

90° ELBOW

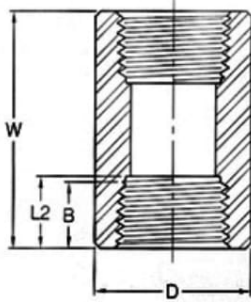
TEE

CROSS

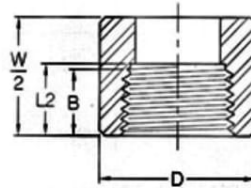
45° ELBOW

DN	Nom. Pipe Size	Center to End Elbow, Tee, Cross A			Center to End 45° Elbow C			Outside Diameter Of Band H			Minimum Wall Thickness G			Length of Thread Min. (1)	
		2000	3000	6000	2000	3000	6000	2000	3000	6000	2000	3000	6000	B	L2
6	1/8"	21	21	25	17	17	19	22	22	25	3.18	3.18	6.35	6.4	6.7
8	1/4"	21	25	28	17	19	22	22	25	33	3.18	3.30	6.60	8.1	10.2
10	3/8"	25	28	33	19	22	25	25	33	38	3.18	3.51	6.98	9.1	10.4
15	1/2"	28	33	38	22	25	28	33	38	46	3.18	4.09	8.15	10.9	13.6
20	3/4"	33	38	44	25	28	33	38	46	56	3.18	4.32	8.53	12.7	13.9
25	1"	38	44	51	28	33	35	46	56	62	3.68	4.98	9.93	14.7	17.3
32	1-1/4"	44	51	60	33	35	43	56	62	75	3.89	5.28	10.59	17.0	18.0
40	1-1/2"	51	60	64	35	43	44	62	75	84	4.01	5.56	11.07	17.8	18.4
50	2"	60	64	83	43	44	52	75	84	102	4.27	7.14	12.09	19.0	19.2
65	2-1/2"	76	83	95	52	52	64	92	102	121	5.61	7.65	15.29	23.6	28.9
80	3"	86	95	106	64	64	79	109	121	146	5.99	8.84	16.64	25.9	30.5
100	4"	106	114	114	79	79	79	146	152	152	6.55	11.18	18.67	27.7	33.0

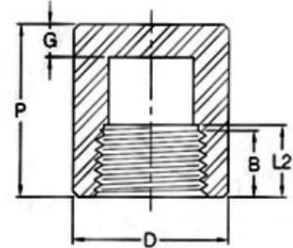
(1) Dimensions in Millimeters



COUPLING



HALF COUPLING



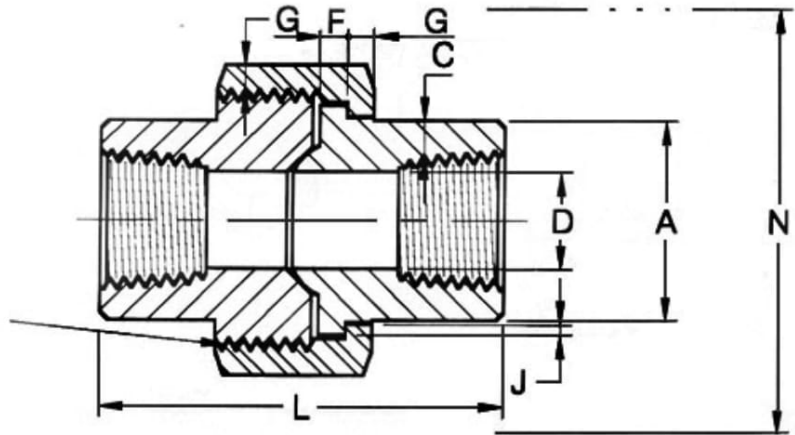
CAP

DN	Nom. Pipe Size	Center to End Coupling	Center to End Cap		Outside Diameter		End Wall Thickness		Length of Thread	
		W	P		D		G	Min.	Min. (1)	
			3000 & 6000	3000	6000	3000			6000	B
6	1/8"	32	19		16		4.8		6.4	6.7
8	1/4"	35	25	27	19	25	4.8	6.4	8.1	10.2
10	3/8"	38	25	27	22	32	4.8	6.4	9.1	10.4
15	1/2"	48	32	33	28	38	6.4	7.9	10.9	13.6
20	3/4"	51	37	38	35	44	6.4	7.9	12.7	13.9
25	1"	60	41	43	44	57	9.7	11.2	14.7	17.3
32	1-1/4"	67	44	46	57	64	9.7	11.2	17.0	18.0
40	1-1/2"	79	44	48	64	76	11.2	12.7	17.8	18.4
50	2"	86	48	51	76	92	12.7	15.7	19.0	19.2
65	2-1/2"	92	60	64	92	108	15.7	19.0	23.6	28.9
80	3"	108	65	68	108	127	19.0	22.4	25.9	30.5
100	4"	121	68	75	140	159	22.4	28.4	27.7	33.0

Unions Threaded

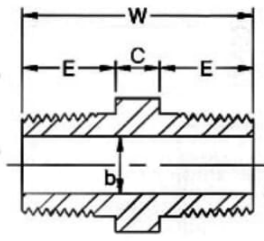
Threaded End MSS-SP-83-2006

H-Thrd's
Minimum 4 Full Thrd's
Engagement Class 2A/2B Fit
ANSI B1.1

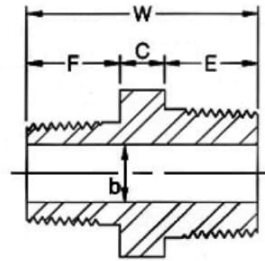


Nom. Pipe Size	Pipe End	Wall	Water Way Bore	Male Flange	Nut	Threads Per 25.4mm	Bearing	Length Assem. Nom.	Clear Assem. Nut
	Min. A	Min. C	D	Min. F	Min. G	Max. H	Min. J	L	N
1/8"	14.7	2.41	8.43 6.43	3.18	3.18	16	1.24	41.4	50.8
1/4"	19.0	3.02	11.13 9.45	3.18	3.18	16	1.24	41.4	50.8
3/8"	22.9	3.20	14.27 13.51	3.43	3.43	14	1.37	46.0	55.9
1/2"	27.7	3.73	17.86 17.07	3.68	3.68	14	1.50	49.0	58.4
3/4"	33.5	3.91	23.01 21.39	4.06	4.06	11	1.68	56.9	66.0
1"	41.4	4.55	28.98 27.74	4.57	4.45	11	1.85	62.0	78.7
1-1/4"	50.5	4.85	37.69 35.36	5.33	5.21	11	2.13	71.1	94.0
1-1/2"	57.2	5.08	43.54 41.20	5.84	5.59	10	2.31	76.5	111.8
2"	70.1	5.54	55.58 52.12	6.60	6.35	10	2.69	86.1	132.1
2-1/2"	85.3	7.01	66.27 64.31	7.49	7.11	8	3.07	102.4	149.9
3"	102.4	7.62	88.25 77.27	8.26	8.00	8	3.53	109.0	175.3

Hex Nipples Threaded



FULL SIZE



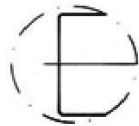
REDUCING SIZE

Nominal Size		A (Min)	W (Min)	E (Min)	b		C (Min)	F (Min)
DN	Inch				3000	6000		
6	1/8"	11	26	10	5	2	6	-
8	1/4"	15	36	15	8	6	6	-
8 x 6	1/4"x1/8"	15	31	15	5	2	6	10
10	3/8"	18	40	16	11	8	8	-
10 x 8	3/8"x1/4"	18	39	16	8	6	8	15
15	1/2"	22	48	20	14	11	8	-
15 x 10	1/2"x3/8"	22	44	20	11	8	8	16
15 x 8	1/2"x1/4"	22	43	20	8	6	8	15
20	3/4"	27	52	21	19	13	10	-
20 x 15	3/4"x1/2"	27	50	21	14	11	9	20
20 x 10	3/4"x3/8"	27	46	21	11	8	9	16
25	1"	35	60	25	24	17	10	-
25 x 20	1"x3/4"	35	56	25	19	13	10	21
25 x 15	1"x1/2"	35	55	25	14	11	10	20
40	1-1/2"	50	68	26	38	30	16	-
40 x 25	1-1/2"x1"	50	67	26	24	17	16	25
40 x 20	1-1/2"x3/4"	50	63	26	19	13	16	21
40 x 15	1-1/2"x1/2"	50	62	26	14	11	16	20
50	2"	62	71	27	49	39	17	-
50 x 40	2"x1-1/2"	62	70	27	38	30	17	26
50 x 25	2"x1"	62	70	27	24	17	18	25
50 x 20	2"x3/4"	62	65	27	19	13	17	21
50 x 15	2"x1/2"	62	65	27	14	11	18	20

Dimensions in Millimeters

Pipe Nipples Threaded

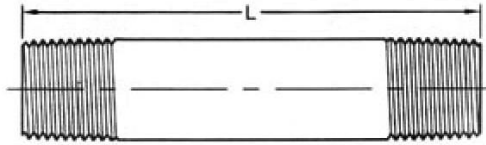
ASME A773-03



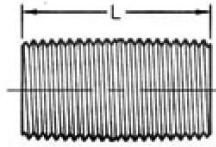
Plain End



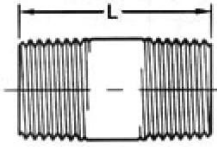
Bevel End



Long Nipple



Close Nipple



Short Nipple

Nom. Pipe Size	L			Plain End Weight (kg/m)			
	Close Nipple	Short Nipple	Long Nipple	Sch40/STD	Sch80/XS	Sch160	XXS
1/8"	3/4	1-1/2	2~12	0.37	0.47		
1/4"	7/8	1-1/2	2~12	0.63	0.80		
3/8"	1	1-1/2	2~12	0.84	1.10		
1/2"	1-1/8	1-1/2	2~12	1.27	1.62	1.95	2.55
3/4"	1-3/8	2	2-1/2~12	1.69	2.20	2.90	3.64
1"	1-1/2	2	2-1/2~12	2.50	3.24	4.24	5.45
1-1/4"	1-5/8	2-1/2	3~12	3.39	4.47	5.61	7.77
1-1/2"	1-3/4	2-1/2	3~12	4.05	5.41	7.25	9.55
2"	2	2-1/2	3~12	5.44	7.48	11.11	13.44
2-1/2"	2-1/2	3	3-1/2~12	8.63	11.41	14.92	20.39
3"	2-5/8	3	3-1/2~12	11.29	15.27	21.35	27.68
3-1/2"	2-3/4	4	4-1/2~12	13.57	18.64		
4"	2-7/8	4	4-1/2~12	16.08	22.32	33.54	41.03
5"	3	4-1/2	5~12	21.77	30.97	49.12	57.43
6"	3-1/8	4-1/2	5~12	28.26	42.56	67.57	79.22