



Product Catalog

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Our Legacy, Our Future

F&G Industries stands as a symbol of excellence in forged fittings and flanges - built on over five decades of experience, innovation, and family dedication. Our journey began in 1967 with a focus on machining forged components, and over three generations, we've grown into a global manufacturing leader headquartered in Houston, Texas.

As a family-owned company, we merge traditional craftsmanship with cutting-edge technology. With in-house forging, CNC machining, heat treatment, and hot dip galvanization, we maintain full control over production - delivering precision, consistency, and performance in every product.

Today, F&G Industries is proud to serve the oil & gas and industrial sectors with fittings and flanges that meet the highest standards for quality and reliability.

Every Forge, Every Finish

We don't just manufacture fittings; we craft performance through every stage of production. With a true end-to-end manufacturing approach, we maintain complete control from raw material to final inspection. This ensures exceptional consistency, precision, and reliability in every fitting we ship out.

By combining expert craftsmanship with advanced technology, we deliver products that meet the highest standards of quality. They are built to perform in the most demanding environments and backed by decades of experience.

On Time, Every Time

Our customers operate in industries where every second counts. That's why F&G Industries guarantees exceptional lead times and seamless delivery. By managing every production step, we ensure your project stays on schedule, every time.

Reliability, Redefined

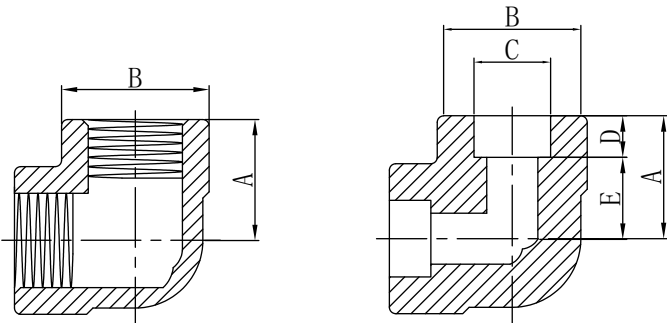
F&G Industries is redefining what reliability means in forged fittings. Engineered to exceed ISO and CE/ PED standards, our fittings deliver enduring strength and performance, even in the most demanding environments. Quality isn't just a promise; it's our standard.

Comprehensive Product Line

- **ASME B16.11** Fittings
 - Size 1/8" - 4".
 - Class 2000, 3000, 6000 for threaded.
 - Class 3000, 6000, 9000 for socket welded.
- **MSS SP-83** Unions
 - Size 1/8" - 3".
 - Class 3000, 600 for threaded and socket welded.
- **MSS SP-95** Swage Nipples & Bull Plugs
 - Size 1/8" - 4".
 - Class STD, XS, SCH160, XXS.
- **MSS SP-97** Outlets
 - Size 1/8" - 4".
 - Class STD, XS, SCH160, XXS for butt welding.
 - Class 3000, 6000, 9000 for threaded and socket welded.

90° Elbow

Specification:ASME B16.11
Material:Carbon, Stainless, Alloy
Sizes:1/8”-4”
Pressure Class:2000, 3000, 6000, 9000



Threaded

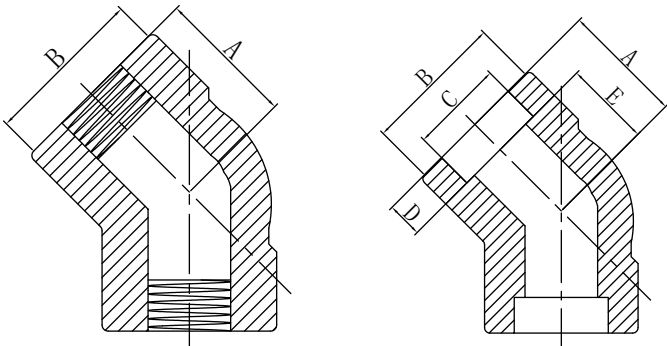
CLASS	DIMENSIONS	SIZES (INCHES)											
		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
2000	A		0.875	0.969	1.125	1.313	1.500	1.750	2.000	2.375	3.000	3.375	4.188
	B		0.906	1.063	1.313	1.563	1.844	2.219	2.500	3.031	3.625	4.313	5.750
	WEIGHT		0.230	0.290	0.480	0.750	1.080	1.590	2.190	3.520	7.090	11.330	25.080
3000	A	0.875	0.969	1.125	1.313	1.500	1.750	2.000	2.375	2.500	3.250	3.750	4.500
	B	0.906	1.063	1.313	1.563	1.844	2.219	2.500	3.031	3.344	4.000	4.750	6.000
	WEIGHT	0.270	0.350	0.580	0.970	1.420	2.290	2.770	5.430	5.870	11.030	17.500	33.200
6000	A	0.969	1.125	1.313	1.500	1.750	2.000	2.375	2.500	3.250	3.750	4.188	4.500
	B	1.063	1.313	1.563	1.844	2.219	2.500	3.031	3.344	4.000	4.750	5.750	6.000
	WEIGHT	0.370	0.650	1.050	1.640	2.690	3.620	6.130	7.840	14.400	22.950	37.120	33.420

Socket Weld

CLASS	DIMENSIONS	SIZES (INCHES)											
		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
3000	A	0.875	0.875	0.969	1.125	1.313	1.500	1.750	2.000	2.375	3.000	3.375	4.188
	B	0.906	0.906	1.063	1.313	1.563	1.844	2.219	2.500	3.031	3.688	4.375	5.750
	C	0.420	0.555	0.690	0.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	4.545
	D MIN.	0.375	0.375	0.375	0.375	0.500	0.500	0.500	0.500	0.625	0.625	0.625	0.750
	E	0.438	0.438	0.531	0.625	0.750	0.875	1.063	1.250	1.500	1.625	2.250	2.625
	WEIGHT	0.250	0.210	0.260	0.450	0.750	1.050	1.520	2.080	3.370	6.670	11.080	22.590
6000	A	0.875	0.969	1.125	1.313	1.500	1.750	2.000	2.375	2.500	3.250	3.750	4.500
	B	0.906	1.063	1.313	1.563	1.844	2.219	2.500	3.031	3.344	4.000	4.750	6.000
	C	0.420	0.555	0.690	0.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	4.545
	D MIN.	0.375	0.375	0.375	0.375	0.500	0.500	0.500	0.500	0.625	0.625	0.625	0.750
	E	0.438	0.531	0.625	0.750	0.875	1.063	1.250	1.500	1.625	2.250	2.500	2.750
	WEIGHT		0.260	0.590	0.970	1.420	2.330	2.960	5.710	6.420	12.160	18.690	34.150
9000	A				1.500	1.750	2.000	2.375	2.500	3.000			
	B				1.844	2.219	2.500	3.031	3.344	3.688			
	C				0.855	1.065	1.330	1.675	1.915	2.406			
	D MIN.				0.375	0.500	0.500	0.500	0.500	0.625			
	E				1.000	1.125	1.250	1.375	1.500	2.125			
	WEIGHT				1.700	2.790	3.810	5.710	8.150	11.260			

45° Elbow

Specification:ASME B16.11
Material:Carbon, Stainless, Alloy
Sizes:1/8”-4”
Pressure Class:2000, 3000, 6000, 9000



Threaded

CLASS	DIMENSIONS	SIZES (INCHES)											
		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
2000	A	0.750	0.750	1.000	1.125	1.250	1.313	1.375	1.750	2.063	2.500	3.125	
	B		0.906	1.063	1.313	1.563	1.844	2.219	2.500	3.031	4.000	4.375	6.000
	WEIGHT		0.210	0.240	0.470	0.730	1.030	1.460	1.770	3.030	8.070	9.460	24.570
3000	A	0.750	0.750	1.000	1.125	1.250	1.313	1.375	1.688	1.750	2.063	2.500	3.125
	B	0.906	1.063	1.313	1.563	1.844	2.219	2.500	3.031	3.313	4.000	4.750	6.000
	WEIGHT	0.230	0.300	0.580	0.910	1.290	2.020	2.290	4.540	5.260	7.830	12.990	24.750
6000	A	0.750	1.000	1.125	1.250	1.313	1.375	1.688	1.750	2.063	2.500	3.125	3.125
	B	1.063	1.313	1.563	1.844	2.219	2.500	3.031	3.313	4.000	4.750	6.000	6.000
	WEIGHT	0.560	0.580	0.910	1.540	2.250	2.840	5.120	6.820	10.280	15.000	35.200	24.750

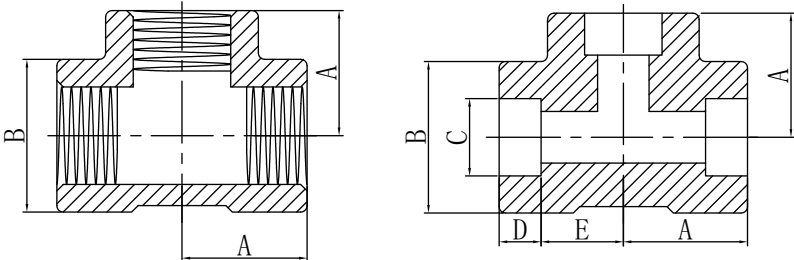
Socket Weld

CLASS	DIMENSIONS	SIZES (INCHES)											
		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
3000	A	0.750	0.750	0.750	1.000	1.125	1.250	1.313	1.375	1.750	2.063	2.500	3.125
	B	0.906	0.906	1.063	1.313	1.563	1.844	2.219	2.500	3.031	4.000	4.375	6.000
	C	0.420	0.555	0.690	0.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	4.545
	D MIN.	0.375	0.375	0.375	0.375	0.250	0.250	0.250	0.250	0.625	0.625	0.625	0.750
	E	0.313	0.313	0.313	0.438	0.250	0.563	0.688	0.813	1.000	1.125	1.250	1.625
	WEIGHT	0.220	0.190	0.220	0.420	0.700	0.950	1.390	1.680	2.960	7.760	8.550	24.060
6000	A	0.750	0.750	1.000	1.125	1.250	1.313	1.375	1.750	1.844	2.063	2.500	3.125
	B	0.906	1.063	1.313	1.563	1.844	2.219	2.500	3.031	3.375	4.000	4.750	6.000
	C	0.420	0.555	0.690	0.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	4.545
	D MIN.	0.375	0.375	0.375	0.375	0.250	0.250	0.250	0.250	0.625	0.625	0.625	0.750
	E	0.313	0.313	0.438	0.250	0.563	0.688	0.813	1.000	1.125	1.250	1.375	1.625
	WEIGHT		0.220	0.480	0.890	1.260	2.000	2.290	4.490	5.570	8.690	14.200	24.060
9000	A				1.250	1.313	1.375	1.750	1.844	2.063			
	B				1.844	2.219	2.500	3.031	3.375	4.000			
	C				0.855	1.065	1.330	1.675	1.915	2.406			
	D MIN.				0.375	0.500	0.500	0.500	0.500	0.625			
	E				0.625	0.750	0.813	0.875	1.000	1.125			
	WEIGHT				1.310	2.370	2.910	4.310	6.890	10.840			

 Tee



Specification:ASME B16.11
Material:Carbon, Stainless, Alloy
Sizes:1/8”-4”
Pressure Class:2000, 3000, 6000, 9000



Threaded

CLASS	DIMENSIONS	SIZES (INCHES)											
		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
2000	A		0.875	0.969	1.125	1.313	1.500	1.750	2.000	1.375	3.000	3.375	4.188
	B		0.906	1.063	1.313	1.563	1.844	2.219	2.500	3.031	3.688	4.313	5.750
	WEIGHT		0.290	0.380	0.630	0.950	1.410	2.130	2.910	4.410	9.890	14.170	29.700
3000	A	0.875	0.969	1.125	1.313	1.500	1.750	2.000	1.375	2.500	3.250	3.750	4.500
	B	0.906	1.063	1.313	1.563	1.844	2.219	2.500	3.031	1.344	4.000	4.750	6.000
	WEIGHT	0.360	0.470	0.770	1.290	1.890	3.080	3.730	7.000	7.630	14.670	22.650	40.080
6000	A	0.969	1.125	1.313	1.500	1.750	2.000	1.375	2.500	3.250	3.750	4.188	4.500
	B	1.063	1.313	1.563	1.844	2.219	2.500	3.031	3.344	4.000	4.750	5.750	6.000
	WEIGHT	0.470	0.870	1.450	2.240	3.710	4.920	8.130	10.110	19.160	30.430	47.550	47.770

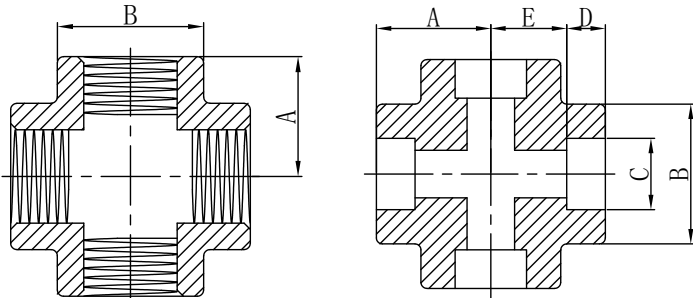
Socket Weld

CLASS	DIMENSIONS	SIZES (INCHES)											
		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
3000	A	0.875	0.875	0.969	1.125	1.313	1.500	1.750	2.000	1.375	3.000	3.375	4.188
	B	0.906	0.906	1.063	1.313	1.563	1.844	2.219	2.500	3.031	3.688	4.375	5.750
	C	0.420	0.555	0.690	0.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	4.545
	D MIN.	0.375	0.375	0.375	0.375	0.500	0.500	0.500	0.500	0.625	0.625	0.625	0.750
	E	0.438	0.438	0.531	0.625	0.750	0.875	1.063	1.250	1.500	1.625	2.250	2.625
	WEIGHT	0.330	0.270	0.340	0.590	0.940	1.290	2.040	2.770	4.110	8.680	13.790	28.600
6000	A	0.875	0.969	1.125	1.313	1.500	1.750	2.000	1.375	2.500	3.250	3.750	4.500
	B	0.906	1.063	1.313	1.563	1.844	2.219	2.500	3.031	3.344	4.000	4.750	6.000
	C	0.420	0.555	0.690	0.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	4.545
	D MIN.	0.375	0.375	0.375	0.375	0.500	0.500	0.500	0.500	0.625	0.625	0.625	0.750
	E	0.438	0.531	0.625	0.750	0.875	1.063	1.250	1.500	1.625	2.250	2.500	2.750
	WEIGHT		0.340	0.800	1.270	1.910	3.170	4.040	7.550	8.190	16.150	24.430	42.790
9000	A				1.500	1.750	2.000	2.375	2.500	3.000			
	B				1.844	2.219	2.500	3.031	3.344	3.688			
	C				0.855	1.065	1.330	1.675	1.915	2.406			
	D MIN.				0.375	0.500	0.500	0.500	0.500	0.625			
	E				1.000	1.125	1.250	1.375	1.500	2.125			
	WEIGHT				2.310	3.620	5.200	7.550	10.780	15.790			

 Cross



Specification:ASME B16.11
Material:Carbon, Stainless, Alloy
Sizes:1/8”-4”
Pressure Class:2000, 3000, 6000, 9000



Threaded

CLASS	DIMENSIONS	SIZES (INCHES)											
		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
2000	A		0.969	0.969	1.125	1.313	1.500	1.750	2.000	2.375	3.250	3.750	4.500
	B		1.063	1.063	1.313	1.563	1.844	2.219	2.500	3.031	4.000	4.750	6.000
	WEIGHT		0.560	0.470	0.830	1.190	1.640	2.460	3.510	5.500	18.320	26.410	45.760
3000	A	0.969	0.969	1.125	1.313	1.500	1.750	2.000	2.375	2.500	3.250	3.750	4.500
	B	1.063	1.063	1.313	1.563	1.844	2.219	2.500	3.031	3.344	4.000	4.750	6.000
	WEIGHT	0.650	0.580	0.970	1.600	2.280	3.650	4.540	8.470	9.100	17.690	26.130	47.370
6000	A	0.969	1.125	1.313	1.500	1.750	2.000	2.375	2.500	3.250	3.750	4.500	4.500
	B	1.063	1.313	1.563	1.844	2.219	2.500	3.031	3.344	4.000	4.750	6.000	6.000
	WEIGHT	0.650	1.190	1.600	2.650	4.340	5.920	10.500	12.120	23.150	28.130	54.000	43.500

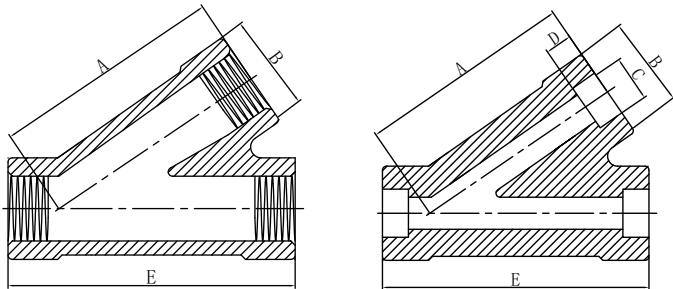
Socket Weld

CLASS	DIMENSIONS	SIZES (INCHES)											
		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
3000	A	0.938	0.938	0.969	1.125	1.313	1.500	1.750	2.000	2.375	3.250	3.750	4.500
	B	1.063	1.063	1.063	1.313	1.563	1.844	2.219	2.500	3.031	4.000	4.750	6.000
	C	0.420	0.555	0.690	0.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	4.545
	D MIN.	0.375	0.375	0.375	0.375	0.500	0.500	0.500	0.500	0.625	0.625	0.625	0.750
	E	0.438	0.438	0.531	0.625	0.750	0.875	1.063	1.250	1.500	1.625	2.250	2.625
	WEIGHT	0.250	0.250	0.420	0.720	1.170	1.490	2.380	3.250	5.080	15.780	24.730	40.000
6000	A				1.313	1.500	1.750	2.000	2.375	2.500	3.250	3.750	
	B				1.563	1.844	2.219	2.500	3.031	3.344	4.000	4.750	
	C				0.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	
	D MIN.				0.375	0.500	0.500	0.500	0.500	0.625	0.625	0.625	
	E				0.750	0.875	1.063	1.250	1.500	1.625	2.250	2.500	
	WEIGHT				1.550	2.310	3.740	5.250	8.800	9.660	16.750	23.000	
9000	A				1.500	1.750	2.000	2.375	2.500	3.250			
	B				1.844	2.219	2.500	3.031	3.344	4.000			
	C				0.855	1.065	1.330	1.675	1.915	2.406			
	D MIN.				0.375	0.500	0.500	0.500	0.500	0.625			
	E				1.000	1.125	1.250	1.375	1.500	2.125			
	WEIGHT				1.750	4.120	5.250	5.120	8.750	22.190			

Lateral



Specification:ASME B16.11
Material:Carbon, Stainless, Alloy
Sizes:1/8”-4”
Pressure Class: 3000, 6000, 9000



Threaded

CLASS	DIMENSIO NS	SIZES (INCHES)							
		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
3000	A	1.875	2.125	0.563	3.000	3.500	3.938	4.750	5.000
	B	1.063	1.313	1.563	1.844	2.219	2.500	3.031	3.344
	E	2.688	3.000	3.563	4.125	4.813	5.375	6.438	6.625
	WEIGHT		1.000	1.990	2.730	4.430	5.450	11.100	11.700
6000	A			3.000	3.500	3.938	4.750	5.000	
	B			1.844	2.219	2.500	3.031	3.344	
	E			4.125	4.813	5.375	6.438	6.625	
	WEIGHT			2.380	3.250	5.440	7.190	12.310	

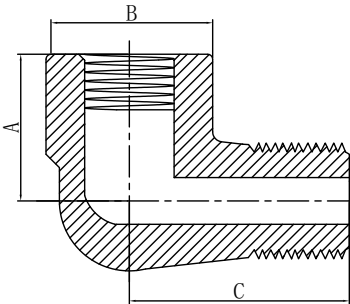
Socket Weld

CLASS	DIMENSIO NS	SIZES (INCHES)							
		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
3000	A		1.875	2.125	2.563	3.000	3.500	3.938	4.750
	B		1.063	1.313	1.563	1.844	2.219	2.500	3.031
	C		0.690	0.855	1.065	1.330	1.675	1.915	2.406
	D MIN.		0.375	0.375	0.500	0.500	0.500	0.500	0.625
	E		2.688	3.000	3.563	4.125	4.813	5.375	6.438
	WEIGHT		1.000	0.880	1.560	2.080	3.080	4.220	6.890
6000	A			2.563	3.000	3.500	3.938	4.750	5.000
	B			1.563	1.844	2.219	2.500	3.031	3.344
	C			0.855	1.065	1.330	1.675	1.915	2.406
	D MIN.			0.375	0.500	0.500	0.500	0.500	0.625
	E			3.563	4.125	4.813	5.375	6.438	6.625
	WEIGHT			2.000	3.070	4.850	6.250	11.940	12.500
9000	A			3.000	3.500	3.938	4.750	5.000	
	B			1.844	2.219	2.500	3.031	3.344	
	C			0.855	1.065	1.330	1.675	1.915	
	D MIN.			0.563	0.625	0.688	0.875	0.500	
	E			4.125	4.813	5.375	6.438	6.625	
	WEIGHT			1.750	2.380	3.750	6.880	6.880	

Street Elbow



Specification:ASME B16.11
Material:Carbon, Stainless, Alloy
Sizes:1/8”-4”
Pressure Class:3000, 6000



Threaded

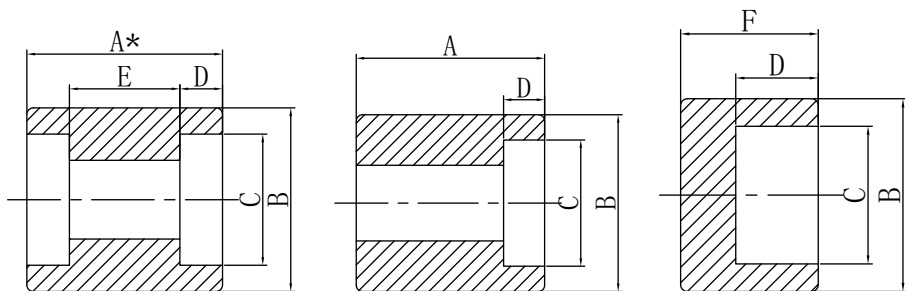
CLASS	DIMENSIONS	SIZES (INCHES)								
		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
3000	A	0.875	0.875	1.000	1.125	1.375	1.750	2.000	2.125	2.500
	B	1.063	1.060	1.313	1.500	1.813	2.188	2.438	3.031	3.313
	C	1.250	1.250	1.500	1.625	1.875	2.250	2.625	2.938	3.313
	WEIGHT	0.270	0.250	0.410	0.610	1.020	1.730	2.420	4.050	5.250
6000	A	0.875	1.000	1.125	1.375	1.750	2.000	2.125	2.500	
	B	1.060	1.313	1.500	1.813	2.188	2.438	3.031	3.313	
	C	1.250	1.500	1.625	1.875	2.250	2.625	2.938	3.313	
	WEIGHT	0.420	0.440	0.690	1.180	2.090	3.120	4.870	7.040	



Socket Weld Couplings & Caps



Specification:ASME B16.11
Material:Carbon, Stainless, Alloy
Sizes:1/8”-4”
Pressure Class:3000, 6000, 9000



Socket Weld

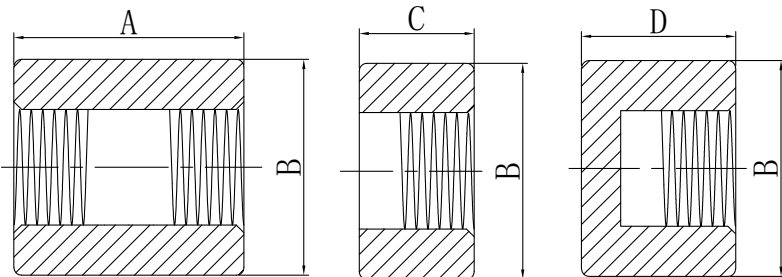
CLASS	DIMENSIONS	SIZES (INCHES)											
		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
3000	A	1.063	1.063	1.125	1.375	1.500	1.750	1.875	2.000	2.500	2.563	2.750	3.000
	AA	1.031	1.031	1.031	1.188	1.406	1.516	1.516	1.516	2.016	2.016	2.016	2.266
	B	0.750	0.875	1.063	1.250	1.500	1.813	2.250	2.500	3.000	3.625	4.313	5.500
	C	0.420	0.555	0.690	0.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	4.545
	D MIN.	0.375	0.375	0.375	0.375	0.500	0.500	0.500	0.500	0.625	0.625	0.625	0.750
	E	0.250	0.250	0.250	0.375	0.375	0.500	0.500	0.500	0.750	0.750	0.750	0.750
	F	0.688	0.750	0.750	0.875	1.000	1.063	1.188	1.250	1.500	1.563	1.813	2.063
COUPLING	WEIGHT	0.090	0.120	0.160	0.240	0.390	0.570	0.900	1.040	1.790	2.420	4.060	5.730
HAIF COUPLING	WEIGHT	0.100	0.130	0.180	0.320	0.460	0.750	1.240	1.330	2.380	3.550	6.240	8.300
CAP	WEIGHT	0.070	0.100	0.140	0.220	0.360	0.550	1.010	1.270	1.990	3.380	6.300	12.080
6000	A	1.063	1.063	1.125	1.375	1.500	1.750	1.875	2.000	2.500	2.563	2.750	3.000
	AA	1.063	1.125	1.125	1.156	1.406	1.516	1.516	1.516	2.016	2.016	2.016	2.266
	B	0.875	1.063	1.313	1.500	1.750	2.250	2.500	3.000	3.625	4.250	5.000	6.250
	C	0.420	0.555	0.690	0.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	4.545
	D MIN.	0.375	0.375	0.375	0.375	0.500	0.500	0.500	0.500	0.625	0.625	0.625	0.750
	E	0.250	0.250	0.250	0.375	0.375	0.500	0.500	0.500	0.750	0.750	0.750	0.750
	F		15/16	15/16	1.000	1.063	1.250	1.313	1.375	1.625	1.688	1.938	2.313
COUPLING	WEIGHT		0.230	0.330	0.450	0.670	1.270	1.370	2.090	3.850	4.930	6.690	8.000
HAIF COUPLING	WEIGHT				0.560	0.800	1.580	1.720	2.990	4.990	5.440	9.500	12.640
CAP	WEIGHT		0.200	0.270	0.420	0.580	1.180	1.410	2.190	3.650	5.630	8.780	14.250
9000	A				1.375	1.500	1.750	1.797	2.000	2.500			
	AA				1.375	1.500	1.750	1.797	2.000	2.500			
	B				1.813	2.000	2.375	2.750	3.063	3.625			
	C				0.855	1.065	1.330	1.675	1.915	2.406			
	D MIN.				0.375	0.500	0.500	0.500	0.500	0.625			
	E				0.375	0.375	0.500	0.500	0.500	0.750			
	F				0.620	1.040	1.710	1.690	2.930	4.610			
COUPLING	WEIGHT				0.620	1.040	1.710	1.690	2.930	4.610			
HAIF COUPLING	WEIGHT				0.880	0.800	1.740	2.220	2.930	4.990			



Threaded Couplings & Caps



Specification:ASME B16.11
Material:Carbon, Stainless, Alloy
Sizes:1/8”-4”
Pressure Class:3000, 6000

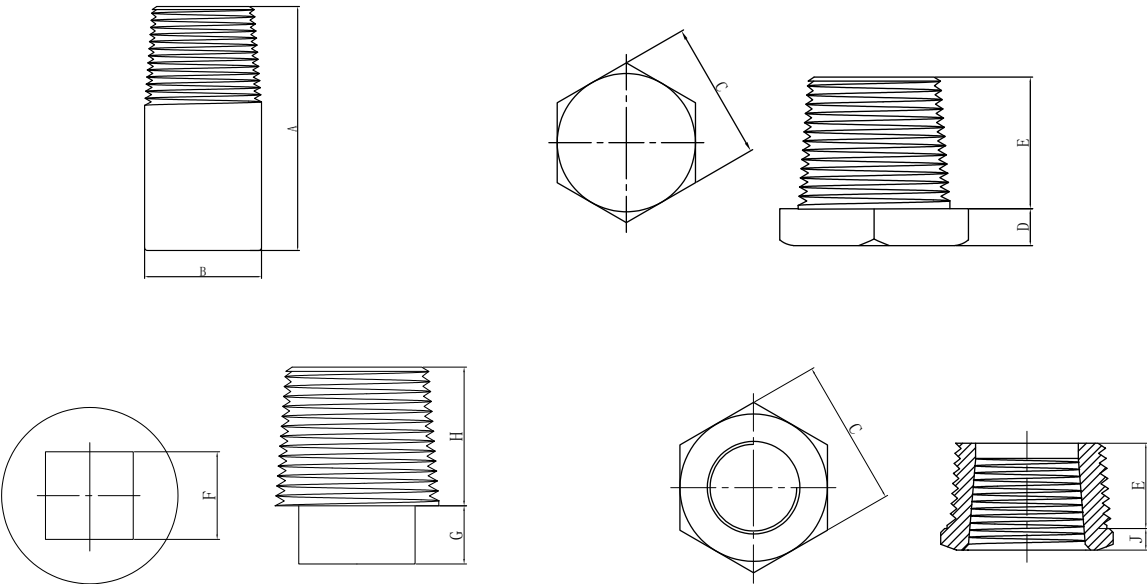


Threaded

CLASS	DIMENSIONS	SIZES (INCHES)											
		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
3000	A	1.250	1.375	1.500	1.875	2.000	2.375	2.625	3.125	3.375	3.625	4.250	4.750
	B	0.750	0.750	0.875	1.125	1.375	1.750	2.250	2 1/2	3.000	3.625	4.250	5.500
	C	0.625	0.688	0.750	0.938	1.000	1.188	1.313	1.563	1.688	1.813	2.125	2.375
	D	0.938	1.000	1.000	1.250	1.438	1.625	1.750	1.750	1.875	2.375	2.563	2.688
COUPLING	WEIGHT	0.130	0.110	0.130	0.290	0.420	0.850	1.600	2.260	2.950	4.610	6.890	12.480
HAIF COUPLING	WEIGHT	0.060	0.050	0.060	0.130	0.210	0.420	0.790	1.120	1.530	2.340	3.260	6.480
CAP	WEIGHT	0.100	0.090	0.100	0.240	0.370	0.740	1.350	1.640	2.400	4.450	7.140	12.420
6000	A	1.250	1.375	1.500	1.875	2.000	2.375	2.625	3.125	3.375	3.625	4.250	4.750
	B	0.875	1.000	1.250	1.500	1.750	2.250	2.500	3.000	3.625	4.250	5.000	6.250
	C	0.625	0.688	0.750	0.938	1.000	1.188	1.313	1.563	1.688	1.813	2.125	2.375
	D	1.000	1.063	1.063	1.313	1.500	1.688	1.813	1.875	2.000	2.500	2.688	2.938
COUPLING	WEIGHT	0.180	0.280	0.390	0.700	0.950	1.930	2.280	4.200	6.000	8.650	13.410	21.860
HAIF COUPLING	WEIGHT	0.100	0.120	0.190	0.350	0.490	0.970	1.150	2.080	3.050	4.350	6.830	7.050
CAP	WEIGHT	0.160	0.230	0.310	0.550	0.780	1.550	1.900	2.790	4.350	8.100	10.730	15.580

Plugs & Bushings

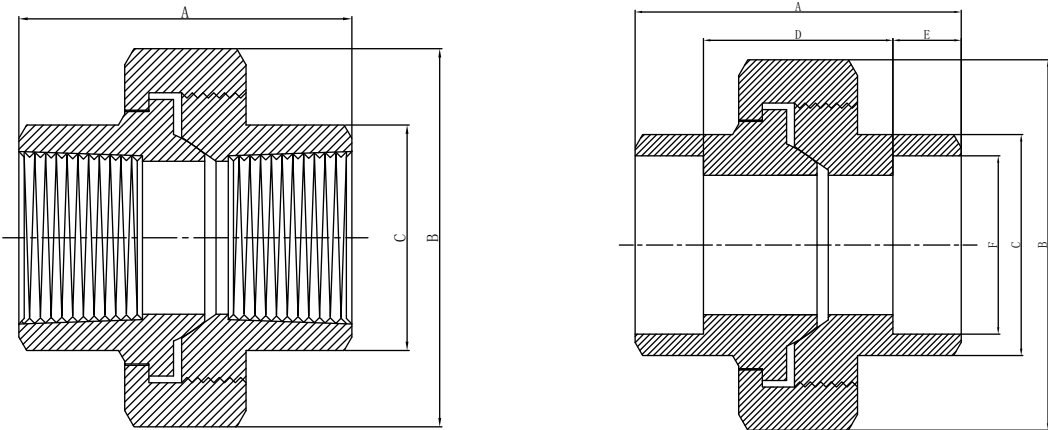
Specification:ASME B16.11
Material:Carbon, Stainless, Alloy
Sizes:1/8”-4”
Pressure Class:3000, 6000



CLASS	DIMENSIONS	SIZES (INCHES)											
		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
3000/6000	A	1.375	1.625	1.625	1.750	1.750	2.000	2.000	2.000	2.500	2.750	2.750	3.000
	B	0.406	0.563	0.688	0.813	1.063	1.313	1.688	1.906	2.375	2.875	3.500	4.500
	C	0.438	0.625	0.688	0.875	1.063	1.375	1.750	2.000	2.500	3.000	3.750	4.875
	D MIN.	0.250	0.250	0.313	0.313	0.375	0.375	0.563	0.625	0.688	0.750	0.813	1.000
	E	0.438	0.500	0.563	0.688	0.750	0.844	0.875	0.938	1.000	1.250	1.688	1.781
	F	0.281	0.375	0.438	0.563	0.625	0.813	0.938	1.125	1.313	1.500	1.688	2.500
	G	0.250	0.250	0.313	0.375	0.438	0.375	0.563	0.625	0.688	0.750	0.813	1.250
	H	0.375	0.438	0.375	0.563	0.625	0.750	0.813	0.813	0.875	1.063	1.125	1.250
	J MIN.		0.188	0.188	0.188	0.250	0.250	0.375	0.375	0.375	0.375	0.438	1.000
	ROUND PLUG WEIGHT	0.050	0.110	0.180	0.250	0.410	0.730	1.200	1.570	3.100	5.010	7.400	13.250
HEXAGON PLUG	WEIGHT	0.030	0.060	0.090	0.160	0.270	0.480	0.930	1.350	2.260	3.840	7.080	12.070
SQUARE PLUG	WEIGHT	0.020	0.040	0.060	0.120	0.190	0.350	0.610	0.830	1.410	2.330	3.570	6.280
HEX BUSHING	WEIGHT		0.030	0.040	0.060	0.120	0.210	0.380	0.370	0.770	1.310	3.780	7.310
FLUSH BUSHING	WEIGHT		0.050	0.070	0.030	0.060	0.090	0.170	0.190	0.390	0.620	1.000	1.880

Union

Specification:MSS SP-83
Material:Carbon, Stainless, Alloy
Sizes:1/8”-3”
Pressure Class:3000, 6000



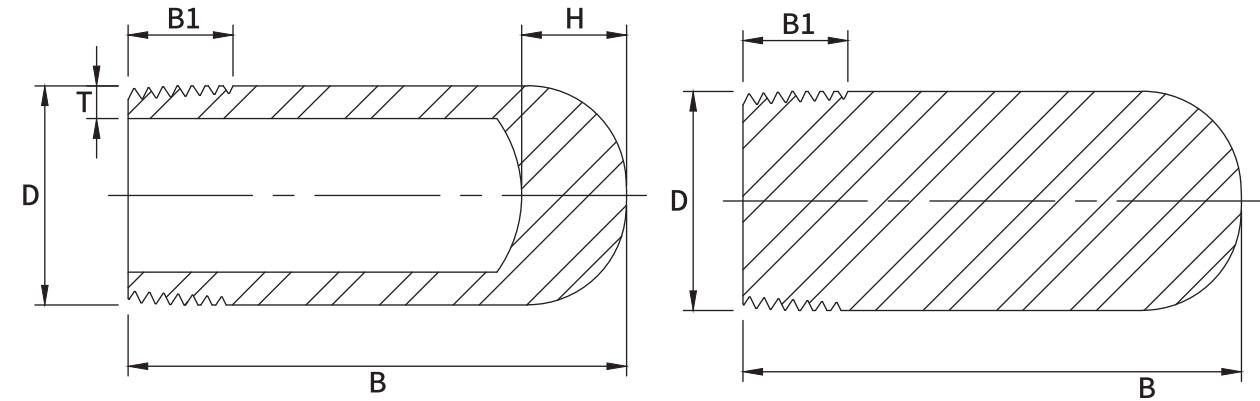
CLASS	DIMENSIONS	SIZES (INCHES)										
		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
3000	A	1.703	1.719	1.875	2.000	2.281	2.500	2.875	3.031	3.500	4.047	4.297
	B	1.375	1.375	1.563	1.813	2.172	2.563	3.125	3.500	4.250	4.875	5.750
	C	0.875	0.875	1.031	1.234	1.484	1.813	2.234	2.484	3.031	3.656	4.406
	D	0.953	0.969	1.125	1.250	1.281	1.500	1.875	2.031	2.250	2.797	3.047
	E MIN.	0.375	0.375	0.375	0.375	0.500	0.500	0.500	0.500	0.625	0.625	0.625
	F	0.420	0.555	0.690	0.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535
	WEIGHT	0.410	0.380	0.540	0.790	1.250	1.800	2.880	3.640	5.810	8.770	12.980
6000	A		1.875	1.984	2.297	2.500	2.875	3.016	3.531	4.266		
	B		1.578	1.813	2.203	2.578	3.109	3.422	4.094	4.875		
	C		1.031	1.234	1.469	1.797	2.172	2.469	3.031	3.656		
	D		1.125	1.234	1.547	1.500	1.875	2.016	2.531	3.016		
	E MIN.		0.375	0.375	0.375	0.500	0.500	0.500	0.500	0.625		
	F		0.555	0.690	0.855	1.065	1.330	1.675	1.915	2.406		
	WEIGHT		0.590	0.840	1.420	2.090	3.400	4.090	7.180	12.440		



BULL PLUG



Specification:MSS SP-95
Material:Carbon, Stainless, Alloy
Sizes:1/8”-4”
Pressure Class:STD, XS, SCH160, XXS



Dimensions are in millimeters.

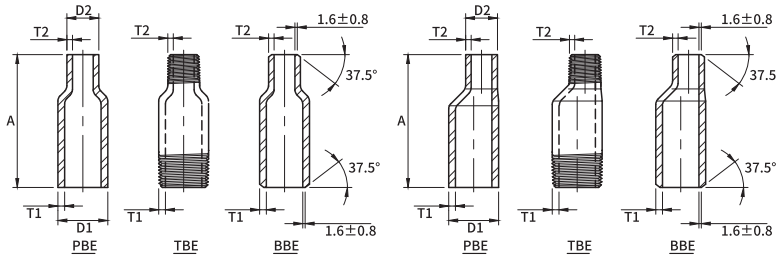
Nom.Pipe Size	D	B	B1	T(Min)				H
				Sch 40/STD	Sch 80/XS (3M)	Sch160 (6M)	XXS	
1/8	10.3	51	9.5	1.73	2.41	—	—	14
1/4	13.7	51	11.0	2.24	3.02	—	—	14
3/8	17.1	57	12.5	2.31	3.20	—	—	14
1/2	21.3	64	14.5	2.77	3.73	4.78	7.47	14
3/4	26.7	70	16.0	2.87	3. 91	5.56	7.82	18
1	33.4	76	19.0	3.38	4. 55	6.35	9.09	18
1-1/4	42.2	83	20.5	3.56	4.85	6.35	9.70	18
1-1/2	48.3	89	20.5	3.68	5.08	7.14	10.15	18
2	60.3	102	22.0	3.91	5.54	8.74	11.07	20
2-1/2	73.0	127	27.0	5.16	7.01	9.53	14.02	20
3	88.9	152	28.5	5.49	7.62	11.13	15.24	20
4	114.3	178	32.0	6.02	8.56	13.49	17.12	20



SWAGE NIPPLE



Specification:MSS SP-95
Material:Carbon, Stainless, Alloy
Sizes:1/8”-4”
Pressure Class:STD, XS, SCH160, XXS



CONCENTRIC
ECCENTRIC
Dimensions are in millimeters.

Nom.Pipe Size	Outside Diameter		End to End "A"	Wall Thickness							
	Large End D1	Small End D2		T1				T2			
				Sch40 (STD)	Sch80 (XS)	Sch160	XXS	Sch40 (STD)	Sch80 (XS)	Sch160	XXS
1/4×1/8	13.7	10.3	57	2.2	3.0	3.7	6.1	1.7	2.4	—	—
3/8×1/8	17.1	10.3	64	2.3	3.2	4.0	6.4	1.7	2.4	—	—
3/8×1/4	17.1	13.7	64	2.3	3.2	4.0	6.4	2.2	3.0	—	—
1/2×1/8	21.3	10.3	70	2.8	3.7	4.8	7.5	1.7	2.4	—	—
1/2×1/4	21.3	13.7	70	2.8	3.7	4.8	7.5	2.2	3.0	—	—
1/2×3/8	21.3	17.1	70	2.8	3.7	4.8	7.5	2.3	3.2	—	—
3/4×1/8	26.7	10.3	76	2.9	3.9	5.6	7.8	1.7	2.4	—	—
3/4×1/4	26.7	13.7	76	2.9	3.9	5.6	7.8	2.2	3.0	—	—
3/4×3/8	26.7	17.1	76	2.9	3.9	5.6	7.8	2.3	3.2	—	—
3/4×1/2	26.7	21.3	76	2.9	3.9	5.6	7.8	2.8	3.7	4.8	7.5
1×1/8	33.4	10.3	89	3.4	4.5	6.4	9.1	1.7	2.4	—	—
1×1/4	33.4	13.7	89	3.4	4.5	6.4	9.1	2.2	3.0	—	—
1×3/8	33.4	17.1	89	3.4	4.5	6.4	9.1	2.3	3.2	—	—
1×1/2	33.4	21.3	89	3.4	4.5	6.4	9.1	2.8	3.7	4.8	7.5
1×3/4	33.4	26.7	89	3.4	4.5	6.4	9.1	2.9	3.9	5.6	7.8
1-1/4×1/8	42.2	10.3	102	3.6	4.9	6.4	9.7	1.7	2.4	—	—
1-1/4×1/4	42.2	13.7	102	3.6	4.9	6.4	9.7	2.2	3.0	—	—
1-1/4×3/8	42.2	17.1	102	3.6	4.9	6.4	9.7	2.3	3.2	—	—
1-1/4×1/2	42.2	21.3	102	3.6	4.9	6.4	9.7	2.8	3.7	4.8	7.5
1-1/4×3/4	42.2	26.7	102	3.6	4.9	6.4	9.7	2.9	3.9	5.6	7.8
1-1/2×1/8	42.2	33.4	102	3.6	4.9	6.4	9.7	3.4	4.5	6.4	9.1
1-1/2×1/4	48.3	10.3	114	3.7	5.1	7.1	10.2	1.7	2.4	—	—
1-1/2×1/4	48.3	13.7	114	3.7	5.1	7.1	10.2	2.2	3.0	—	—
1-1/2×3/8	48.3	17.1	114	3.7	5.1	7.1	10.2	2.3	3.2	—	—
1-1/2×1/2	48.3	21.3	114	3.7	5.1	7.1	10.2	2.8	3.7	4.8	7.5
1-1/2×3/4	48.3	26.7	114	3.7	5.1	7.1	10.2	2.9	3.9	5.6	7.8
1-1/2×1	48.3	33.4	114	3.7	5.1	7.1	10.2	3.4	4.5	6.4	9.1
1-1/2×1-1/4	48.3	42.2	114	3.7	5.1	7.1	10.2	3.6	4.9	6.4	9.7
2×1/8	60.3	10.3	165	3.9	5.5	8.7	11.1	1.7	2.4	—	—
2×1/4	60.3	13.7	165	3.9	5.5	8.7	11.1	2.2	3.0	—	—
2×3/8	60.3	17.1	165	3.9	5.5	8.7	11.1	2.3	3.2	—	—
2×1/2	60.3	21.3	165	3.9	5.5	8.7	11.1	2.8	3.7	4.8	7.5
2×3/4	60.3	26.7	165	3.9	5.5	8.7	11.1	2.9	3.9	5.6	7.8
2×1	60.3	33.4	165	3.9	5.5	8.7	11.1	3.4	4.5	6.4	9.1
2×1-1/4	60.3	42.2	165	3.9	5.5	8.7	11.1	3.6	4.9	6.4	9.7
2×1-1/2	60.3	48.3	165	3.9	5.5	8.7	11.1	3.7	5.1	7.1	10.2
2-1/2×1/8	73.0	10.3	178	5.2	7.0	9.5	14.0	1.7	2.4	—	—
2-1/2×1/4	73.0	13.7	178	5.2	7.0	9.5	14.0	2.2	3.0	—	—
2-1/2×3/8	73.0	17.1	178	5.2	7.0	9.5	14.0	2.3	3.2	—	—
2-1/2×1/2	73.0	21.3	178	5.2	7.0	9.5	14.0	2.8	3.7	4.8	7.5
2-1/2×3/4	73.0	26.7	178	5.2	7.0	9.5	14.0	2.9	3.9	5.6	7.8
2-1/2×1	73.0	33.4	178	5.2	7.0	9.5	14.0	3.4	4.5	6.4	9.1

(Continued) Dimensions are in millimeters.

Nom.Pipe Size	Outside Diameter		End to End "A"	Wall Thickness							
	Large End D1	Small End D2		T1				T2			
				Sch40 (STD)	Sch80 (XS)	Sch160	XXS	Sch40 (STD)	Sch80 (XS)	Sch160	XXS
2-1/2×1-1/4	73.0	42.2	178	5.2	7.0	9.5	14.0	3.6	4.9	6.4	9.7
2-1/2×1-1/2	73.0	48.3	178	5.2	7.0	9.5	14.0	3.7	5.1	7.1	10.2
2-1/2×2	73.0	60.3	178	5.2	7.0	9.5	14.0	3.9	5.5	8.7	11.1
3×1/8	88.9	10.3	203	5.5	7.6	11.1	15.2	1.7	2.4	—	—
3×1/4	88.9	13.7	203	5.5	7.6	11.1	15.2	2.2	3.0	—	—
3×3/8	88.9	17.1	203	5.5	7.6	11.1	15.2	2.3	3.2	—	—
3×1/2	88.9	21.3	203	5.5	7.6	11.1	15.2	2.8	3.7	4.8	7.5
3×3/4	88.9	26.7	203	5.5	7.6	11.1	15.2	2.9	3.9	5.6	7.8
3×1	88.9	33.4	203	5.5	7.6	11.1	15.2	3.4	4.5	6.4	9.1
3×1-1/4	88.9	42.2	203	5.5	7.6	11.1	15.2	3.6	4.9	6.4	9.7
3×1-1/2	88.9	48.3	203	5.5	7.6	11.1	15.2	3.7	5.1	7.1	10.2
3×2	88.9	60.3	203	5.5	7.6	11.1	15.2	3.9	5.5	8.7	11.1
3×2-1/2	88.9	73.0	203	5.5	7.6	11.1	15.2	5.2	7.0	9.5	14.0
3-1/2×1/8	101.6	10.3	203	5.7	8.1	—	—	1.7	2.4	—	—
3-1/2×1/4	101.6	13.7	203	5.7	8.1	—	—	2.2	3.0	—	—
3-1/2×3/8	101.6	17.1	203	5.7	8.1	—	—	2.3	3.2	—	—
3-1/2×1/2	101.6	21.3	203	5.7	8.1	—	—	2.8	3.7	4.8	7.5
3-1/3×3/4	101.6	26.7	203	5.7	8.1	—	—	2.9	3.9	5.6	7.8
3-1/2×1	101.6	33.4	203	5.7	8.1	—	—	3.4	4.5	6.4	9.1
3-1/2×1-1/4	101.6	42.2	203	5.7	8.1	—	—	3.6	4.9	6.4	9.7
3-1/2×1-1/2	101.6	48.3	203	5.7	8.1	—	—	3.7	5.1	7.1	10.2
3-1/2×2	101.6	60.3	203	5.7	8.1	—	—	3.9	5.5	8.7	11.1
3-1/2×2-1/2	101.6	73.0	203	5.7	8.1	—	—	5.2	7.0	9.5	14.0
3-1/2×3	101.6	88.9	203	5.7	8.1	—	—	5.5	7.6	11.1	15.2
4×1/4	114.3	13.7	229	6.0	8.6	13.5	17.1	2.2	3.0	—	—
4×3/8	114.3	17.1	229	6.0	8.6	13.5	17.1	2.3	3.2	—	—
4×1/2	114.3	21.3	229	6.0	8.6	13.5	17.1	2.8	3.7	4.8	7.5
4×3/4	114.3	26.7	229	6.0	8.6	13.5	17.1	2.9	3.9	5.6	7.8
4×1	114.3	33.4	229	6.0	8.6	13.5	17.1	3.4	4.5	6.4	9.1
4×1-1/4	114.3	42.2	229	6.0	8.6	13.5	17.1	3.6	4.9	6.4	9.7
4×1-1/2	114.3	48.3	229	6.0	8.6	13.5	17.1	3.7	5.1	7.1	10.2
4×2	114.3	60.3	229	6.0	8.6	13.5	17.1	3.9	5.5	8.7	11.1
4×2-1/2	114.3	73.0	229	6.0	8.6	13.5	17.1	5.2	7.0	9.5	14.0
4×3	114.3	88.9	229	6.0	8.6	13.5	17.1	5.5	7.6	11.1	15.2
4×3-1/2	114.3	101.6	229	6.0	8.6	13.5	17.1	5.7	8.1	—	—

1) Wall Thickness(T1,T2)in Accordance with ASME B36.10M.
PBE:PLAIN BOTH ENDS BBE:BEVEL BOTH ENDS TBE:THREAD BOTH ENDS
PSE:PLAIN SMALL END BSE:BEVEL SMALL END TSE:THREAD SMALL END
PLE:PLAIN LARGE END BLE:BEVEL LARGE END TLE:THREAD LARGE END

DIMENSIONAL TOLERANCES OF SWAGED NIPPLES

MSS SP-95-2018				Unit:mm
Nominal Pipe Size (Inch)	Overall Length	Outside Diameter at End		Fitting Wall Thickness (see Note1)
		Square Cut Ends	Other End Connections	
1/8~3/8	±1.5	+0.4 -0.8	±0.8	Not less than 87.5% of Nominal Wall Thickness
1/2~1-1/2	±1.5	+0.4 -0.8	+1.5 -0.8	
2~2-1/2	±3.0	±0.8	+1.5 -0.8	
3~4	±3.0	±0.8	±1.5	

Note1:Prior to threading or grooving