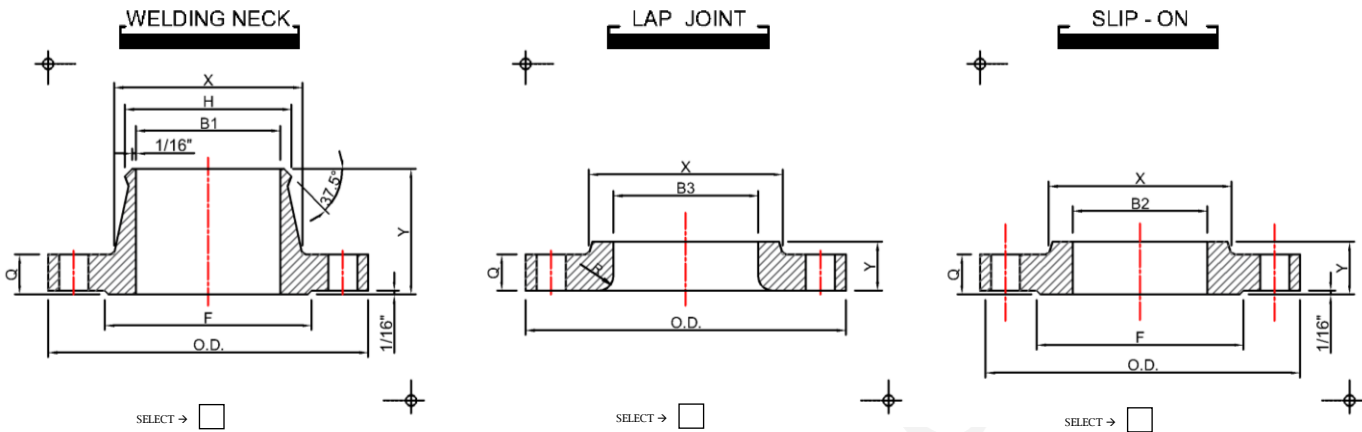
UOM: Inches/LBS

SELECT	NOM. PIPE SIZE	MIN. THREAD LENGTH	RADIUS (R) LAP JOINT	DRILLING			BOLTING				NOM. PIPE SIZE	APPROXIMATE WEIGHT EACH- POUNDS ±			
				DIAMETER OF BOLT CIRCLE	NO. OF HOLES	DIA. OF HOLES	DIA. OF BOLTS	MACHINE BOLT LENGTH	STUB BOT LENGTH			WELDING NECK	SLIP-ON SOCKET WELD AND THREADED	LAP JOINT	BLIND
								Raised Face 0.06"	Raised Face 0.06"	Ring Joint					
☐	1/2	0.62	0.12	2.62	4	0.62	1/2	3.25	3.00	3.00	1/2	2	2	2	2
☐	3/4	0.62	0.12	3.25	4	0.75	5/8	3.50	3.25	3.50	3/4	4	3	3	3
☐	1	0.69	0.12	3.50	4	0.75	5/8	3.75	3.50	3.75	1	4	4	4	4
☐	1 1/4	0.81	0.19	3.88	4	0.75	5/8	4.00	3.75	4.00	1 1/4	6	5	5	5
☐	1 1/2	0.88	0.25	4.50	4	0.88	3/4	4.25	4.00	4.25	1 1/2	8	7	7	8
☐	2	1.12	0.31	5.00	8	0.75	5/8	4.25	4.00	4.50	2	12	9	9	10
☐	2 1/2	1.25	0.31	5.88	8	0.88	3/4	4.75	4.50	5.00	2 1/2	18	13	12	15
☐	3	1.38	0.38	6.62	8	0.88	3/4	5.00	4.75	5.25	3	23	16	15	0
☐	3 1/2	1.56	0.38	7.25	8	1.00	7/8	5.50	5.25	5.75	3 1/2	26	21	20	29
☐	4	1.62	0.44	8.50	8	1.00	7/8	5.75	5.50	6.00	4	42	37	36	41
☐	5	1.88	0.44	10.50	8	1.12	1	6.50	6.25	6.75	5	68	63	61	68
☐	6	2.00	0.50	11.50	12	1.12	1	6.75	6.50	7.00	6	81	80	78	86
☐	8	2.25	0.50	13.75	12	1.25	1 1/8	7.75	7.50	7.75	8	120	115	110	140
☐	10	2.56	0.50	17.00	16	1.38	1 1/4	8.50	8.25	8.75	10	190	170	170	230
☐	12	2.75	0.50	19.25	20	1.38	1 1/4	8.75	8.50	9.00	12	225	200	200	295
☐	14	2.88	0.50	20.75	20	1.50	1 3/8	9.25	9.00	9.50	14	280	230	250	355
☐	16	3.06	0.50	23.75	20	1.62	1 1/2	10.00	9.75	10.25	16	390	330	365	495
☐	18	3.12	0.50	25.75	20	1.75	1 5/8	10.75	10.50	11.00	18	475	400	435	630
☐	20	3.25	0.50	28.50	24	1.75	1 5/8	11.25	11.25	11.75	20	590	510	570	810
☐	24	3.62	0.50	33.00	24	2.00	1 7/8	12.75	12.75	13.25	24	830	730	810	1250

Forged Stainless Steel Material conforms to ASME A182
 Forged Stainless Steel Flange Dimensions conform to ASME B16.5
 NPT Threads conform to ASME B1.20.1
 Plate Stainless Steel Flange Dimensions conform to ASME B16.5 Class 150
 Plate Stainless Steel Flanges made from ASTM A240 Plate or
 cast in conformance with ASTM A351

Project Name: _____
Job #: _____

CLASS 900# B16.5 FLANGES, A182
WELDING NECK ♥ LAP JOINT ♦ SLIP-ON



Grade: ☐ T304L ☐ T316L
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____
Face: ☐ Raised Face ☐ Flat Faced
Weldnecks & Socketwelds Only: Providing Schedule _____

DIMENSIONS

UOM: Inches/LBS

SELECT	NOM. PIPE SIZE	FLANGE DIAMETER (O.D.)	FLANGE THICKNESS (Q) MIN. (I)	HUB DIA. AT BASE (X)	RAISED FACE DIA. (F)	HUB DIA. AT WELDING POINT (H)	BORE DIAMETER (B)			COUNTER BORE OF THREADED FLANGE (C)	LENGTH THROUGH HUB (Y)		
							(B1) WELDING NECK (2)	(B2) SLIP-ON MIN.	(B3) LAP JOINT MIN		WELDING NECK	SLIP-ON SOCKET WELD AND THREADED	LAP JOINT
☐	1/2	4.75	0.88	1.50	1.38	0.84	TO BE SPECIFIED BY PURCHASER	0.88	0.90	0.93	2.38	1.25	1.25
☐	3/4	5.12	1.00	1.75	1.69	1.05		1.09	1.11	1.14	2.75	1.38	1.38
☐	1	5.88	1.12	2.06	2.00	1.32		1.36	1.38	1.41	2.88	1.62	1.62
☐	1 1/4	6.25	1.12	2.50	2.50	1.66		1.70	1.72	1.75	2.88	1.62	1.62
☐	1 1/2	7.00	1.25	2.75	2.88	1.90		1.95	1.97	1.99	3.25	1.75	1.75
☐	2	8.50	1.50	4.12	3.62	2.38		2.44	2.46	2.50	4.00	2.25	2.25
☐	2 1/2	9.62	1.62	4.88	4.12	2.88		2.94	2.97	3.00	4.12	2.50	2.50
☐	3	9.50	1.50	5.00	5.00	3.50		3.57	3.60	3.63	4.00	2.12	2.12
☐	4	11.50	1.75	6.25	6.19	4.50		4.57	4.60	4.63	4.50	2.75	2.75
☐	5	13.75	2.00	7.50	7.31	5.56		5.66	5.69	5.69	5.00	3.12	3.12
☐	6	15.00	2.19	9.25	8.50	6.63		6.72	6.75	6.75	5.50	3.38	3.38
☐	8	18.50	2.50	11.75	10.62	8.63		8.72	8.75	8.75	6.38	4.00	4.50
☐	10	21.50	2.75	14.50	12.75	10.75		10.88	10.92	10.88	7.25	4.25	5.00
☐	12	24.00	3.12	16.50	15.00	12.75		12.88	12.92	12.94	7.88	4.62	5.62
☐	14	25.25	3.38	17.75	16.25	14.00		14.14	14.18	14.19	8.38	5.12	6.12
☐	16	27.75	3.50	20.00	18.50	16.00		16.16	16.19	16.19	8.50	5.25	6.50
☐	18	31.00	4.00	22.25	21.00	18.00		18.18	18.20	18.19	9.00	6.00	7.50
☐	20	33.75	4.25	24.50	23.00	20.00		20.20	20.25	20.19	9.75	6.25	8.25
☐	24	41.00	5.50	29.50	27.25	24.00		24.25	24.25	24.19	11.50	8.00	10.50

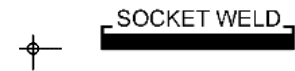
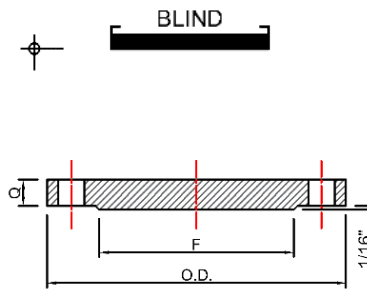
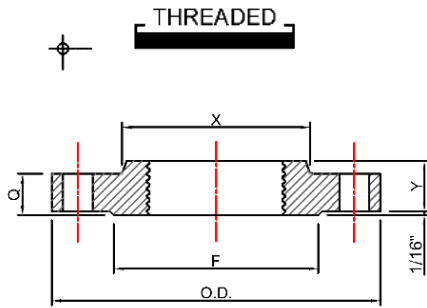
Forged Stainless Steel Material conforms to ASME A182
Forged Stainless Steel Flange Dimensions conform to ASME B16.5
NPT Threads conform to ASME B1.20.1
Plate Stainless Steel Flange Dimensions conform to ASME B16.5 Class 150
Plate Stainless Steel Flanges made from ASTM A240 Plate or
cast in conformance with ASTM A351

Project Name: _____
Job #: _____

FLANGES
A182 - 900#
(Thrd, Blind, &
Soc)

CLASS 900# B16.5 FLANGES, A182

THREADED ♣ BLIND ♠ SOCKET WELD



**SOCKETWELD IS NOT
PRODUCED IN CLASS
900**

SELECT → ☐

SELECT → ☐

Grade: ☐ T304L ☐ T316L
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____
Face: ☐ Raised Face ☐ Flat Faced
Weldnecks & Socketwelds Only: Providing Schedule _____

DIMENSIONS

UOM: Inches/LBS

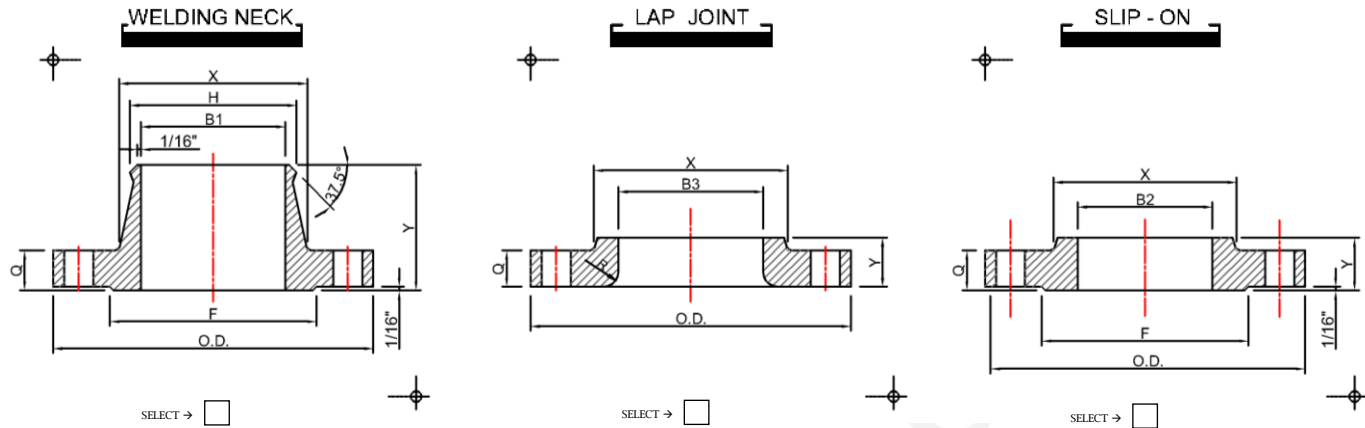
SELECT	NOM. PIPE SIZE	MIN. THREAD LENGTH	RADIUS (R) LAP JOINT	DRILLING			BOLTING				NOM. PIPE SIZE	APPROXIMATE WEIGHT EACH- POUNDS ±			
				DIAMETER OF BOLT CIRCLE	NO. OF HOLES	DIA. OF HOLES	DIA. OF BOLTS	STUB BOT LENGTH				WELDING NECK	SLIP-ON SOCKET WELD AND THREADED	LAP JOINT	BLIND
								25° Raised Face	Male & Female Tongue & Grove	Ring Joint					
☐	1/2	0.88	0.12	3.25	4	0.88	3/4	4.25	4.00	4.25	1/2	5	4	4	4
☐	3/4	1.00	0.12	3.50	4	0.88	3/4	4.50	4.25	4.50	3/4	6	5	5	5
☐	1	1.12	0.12	4.00	4	1.00	7/8	5.00	4.75	5.00	1	9	8	8	8
☐	1 1/4	1.19	0.19	4.38	4	1.00	7/8	5.00	4.75	5.00	1 1/4	10	9	9	9
☐	1 1/2	1.25	0.25	4.88	4	1.12	1	5.50	5.25	5.50	1 1/2	13	12	12	13
☐	2	1.50	0.31	6.50	8	1.00	7/8	5.75	5.50	5.75	2	25	25	25	25
☐	2 1/2	1.88	0.31	7.50	8	1.12	1	6.25	6.00	6.25	2 1/2	31	26	25	35
☐	3	1.62	0.38	7.50	8	1.00	7/8	5.75	5.50	6.00	3	36	36	35	29
☐	4	1.88	0.44	9.25	8	1.25	1 1/8	6.75	6.50	7.00	4	51	53	51	54
☐	5	2.12	0.44	11.00	8	1.38	1 1/4	7.50	7.25	7.75	5	86	83	81	87
☐	6	2.25	0.50	12.50	12	1.25	1 1/8	7.75	7.50	7.75	6	110	110	105	115
☐	8	2.50	0.50	15.50	12	1.50	1 3/8	8.75	8.50	9.00	8	175	170	190	200
☐	10	2.81	0.50	18.50	16	1.50	1 3/8	9.25	9.00	9.50	10	260	245	275	290
☐	12	3.00	0.50	21.00	20	1.50	1 3/8	10.00	9.75	10.25	12	325	325	370	415
☐	14	3.25	0.50	22.00	20	1.62	1 1/2	10.75	10.50	11.25	14	400	400	415	520
☐	16	3.38	0.50	24.25	20	1.75	1 5/8	11.25	11.00	11.75	16	495	425	465	600
☐	18	3.50	0.50	27.00	20	2.00	1 1/8	12.75	12.50	13.50	18	680	600	650	850
☐	20	3.62	0.50	29.50	20	2.12	2	13.50	13.50	14.25	20	830	730	810	1075
☐	24	4.00	0.50	35.50	20	2.62	2 1/2	17.25	17.00	17.75	24	1500	1400	1350	2025

Forged Stainless Steel Material conforms to ASME A182
Forged Stainless Steel Flange Dimensions conform to ASME B16.5
NPT Threads conform to ASME B1.20.1
Plate Stainless Steel Flange Dimensions conform to ASME B16.5 Class 150
Plate Stainless Steel Flanges made from ASTM A240 Plate or
cast in conformance with ASTM A351

Project Name: _____
Job #: _____

CLASS 1500# B16.5 FLANGES, A182

WELDING NECK ♥ LAP JOINT ♦ SLIP-ON



Grade: ☐ T304L ☐ T316L
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____
Face: ☐ Raised Face ☐ Flat Faced
Weldnecks & Socketwelds Only: Providing Schedule _____

DIMENSIONS

UOM: Inches/LBS

SELECT	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	4.75	0.88	1.50	1.38	0.84	TO BE SPECIFIED BY PURCHASER	0.88	0.90	0.93	0.38	2.38	1.25	1.25
☐	3/4	5.12	1.00	1.75	1.69	1.05		1.09	1.11	1.14	0.44	2.75	1.38	1.38
☐	1	5.88	1.12	2.06	2.00	1.32		1.36	1.38	1.41	0.50	2.88	1.62	1.62
☐	1 1/4	6.25	1.12	2.50	2.50	1.66		1.70	1.72	1.75	0.56	2.88	1.62	1.62
☐	1 1/2	7.00	1.25	2.75	2.88	1.90		1.95	1.97	1.99	0.62	3.25	1.75	1.75
☐	2	8.50	1.50	4.12	3.62	2.38		2.44	2.46	2.50	0.69	4.00	2.25	2.25
☐	2 1/2	9.62	1.62	4.88	4.12	2.88		2.94	2.97	3.00	0.75	4.12	2.50	2.50
☐	3	10.50	1.88	5.25	5.00	3.50		-----	3.60	3.63	-----	4.62	2.88	2.88
☐	4	12.25	2.12	6.38	6.19	4.50		-----	4.60	4.63	-----	4.88	3.56	3.56
☐	5	14.75	2.88	7.75	7.31	5.56		-----	5.69	5.69	-----	6.12	4.12	4.12
☐	6	15.50	3.25	9.00	8.50	6.63		-----	6.75	6.75	-----	6.75	4.69	4.69
☐	8	19.00	3.62	11.50	10.62	8.63		-----	8.75	8.75	-----	8.38	5.62	5.62
☐	10	23.00	4.25	14.50	12.75	10.75		-----	10.92	10.88	-----	10.00	6.25	7.00
☐	12	26.50	4.88	17.75	15.00	12.75		-----	12.92	12.94	-----	11.12	7.12	8.62
☐	14	29.50	5.25	19.50	16.25	14.00		-----	14.18	14.19	-----	11.75	-----	9.50
☐	16	32.50	5.75	21.75	18.50	16.00		-----	16.19	16.19	-----	12.25	-----	10.25
☐	18	36.00	6.38	23.50	21.00	18.00		-----	18.20	18.19	-----	12.88	-----	10.88
☐	20	38.75	7.00	25.25	23.00	20.00		-----	20.25	20.19	-----	14.00	-----	11.50
☐	24	46.00	8.00	30.00	27.25	24.00		-----	24.25	24.19	-----	16.00	-----	13.00

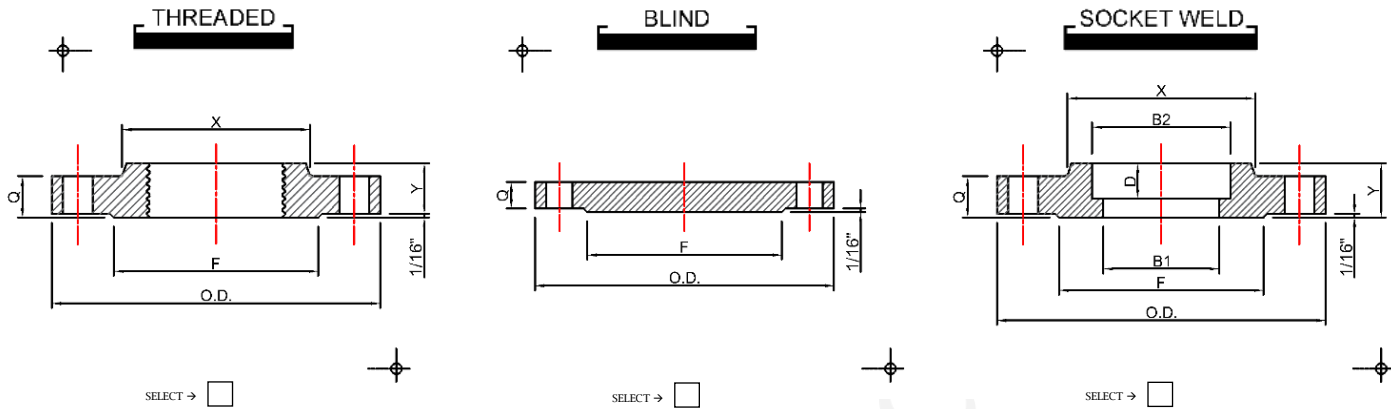
Forged Stainless Steel Material conforms to ASME A182
Forged Stainless Steel Flange Dimensions conform to ASME B16.5
NPT Threads conform to ASME B1.20.1
Plate Stainless Steel Flange Dimensions conform to ASME B16.5 Class 150
Plate Stainless Steel Flanges made from ASTM A240 Plate or
cast in conformance with ASTM A351

Project Name: _____
Job #: _____

FLANGES
A182 - 1500#
(Thrd, Blind, &
Soc)

CLASS 1500# B16.5 FLANGES, A182

THREADED ♣ BLIND ♠ SOCKET WELD



Grade: ☐ T304L ☐ T316L
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____
Face: ☐ Raised Face ☐ Flat Faced
Weldnecks & Socketwelds Only: Providing Schedule _____

DIMENSIONS

UOM: Inches/LBS

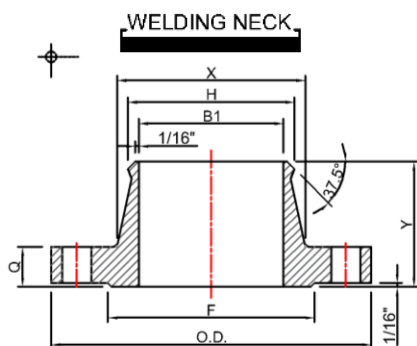
SELECT	NOM. PIPE SIZE	MIN. THREAD LENGTH	RADIUS (R) LAP JOINT	DRILLING			BOLTING				NOM. PIPE SIZE	APPROXIMATE WEIGHT EACH- POUNDS ±			
				DIAMETER OF BOLT CIRCLE	NO. OF HOLES	DIA. OF HOLES	DIA. OF BOLTS	STUB BOT LENGTH				WELDING NECK	SLIP-ON SOCKET WELD AND THREADED	LAP JOINT	BLIND
								25° Raised Face	Male & Female Tongue & Grove	Ring Joint					
☐	1/2	0.88	0.12	3.25	4	0.88	3/4	4.25	4.00	4.25	1/2	5	4	4	4
☐	3/4	1.00	0.12	3.50	4	0.88	3/4	4.50	4.25	4.50	3/4	6	5	5	5
☐	1	1.12	0.12	4.00	4	1.00	7/8	5.00	4.75	5.00	1	9	8	8	8
☐	1 1/4	1.19	0.19	4.38	4	1.00	7/8	5.00	4.75	5.00	1 1/4	10	9	9	9
☐	1 1/2	1.25	0.25	4.88	4	1.12	1	5.50	5.25	5.50	1 1/2	13	12	12	13
☐	2	1.50	0.31	6.50	8	1.00	7/8	5.75	5.50	5.75	2	25	25	25	25
☐	2 1/2	1.88	0.31	7.50	8	1.12	1	6.25	6.00	6.25	2 1/2	36	36	35	35
☐	3	2.00	0.38	8.00	8	1.25	1 1/8	7.00	6.75	7.00	3	48	48	47	48
☐	4	2.25	0.44	9.25	8	1.38	1 1/4	7.75	7.50	7.75	4	73	73	75	73
☐	5	2.50	0.44	11.50	8	1.62	1 1/2	9.75	9.50	9.75	5	130	130	140	140
☐	6	2.75	0.50	12.50	12	1.50	1 3/8	10.25	10.00	10.50	6	165	165	170	160
☐	8	3.00	0.50	15.50	12	1.75	1 5/8	11.50	11.25	12.00	8	275	260	285	300
☐	10	3.31	0.50	19.00	12	2.00	1 7/8	13.25	13.00	13.75	10	455	435	485	510
☐	12	3.62	0.50	22.50	16	2.12	2	14.75	14.50	15.50	12	690	580	630	690
☐	14	----	0.50	25.00	16	2.38	2 1/4	16.00	15.75	17.00	14	940	----	890	975
☐	16	----	0.50	27.75	16	2.62	2 1/2	17.50	17.25	18.50	16	1250	----	1150	1300
☐	18	----	0.50	30.50	16	2.88	2 3/4	19.50	19.00	20.50	18	1625	----	1475	1750
☐	20	----	0.50	32.75	16	3.12	3	21.50	21.00	22.50	20	2050	----	1775	2225
☐	24	----	0.50	39.00	16	3.62	3 1/2	24.50	24.00	25.75	24	3325	----	2825	3625

Forged Stainless Steel Material conforms to ASME A182
Forged Stainless Steel Flange Dimensions conform to ASME B16.5
NPT Threads conform to ASME B1.20.1
Plate Stainless Steel Flange Dimensions conform to ASME B16.5 Class 150
Plate Stainless Steel Flanges made from ASTM A240 Plate or
cast in conformance with ASTM A351

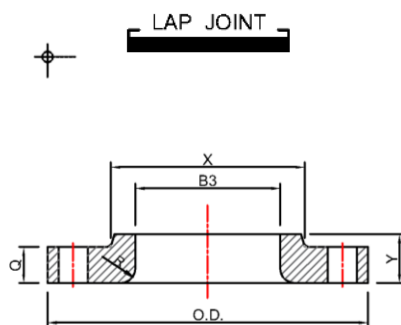
Project Name: _____
Job #: _____

CLASS 2500# B16.5 FLANGES, A182

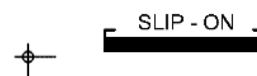
WELDING NECK ♥ LAP JOINT ♦ SLIP-ON



SELECT → ☐



SELECT → ☐



SELECT → ☐

SLIP-ON IS NOT
PRODUCED IN CLASS
2500

Grade: ☐ T304L ☐ T316L
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____
Face: ☐ Raised Face ☐ Flat Faced
Weldnecks & Socketwelds Only: Providing Schedule _____

DIMENSIONS

UOM: Inches/LBS

SELECT	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)	LENGTH THROUGH HUB (Y)		
							(B1) WELDING NECK (2)	(B3) LAP JOINT MIN		WELDING NECK	SLIP-ON AND THREADED	LAP JOINT
☐	1/2	5.25	1.19	1.69	1.38	0.84	TO BE SPECIFIED BY PURCHASER	0.90	0.93	2.88	1.56	1.56
☐	3/4	5.50	1.25	2.00	1.69	1.05		1.11	1.14	3.12	1.69	1.69
☐	1	6.25	1.38	2.25	2.00	1.32		1.38	1.41	3.50	1.88	1.88
☐	1 1/4	7.25	1.50	2.88	2.50	1.66		1.72	1.75	3.75	2.06	2.06
☐	1 1/2	8.00	1.75	3.12	2.88	1.90		1.97	1.99	4.38	2.38	2.38
☐	2	9.25	2.00	3.75	3.62	2.38		2.46	2.50	5.00	2.75	2.75
☐	2 1/2	10.50	2.25	4.50	4.12	2.88		2.97	3.00	5.62	3.12	3.12
☐	3	12.00	2.62	5.25	5.00	3.50		3.60	3.63	6.62	3.62	3.62
☐	4	14.00	3.00	6.50	6.19	4.50		4.60	4.63	7.50	4.25	4.25
☐	5	16.50	3.62	8.00	7.31	5.56		5.69	5.69	9.00	5.12	5.12
☐	6	19.00	4.25	9.25	8.50	6.63		6.75	6.75	10.75	6.00	6.00
☐	8	21.75	5.00	12.00	10.62	8.63		8.75	8.75	12.50	7.00	7.00
☐	10	26.50	6.50	14.75	12.75	10.75		10.92	10.88	16.50	9.00	9.00
☐	12	30.00	7.25	17.38	15.00	12.75		12.92	12.94	18.25	10.00	10.00

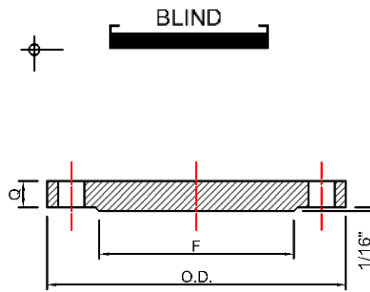
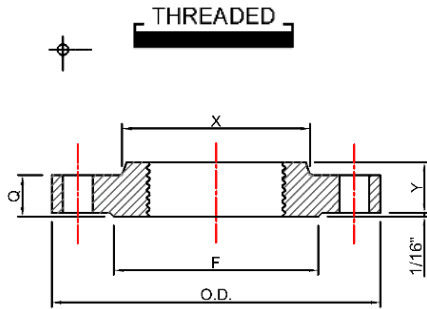
Forged Stainless Steel Material conforms to ASME A182
Forged Stainless Steel Flange Dimensions conform to ASME B16.5
NPT Threads conform to ASME B1.20.1
Plate Stainless Steel Flange Dimensions conform to ASME B16.5 Class 150
Plate Stainless Steel Flanges made from ASTM A240 Plate or
cast in conformance with ASTM A351

Project Name: _____
Job #: _____

FLANGES
A182 - 2500#
(Thrd, Blind, &
Soc)

CLASS 2500# B16.5 FLANGES, A182

THREADED ♣ BLIND ♠ SOCKET WELD



SOCKETWELD IS NOT
PRODUCED IN CLASS
2500

Grade: ☐ T304L ☐ T316L
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS ☐ _____
Face: ☐ Raised Face ☐ Flat Faced
Weldnecks & Socketwelds Only: Providing Schedule _____

DIMENSIONS

UOM: Inches/LBS

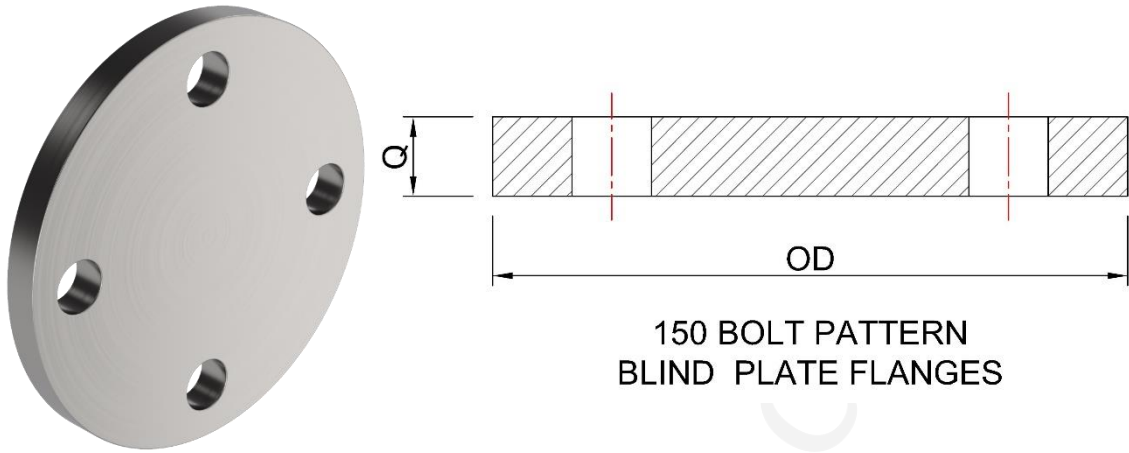
SELECT	NOM. PIPE SIZE	MIN. THREAD LENGTH	RADIUS (R) LAP JOINT	DRILLING			BOLTING				NOM. PIPE SIZE	APPROXIMATE WEIGHT EACH- POUNDS ±			
				DIAMETER OF BOLT CIRCLE	NO. OF HOLES	DIA. OF HOLES	DIA. OF BOLTS	STUB BOT LENGTH				WELDING NECK	SLIP-ON AND THREADED	LAP JOINT	BLIND
								25° Raised Face	Male & Female Tongue & Grove	Ring Joint					
☐	1/2	1.12	0.12	3.50	4	0.88	3/4	5.25	5.00	5.25	1/2	7	7	7	7
☐	3/4	1.25	0.12	3.75	4	0.88	3/4	5.25	5.00	5.25	3/4	8	8	8	8
☐	1	1.38	0.12	4.25	4	1.00	7/8	5.75	5.50	5.75	1	12	11	11	11
☐	1 1/4	1.50	0.19	5.12	4	1.12	1	6.25	6.00	6.50	1 1/4	17	16	16	17
☐	1 1/2	1.75	0.25	5.75	4	1.25	7/8	7.00	6.75	7.25	1 1/2	25	22	22	23
☐	2	2.00	0.31	6.75	8	1.12	1	7.25	7.00	7.50	2	42	38	37	39
☐	2 1/2	2.25	0.31	7.75	8	1.25	1 1/8	8.00	7.75	8.25	2 1/2	52	55	53	56
☐	3	2.50	0.38	9.00	8	1.38	1 1/4	9.00	8.75	9.25	3	94	83	80	86
☐	4	2.75	0.44	10.75	8	1.62	1 1/2	10.25	10.00	10.75	4	145	125	120	135
☐	5	3.00	0.44	12.75	8	1.88	1 3/4	12.00	11.75	12.75	5	245	210	205	225
☐	6	3.25	0.50	14.50	8	2.12	2	13.75	13.50	14.50	6	380	325	315	345
☐	8	3.75	0.50	17.25	12	2.12	2	15.25	15.00	16.00	8	580	485	470	530
☐	10	4.25	0.50	21.25	12	2.62	2 1/2	19.50	19.25	20.50	10	1075	930	900	1025
☐	12	4.75	0.50	24.38	12	2.88	2 3/4	21.50	21.25	22.50	12	1525	1100	1100	1300

Forged Stainless Steel Material conforms to ASME A182
Forged Stainless Steel Flange Dimensions conform to ASME B16.5
NPT Threads conform to ASME B1.20.1
Plate Stainless Steel Flange Dimensions conform to ASME B16.5 Class 150
Plate Stainless Steel Flanges made from ASTM A240 Plate or
cast in conformance with ASTM A351

Project Name: _____
Job #: _____

150# BOLT PATTERN

BLIND PLATE FLANGES



150 BOLT PATTERN
BLIND PLATE FLANGES

Grade: ☐ T304L ☐ T316L
Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS

DIMENSIONS

UOM: Inches/LBS

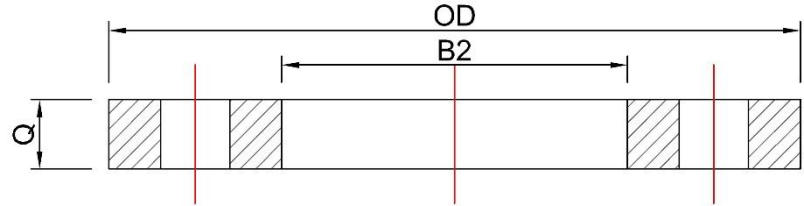
	SIZE	OUTSIDE DIAMETER (O.D.)	THICKNESS (Q)	DIA. OF BOLT HOLES	BOLT CIRCLE	NUMBER OF BOLT HOLES	WEIGHT
SELECT ☐	1	4.25	0.500	0.62	3.12	4	1.96
☐	1 ¼	4.62	0.500	0.62	3.50	4	2.36
☐	1 ½	5.00	0.500	0.62	3.88	4	2.78
☐	2	6.00	0.500	0.75	4.75	4	4.01
☐	2 ½	7.00	0.500	0.75	5.50	4	5.56
☐	3	7.50	0.500	0.75	6.00	4	6.39
☐	4	9.00	0.500	0.75	7.50	8	9.06
☐	5	10.00	0.500	0.88	8.50	8	11.13
☐	6	11.00	0.500	0.88	9.50	8	13.60
☐	8	13.50	0.500	0.88	11.75	8	20.81
☐	10	16.00	0.500	1.00	14.25	12	42.75
☐	12	19.00	0.500	1.00	17.00	12	61.29

Plate Stainless Steel Flange Dimensions conform to ASME B16.5 Class 150
Plate Stainless Steel Flanges made from ASTM A240 Plate
Cast in conformance with ASTM A35

Project Name: _____
 Job #: _____

150# BOLT PATTERN

PIPE PLATE FLANGES



150 BOLT PATTERN
 PIPE PLATE FLANGES

Grade: ☐ T304L ☐ T316L
 Source: ☐ Import ☐ Domestic ☐ BAA ☐ AIS

DIMENSIONS

UOM: Inches/LBS

SELECT	SIZE	OUTSIDE DIAMETER (O.D.)	INSIDE DIAMETER (B2)	THICKNESS (Q)	DIA. OF BOLT HOLES	BOLT CIRCLE	NUMBER OF BOLT HOLES	WEIGHT
☐	½	3.50	0.88	0.500	0.625	2.38	4	1.17
☐	¾	3.88	1.09	0.500	0.625	2.75	4	1.45
☐	1	4.25	1.36	0.500	0.625	3.12	4	1.73
☐	1 ¼	4.62	1.70	0.500	0.625	3.50	4	2.00
☐	1 ½	5.00	1.95	0.500	0.625	3.88	4	2.32
☐	2	6.00	2.44	0.500	0.750	4.75	4	3.28
☐	2 ½	7.00	2.94	0.500	0.750	5.50	4	4.50
☐	3	7.50	3.57	0.500	0.750	6.00	4	4.88
☐	3 ½	8.50	4.07	0.500	0.750	7.00	8	6.04
☐	4	9.00	4.60	0.500	0.750	7.50	8	6.57
☐	5	10.00	5.66	0.500	0.880	8.50	8	7.31
☐	6	11.00	6.72	0.500	0.880	9.50	8	8.24
☐	8	13.50	8.72	0.500	0.880	11.75	8	11.83
☐	10	16.00	10.88	0.500	1.000	14.25	12	18.39
☐	12	19.00	12.88	0.500	1.000	17.00	12	26.80
☐	14	21.00	14.14	0.500	1.125	18.75	12	33.05
☐	16	23.50	16.16	0.500	1.125	21.25	16	47.45
☒	18	25.00	18.18	0.500	1.250	22.75	16	47.21
☐	20	27.50	22.00	0.500	1.250	25.00	20	73.76
☐	24	32.00	24.25	0.500	1.380	29.50	20	92.64
☐	30	38.75	30.25	1.000	1.380	36.00	28	124.16
☐	36	46.00	36.25	1.250	1.625	42.75	32	207.40

Plate Stainless Steel Flange Dimensions conform to ASME B16.5 Class 150
 Plate Stainless Steel Flanges made from ASTM A240 Plate
 Cast in conformance with ASTM A35