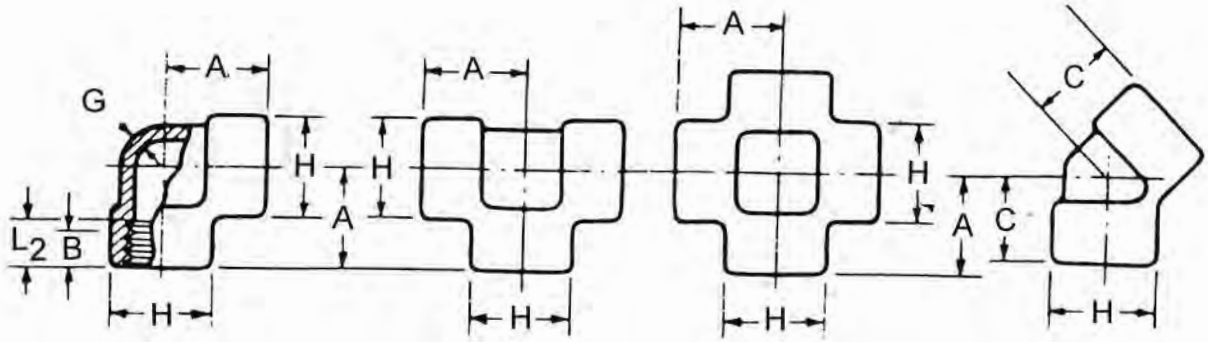




THREADED FITTINGS

ASME B16.11-1996 (REVISION OF ASME B16.11-1991)



90° ELBOW

TEE

CROSS

45° ELBOW

Dimensions in Millimeters.

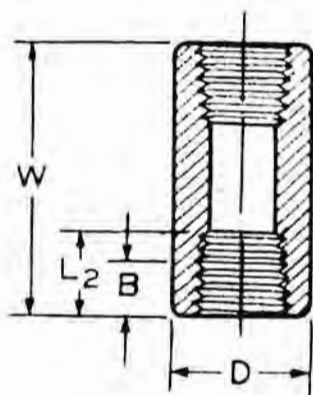
DN	Nom. Pipe Size	Center to End Elbows, Tees, Cross A			Center to End 45° Elbow C			Outside Diameter of Band H			Minimum Wall Thickness G			Length of Thread. Min. (1)	
		2000	3000	6000	2000	3000	6000	2000	3000	6000	2000	3000	6000	B	L2
6	1/8	21	21	25	17	17	19	22	22	25	3.18	3.18	6.35	6.4	6.7
8	1/4	21	25	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) Dimension B is minimum length of perfect thread. The length of useful thread (B plus threads with fully formed roots and flat crests) shall not be less than L2 (effective length of external thread) required by American National Standard for Pipe Threads (ANSI/ASME B1.20.1).

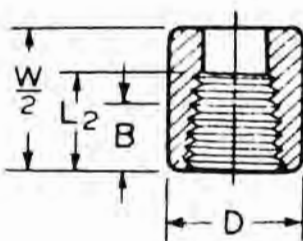


THREADED FITTINGS

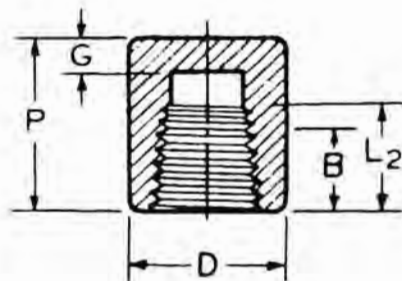
ASME B16.11-1996(REVISION OF ASME B16.11-1991)



COUPLING



HALF COUPLING



CAP

Dimensions in Millimeters.

DN	Nom. Pipe Size	End to End Couplings W		End to End Caps P		Outside Diameter D		End Wall Thickness G Min.		Length of Thread Min. (1)	
		3000 & 6000	3000	6000	3000	6000	3000	6000	B	L2	
6	1/8	32	19	...	16	22	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	

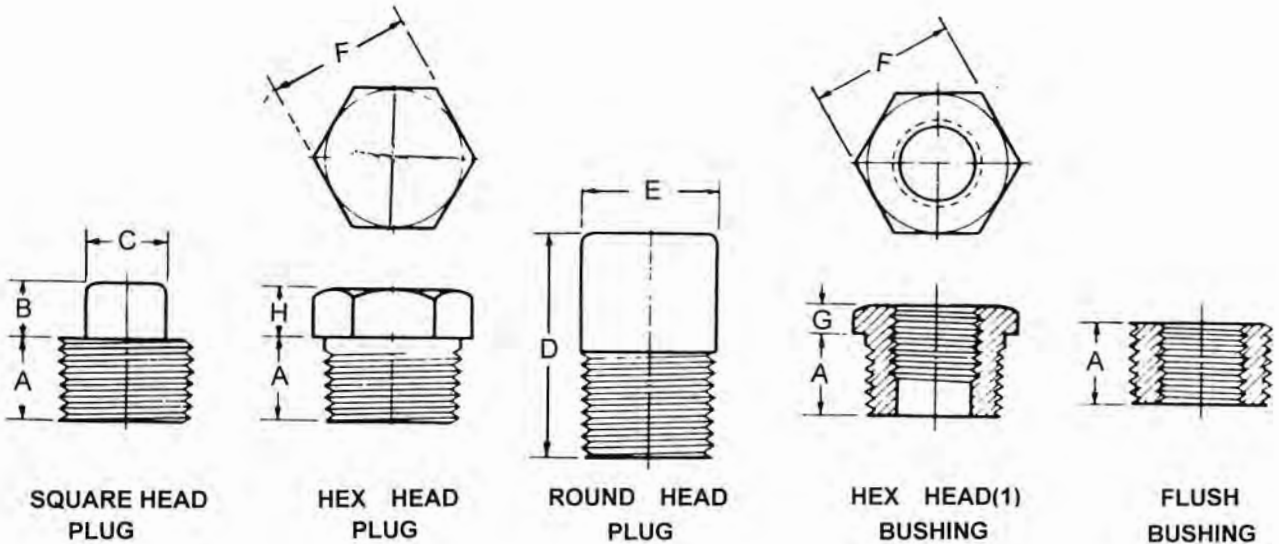
(1) Dimension B is minimum length of perfect thread. The length of useful thread (B plus threads with fully formed roots and flat crests) shall not be less than L2 (effective length of external thread) required by American National Standard for Pipe Threads(ANSI/ASME B1.20.1)

(2) Class 2000 and NPS 1/8 (DN6)class 6000 couplings, half couplings, and caps are not included in this standard.



THREADED FITTINGS

ASME B16.11-1996 (REVISION OF ASME B16.11-1991)



Dimensions in Millimeters.

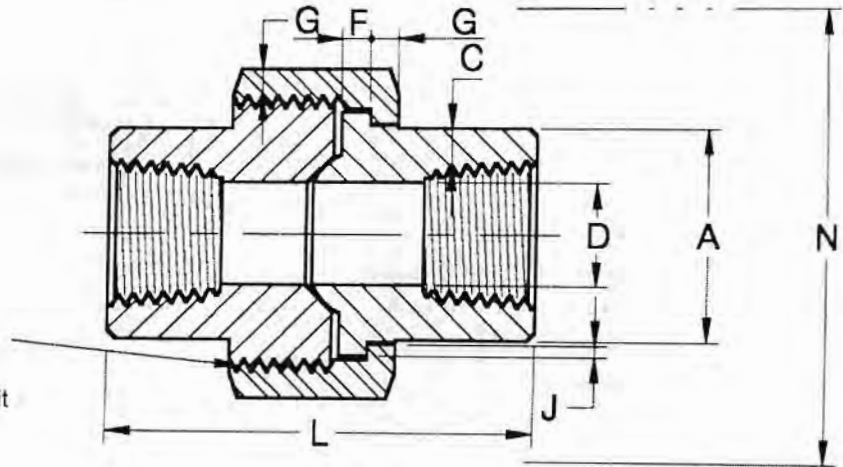
DN	Nom. Pipe Size	Length (Min.) A	Plugs Square Head		Plugs Round Head		Hex Plugs & Bushings		
			Height of Square (Min.) B	Width Flats (Min.) C	Nominal Diameter of Head E	Length (Min.) D	Width Flats (Nom.) F	Hex Height (Min.)	
								Bushing G	plug H
6	1/8	10	6	7	10	35	11	...	6
8	1/4	11	6	10	14	41	16	3	6
10	3/8	13	8	11	18	41	18	4	8
15	1/2	14	10	14	21	44	22	5	8
20	3/4	16	11	16	27	44	27	6	10
25	1	19	13	21	33	51	36	6	10
32	1-1/4	21	14	24	43	51	46	7	14
40	1-1/2	21	16	28	48	51	50	8	16
50	2	22	18	32	60	64	65	9	18
65	2-1/2	27	19	36	73	70	75	10	19
80	3	28	21	41	89	70	90	10	21
100	4	32	25	65	114	76	115	13	25

(1) CAUTIONARY NOTE REGARDING HEX BUSHINGS. Hex Head Bushings of one-size reduction should not be used in services wherein they might be subject to harmful loads and forces other than internal pressures.



UNIONS

THREADED END MSS-SP-83-1995



H-Thrd's
Minimum 4 Full Thrd's
Engagement Class 2A/2B Fit
ANS1 B1.1

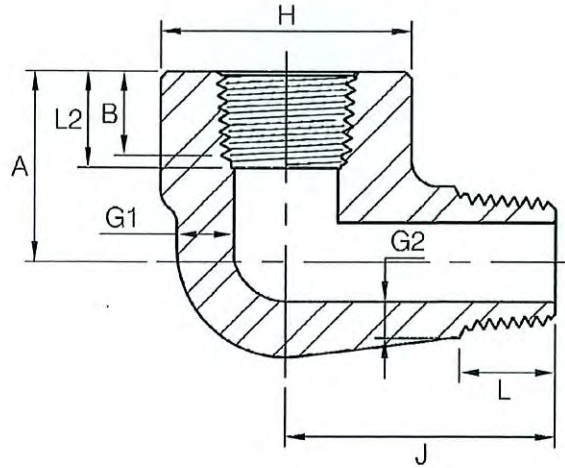
Dimensions in Millimeters.

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. Nom. L	Clear Assem. Nut N
1/8	14.7	2.41	6.83 6.43	3.17	3.2	16	1.24	41.4	49.0
1/4	19.0	3.02	9.85 9.45	3.17	3.2	16	1.24	41.4	49.0
3/8	22.9	3.20	13.92 13.51	3.43	3.4	14	1.37	46.0	55.0
1/2	27.7	3.73	17.47 17.07	3.68	3.7	14	1.50	49.0	57.0
3/4	33.5	3.91	21.79 21.39	4.06	4.1	11	1.68	56.9	67.0
1	41.4	4.55	28.14 27.74	4.57	4.4	11	1.85	62.0	79.0
1-1/4	50.5	4.85	35.76 35.36	5.33	5.2	11	2.13	71.1	94.0
1-1/2	57.2	5.08	41.61 41.20	5.84	5.6	10	2.31	76.4	111.0
2	70.1	5.54	52.53 52.12	6.60	6.4	10	2.69	86.1	132.0
2-1/2	85.3	7.01	64.72 64.31	7.49	7.1	8	3.07	102.4	148.0
3	102.4	7.62	77.67 77.27	8.25	8.0	8	3.53	109.0	175.0



STREET ELBOW

ASME B16.11-2009(Revision of ASME B16.11-2005)



Dimensions in Millimeters.

DN	Nom. Pipe Size	H	A	J	G1 (Min)	G2 ⁽¹⁾ (Min)	B ⁽²⁾ (Min)	L2 ⁽²⁾ (Min)	L (Min)
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3000Lb

6	1/8	19	19	25	3.18	2.74	6.4	6.7	10.0
8	1/4	25	22	32	3.30	3.22	8.1	10.2	11.0
10	3/8	32	25	38	3.51	3.50	9.1	10.4	13.0
15	1/2	38	28	41	4.09	4.16	10.9	13.6	14.0
20	3/4	44	35	48	4.32	4.88	12.7	13.9	16.0
25	1	51	44	57	4.98	5.56	14.7	17.3	19.0
32	1-1/4	62	51	66	5.28	5.56	17.0	18.0	21.0
40	1-1/2	70	54	71	5.56	6.25	17.8	18.4	21.0
50	2	84	64	84	7.14	7.64	19.0	19.0	22.0

6000Lb

6	1/8	25	22	32	5.08	4.22	6.4	6.7	10.0
8	1/4	32	25	38	5.66	5.28	8.1	10.2	11.0
10	3/8	38	28	41	6.98	5.59	9.1	10.4	13.0
15	1/2	44	35	48	8.15	6.53	10.9	13.6	14.0
20	3/4	51	44	57	8.53	6.86	12.7	13.9	16.0
25	1	62	51	66	9.93	7.95	14.7	17.3	19.0
32	1-1/4	70	54	71	10.59	8.48	17.0	18.0	21.0
40	1-1/2	84	64	84	11.07	8.89	17.8	18.4	21.0
50	2	102	83	105	12.09	9.70	19.0	19.0	22.0

(1) Wall thickness before threading.

(2) Dimension B is minimum length of perfect thread. The length of useful thread (B plus threads with fully formed roots and flat crests) shall not be less than L2 (effective length of external thread) required by American National Standard for pipe threads (ANSI / ASME B1.20.1)