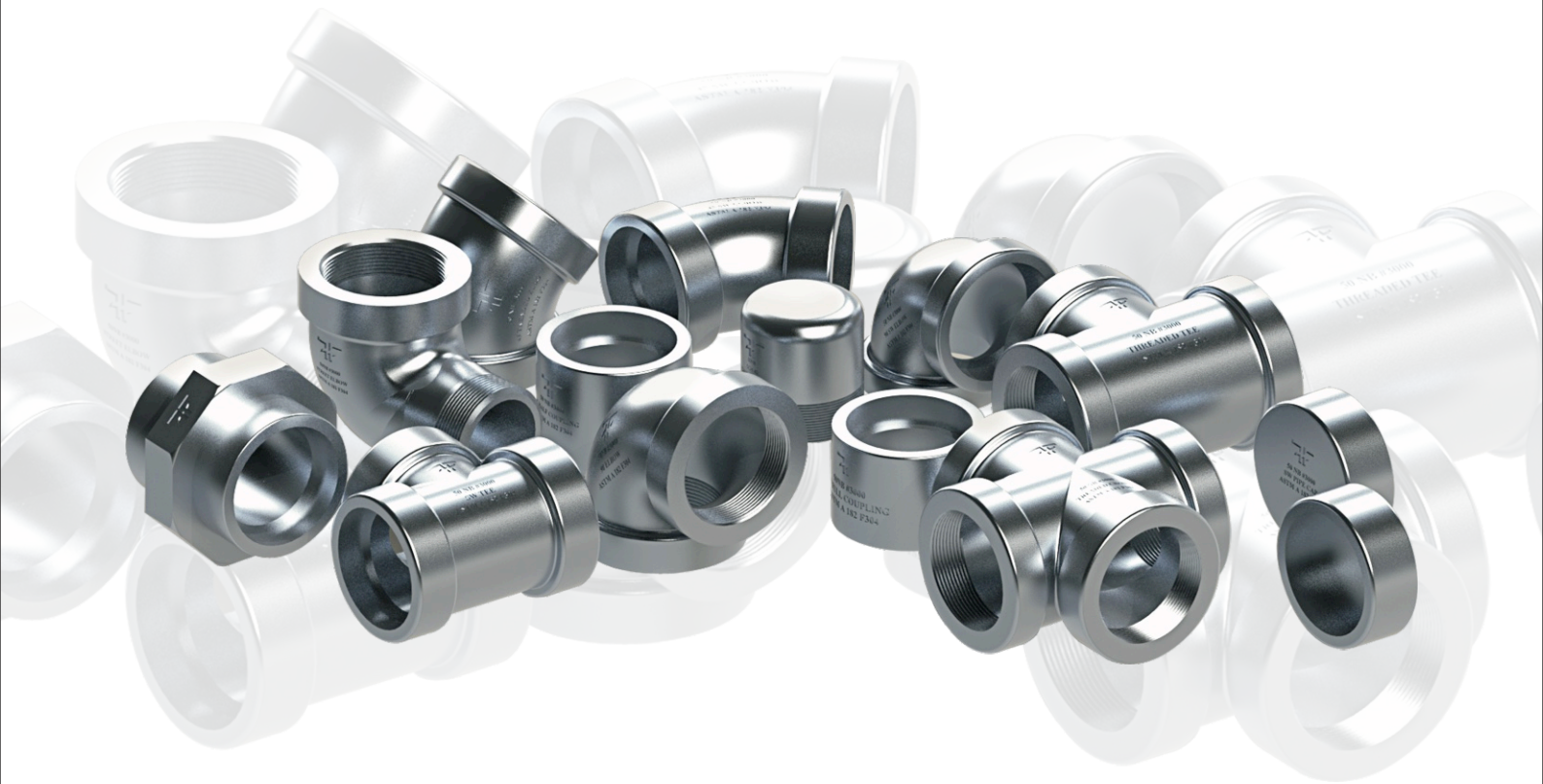
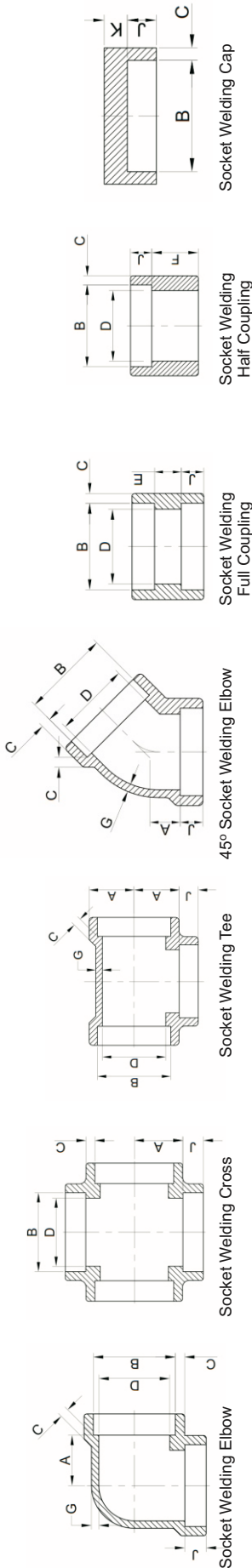


**Forged Fittings Socket Weld And Threaded**



<p><b>Types</b></p>	<p>Equal tee / Reducing Tee / Full Coupling / Half Coupling / Street Elbow / Bull Plug / Boss / Union (Male/Female) / 90° Elbow / 45° Elbow / Equal Cross / Reducing cross / Pipe Cap / Swage Nipple / Lateral / Branch Outlets / 45° Lateral Tee / Lateral Outlet.</p>
<p><b>Standards</b></p>	<p>• ASME B16.11 • JIS B2302 • Bs3799 • MSS SP 79 • MSS SP 83 • MSS SP 95</p>
<p><b>Size</b></p>	<p>Size: Thread : ½" - 8", Socket Weld : ½" - 8"</p>
<p><b>Pressure Rating</b></p>	<p>• Buttweld : Thread : #2000, #3000, #6000.              • Socket Weld : #3000, #6000, #9000</p>
<p><b>Features</b></p>	<p>Heat code Traceability / 100% Material annealed &amp; Passivated / Wrench flat body allowing standard hex wrench assembly / great pressure sustaining capacity than traditional pipe class rating. / High quality surface CNC machined finish / Three chambers cleaning system ( Surface Preparation, Ultrasonic degreasing, Hot Dry Air)</p>

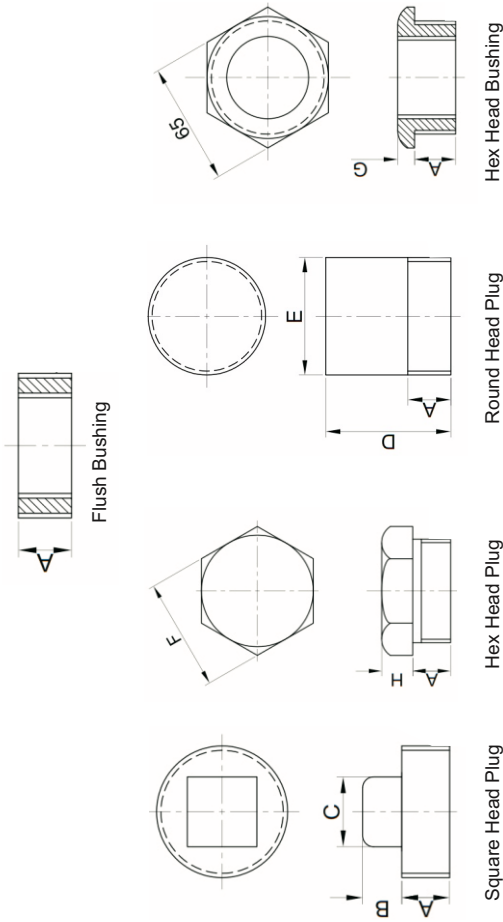


**DIMENSION OF SOCKET WELD FITTINGS**

DN	Nominal Pipe Size	Socket Bore Diameter		Socket Wall Thickness, C (Note -2)			Body Wall, G		Min. Depth of Socket J	Center to Bottom of Socket, A			Laying Lengths			Tolerances, ±			End Wall Thickness $K_{min}$								
		Bore Diameter of Fittings, D (Note-1)			Class Designation			Class Designation		90-deg Elbows Tees & Crosses			Couplings			Class Designation											
		3000	6000	9000	3000	6000	9000	3000		6000	9000	3000	6000	9000	3000	6000	9000	E	F	A	E	F	3000	6000	9000		
6	1/8	11.2	7.6	4.8	...	3.18	3.18	3.96	3.43	...	2.41	3.15	...	9.5	11.0	11.0	8.0	8.0	8.0	6.5	16.0	1.0	1.5	1.0	4.8	6.4	...
8	1/4	14.6	10.0	7.1	...	3.78	3.30	4.60	4.01	...	3.02	3.68	...	9.5	11.0	13.5	8.0	8.0	8.0	6.5	16.0	1.0	1.5	1.0	4.8	6.4	...
10	3/8	18.0	13.3	9.9	...	4.01	3.50	5.03	4.37	...	3.20	4.01	...	9.5	13.5	15.5	8.0	11.0	8.0	6.5	17.5	1.5	3.0	1.5	4.8	6.4	...
15	1/2	22.2	16.6	12.5	7.2	4.67	4.09	5.97	5.18	9.35	3.73	4.78	7.47	9.5	15.5	19.0	11.0	12.5	15.5	9.5	22.5	1.5	3.0	1.5	6.4	7.9	11.2
20	3/4	27.6	21.7	16.3	11.8	4.90	4.27	6.96	6.04	9.78	3.91	5.56	7.82	12.5	19.0	22.5	13.0	14.0	19.0	9.5	24.0	1.5	3.0	1.5	6.4	7.9	12.7
25	1	34.3	27.4	21.5	16.0	5.69	4.98	7.92	6.93	11.38	4.55	6.35	9.09	12.5	22.5	27.0	14.0	17.5	20.5	12.5	28.5	2.0	4.0	2.0	9.6	11.2	14.2
32	1 1/4	43.1	35.8	30.2	23.5	6.07	5.28	7.92	6.93	12.14	4.85	6.35	9.70	12.5	27.0	32.0	17.5	20.5	22.5	12.5	30.0	2.0	4.0	2.0	9.6	11.2	14.2
40	1 1/2	49.2	41.6	34.7	28.7	6.35	5.54	8.92	7.80	12.70	5.08	7.14	10.15	12.5	32.0	38.0	20.5	25.5	25.5	12.5	32.0	2.0	4.0	2.0	11.2	12.7	15.7
50	2	61.7	53.3	43.6	38.9	6.93	6.04	10.92	9.50	13.84	5.54	8.74	11.07	16.0	38.0	41.0	25.5	28.5	28.5	19.0	41.0	2.0	4.0	2.0	12.7	15.7	19.0
65	2 1/2	74.4	64.2	...	...	8.76	7.67	...	...	...	7.01	...	...	16.0	41.0	...	28.5	...	...	19.0	43.0	2.5	5.0	2.5	15.7	19.0	...
80	3	90.3	79.4	...	...	9.52	8.30	...	...	...	7.62	...	...	16.0	57.0	...	32.0	...	...	19.0	44.5	2.5	5.0	2.5	19.0	22.4	...
100	4	115.7	103.8	...	...	10.69	9.35	...	...	...	8.56	...	...	19.0	66.5	...	41.0	...	...	19.0	48.0	2.5	5.0	2.5	22.4	28.4	...

Notes:

- 1) Upper and lower values for each size are the respective maximum and minimum dimension.
- 2) Average of socket wall thickness around periphery shall be no less than listed values. The minimum values are permitted in localized areas.

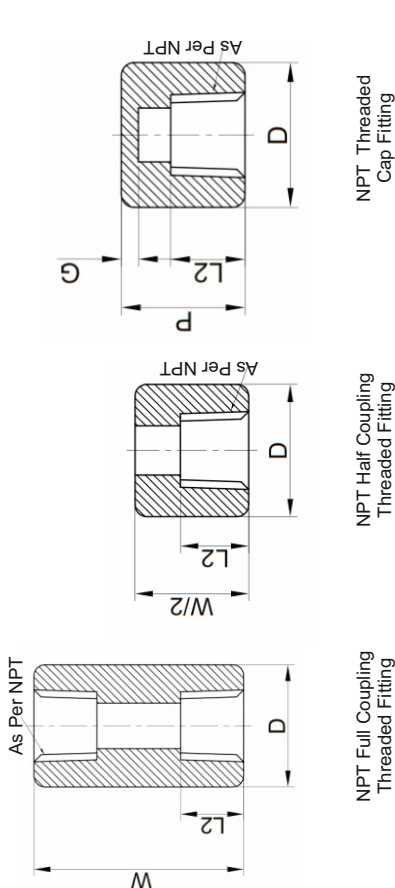


**PLUGS AND BUSHINGS**

DN	Nominal Pipe Size	Square Head Plugs:		Round Head Plugs		Hex Plugs and Bushings			
		Mini. Length	Mini. Square Height:	Mini. Width Flats	Nominal Head Diameter	Mini. Length	Nominal Width Flats	Min. Hex Height Bushing	Plug
6	1/8	10	6	7	10	35	11	G	H
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
26	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

Note :

- 1) Dimensions are in Millimeters.
- 2) Cautionary Note Regarding Hex Bushings; Hex head bushings of one size reduction should not be used in services where they might be subject to harmful loads and forces other than internal pressures.



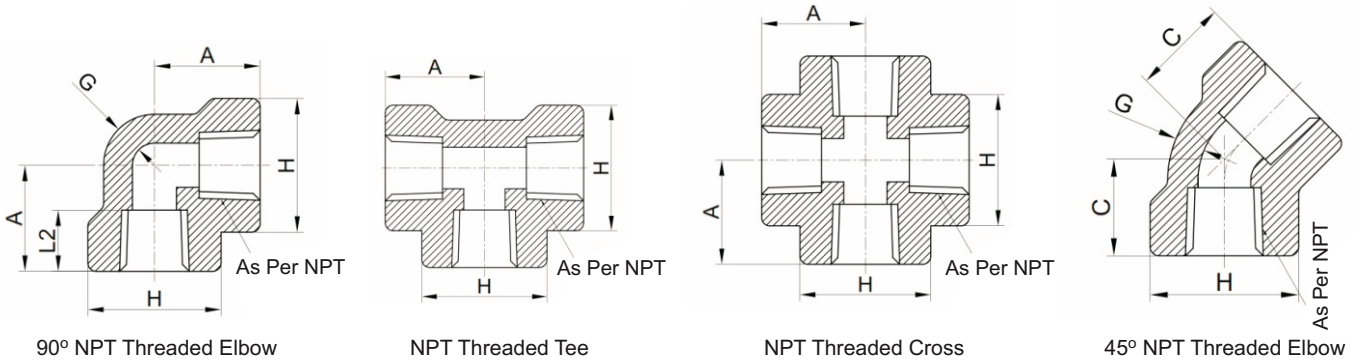
**THREADED FITTINGS**

DN	Nominal Pipe Size	End-to-End Couplings, W		End-to-End Caps, P		Outside Diameter, D		Min. End Wall Thickness, G		Min. Length of Thread, N - 1	
		3000	6000	3000	6000	3000	6000	3000	6000	B	L <sub>2</sub>
6	1/8	32	32	19	...	16	22	4.8	...	6.4	6.7
8	1/4	35	35	25	27	19	25	4.8	6.4	8.1	10.2
10	3/8	38	38	25	27	22	32	4.8	6.4	9.1	10.4
15	1/2	48	48	32	33	28	38	6.4	7.9	10.9	13.6
20	3/4	51	51	37	38	35	44	6.4	7.9	12.7	13.9
26	1	60	60	41	43	44	57	9.7	11.2	14.7	17.3
32	1 1/4	67	67	44	46	57	64	9.7	11.2	17.0	18.0
40	1 1/2	79	79	44	48	64	76	11.2	12.7	17.8	18.4
50	2	86	86	48	51	76	92	12.7	15.7	19.0	19.2
65	2 1/2	92	92	60	64	92	108	15.7	19.0	23.6	28.9
80	3	108	108	65	68	108	127	19.0	22.4	25.9	30.5
100	4	121	121	68	75	140	159	22.4	28.4	27.7	33.0

Note :

- 1) Dimensions are in Millimeters.
- 2) Class 2000 and NPS 1/8 class 6000 couplings, half couplings, and caps are not included in this standard.
- 3) The wall thickness away from the threaded ends shall meet the minimum wall thickness requirements of Table 5 for the appropriate NPS and class Designation fitting.
- 4) 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 L<sub>2</sub> (effective length of external thread) required by American National Standard for pipe Threads (ASME B1.20.1).





90° NPT Threaded Elbow

NPT Threaded Tee

NPT Threaded Cross

45° NPT Threaded Elbow

**FORGED THREADED FITTINGS**

DN	Nominal Pipe Size	Center-to-End Elbow, Tees, Crosses A			Center-to-End 45 deg Elbow, C			Outside Diameter of Band, H			Min. Wall Thickness G			Min. Length of Thread N - 1	
		2000	3000	6000	2000	3000	6000	2000	3000	6000	2000	3000	6000	B	L <sub>2</sub>
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
26	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

Note :

- 1) Dimensions are in Millimeters.
- 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 L<sub>2</sub> (effective length of external thread) required by American National Standard for pipe Threads (ASME B1.20.1).



## Ordering Information

As Per Our Design

1) Materials	
Type Of Materials	Nomen.
S S310	S1
SS316	S6
SS316L	S6L
SS317	S7
SS321	S21
Monal 400	M4
Incoloy 625	I6
Incoloy 825	I8
Carbon Steel	CS
ASTM A105	A1
Alloy 20	A20
ASTM A182 F53 (Super Duplex F53)	F53
ASTM A182 F51 ( F51)	F51
ASTM A182 F60 ( F60)	F60
ASTM A234 Gr. WPB	WPB
Mild Steel	MS
Nickel alloy	NA
Galvanized	GLV
ASTM A403 Gr.. WPXXX	WP6, WP4

2) Sizes	
Size	Nomen.
1/8"	6
1/4"	8
3/8"	10
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"	100
5"	125
6"	150
8"	200
10"	250
12"	300
14"	350
16"	400
18"	450

3) Type of Fittings	
Type	Nomen.
45 Degree Elbow	4EL
90 Degree Elbow	EL
Long Nipple	L-NI
Long Swage Nipple	LS-NI
Nipple	NI
Barrel Nipple	BN
Tee	T
Unequal Tee	UT
Cross	CR
Socket	SK
Half Coupling	HC
Full Coupling	FC
Connector	CN
Eccentric Reducer	ER
Reducer	R
Swage Nipple	SN
Union	UN
Cap	CA
Coupling	CU
Elbolet	EL
Long Radius	LR
Short Radius	SR
Weldolet	WL

4) End Connection	
Type	Nomen.
Butt Weld	BW
Socket Weld	SW
NPT Thread (Male)	NM
BSP Thread (Male)	BM
NPT Thread (Female)	NF
BSP Thread (female)	BF
Plain End	PL
Bevel End	BE

5) Type Of Class	
Types	Nomen.
Class 2000	#2000
Class 3000	#3000
Class 6000	#6000
Class 9000	#9000
Class C	CL 'C'
Class A	CL 'A'
Sch 10	S10
Sch 20	S20
Sch 40	S40
Sch 80	S80
Sch 160	S160
Sch XXS	SXXS
Sch 120	S120
Sch 10S	S10S
Sch 40S	S40S

Ex. LONG RADIUS ELBOW 90° = \_\_-15-EL-LR-BW-SCH\_\_