

STAINLESS STEEL BUTT WELD FITTINGS

Description

This specification covers Stainless Steel Butt Weld Fittings used in process piping applications as determined by Engineering as a function of what is being transported in the system, pressure ratings, temperature of material and line pressure.

Specifications

Stainless Steel Butt Weld Fittings furnished by Merit Brass Co. shall conform to manufacturing specification ASTM A403 / ASME SA403-B16.9-B16.28 (304/316). Dimensional tolerances shall conform to MSS SP-43 (Sch 10) where appropriate. Sizes above 8" may fall into ASTM A-774 / A403 CR material specifications.

- 90-Degree Elbow (SR)
- 90-Degree Elbow (LR)
- 45-Degree Elbow
- Tee
- End Cap
- Reducing Tee
- Concentric Reducer
- Eccentric Reducer
- Stub End (ANSI)
- Stub End (MSS: Type A)
- Stub End (MSS: Type B)
- Stub End (MSS: Type C)

Project Information	Approval Stamp
Project Name:	☐ Approved
Project Location:	☐ Approved As Noted
Project Contractor:	☐ Not Approved
Project Engineer:	Remarks:
Project Distributor:	
Project Rep:	
Submittal Date:	
Notes 1:	
Notes 2:	

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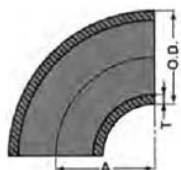
STAINLESS STEEL BUTT WELD FITTINGS

Dimensions ANSI B16.9 (S/R ANSI B16.28)

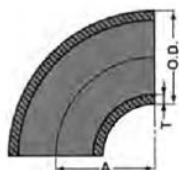
Unit: Inch/mm

Nominal Pipe Size (In)	Outside Diameter (O.D.)	Wall Thickness Schedule T				90° Elbow		45° Elbow	Tee C,M	Cap E
		5S	10S	40S	80S	L/R	S/R	L/R		
						A	A	B		
1/2"	0.84	0.065	0.083	0.109	0.147	1.5	—	0.62	1	1.00
	21.30	1.65	2.11	2.77	3.73	38.1	—	16	25.4	25.4
3/4"	1.05	0.065	0.083	0.113	0.154	1.12	—	0.75	1.125	1.00
	26.70	1.65	2.11	2.87	3.91	28.5	—	11	28.6	25.4
1"	1.315	0.065	0.109	0.133	0.179	1.5	1	0.88	1.5	1.50
	33.40	1.65	2.77	3.38	4.55	38.1	25.4	22	38.1	38
1-1/4"	1.66	0.065	0.109	0.14	0.191	1.88	1.25	1	1.88	1.5
	42.2	1.65	2.77	3.56	4.85	47.5	32	25	47.6	38
1-1/2"	1.90	0.065	0.109	0.145	0.2	2.25	1.50	1.12	2.25	1.50
	48.3	1.65	2.77	3.68	5.08	57	38	29	57.2	38
2"	2.375	0.065	0.109	0.154	0.218	3.00	2.00	1.38	2.5	1.50
	60.3	1.65	2.77	3.91	5.54	76	51	35	63.5	38
2-1/2"	2.875	0.083	0.12	0.203	0.276	3.75	2.5	1.75	3.00	1.50
	73.0	2.11	3.05	5.16	7.01	95	63.5	45	76.2	38
3"	3.50	0.083	0.12	0.216	0.3	4.50	3.00	2.00	3.38	2.00
	88.9	2.11	3.05	5.49	7.62	114.5	76	51	85.7	51
3-1/2"	4.00	0.083	0.12	0.226	0.318	5.25	3.5	2.25	3.75	2.50
	101.6	2.11	3.05	5.74	8.08	133.5	89	57	95.3	64
4"	4.50	0.083	0.12	0.237	0.337	6.00	4.00	2.50	4.12	2.50
	114.3	2.11	3.05	6.02	8.56	152.5	101.5	64	104.8	64
5"	5.563	0.109	0.134	0.258	0.375	7.50	5.00	3.12	4.88	3.00
	141.3	2.77	3.4	6.55	9.52	190.5	127	79	123.8	76
6"	6.625	0.109	0.134	0.28	0.432	9.00	6.00	3.75	5.62	3.50
	168.30	2.77	3.4	7.11	10.97	228.5	152.5	95	142.9	89
8"	8.625	0.109	0.148	0.322	0.50	12.00	8.00	5.00	7.00	4.00
	219.1	2.77	3.76	8.18	12.7	305	203	127	177.8	102
10"	10.75	0.134	0.165	0.365	0.5	15	10	6.25	8.5	5.00
	273	3.4	4.19	9.27	12.7	361	254	159	215.9	127
12"	12.75	0.156	0.18	0.375	0.500	18.00	12.00	7.50	10.00	6.00
	323.9	3.96	4.57	9.52	12.70	457	305	191	254	152

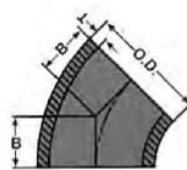
90° Elbow Long Radius



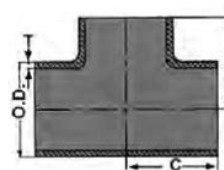
90° Elbow Short Radius



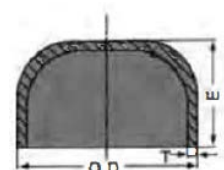
45° Elbow Long radius



Tee



Cap



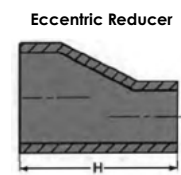
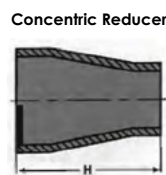
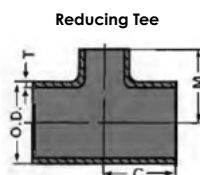
STAINLESS STEEL BUTT WELD FITTINGS

Dimensions ANSI B16.9 (S/R ANSI B16.28)

Unit: Inch/mm

Nominal Pipe Size (In)		Reducing Tee		Reducers Concentric Eccentric
		C	M	H
3/4" x 1/2"		1.125 28.6	1.125 28.6	1.500 38.1
1" x	3/4"	1.500	1.500 38.1	2.000
	1/2"	38.1	1.500 38.1	50.80
1-1/4" x	1"	1.875 47.6	1.875 47.6	2.000 50.80
	3/4"		1.875 47.6	
	1/2"		1.875 47.6	
1-1/2" x	1-1/4"	2.250 57.2	2.250 57.2	2.500 63.5
	1"		2.250 57.2	
	3/4"		2.250 57.2	
	1/2"		2.250 57.2	
	1-1/2"		2.375 60.3	
2" x	1-1/2"	2.500 63.5	2.500 63.5	3.000 76.2
	1-1/4"		2.500 63.5	
	1"		2.500 63.5	
	3/4"		2.500 63.5	
	2"		2.750 70.1	
2-1/2" x	2"	3.000 76.2	3.000 76.2	3.500 88.9
	1-1/2"		3.000 76.2	
	1-1/4"		3.000 76.2	
	1"		3.000 76.2	
	2-1/2"		3.250 82.5	
3" x	2-1/2"	3.375 85.7	3.375 85.7	3.500 88.9
	2"		3.375 85.7	
	1-1/2"		3.375 85.7	
	1-1/4"		3.375 85.7	
	1"		3.375 85.7	
3-1/2" x	3"	3.752 95.3	3.752 95.3	4.000 101.6
	2-1/2"		3.752 95.3	
	2"		3.752 95.3	
	1-1/2"		3.752 95.3	
	3-1/2"		3.752 95.3	

Nominal Pipe Size (In)		Reducing Tee		Reducers Concentric Eccentric
		C	M	H
4" x	3-1/2"	4.126 104.8	4.00 101.6	4.000 101.6
	3"		3.875 98.4	
	2-1/2"		3.750 95.3	
	2"		3.500 88.9	
	1-1/2"		3.374 85.7	
5" x	4"	4.874 123.8	4.626 117.5	5.000 127.0
	3-1/2"		4.50 114.3	
	3"		4.374 111.1	
	2-1/2"		4.252 108.0	
	2"		4.126 104.8	
6" x	5"	5.626 142.9	5.374 136.5	5.500 139.7
	4"		5.122 130.1	
	3-1/2"		5.00 127.0	
	3"		4.874 123.8	
	2-1/2"		4.752 120.7	
8" x	6"	7.000 178	6.625 168	6.000 152
	5"		6.375 162	
	4"		6.125 155	
	3-1/2"		6.000 152	
	3"		5.87 149.1	
10" x	8"	8.500 216	8.000 203	7.000 178
	6"		7.625 194	
	5"		7.500 191	
	4"		7.250 184	
	10"		9.500 241	
12" x	8"	10.000 254	9.000 229	8.000 203
	6"		8.625 219	
	5"		8.500 216	
	12"		10.000 254	
	12"		10.000 254	

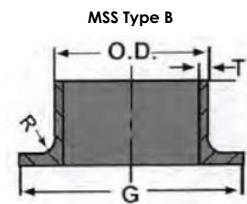
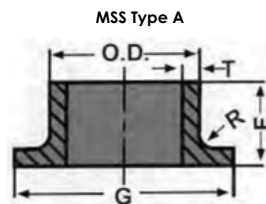
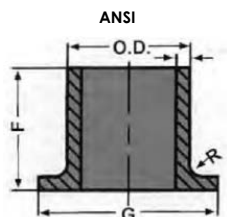


STAINLESS STEEL BUTT WELD FITTINGS

Stub Ends – Dimensions ANSI B16.9 MSS SP-43

Unit: Inch/mm

Nominal Pipe Size (In)	Outside Diameter (O.D.)	Stub End					
		G	ANSI		MSS		
			F	R	F	Type A R	Type B R
1/2"	0.84	1.38	3	0.125	2	0.125	0.031
	21.30	35	76	3	51	3	0.8
3/4"	1.05	1.69	3	0.125	2	0.125	0.031
	26.70	43	76	3	51	3	0.8
1"	1.315	2	4	0.125	2	0.125	0.031
	33.40	51	102	3	51	3	0.8
1-1/4"	1.660	2	4	0.188	2	0.187	0.031
	42.2	64	102	5	51	5	0.8
1-1/2"	1.90	2.88	4	0.25	2	0.25	0.031
	48.3	73	102	6	51	6	0.8
2"	2.375	3.62	6	0.313	2.5	0.313	0.031
	60.3	92	152	8	64	8	0.8
2-1/2"	2.875	4.12	6	0.313	2.5	0.313	0.031
	73.0	105	152	8	64	8	0.8
3"	3.50	5	6	0.375	2.5	0.375	0.031
	88.9	127	152	10	64	10	0.8
3-1/2"	4.00	5.5	6	0.375	3	0.375	0.031
	101.6	140	152	10	76	10	0.8
4"	4.50	6.19	6	0.438	3	0.438	0.063
	114.3	157	152	11	76	11	1.6
5"	5.563	7.31	8	0.438	3	0.438	0.063
	141.3	186	203	11	76	11	1.6
6"	6.625	8.5	8	0.5	3.5	0.5	0.063
	168.30	216	203	13	89	13	1.6
8"	8.625	10.625	8	0.5	4	0.5	0.063
	219.1	270	203	13	102	13	1.6
10"	10.75	12.75	10	0.5	5	0.5	0.063
	273	324	254	13	127	13	1.6
12"	12.75	15	10	0.5	6	0.5	0.063
	323.9	381	254	13	152	13	1.6

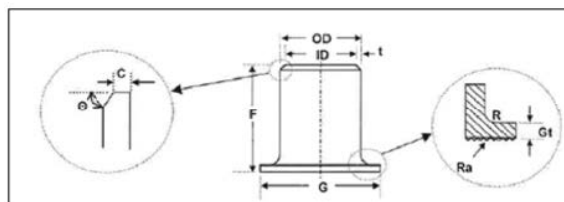


STAINLESS STEEL BUTT WELD FITTINGS

Dimensions Lap Joint Type C MSS SP-43 Schedule 10

Unit: Inch/mm

Size (In)	O.D.		I.D.		Thickness "t"		G		Gt		F		C		O		R		Ra											
	Std		Std		Std		Std		Std		Std		Std																	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max										
1/2"	0.8385		0.6274		0.083		1.374		0.083		2		0.0629		1.4763		0.059		0.157		Not Required									
	0.81	0.87	0.64	0.7	0.07	0.09	1.34	1.41	0.08	0.15	1.94	2.06																		
3/4"	1.0511		0.885		0.083		1.6889		0.083		2																			
	1.02	1.08	0.85	0.91	0.07	0.09	1.66	1.72	0.08	0.15	1.94	2.06																		
1"	1.3149		1.0968		0.109		2		0.109		2																			
	1.28	1.35	1.07	1.13	0.1	0.12	1.97	2.03	0.1	0.17	1.94	2.06																		
1-1/4"	1.6614		1.4433		0.109		2.5		0.109		2																			
	1.63	1.69	1.41	1.47	0.1	0.12	2.47	2.53	0.1	0.17	1.94	2.06																		
1-1/2"	1.9015		1.6834		0.109		2.874		0.109		2																			
	1.87	1.93	1.65	1.71	0.1	0.12	2.84	2.91	0.1	0.17	1.94	2.06																		
2"	2.374		2.1559		0.109		3.6259		0.109		2.5																			
	2.34	2.42	2.13	2.2	0.1	0.12	3.59	3.66	0.1	0.17	2.44	2.56																		
2-1/2"	2.874		2.6338		0.12		4.1062		0.12		2.5																			
	2.84	2.92	2.6	2.68	0.11	0.13	4.08	4.14	0.11	0.18	2.44	2.56																		
3"	3.5		3.2598		0.12		5		0.12		2.5																			
	3.47	3.55	3.2	3.32	0.11	0.13	4.97	5.03	0.11	0.18	2.44	2.56																		
4"	4.5		4.2598		0.12		6.1889		0.12		3																			
	4.47	4.55	4.2	4.32	0.11	0.13	6.16	6.22	0.11	0.18	2.94	3.06																		
5"	5.5629		5.2952		0.1338		7.3149		0.1338		3																			
	5.53	5.62	5.23	5.36	0.12	0.15	7.28	7.35	0.12	0.19	2.94	3.06																		
6"	6.6259		6.3582		0.1338		8.5		0.1338		3.5																			
	6.59	6.69	6.3	6.42	0.12	0.15	8.47	8.53	0.12	0.19	3.44	3.56																		
8"	8.6259		8.3299		0.148		10.6259		0.148		4																			
	8.59	8.72	8.27	8.39	0.13	0.17	10.6	10.7	0.13	0.2	3.91	4.09																		
10"	10.7519		10.422		0.1649		12.7519		0.1649		5																			
	10.7	10.9	10.3	10.5	0.15	0.19	12.7	12.8	0.15	0.22	4.91	5.09																		
12"	12.7519		12.3921		0.1799		15		0.1799		6																			
	12.7	12.9	12.3	12.5	0.16	0.2	15	15	0.16	0.24	5.91	6.09																		



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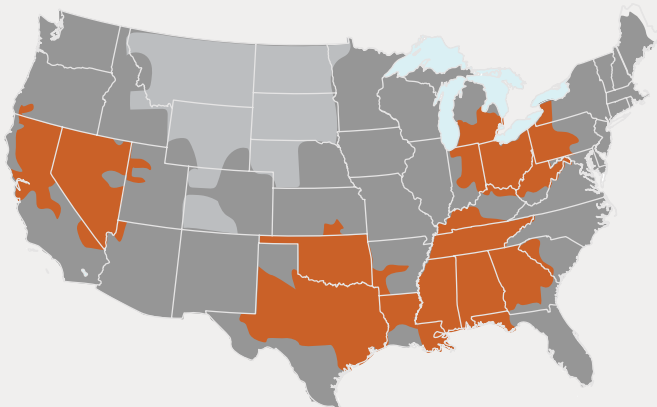
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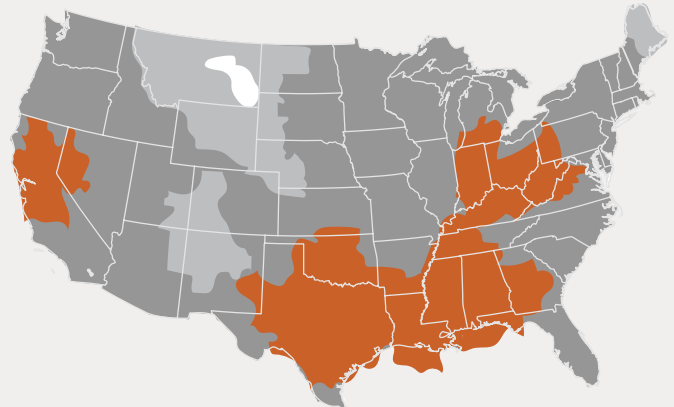
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