



FORGED HIGH PRESSURE PIPE FITTINGS



90° ELBOW



45° ELBOW



CROSS



TEE



CAP



STREET ELBOW



HEX NIPPLE



HEX PLUG



INSERT



BUSHING



FULL COUPLING



HALF COUPLING



UNION



SWAGE NIPPLE



BULL PLUG



WELDOLET



OUTLET



SQUARE PLUG



BOSS



ROUND PLUG

SIZE: 1/8" - 4"

(1)PRESSURE RATING: THREADED END - 2000/3000/6000 LBS

SOCKET-WELD END - 3000/6000/9000 LBS

BUTT-WELD END - SCH40 /SCH80/SCH160/XXS

(2)DIMENSION SPECIFICATION: ASME B16.11-2009 (REVISION OF ASME B16.11-1996)

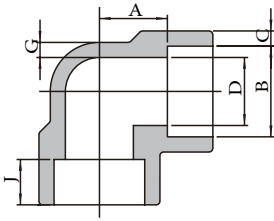
MSS-SP-79, 83, 95 AND 97

(3)MATERIAL SPECIFICATION: ASTM A105, A350 LF2, A106, A312, A234, A403;

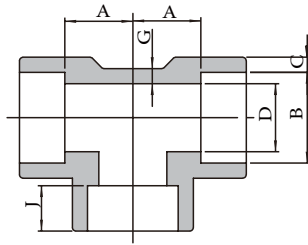
ASTM A182(F304, F304L, F316, F316L, F304H, F316H, F317L, F321, F11,F22, F91)

(4)FINISHING: CARBON STEEL - GALVANIZED OR BLACK,

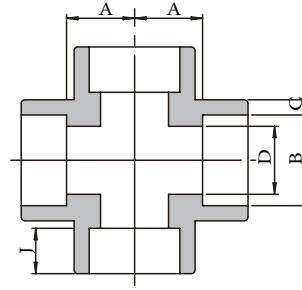
STAINLESS STEEL - PICKLED



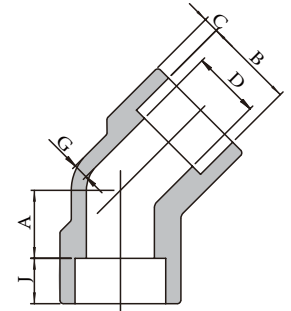
S2A
90°ELBOW



S11A
TEE



S16A
CROSS



S4
45°ELBOW

DN	SIZE	SOCKET BORE Dia.(2) B	BORE DIAMETER OF FITTINGS(2) D			SOKET WALL THICKNESS(1) C						BODY WALL THICKNESS G			DEPTH OF SOCKET Min. J
						C						C			
			3000	6000	9000	3000		6000		9000		3000	6000	9000	
						Ave.	Min.	Ave.	Min.	Ave.	Min.	Min.	Min.	Min.	
6	1/8"	11.2 10.8	7.6 6.1	4.8 3.2		3.18	3.18	3.96	3.43			2.41	3.15		9.5
8	1/4"	14.6 14.2	10.0 8.5	7.1 5.6		3.78	3.30	4.60	4.01			3.02	3.68		9.5
10	1/8"	18.0 17.6	13.3 11.8	9.9 8.4		4.01	3.50	5.03	4.37			3.20	4.01		9.5
15	1/2"	22.2 21.8	16.6 15.0	12.5 11.0	7.2 5.6	4.67	4.09	5.97	5.18	9.35	8.18	3.73	4.78	7.47	9.5
20	3/4"	27.6 27.2	21.7 20.2	16.3 14.8	11.8 10.3	4.9	4.27	6.96	6.04	9.78	8.56	3.91	5.56	7.82	12.5
25	1"	34.3 33.9	27.4 25.9	21.5 19.9	16.0 14.4	5.69	4.98	7.92	6.93	11.38	9.96	4.55	6.35	9.09	12.5
32	1.1/4"	43.1 42.7	35.8 34.3	30.2 28.7	23.5 22.0	6.07	5.28	7.92	6.93	12.14	10.62	4.85	6.35	9.70	12.5
40	1.1/2"	49.2 48.8	41.6 40.1	34.7 33.2	28.7 27.2	6.35	5.54	8.92	7.80	12.70	11.12	5.08	7.14	10.15	12.5
50	2"	61.7 61.2	53.3 51.7	43.6 42.1	38.9 27.4	6.93	6.04	10.92	9.50	13.84	12.12	5.54	8.74	11.07	16.0
65	2.1/2"	74.4 73.9	64.2 61.2			8.76	7.67					7.01			16.0
80	3"	90.3 89.8	79.4 76.4			9.52	8.30					7.62			16.0
100	4"	115.7 115.2	103.8 100.7			10.69	9.35					8.56			19.0

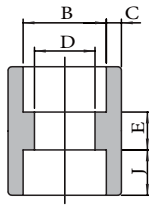
ADDITIONAL INFO:

(1) DIMENSION UNIT: MILLIMETERS

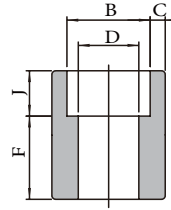
(2) AVERAGE OF SOCKET WALL THICKNESS AROUND PERIPHERY SHALL BE ON LESS THAN LISTED VALUES.

THE MINIMUM VALUES ARE PERMITTED IN LOCALIZED AREAS.

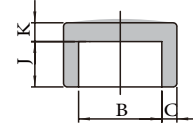
(3) UPPER AND LOWER VALUES FOR EACH SIZE THE RESPECTIVE MAXIMUM AND MINIMUM DIMENSIONS.



S20A
COUPLING



S19A
HALF COUPLING

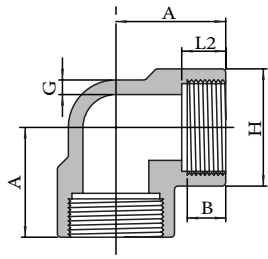


S18
CAP

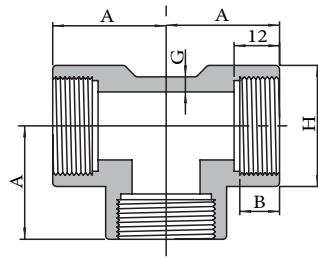
CENTER TO BOTTOM OF SOCKET-A						LAYING LENGTHS		TOLERANCE±			END WALL THICKNESS K Min.			Nom. PIPE SIZE	DN
90°ELBOW TEE,CROSSE			45°ELBOW			COUPLINGS E	HALF COUPLINGS E	A	E	F					
3000	6000	9000	3000	6000	9000						3000	6000	9000		
11.0	11.0		8.0	8.0		6.5	16.0	1.0	1.5	1.0	4.8	6.4		1/8	6
11.0	13.5		8.0	8.0		6.5	16.0	1.0	1.5	1.0	4.8	6.4		1/4	8
13.5	15.5		8.0	11.0		6.5	17.5	1.5	3.0	1.5	4.8	6.4		3/8	10
15.5	19.0	25.5	11.0	12.5	15.5	9.5	22.5	1.5	3.0	1.5	6.4	7.9	11.2	1/2	15
19.0	22.5	28.5	13.0	14.0	19.0	9.5	24.0	1.5	3.0	1.5	6.4	7.9	12.7	3/4	20
22.5	27.0	32.0	14.0	17.5	20.5	12.5	28.5	2.0	4.0	2.0	9.6	11.2	14.2	1	25
27.0	32.0	35.0	17.5	20.5	22.5	12.5	30.0	2.0	4.0	2.0	9.6	11.2	14.2	1-1/4	32
32.0	38.0	38.0	20.5	25.5	25.5	12.5	32.0	2.0	4.0	2.0	11.2	12.7	15.7	1-1/2	40
38.0	41.0	54.0	25.5	28.5	28.5	19.0	41.0	2.0	4.0	2.0	12.7	15.7	19.0	2	50
41.0			28.5			19.0	43.0	2.5	5.0	2.5	15.7	19.0		2-1/2	65
57.0			32.0			19.0	44.5	2.5	5.0	2.5	19.0	22.4		3	80
66.5			41.0			19.0	48.0	2.5	5.0	2.5	22.4	28.4		4	100

NOTES:

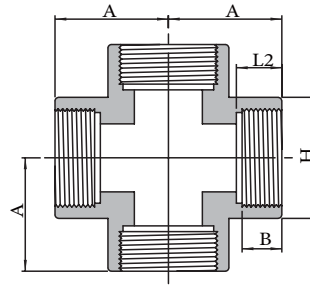
- (1) AVERAGE OF SOCKET WALL THICKNESS AROUND PERIPHERY SHALL BE NO LESS THAN LISTED VALUES. THE MINIMUM VALUES ARE PERMITTED IN LOCALIZED AREAS.
- (2) UPPER AND LOWER VALUES FOR EACH SIZE ARE RESPECTIVE MAXIMUM AND MINIMUM DIMENSIONS.



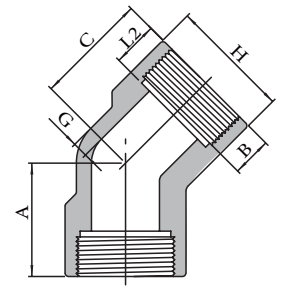
T2A
90ELBOW



T11A
TEE



T16A
CROSS



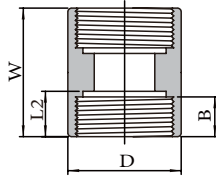
T4
45ELBOW

DN	SIZE	CENTER TO END ELBOW, TEE, CROSS			CENTER TO END 45° ELBOW			OUTSIDE DIAMETER OF BAND			MINIMUM WALL THICKNESS			LENGTH OF THREAD MIN. (2)	
		A			C			H			G			B	L2
		2000	3000	6000	2000	3000	6000	2000	3000	6000	2000	3000	6000		
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	1/8"	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	33	33	38	46	3.18	4.09	8.15	10.9	13.6
20	3/4"	33	38	44	25	28	38	38	46	56	3.18	4.32	8.53	12.7	13.9
25	1"	38	44	51	28	33	46	46	56	62	3.68	4.98	9.93	14.7	17.3
32	1.1/4"	44	51	60	33	35	56	56	62	75	3.89	5.28	10.59	17.0	18.0
40	1.1/2"	51	60	64	35	43	62	62	75	84	4.01	5.56	11.07	17.8	18.4
50	2"	60	64	83	43	44	75	75	84	102	4.27	7.14	12.09	19.0	19.2
65	2.1/2"	76	83	95	52	52	92	92	102	121	5.61	7.65	15.29	23.6	28.9
80	3"	86	95	106	64	64	109	109	121	146	5.99	8.84	16.64	25.9	30.5
100	4"	106	114	114	79	79	146	146	152	152	6.55	11.18	18.67	27.7	33.0

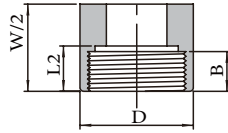
ADDITIONAL INFO:

DIMENSION UNIT: MILLIMETERS

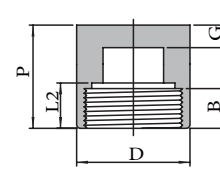
(1) THE LENGTH OF USEFUL THREAD (B PLUS THREADS WITH FULLY FORMED ROOTS AND FLAT CRESTS) SHALL NOT BE LESS THAN L2 (EFFECTIVE LENGTH OF EXTERNAL THREAD) REQUIRED BY AMERICAN NATIONAL STANDARD FOR PIPE THREADS (ANSI/ASME B1.20.1)



T20A
COUPLING



T19A
HALF COUPLING



T18
CAP

DN	Nom. PIPE SIZE	END TO END COUPLING W	END TO END CAPS P		OUTSIDE DIAMETER D		END WALL THICKNESS G Min.		LENGTH OF THREAD. Min.	
		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	22.4	25.9	30.5
100	4	121	68	75	140	159	22.4	28.4	27.7	33.0

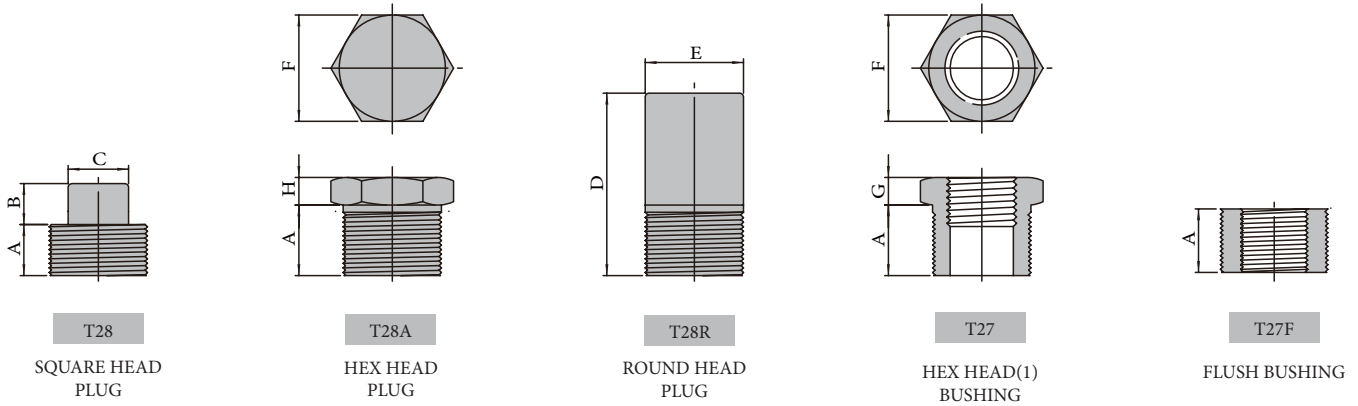
ADDITIONAL INFO:

DIMENSION UNIT: MILLIMETERS

(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 (ANSI/ASME B1.20.1)

(2) CLASS 2000 AND NPS 1/8 CLASS 6000 COUPLINGS, HALF COUPLINGS, AND CAPS ARE NOT INCLUDED IN THIS STANDARD

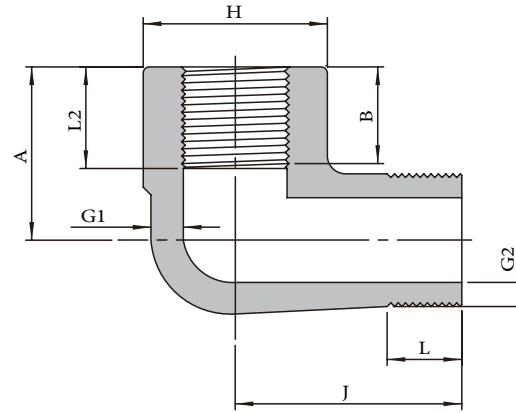
(3) THE WALL THICKNESS AWAY FROM THE THREADED ENDS SHALL MEET THE MINIMUM WALL THICKNESS REQUIREMENTS OF PAGE FOR THE APPROPRIATE NPS AND CLASS DESIGNATION FITTINGS.



DN	Nom. PIPE SIZE	LENGTH (Min.) A	PLUG SQUARE HEAD		PLUG ROUND HEAD		HEX PLUG & 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

ADDITIONAL INFO:

(1)CAUTIONARY NOTE REGARDING HEX BUSINGS.HEX HEAD BUSHING OF ONE-SIZE REDUCTION SHOULD NOT USED IN SERVICES WHERE THEY MIGHT BE SUBJECT TO HARMFUL LOADS AND FORCES OTHER THAN INTERNAL PRESSURE.



T6A

STREET ELBOW

DN	Nom. PIPE SIZE	H		A		J		G1 Min.		G2 Min.(1)		B Min. (2)	L2 Min. (2)	L Min.
		3000	6000	3000	6000	3000	6000	3000	6000	3000	6000			
6	1/8	19	25	19	22	25	32	3.18	5.08	2.74	4.22	6.4	6.7	10.0
8	1/4	25	32	22	25	32	38	3.30	5.66	3.22	5.28	8.1	10.2	11.0
10	3/8	32	38	25	28	38	41	3.51	6.98	3.50	5.59	9.1	10.4	13.0
15	1/2	38	44	28	35	41	48	4.09	8.15	4.16	6.53	10.9	13.6	14.0
20	3/4	44	51	35	44	48	57	4.32	8.53	4.88	6.86	12.7	13.9	16.0
25	1	51	62	44	51	57	66	4.98	9.93	5.56	7.95	14.7	17.3	19.0
32	1-1/4	62	70	51	54	66	71	5.28	10.59	5.56	8.48	17.0	18.0	21.0
40	1-1/2	70	84	54	64	71	84	5.56	11.07	6.25	8.89	17.8	18.4	21.0
50	2	84	102	64	83	84	105	7.14	12.09	7.64	9.70	19.0	19.0	21.0

ADDITIONAL INFO:

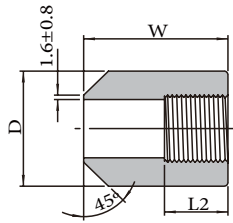
(1) DIMENSION UNIT: MILLIMETERS

(2) WALL THICKNESS BEFORE THREADING

(3) DIMENSION B IS MINIMUM LENGTH OF PERFECT THREAD. THE LENGTH OF USEFUL THREAD

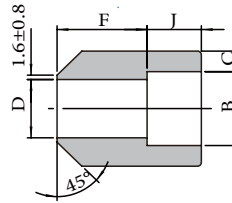
(B PLUG THREADS WITH FULLY FORMED ROOTS AND FLAT CRESTS) SHALL NOT BE LESS THAN L2

(EFFECTIVE LENGTH OF EXTERNAL THREAD) REQUIRED BY AMERICAN NATIONAL STANDARD FOR PIPE THREAD (ANSI/ASME B1.20.1)



TBO

BOSES(Threaded)



SBO

BOSES(Soket-Welding)

SIZE (IN)	D	W	L2 (Min)
-----------	---	---	----------

3000LBS

1/8	16.0	38.0	6.70
1/4	19.0	41.0	10.21
3/8	22.0	45.0	10.36
1/2	29.0	51.0	13.56
3/4	35.0	51.0	13.86
1	45.0	51.0	17.34
1-1/2	64.0	51.0	18.38
2	76.0	51.0	19.22
2-1/2	95.0	51.0	28.89
3	110.0	57.0	30.48
4	140.0	64.0	33.02

6000LBS

1/8	22.0	38	6.70
1/4	26.0	41.0	10.21
3/8	32.0	45.0	10.36
1/2	38.0	51.0	13.56
3/4	45.0	51.0	13.86
1	60.0	51.0	17.34
1-1/2	76.0	51.0	18.38
2	95.0	51.0	19.22

SIZE (IN)	B	D	J (Min)	F	C
-----------	---	---	---------	---	---

3000LBS

1/8	10.7	6.8	10.0	28.0	3.2
1/4	14.1	9.2	10.0	32.0	3.3
3/8	17.6	12.5	11.0	34.0	3.5
1/2	21.8	15.5	13.0	38.0	4.1
3/4	27.4	21.0	13.0	38.0	4.3
1	34.1	26.5	16.0	35.0	5.0
1-1/2	49.0	40.5	19.0	32.0	5.6
2	61.0	52.0	22.0	29.0	6.1
2-1/2	73.8	52.0	22.0	29.0	7.7
3	89.7	78.0	22.0	29.0	8.3

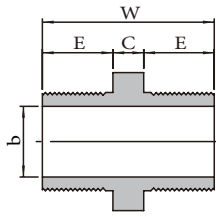
6000LBS

1/2	21.8	11.8	13.0	38.0	5.2
3/4	27.4	15.5	13.0	38.0	6.1
1	34.1	20.7	16.0	35.0	7.0
1-1/2	49.0	34.0	19.0	32.0	7.8
2	61.0	43.0	22.0	29.0	9.5
2-1/2	73.8	54.0	22.0	29.0	10.4
3	89.7	66.0	22.0	29.0	12.2

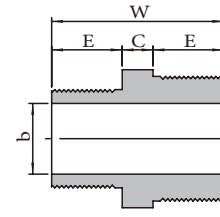
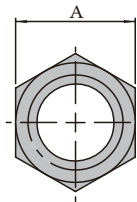
ADDITIONAL INFO:

(1) DIMENSION UNIT: MILLIMETERS

(2) THREAD IN ACCORDANCE WITH ASME B1.20.1



T30A
FULL SIZE

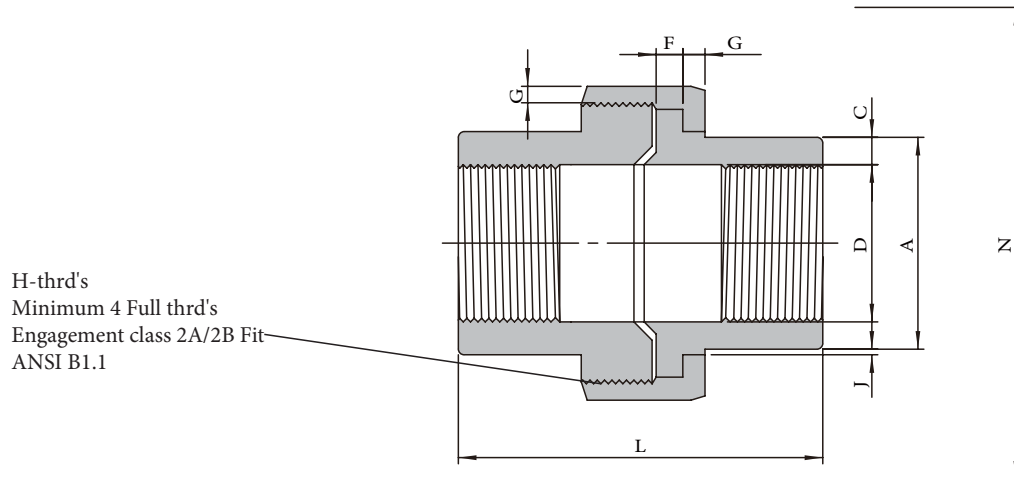


T30B
REDUCING SIZE

NOMINAL SIZE				A Min	W Min	E Min	b		C Min	F Min
EQUAL		REDUCING					3M	6M		
in	mm	in	mm	mm	mm	mm	mm	mm	mm	
1/8	(6)	--	--	11	26	10	5	2	6	--
1/4	(8)	--	--	15	36	15	8	6	6	--
--	--	1/4X1/8	(8X6)	15	31	15	5	2	6	10
3/8	(10)	--	--	18	40	16	11	8	8	--
--	--	3/8X1/4	(10X8)	18	39	16	8	6	8	15
1/2	(15)	--	--	22	48	20	14	11	8	--
--	--	1/2X3/8	(15X10)	22	44	20	11	8	8	16
--	--	1/2X1/4	(15X8)	22	43	20	8	6	8	15
3/4	(20)	--	--	27	52	21	19	13	10	--
--	--	3/4X1/2	(20X15)	27	50	21	14	11	9	20
--	--	3/4X3/8	(20X10)	27	46	21	11	8	9	16
1	(25)	--	--	35	60	25	24	17	10	--
--	--	1X3/4	(25X20)	35	56	25	19	13	10	21
--	--	1X1/2	(25X15)	35	55	25	14	11	10	20
1-1/2	(40)	--	--	50	68	26	38	30	16	--
--	--	1-1/2X1	(40X25)	50	67	26	24	17	16	25
--	--	1-1/2X3/4	(40X20)	50	63	26	19	13	16	21
--	--	1-1/2X1/2	(40X15)	50	62	26	14	11	16	20
2	(50)	--	--	62	71	27	49	39	17	--
--	--	2X1-1/2	(50X40)	62	70	27	38	30	17	26
--	--	2X1	(50X25)	62	70	27	24	17	18	25
--	--	2X3/4	(50X20)	62	65	27	19	13	17	21
--	--	2X1/2	(50X15)	62	65	27	14	11	18	20

NOMINAL SIZE				A	W	E	b	C	F
EQUAL		REDUCING							
in	mm	in	mm	mm	mm	mm	mm	mm	mm
2-1/2	(65)	--	--	80.0	94.0	38.0	53.8	18.0	--
		2-1/2X2	(65X50)	80.0	82.0	38.0	49.0	18.0	26.0
		2-1/2X1-1/2	(65X40)	80.0	81.0	38.0	38.0	18.0	25.0
		2-1/2X1	(65X25)	80.0	77.0	38.0	24.0	18.0	21.0
3	(80)	--	--	95.0	100.0	40.0	66.5	20.0	--
		3X2-1/2	(80X65)	95.0	98.0	40.0	53.8	20.0	38.0
		3X2	(80X50)	95.0	86.0	40.0	49.0	20.0	26.0
		3X1-1/2	(80X40)	95.0	85.0	40.0	38.0	20.0	25.0
4	(100)	--	--	125.5	104.5	40.0	87.3	24.5	--
		4X3	(100X80)	125.5	104.5	40.0	66.5	24.5	40.0
		4X2-1/2	(100X65)	125.5	102.5	40.0	53.8	24.5	38.0
		4X2	(100X50)	125.5	90.5	40.0	49.0	24.5	26.0

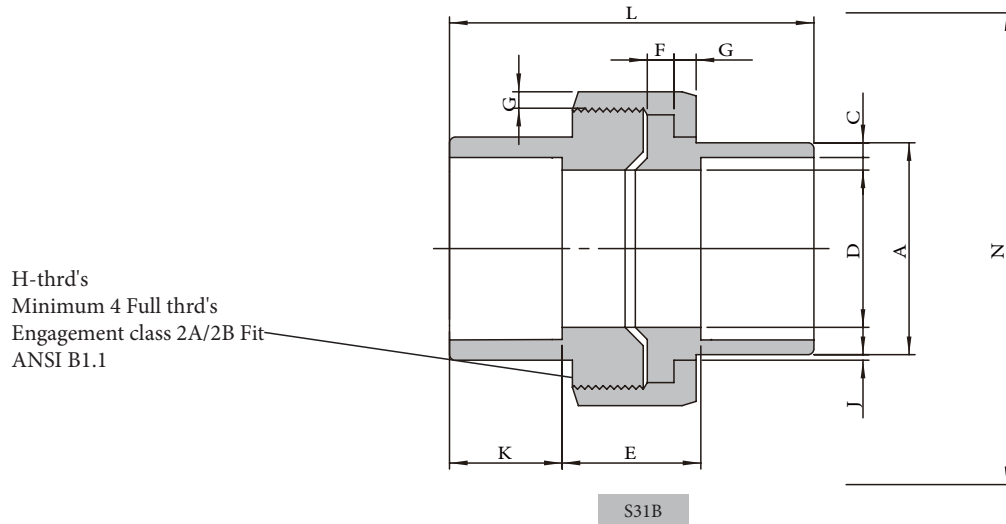
3M=3000#; 6M=6000#



T31B

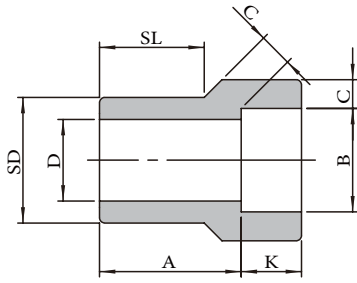
Nom. PIPE SIZE	PIPE END Min. A	WALL Min. C	WATER WAY BORE D	MALE FLANGE Min. F	NUT Min. G	THRDS. PER 25.4mm H	BEARING Min. J	LENGTH ASSEM. Nom. L	CLEAR ASSEM NUT N
1/8	14.7	2.41	8.43 6.43	3.18	3.18	16	1.24	41.4	50.8
1/4	19.0	3.02	11.13 9.45	3.18	3.18	16	1.24	41.4	50.8
3/8	22.9	3.20	14.27 13.51	3.43	3.43	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	10	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

ADDITIONAL INFO:
(1) DIMENSION UNIT: MILLIMETERS

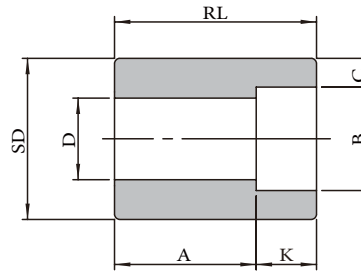


Nom. PIPE SIZE	PIPE END Min. A	SOCKET BORE DIA. B	SOCKET WALL Min. C	WATER WAY BORE D	LAYING LENGTH E	MALE FLANGE Min. F	NUT Min. G	THRDS. PER 25.4mm H	BEARING Min. J	DEPTH OF SOCKET Min. K	LENGTH ASSEM. Nom. L	CLEAR ASSEM. NUT N
1/8	21.8	11.18 10.67	3.18	7.59 6.07	22.4 19.1	3.18	3.18	16	1.24	9.7	41.4	50.8
1/4	21.8	14.61 14.10	3.30	10.01 8.48	22.4 19.1	3.18	3.18	16	1.24	9.7	41.4	50.8
3/8	25.9	18.03 17.53	3.51	13.28 11.76	26.9 20.6	3.43	3.43	14	1.37	9.7	46.0	55.9
1/2	31.2	22.23 21.72	4.09	16.56 15.04	26.9 20.6	3.68	3.68	14	1.50	9.7	49.0	58.4
3/4	37.1	27.56 27.05	4.27	21.69 20.17	31.8 25.4	4.06	4.06	11	1.68	12.7	56.9	66.0
1	45.5	34.29 33.78	4.98	27.41 25.88	34.3 26.2	4.57	4.45	11	1.85	12.7	62.0	78.7
1-1/4	54.9	43.05 42.55	5.28	35.81 34.29	40.6 32.5	5.33	5.21	10	2.13	12.7	71.1	94.0
1-1/2	61.5	49.15 48.64	5.54	41.66 40.13	42.2 34.0	5.84	5.59	10	2.31	12.7	76.5	111.8
2	75.2	61.62 61.11	6.05	53.26 51.74	45.5 37.3	6.60	6.35	10	2.69	15.7	86.1	132.1
2-1/2	91.7	74.45 73.81	7.67	64.24 61.19	61.7 52.1	7.49	7.11	8	3.07	15.7	102.4	149.9
3	109.2	90.42 89.79	8.31	79.45 76.40	63.8 53.6	8.26	8.00	8	3.53	15.7	109.0	175.3

ADDITIONAL INFO:
(1)DIMENSION UNIT: MILLIMETERS



SRI-1
TYPE1



SRI-2
TYPE2

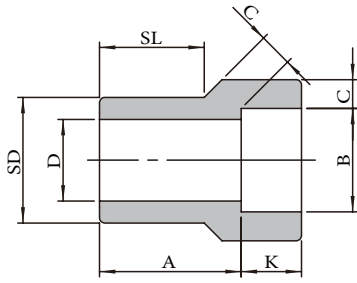
Nom. PIPE SIZE	TYPE(2)		SOCKET		SHANK Dia. SD	LAYING LENGTH A		BORE B		WALL Min. C		LENGTH			
			Dia. B	DEPTH Min. k		3M	6M	3M	6M	3M	6M	SL		RL(Min.)	
	3M	6M			3M							6M	3M	6M	3M	6M
3/8X1/4	1	1	14.35	10	17.15	19	21	9.0	6.5	3.78	4.60	14	16		
1/2X3/8	1	1	17.78	10	21.34	21	23	12.5	9.0	4.01	5.03	16	16		
1/2X1/4	1	1	14.35	10	21.34	21	21	9.0	6.5	3.78	4.60	16	16		
3/4X1/2	1	1	21.97	10	26.67	22	25	16.0	12.0	4.67	5.97	17	19		
3/4X3/8	2	2	17.78	10	26.67	16	22	12.5	9.0	4.01	5.03		19	27	
3/4X1/4	2	2	14.35	10	26.67	18	22	9.0	6.5	3.78	4.60			27	32
1X3/4	1	1	27.31	13	33.40	24	28	21.0	15.5	4.90	6.96	19	21		
1X1/2	2	1	21.97	10	33.40	16	28	16.0	12.0	4.67	5.97		21	28	
1X3/8	2	2	17.78	10	33.40	18	22	12.5	9.0	4.01	5.03			28	33
1X1/4	2	2	14.35	10	33.40	19	24	9.0	6.5	4.78	4.60			28	33
1-1/4X1	1	1	34.04	13	42.16	25	30	26.5	20.5	5.69	7.92	21	22		
1-1/4X3/4	2	2	27.31	13	42.16	18	21	21.0	15.5	4.90	6.96			32	35
1-1/4X1/2	2	2	21.97	10	42.16	19	22	16.0	12.0	4.67	5.97			32	35
1-1/4X3/8	2	2	17.78	10	42.16	21	24	12.5	9.0	4.01	5.03			32	35
1-1/4X1/4	2	2	14.35	10	42.16	22	25	9.0	6.5	3.78	4.60			32	35
1-1/2X1-1/4	1	1	42.80	13	48.26	28	35	35.0	29.5	6.07	7.92	22	25		
1-1/2X1	2	1	34.04	13	48.26	18	29	26.5	20.5	5.69	7.92		25	33	
1-1/2X3/4	2	2	27.31	13	48.26	19	25	21.0	15.5	4.90	6.96			33	40
1-1/2X1/2	2	2	21.97	10	48.26	21	27	16.0	12.0	4.67	5.97			33	40
1-1/2X3/8	2	2	17.78	10	60.33	22	28	12.5	9.0	4.01	5.03			33	40
2X1-1/2	1	1	48.90	13	60.33	32	39	41.0	34.0	6.35	8.92	25	28		
2X1-1/4	2	2	42.80	13	60.33	21	24	35.0	29.5	6.07	7.92			38	41
2X1	2	2	34.04	13	60.33	22	25	26.5	21.0	5.69	7.92			38	41
2X3/4	2	2	27.31	13	60.33	24	27	21.0	15.5	4.90	6.96			38	41
2X1/2	2	2	21.97	10	60.33	25	28	16.0	12.0	4.67	5.97			38	41

ADDITIONAL INFO:

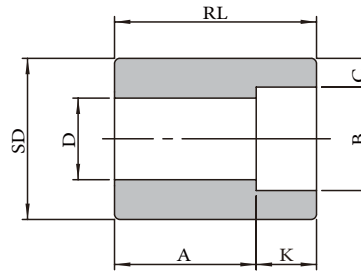
(1) DIMENSION UNIT: MILLIMETERS

(2) AT THE OPTION OF THE MANUFACTURER TYPE2 REDUCERS MAY BE FURNISHED IN TYPE 1 CONFIGURATION

(3) 3M & 6M SYMBOLS DENOTE 3000 AND 6000 CLASSES



SRI-1
TYPE1



SRI-2
TYPE2

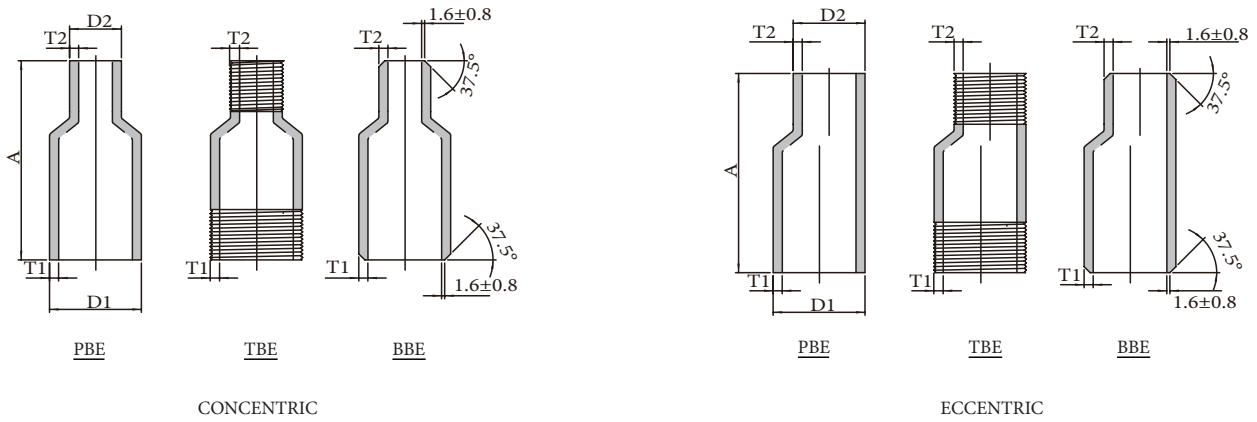
Nom. PIPE SIZE	TYPE(2)		SOCKET		SHANK Dia. SD	LAYING LENGTH A		BORE B		WALL Min. C		LENGTH			
			Dia. B	DEPTH Min. k		3M	6M	3M	6M	3M	6M	SL		SL	
	3M	6M			3M							6M	3M	6M	3M	6M
2-1/2X2	1	1	61.37	16	73.02	46	43	52.5	43.0	6.93	10.92	32	38		
2-1/2X1-1/2	2	2	48.90	13	73.02	35	35	41.0	34.0	6.35	8.92			54	54
2-1/2X1-1/4	2	2	42.80	13	73.02	37	37	35.0	29.5	6.07	7.92			54	54
2-1/2X1	2	2	34.04	13	73.02	38	38	26.5	20.5	5.69	7.92			54	54
2-1/2X3/4	2	2	27.31	13	73.02	40	38	21.0	15.5	4.90	6.96			54	54
3X2-1/2	1	1	74.07	16	88.90	38	57	62.5	54.0	8.76	11.91	32	44		
3X2	2	2	61.37	16	88.90	25	32	52.5	43.0	6.93	10.92			48	54
3X1-1/2	2	2	48.90	13	88.90	28	32	41.0	34.0	6.35	8.92			48	54
3X1-1/4	2	2	42.80	13	88.90	30	32	35.0	29.5	6.07	7.92			48	54
3X1	2	2	34.04	13	88.90	32	32	26.5	20.5	5.69	7.92			48	54
4X3	2	2	90.04	16	114.30	33		78.0		9.5				60	
4X2-1/2	2	2	74.07	16	114.30	38		62.5		8.76				60	
4X2	2	2	61.37	16	114.30	38		52.5		6.93				60	
4X1-1/2	2	2	48.90	13	114.30	42		41.0		6.35				60	
4X1-1/4	2	2	42.80	13	114.30	43		35.0		6.07				60	

(1) AT THE OPTION OF THE MANUFACTURER TYPE 2 REDUCERS MAY BE FURNISHED IN TYPE 1 CONFIGURATION

(2) 3M & 6M SYMBOLS DENOTE 3000 AND 6000 CLASSES

TOLERANCES

LAYING LENGTH A	SIZE 3/8" THRU 3/4"	+1.5mm/-0.0mm	BORE D	SIZE 1/4" THRU 2"	±0.8mm
	SIZE 1" T THRU 2"	+1.5mm/-0.0mm		SIZE 2-1/2" THRU 3"	±1.5mm
SOCKET DIA B	SIZE 2-1/2" THRU 4"	+1.5mm/-0.0mm	SHANK DIA SD	SIZE 3/8" THRU 1-1/2"	±0.25mm
	SIZE 1/4" THRU 2"	±0.25mm		SIZE 2" THRU 3"	±0.5mm
	SIZE 2-1/2" THRU 3	+0.4mm/-0.25mm		SIZE 4"	±0.75mm
			SHANK LENGTH SL	SIZE 3/8" THRU 3/4"	±0.25mm
				SIZE 1" THRU 2"	±0.5mm
				SIZE 2-1/2" THRU 4"	±0.75mm



NOMINAL SIZE (NPS)	OUTSIDE DIAMETER		END TO END "A"	WALL THICKNESS							
	LARGE END D1	SMALL END D1		T1				T2			
				SCH40 (STD)	SCH80 (XS)	SCH160	XXS	SCH40 (STD)	SCH80 (XS)	SCH160	XXS
1/4X1/8	13.7	10.3	57	2.2	3.0	3.7	6.1	1.7	2.4	...	...
3/8X1/8	17.1	10.3	64	2.3	3.2	4.0	6.4	1.7	2.4	...	...
3/8X1/4	17.1	13.7	64	2.3	3.2	4.0	6.4	2.2	3.0	...	...
1/2X1/8	21.3	10.3	70	2.8	3.7	4.8	7.5	1.7	2.4	...	...
1/2X1/4	21.3	13.7	70	2.8	3.7	4.8	7.5	2.2	3.0	...	...
1/2X3/8	21.3	17.1	70	2.8	3.7	4.8	7.5	2.3	3.2	...	...
3/4X1/8	26.7	10.3	76	2.9	3.9	5.6	7.8	1.7	2.4	...	...
3/4X1/4	26.7	13.7	76	2.9	3.9	5.6	7.8	2.2	3.0	...	...
3/4X3/8	26.7	17.1	76	2.9	3.9	5.6	7.8	2.3	3.2	...	...
3/4X1/2	26.7	21.3	76	2.9	3.9	5.6	7.8	2.8	3.7	4.8	7.5
1X1/8	33.4	10.3	89	3.4	4.5	6.4	9.1	1.7	2.4	...	...
1X1/4	33.4	13.7	89	3.4	4.5	6.4	9.1	2.2	3.0	...	...
1X3/8	33.4	17.1	89	3.4	4.5	6.4	9.1	2.3	3.2	...	...
1X1/2	33.4	21.3	89	3.4	4.5	6.4	9.1	2.8	3.7	4.8	7.5
1X3/4	33.4	26.7	89	3.4	4.5	6.4	9.1	2.9	3.9	5.6	7.8
1-1/4X1/8	42.2	10.3	102	3.6	4.9	6.4	9.7	1.7	2.4	...	...
1-1/4X1/4	42.2	13.7	102	3.6	4.9	6.4	9.7	2.2	3.0	...	...
1-1/4X3/8	42.2	17.1	102	3.6	4.9	6.4	9.7	2.3	3.2	...	...
1-1/4X1/2	42.2	21.3	102	3.6	4.9	6.4	9.7	2.8	3.7	4.8	7.5
1-1/4X3/4	42.2	26.7	102	3.6	4.9	6.4	9.7	2.9	3.9	5.6	7.8
1-1/4X1	42.2	33.4	102	3.6	4.9	6.4	9.7	3.4	4.5	6.4	9.1
1-1/2X1/8	48.3	10.3	114	3.7	5.1	7.1	10.2	1.7	2.4	...	...
1-1/2X1/4	48.3	13.7	114	3.7	5.1	7.1	10.2	2.2	3.0	...	...
1-1/2X3/8	48.3	17.1	114	3.7	5.1	7.1	10.2	2.3	3.2	...	...
1-1/2X1/2	48.3	21.3	114	3.7	5.1	7.1	10.2	2.8	3.7	4.8	7.5
1-1/2X3/4	48.3	26.7	114	3.7	5.1	7.1	10.2	2.9	3.9	5.6	7.8
1-1/2X1	48.3	33.4	114	3.7	5.1	7.1	10.2	3.4	4.5	6.4	9.1
1-1/2X1-1/4	48.3	42.2	114	3.7	5.1	7.1	10.2	3.6	4.9	6.4	9.7
2X1/8	60.3	10.3	165	3.9	5.5	8.7	11.1	1.7	2.4	...	...
2X1/4	60.3	13.7	165	3.9	5.5	8.7	11.1	2.2	3.0	...	...
2X3/8	60.3	17.1	165	3.9	5.5	8.7	11.1	2.3	3.2	...	...
2X1/2	60.3	21.3	165	3.9	5.5	8.7	11.1	2.8	3.7	4.8	7.5
2X3/4	60.3	26.7	165	3.9	5.5	8.7	11.1	2.9	3.9	5.6	...
2X1	60.3	33.4	165	3.9	5.5	8.7	11.1	3.4	4.5	6.4	9.1
2X1-1/4	60.3	42.2	165	3.9	5.5	8.7	11.1	3.6	4.9	6.4	9.7
2X1-1/2	60.3	48.3	165	3.9	5.5	8.7	11.1	3.7	5.1	7.1	10.2
2-1/2X1/8	73.0	10.3	178	5.2	7.0	9.5	14.0	1.7	2.4	...	...
2-1/2X1/4	73.0	13.7	178	5.2	7.0	9.5	14.0	2.2	3.0	...	...
2-1/2X3/8	73.0	17.1	178	5.2	7.0	9.5	14.0	2.3	3.2	...	...
2-1/2X1/2	73.0	21.3	178	5.2	7.0	9.5	14.0	2.8	3.7	4.8	7.5
2-1/2X3/4	73.0	26.7	178	5.2	7.0	9.5	14.0	2.9	3.9	5.6	7.5



(CONTINUED)

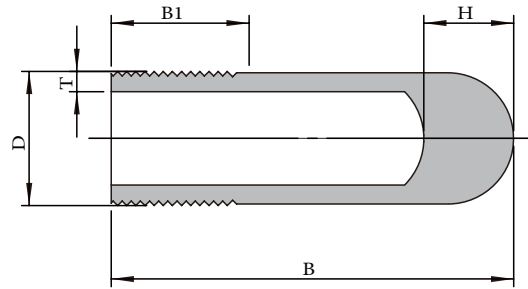
NOMINAL PIPE SIZE (NPS)	OUTSIDE DIAMETER		END TO END "A"	WALL THICKNESS							
	LARGE END D1	SMALL END D2		T1				T2			
				SCH40 (STD)	SCH80 (XS)	SCH160	XXS	SCH40 (STD)	SCH80 (XS)	SCH160	XXS
2-1/2X1	73.0	33.4	178	5.2	7.0	9.5	14.0	3.4	4.5	6.4	9.1
2-1/2X1-1/4	73.0	42.2	178	5.2	7.0	9.5	14.0	3.6	4.9	6.4	9.7
2-1/2X1-1/2	73.0	48.3	178	5.2	7.0	9.5	14.0	3.7	5.1	7.1	10.2
2-1/2X2	73.0	60.3	178	5.2	7.0	9.5	14.0	3.9	5.5	8.7	11.1
3X1/8	88.9	10.3	203	5.5	7.6	11.1	15.2	1.7	2.4	-	-
3X1/4	88.9	13.7	203	5.5	7.6	11.1	15.2	2.2	3.0	-	-
3X3/8	88.9	17.1	203	5.5	7.6	11.1	15.2	2.3	3.2	-	-
3X1/2	88.9	21.3	203	5.5	7.6	11.1	15.2	2.8	3.7	4.8	7.5
3X3/4	88.9	26.7	203	5.5	7.6	11.1	15.2	2.9	3.9	5.6	7.8
3X1	88.9	33.4	203	5.5	7.6	11.1	15.2	3.4	4.5	6.4	9.1
3X1-1/4	88.9	42.2	203	5.5	7.6	11.1	15.2	3.6	4.9	6.4	9.7
3X1-1/2	88.9	48.3	203	5.5	7.6	11.1	15.2	3.7	5.1	7.1	10.2
3X2	88.9	60.3	203	5.5	7.6	11.1	15.2	3.9	5.5	8.7	11.1
3X2-1/2	88.9	73.0	203	5.5	7.6	11.1	15.2	5.2	7.0	9.5	14.0
3-1/2X1/8	101.6	10.3	203	5.7	8.1	-	-	1.7	2.4	-	-
3-1/2X1/4	101.6	13.7	203	5.7	8.1	-	-	2.2	3.0	-	-
3-1/2X3/8	101.6	17.1	203	5.7	8.1	-	-	2.3	3.2	-	-
3-1/2X1/2	101.6	21.3	203	5.7	8.1	-	-	2.8	3.7	4.8	7.5
3-1/2X3/4	101.6	26.7	203	5.7	8.1	-	-	2.9	3.9	5.6	7.8
3-1/2X1	101.6	33.4	203	5.7	8.1	-	-	3.4	4.5	6.4	9.1
3-1/2X1-1/4	101.6	42.2	203	5.7	8.1	-	-	3.6	4.9	6.4	9.7
3-1/2X1-1/2	101.6	48.3	203	5.7	8.1	-	-	3.7	5.1	7.1	10.2
3-1/2X2	101.6	60.3	203	5.7	8.1	-	-	3.9	5.5	8.7	11.1
3-1/2X2-1/2	101.6	73.0	203	5.7	8.1	-	-	5.2	7.0	9.5	14.0
3-1/2X3	101.6	88.9	203	5.7	8.1	-	-	5.5	7.6	11.1	15.2
4X1/4	114.3	13.7	229	6.0	8.6	13.5	17.1	2.2	3.0	-	-
4X3/8	114.3	17.1	229	6.0	8.6	13.5	17.1	2.3	3.2	-	-
4X1/2	114.3	21.3	229	6.0	8.6	13.5	17.1	2.8	3.7	4.8	7.5
4X3/4	114.3	26.7	229	6.0	8.6	13.5	17.1	2.9	3.9	5.6	7.8
4X1	114.3	33.4	229	6.0	8.6	13.5	17.1	3.4	4.5	6.4	9.1
4X1-1/4	114.3	42.2	229	6.0	8.6	13.5	17.1	3.6	4.9	6.4	9.7
4X1-1/2	114.3	48.3	229	6.0	8.6	13.5	17.1	3.7	5.1	7.1	10.2
4X2	114.3	60.3	229	6.0	8.6	13.5	17.1	3.9	5.5	8.7	11.1
4X2-1/2	114.3	73.0	229	6.0	8.6	13.5	17.1	5.2	7.0	9.5	14.0
4X3	114.3	88.9	229	6.0	8.6	13.5	17.1	5.5	7.6	11.1	15.2
4X3-1/2	114.3	101.6	229	6.0	8.6	13.5	17.1	5.7	8.1	-	-

WALL THICKNESS(T1,T2)IN ACCORDENCE WITH B36.10M

PBE:PLAIN BOTH ENDS
 PSE:PLAIN BOTH ENDS
 PLE:PLAIN BOTH ENDS

BBE:BEVEL BOTH ENDS
 BSE:BEVEL BOTH ENDS
 BLE:BEVEL BOTH ENDS

TBE:THREAD BOTH ENDS
 TSE:THREAD BOTH ENDS
 TLE:THREAD BOTH ENDS



SIZE	D	B	B1	T Min				H
				SCH40 (STD)	SCH80 (STD)	SCH160	XXS	
1/8	10.3	34	9.5	1.73	2.41	--	--	14
1/4	13.7	34	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	4.56	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

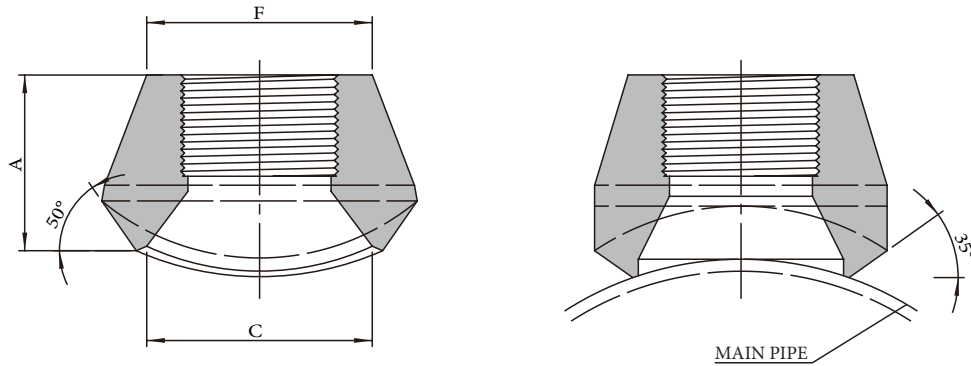
(1) THREAD IN ACCORDANCE WITH ASME B1.20.1

(2) WALL THICKNESS(T Min) IN ACCORDANCE WITH ASME B36.10M

TOLERANCE

ASME B16.11-2005

ITEM	TYPE OF PIPE FITTING	SIZE	
		DN	6 TO 100
		NPS	1/8 TO 4
CENTRICITY OF BORE(X)	ALL TYPE OF PIPE FITTINGS	±0.8	
COIN CADENCE OF AXES(Y)		1.0/200 MAX	



OUT-LET PIPE NPS(in)	A	B	C
----------------------	---	---	---

3000LB STANDARD AND EXTRA STRONG

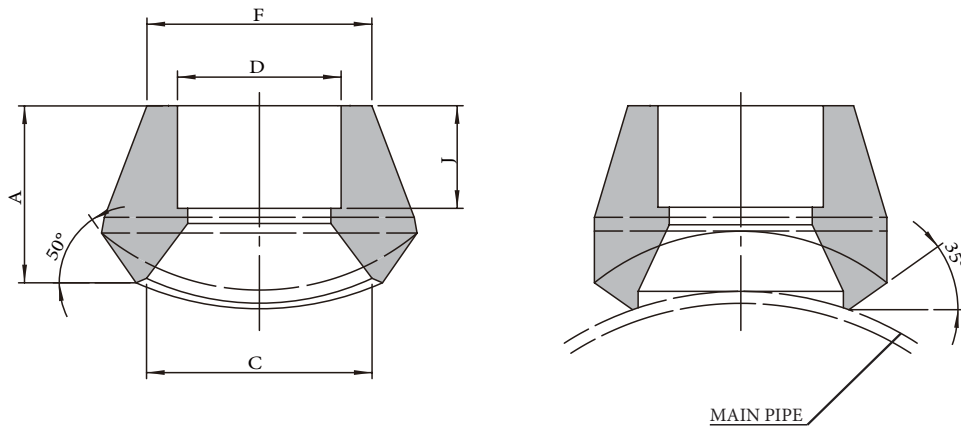
1/8	19.0	13.7	17.3
1/4	19.0	13.7	22.0
3/8	21.0	17.1	25.8
1/2	25.0	21.3	31.3
3/4	27.0	26.7	37.1
1	33.0	33.4	45.5
1-1/4	33.0	42.2	54.9
1-1/2	35.0	48.3	61.6
2	38.0	60.3	75.3
2-1/2	46.0	73.0	91.7
3	51.0	88.9	109.1
4	57.0	114.3	137.2

6000LB SCHEDULE 160 AND DOUBLE EXTRA STRONG

1/2	32.0	16.6	33.9
3/4	37.0	21.2	41.2
1	40.0	27.0	49.9
1-1/4	41.0	35.8	58.6
1-1/2	43.0	41.2	66.7
2	52.0	51.6	83.2

(1)THREADED IN ACCORDANCE WITH B1.20.1

(2)3000LB OUTLET SIZE 4 AND LESS FIT A NUMBER OF RUN PIPE SIZES AND THE FITTING ARE MARKED ACCORDANCE



OUT-LET PIPE NPS(in)	A	C	D	F	J(Min)
----------------------	---	---	---	---	--------

3000LB STANDARD AND EXTRA STRONG

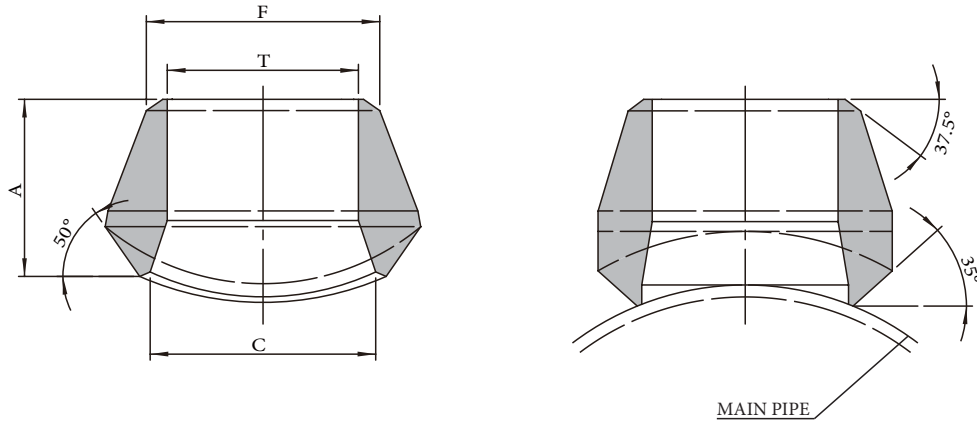
1/8	19.0	13.7	10.9	17.3	10.0
1/4	19.0	13.7	14.4	22.0	10.0
3/8	21.0	17.1	17.8	25.8	10.0
1/2	25.0	21.3	22.0	31.3	10.0
3/4	27.0	26.7	27.3	37.1	13.0
1	33.0	33.4	34.1	45.5	13.0
1-1/4	33.0	42.2	42.8	54.9	13.0
1-1/2	35.0	48.3	48.9	61.6	13.0
2	38.0	60.3	61.4	75.3	16.0
2-1/2	46.0	73.0	74.2	91.7	16.0
3	51.0	88.9	90.0	109.1	16.0
4	57.0	114.3	115.8	137.2	19.0

6000LB SCHEDULE 160 AND DOUBLE EXTRA STRONG

1/2	32.0	16.6	22.0	33.9	10.0
3/4	37.0	21.2	27.3	41.2	13.0
1	40.0	27.0	34.1	49.9	13.0
1-1/4	41.0	35.8	42.8	58.6	13.0
1-1/2	43.0	41.2	48.9	66.7	13.0
2	52.0	51.6	61.4	83.2	16.0

(1) SOCKET DIMENTION IN ACCORDANCE WITH ASME B16.11

(2) 3000LB OUTLET SIZE 4 AND LESS FIT A NUMBER OF RUN PIPE SIZES AND THE FITTING ARE MARKED ACCORDINGLY



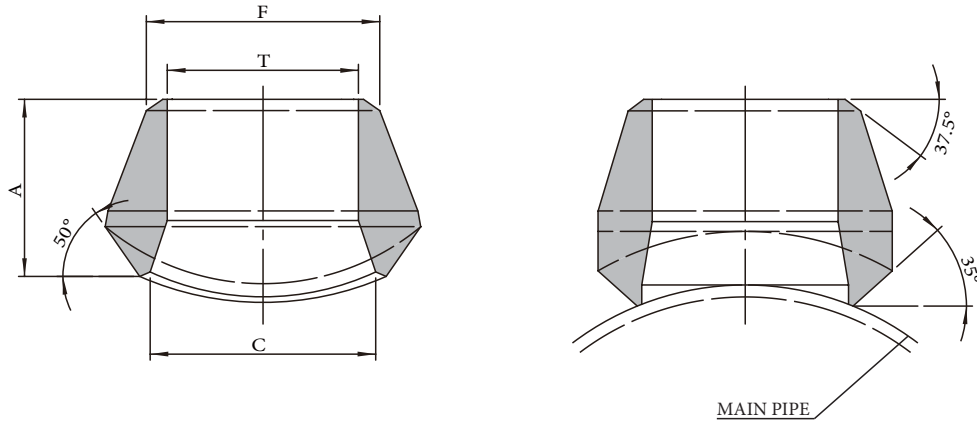
STANDARD WEIGHT

OUT-LET PIPE NPS(in)	A	C	F	T
1/8	16.0	13.7	10.3	1.73
1/4	16.0	13.7	13.7	2.24
3/8	19.0	17.1	17.1	2.31
1/2	19.0	21.3	21.3	2.77
3/4	22.0	26.7	26.7	2.87
1	27.0	33.4	33.4	3.38
1-1/4	32.0	42.2	42.2	3.56
1-1/2	33.0	48.3	48.3	3.68
2	38.0	60.3	60.3	3.91
2-1/2	41.0	73.0	73.0	5.16
3	44.0	88.9	88.9	5.49
3-1/2	48.0	101.6	101.6	5.74
4	51.0	114.3	114.3	6.02
5	57.0	141.3	141.3	6.55
6	60.0	168.3	168.3	7.11
8	70.0	219.3	219.3	8.11
10	78.0	273.1	273.1	9.27
12	86.0	323.9	323.9	9.53
14	89.0	355.6	355.6	9.53
16	94.0	406.4	406.4	9.53
18	97.0	457.2	457.2	9.53
20	102.0	508.0	508.0	9.53
24	116.0	609.0	609.6	9.53

(1)WELD BEVEL IN ACCORDANCE WITH ASME B16.25

(2)OUTLET SIZE 4 AND LESS FIT A NUMBER OF RUN PIPE SIZES AND THE FITTINGS ARE MARKETED ACCORDINGLY

(3)OUTLET SIZE 5 AND UP ORDER TO SPECIFIC SIZE COMBINATION



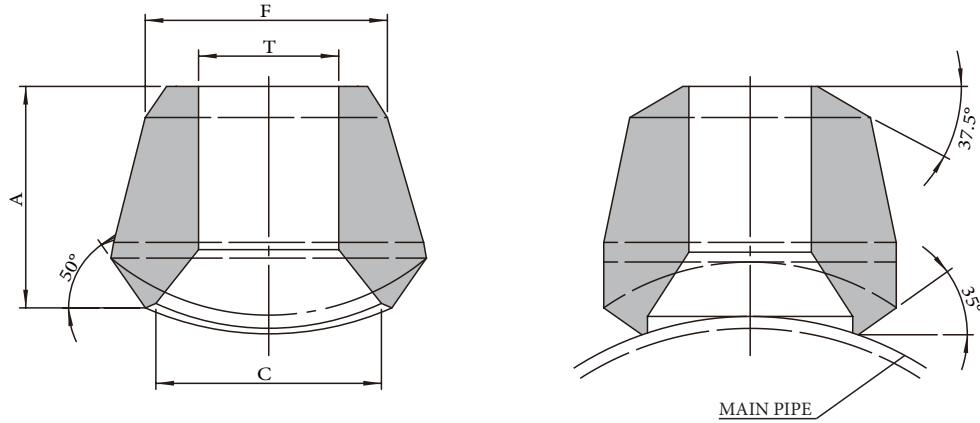
EXTRA STRONG

OUT-LET PIPE NPS(in)	A	C	F	T
1/8	16.0	13.7	10.3	2.41
1/4	16.0	13.7	13.7	3.02
3/8	19.0	17.1	17.1	3.20
1/2	19.0	21.3	21.3	3.73
3/4	22.0	26.7	26.7	3.91
1	27.0	33.4	33.4	4.55
1-1/4	32.0	42.2	42.2	4.85
1-1/2	33.0	48.3	48.3	5.08
2	38.0	60.3	60.3	5.54
2-1/2	41.0	73.0	73.0	7.01
3	44.0	88.9	88.9	7.62
3-1/2	48.0	101.6	101.6	8.56
4	51.0	114.3	114.3	8.56
5	57.0	141.3	141.3	9.53
6	60.0	168.3	168.3	10.97
8	70.0	219.3	219.3	12.70
10	78.0	273.1	273.1	12.70
12	86.0	323.9	323.9	12.70
14	89.0	355.6	355.6	12.70
16	94.0	406.4	406.4	12.70
18	97.0	457.2	457.2	12.70
20	102.0	508.0	508.0	12.70
24	116.0	609.0	609.6	12.70

(1)WELD BEVEL IN ACCORDANCE WITH ASME B16.25

(2)OUTLET SIZE 4 AND LESS FIT A NUMBER OF RUN PIPE SIZES AND THE FITTINGS ARE MARKETED ACCORDINGLY

(3)OUTLET SIZE 5 AND UP ORDER TO SPECIFIC SIZE COMBINATION



SCHEDULE 160 AND DOUBLE EXTRA STRONG

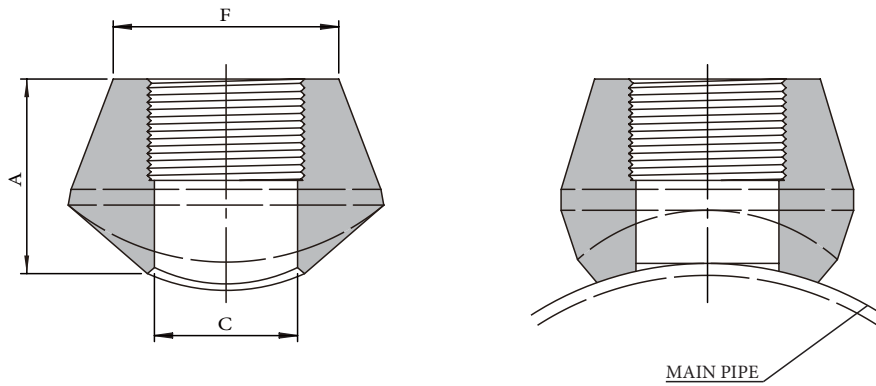
OUT-LET PIPE NPS(in)	A	C	F	T	
				SCH160	XXS
1/2	28.0	13.8	21.3	4.78	7.47
3/4	32.0	18.9	26.7	5.56	7.82
1	38.0	24.3	33.4	6.35	9.09
1-1/4	44.0	32.5	42.2	6.35	9.70
1-1/2	51.0	38.1	48.3	7.14	10.15
2	55.0	49.2	60.3	8.74	11.07
2-1/2	62.0	59.0	73.0	9.53	14.02
3	73.0	73.7	88.9	11.13	15.24
4	84.0	97.2	114.3	13.49	17.12
5	94.0	122.2	141.3	15.88	19.05
6	105.0	146.4	168.3	18.26	21.95

- (1)WELD BEVEL IN ACCORDANCE WITH ASME B16.25
- (2)OUTLET SIZE BY ORDER TO SPECIFIC SIZE COMBINATION

CONVENTIONAL RUN SIZE COMBINATIONS
3000# THREAD/SOCKET-WELD END STD/XS BUTT WELDING END

RUN SIZE	OUTLET SIZE								
	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
			1-1/4"						
	3/4"	1"	1-1/2"	1-1/2"	2"	2-1/2"	3"	3-1/2"	5"
	1"	1-1/4"	2"	2"	2-1/2"	3"	3-1/2"	4"	6"
	1-1/4"	1-1/2"	2-1/2"	2-1/2"	3"	3-1/2"	4"	5"	8"
	1-1/2"~3"	2"~3"	3"	3"	3-1/2"	5"~6"	6"	6"	10"
	3-1/2"~36"	3-1/2"~6"	3-1/2"~4"	3-1/2"~5"	4"~5"	8"~10"	8"	8"	12"~14"
		8"~38"	5"~10"	6"~8"	6"~10"	12"~18"	10"~14"	10"~16"	16"~18"
			12"~36"	10"~36"	12"~36"	20"~36"	16"~36"	18"~36"	20"~24"
									26"~36"

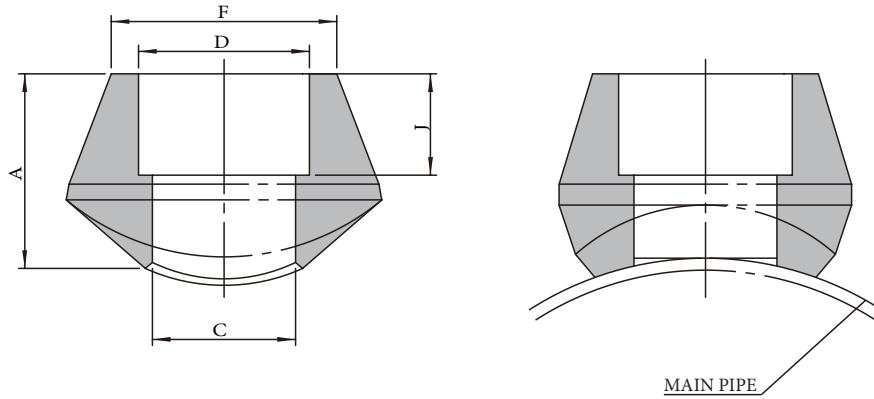
EACH CHARTED OUTLET SIZE ARE DESIGNED TO FIT A NUMBER OF RUN PIPE SIZE



3000LB

OUT-LET PIPE NPS(in)	A	C	F
1/4	19.0	11.5	22.0
3/8	21.0	14.5	25.9
1/2	25.0	16.5	31.4
3/4	27.0	21.5	37.1
1	33.0	27.2	45.5
1-1/4	33.0	36.0	57.0
1-1/2	35.0	42.0	64.0
2	38.0	53.0	76.0
2-1/2	46.0	65.0	92.0
3	51.0	80.0	109.2
4	57.0	104.0	140.0

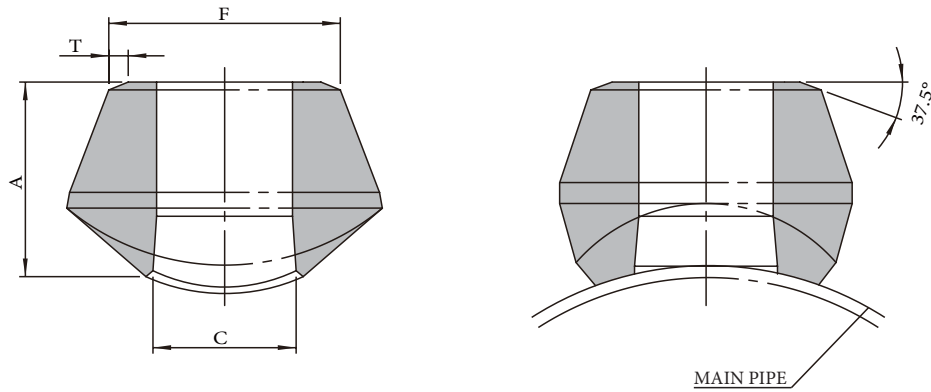
(1)THREADED IN ACCORDANCE WITH ASME B1.20.1



3000LB

OUT-LET PIPE NPS(in)	A	C	D	F	J
1/4	19.0	11.5	14.35	22.0	10.5
3/8	21.0	14.5	17.80	25.9	10.5
1/2	25.0	16.5	21.95	31.4	10.5
3/4	27.0	21.5	27.30	37.1	12.5
1	33.0	27.2	34.05	45.5	14.0
1-1/4	33.0	36.0	42.80	57.0	15.0
1-1/2	35.0	42.0	48.90	64.0	17.0
2	38.0	53.0	61.35	76.0	17.5
2-1/2	46.0	65.0	74.15	92.0	22.0
3	51.0	80.0	90.10	109.2	22.0
4	57.0	104.0	115.45	140.0	28.0

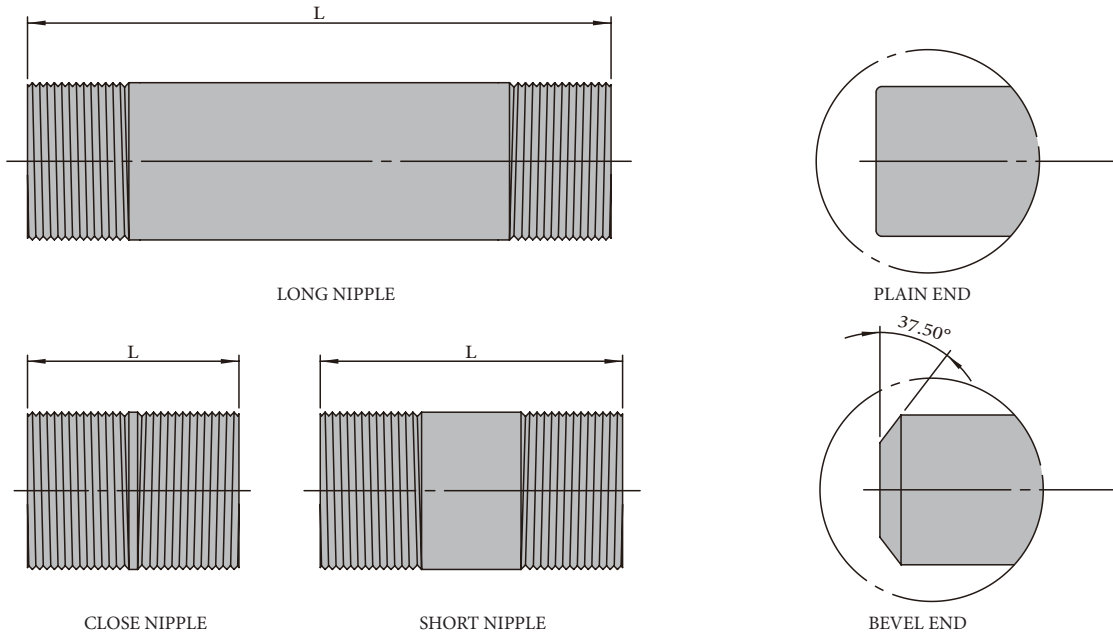
(1) SOCKET DIMENSION IN ACCORDANCE WITH ASME B16.11



STANDARD & EXTRA STRONG

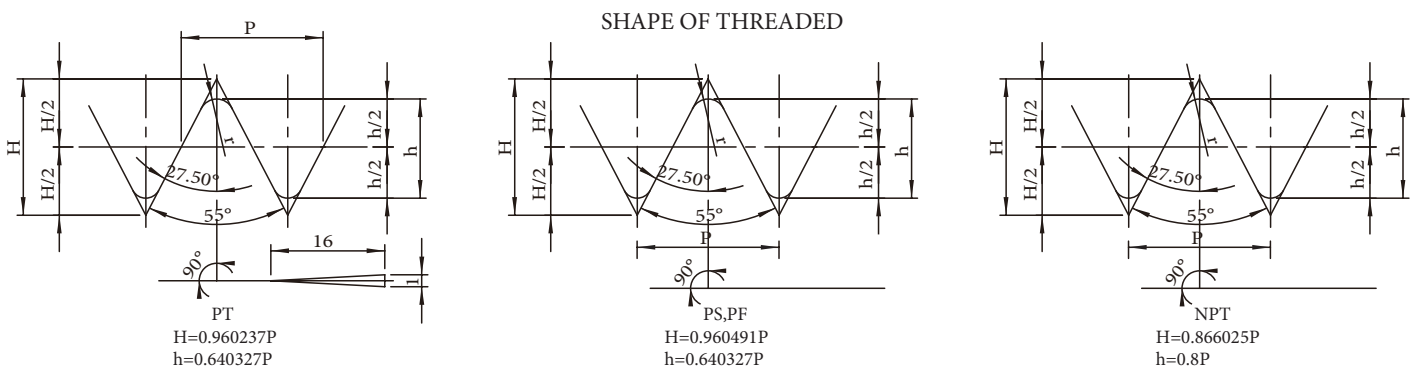
OUT-LET PIPE NPS(in)	A	C	F	J	
				STD	XS
1/4	16.0	11.5	13.7	2.24	3.02
3/8	19.0	14.5	17.1	2.31	3.20
1/2	19.0	16.5	21.3	2.77	3.73
3/4	22.0	21.5	26.7	2.87	3.91
1	27.0	27.2	33.4	3.38	4.55
1-1/4	32.0	36.0	42.2	3.56	4.85
1-1/2	33.0	42.0	48.3	3.68	5.08
2	38.0	53.0	60.3	3.91	5.54
2-1/2	41.0	65.0	73.0	5.16	7.01
3	44.0	80.0	88.9	5.49	7.62
4	51.0	104.0	114.3	6.02	8.56

(1)WELD BEVEL ACCORDANCE WITH ASME B16.25



NPS	L		
	CLOSE NIPPLE	SHORT NIPPLE	LONG NIPPLE
1/8	3/4	1-1/2	2~12
1/4	7/8	1-1/2	2~12
3/8	1	1-1/2	2~12
1/2	1-1/8	1-1/2	2~12
3/4	1-3/8	2	2-1/2~12
1	1-1/2	2	2-1/2~12
1-1/4	1-5/8	2-1/2	3~12
1-1/2	1-3/4	2-1/2	3~12
2	2	2-1/2	3~12
2-1/2	2-1/2	3	3-1/2~12
3	2-5/8	3	3-1/2~12
3-1/2	2-3/4	4	4~12
4	2-7/8	4	4~12
5	3	4-1/2	5~12
6	3-1/8	4-1/2	5~12

THREAD IN ACCORDANCE WITH ASME B1.20.1
 WELD BEVEL ACCORDANCE WITH ASME B16.25



DIMENSIONS OF SEAMLESS STEEL PIPE AND SEAMLESS STAINLESS STEEL PIPE

(ASME B36.10M---2004,ASME B36.19M---2004)

TOLERANCES			STEEL PIPE												ST. ST PIPE									
A53 A106 O.D.	API 5L O.D.	A530 O.D.	NPS			WALL THICKNESS												WALL THICKNESS						
			STD	MAX	MIN	S/10	S/20	S/30	S/40	STD	S/60	XS	S/80	S/100	S/120	S/140	S/160	XXS	S/5S	S/10S	S/40S	S/80S		
+1/64" -1/32"	+1/64" -1/32"	+1/64" -1/32"	1/8	10.3	10.7	9.5	1.24		1.45	1.73	S/40		S/80	2.41				3.2	4.8	1.7	1.2	1.7	2.4	
			1/4	13.7	14.1	12.9	1.65		1.85	2.24	S/40		S/80	3.02					3.7	6.1	1.7	1.7	2.2	3.0
+1/64" -1/32"	+1/64" -1/32"	+1/64" -1/32"	3/8	17.1	17.5	16.3	1.65		1.85	2.31	S/40		S/80	3.20				4.0	6.4	1.7	1.7	2.3	3.2	
			1/2	21.3	21.7	20.5	2.11		2.41	2.77	S/40		S/80	3.73					4.78	7.47	1.7	2.1	2.8	3.7
+1/64" -1/32"	+1/64" -1/32"	+1/64" -1/32"	3/4	26.7	27.1	25.9	2.11		2.41	2.87	S/40		S/80	3.91				5.56	7.82	1.7	2.1	2.9	3.9	
			1	33.4	33.8	32.8	2.77		2.97	3.38	S/40		S/80	4.55					6.35	9.09	1.7	2.8	3.4	4.5
+1/64" -1/32"	+1/64" -1/32"	+1/64" -1/32"	1-1/4	42.2	42.6	41.4	2.77		2.97	3.56	S/40		S/80	4.85				6.35	9.70	2.1	2.8	3.6	4.9	
			1-1/2	48.3	48.7	47.5	2.77		3.18	3.68	S/40		S/80	5.08					7.14	10.15	2.1	2.8	3.7	5.1
+1/64" -1/32"	+1/64" -1/32"	+1/64" -1/32"	2	60.3	60.9	59.7	2.77		3.18	3.91	S/40		S/80	5.54				8.74	11.07	2.1	2.8	3.9	5.5	
			2-1/2	73.0	73.7	72.2	3.05		4.78	5.16	S/40		S/80	7.01					9.53	14.02	2.1	3.0	5.2	7.0
+1/64" -1/32"	+1/64" -1/32"	+1/64" -1/32"	3	88.9	89.8	88.0	3.05		4.78	5.49	S/40		S/80	7.62				11.13	15.24	2.8	3.0	5.5	7.6	
			3-1/2	101.6	102.6	100.6	3.05		4.78	5.74	S/40		S/80	8.08							2.8	3.0	5.7	8.1
+1/64" -1/32"	+1/64" -1/32"	+1/64" -1/32"	4	114.3	115.4	113.2	3.05		4.78	6.02	S/40		S/80	8.56				11.13	17.12	2.8	3.0	6.0	8.6	
			5	141.3	142.7	139.9	3.40		4.78	6.55	S/40		S/80	9.53					12.70	19.05	3.4	3.4	6.6	9.5
+1/64" -1/32"	+1/64" -1/32"	+1/64" -1/32"	6	168.3	170.0	166.6	3.40			7.11	S/40		S/80	10.97				14.27	21.95	4.0	3.4	7.1	11.0	
			8	219.1	221.3	216.9	3.76		6.35	7.04	8.18	S/40	10.31	S/80	12.70	15.09	18.26	20.62	23.01	22.23	4.0	3.8	8.2	12.7
+1/64" -1/32"	+1/64" -1/32"	+1/64" -1/32"	10	273.0	275.8	270.4	4.19		6.35	7.80	9.27	S/40	12.70	S/60	15.09	18.26	21.44	25.40	28.58	S/140	4.2	4.2	9.3	12.7
			12	323.8	327.1	320.7	4.57		6.35	8.38	10.31	9.53	14.27	12.70	17.48	21.44	25.40	28.58	33.32	S/120	4.2	4.6	9.5	12.7
+1/64" -1/32"	+1/64" -1/32"	+1/64" -1/32"	14	355.6	359.2	352.0	6.35		7.92	9.53	11.13	S/30	15.09	12.70	19.05	23.83	27.79	31.75	35.71		4.8			
			16	406.4	410.5	402.3	6.35		7.92	9.53	12.70	S/30	16.66	S/40	21.44	26.19	30.96	36.53	40.49		4.8			
+1/64" -1/32"	+1/64" -1/32"	+1/64" -1/32"	18	457.0	461.8	452.6	6.35		7.92	11.13	14.27	9.53	19.05	12.70	23.83	29.36	34.93	39.67	45.24		5.5	6.4		
			20	508.0	513.1	502.9	6.35		9.53	12.70	15.09	S/20	20.62	S/30	26.19	32.54	38.10	44.45	50.01					
+1/64" -1/32"	+1/64" -1/32"	+1/64" -1/32"	22	559.0			6.35		9.53	12.70		S/20	22.23	S/30	28.58	34.93	41.28	47.63	53.98					
			24	610.0	615.7	603.5	6.35		9.53	14.27	17.48	S/20	24.61	12.70	30.96	38.89	46.02	52.37	59.54		6.4	7.9		
+1/64" -1/32"	+1/64" -1/32"	+1/64" -1/32"	26	660.0			7.92		12.70			9.53	S/20											
			28	711.0			7.92		12.70	15.88		S/20	9.53	S/20										
+1/64" -1/32"	+1/64" -1/32"	+1/64" -1/32"	30	762.0			7.92		12.70	15.88		9.53	S/20											
			32	813.0			7.92		12.70	15.88	17.48	S/20	9.53	S/20										
+1/64" -1/32"	+1/64" -1/32"	+1/64" -1/32"	34	864.0			7.92		12.70	15.88	17.48	9.53	S/20											
			36	914.0			7.92		12.70	15.88	19.05	9.53	S/20											

PACKING LIST(1)

CARTON SIZE:28X20X18cm(LXWXH)

UNIT:PC

SIZE NPS	90D ELBOW		45D ELBOW		TEE		COUPLING		HALF COUPLING		CROSS	
	2000#NPT 3000# SW	3000#NPT	2000#NPT 3000# SW	3000#NPT	2000#NPT 3000# SW	3000#NPT	3000# SW	3000#NPT	3000# SW	3000#NPT	2000#NPT 3000# SW	3000#NPT
1/4"	150	100	150	100	100	80	350	250	400	800	40	40
3/8"	100	80	100	80	80	50	250	200	250	500	40	40
1/2"	80	50	80	50	50	35	120	100	120	250	40	30
3/4"	50	25	50	30	35	20	80	70	80	150	30	20
1"	30	20	30	20	20	15	50	35	50	80	20	12
1-1/4"	20	15	20	15	15	10	30	20	30	35	10	6
1-1/2"	15	6	15	8	10	5	25	15	25	30	6	4
2"	8	5	10	6	6	4	15	10	15	20	4	4
2-1/2"	4	2	5	2	3	2	10	5	10	12	3	2
3"	2	2	2	2	2	1	6	3	6	6	2	2
4"	1	1	1	1	1	1	4	2	4	4	1	1

SIZE NPS	CAP 3000# NPT/SW	STREET ELBOW 3000#NPT	INSERT 3000# SW	HEX PLUG NPT	ROUND PLUG NPT	SQUARE PLUG NPT	UNION NPT/SW 3000#	BUSHING NPT	HEX NIPPLE NPT	OUTLET NPT/SW 3000#	SWAGE		BOSS	
											S40/S80	S160/XXS	3000# SW	3000# NPT
1/4"	300	150	300	800	250	800	70	600	500	200	200	250	200	
3/8"	250	80	300	600	200	500	70	500	400	150	150	150	150	
1/2"	130	50	150	250	150	300	50	400	200	150	100	90	80	
3/4"	80	30	100	150	100	200	30	200	100	100	70	70	40	
1"	50	20	80	100	80	150	20	100	65	50	50	35	30	
1-1/4"	30	15	60	35	50	80	14	60	35	35	30	30	20	
1-1/2"	25	8	40	25	30	50	10	50	25	25	20	25	15	
2"	15	5	25	20	15	30	6	25	15	15	8	15	10	
2-1/2"	10	4	12	8	10	15	2	15	5	10	4	-	-	
3"	4	2	10	6	5	10	2	10	3	6	3	-	-	
4"	3	1	4	3	3	3	-	5	2	3	1	-	-	

WOODEN CASE SIZE:102x86x72cm/60 CARTON WOODEN CASE SIZE:86x82x72cm/48 CARTON

PACKING LIST(2)

UNIT:PC

CARTON SIZE:28X20X18cm(LXWXXH)

SIZE NPS	90D ELBOW		45D ELBOW		TEE		CAP		CROSS	
	6000#NPT	6000# SW	6000#NPT	6000# SW	6000# SW	9000# SW	6000#NPT	6000# SW	6000#NPT	6000# SW
1/4"	80	100	80	100	50	80	250	200	40	80
3/8"	50	80	50	80	35	50	130	150	30	40
1/2"	25	50	25	50	20	35	80	80	20	30
3/4"	20	25	20	30	12	20	50	50	12	21
1"	12	20	12	20	10	15	30	30	6	12
1-1/4"	5	15	5	15	5	10	25	25	4	6
1-1/2"	4	6	4	8	4	5	15	15	2	4
2"	2	5	2	6	2	4	10	8	1	2
2-1/2"	1	2	-	2	1	2	4	5	-	-
3"	-	-	-	-	-	1	3	3	-	-
4"	-	-	-	-	-	1	2	2	-	-

SIZE NPS	COUPLING		HALF COUPLING		BOSS		INSERT 6000# SW	STREET ELBOW 6000# NPT	OUTLET NPT/SW
	6000#NPT	6000# SW	6000#NPT	6000# SW	6000#NPT	6000# SW			
1/4"	200	250	150	300	150	200	250	80	-
3/8"	100	200	80	150	100	150	200	50	-
1/2"	60	100	80	80	60	80	120	25	100
3/4"	35	70	50	50	35	40	80	20	50
1"	20	35	35	30	20	30	60	12	30
1-1/4"	15	20	25	25	15	20	50	5	25
1-1/2"	10	15	20	15	10	15	40	4	15
2"	5	10	6	10	5	10	20	2	-
2-1/2"	3	5	4	-	-	-	10	-	-
3"	2	3	2	-	-	-	8	-	-
4"	1	2	1	-	-	-	2	-	-

WOODEN CASE SIZE:102x86x72cm/60 CARTON WOODEN CASE SIZE:86x82x72cm/48 CARTON



WEIGHT LIST

UNIT:KGS

WEIGHT(KGS) SIZE	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2'	2"	2-1/2"	3"	4"
2000LBS SCREWED												
90°ELBOW	0.10	0.08	0.13	0.25	0.35	0.53	0.82	1.06	1.70	3.14	4.81	10.21
45°ELBOW	0.14	0.13	0.10	0.20	0.27	0.41	0.68	0.82	1.41	3.46	5.44	8.96
TEE	0.13	0.12	0.17	0.31	0.43	0.69	1.07	0.39	2.16	4.11	6.12	14.74
CROSS				0.40	0.51	0.77	1.11	1.62				
3000LBS SCREWED												
90°ELBOW	0.10	0.14	0.29	0.43	0.69	1.14	1.42	2.63	2.92	5.99	8.88	14.85
45°ELBOW	0.13	0.12	0.24	0.34	0.56	0.94	1.03	2.05	2.23	3.71	5.97	8.96
TEE	0.13	0.20	0.38	0.56	0.92	1.49	1.76	3.27	3.53	6.99	10.19	19.13
COUPLING	0.05	0.04	0.06	0.13	0.19	0.45	0.81	1.07	1.40	2.29	3.38	6.28
HALF COUPLING	0.02	0.02	0.03	0.06	0.10	0.23	0.34	0.54	0.70	1.13	1.68	3.11
RED COUPLING	0.05	0.05	0.06	0.13	0.19	0.39	0.68	0.99	1.37	2.07	3.08	5.44
CAP	0.02	0.04	0.05	0.11	0.18	0.37	0.62	0.72	1.09	2.22	3.50	4.84
STREET ELBOW	0.13	0.11	0.22	0.31	0.53	1.02	1.13	2.01	2.91			
UNION	0.28	0.28	0.24	0.34	0.48	0.77	1.03	1.63	2.43	3.63	5.27	12.0
CROSS	0.56	0.52	0.49	0.65	1.05	1.70	2.17	3.93	4.39			
HEX NIPPLE	0.03	0.04	0.05	0.09	0.15	0.47	0.45	0.62	1.03	1.51	2.22	4.00
6000LBS SCREWED												
90°ELBOW	0.17	0.33	0.45	0.80	1.31	1.61	2.93	3.79	7.31	9.88	16.43	
45°ELBOW	0.11	0.27	0.39	0.63	1.07	1.27	2.24	2.54	4.37	7.01	14.16	
TEE	0.20	0.45	0.63	0.98	1.65	2.17	3.74	4.71	7.88	13.11	22.50	
COUPLING	0.08	0.13	0.20	0.34	0.50	0.87	1.09	1.94	2.87	4.20	6.10	10.04
HALF COUPLING	0.07	0.06	0.09	0.16	0.24	0.45	0.55	0.96	1.70	2.10	3.05	5.02
RED COUPLING	0.08	0.06	0.18	0.31	0.41	0.85	1.05	1.81	3.40	4.20	6.10	10.04
CAP	0.06	0.06	0.09	0.26	0.40	0.71	0.56	0.77	2.23			
PLUGS & BUSHING 2000/3000/6000LBS												
SQUARE HEAD	0.01	0.01	0.03	0.05	0.09	0.16	0.27	0.38	0.63	0.96	1.53	3.83
HEX HEAD	0.01	0.03	0.05	0.07	0.14	0.22	0.44	0.59	1.03	1.80	2.60	5.20
ROUND HEAD	0.02	0.45	0.07	0.12	0.20	0.34	0.55	0.79	1.47	2.34	3.26	6.24
BUSHING		0.01	0.01	0.03	0.05	0.09	0.25	0.34	0.45	0.60	1.16	3.20
3000LBS SOCKET WELD												
90°ELBOW	0.09	0.08	0.12	0.22	0.33	0.53	0.84	1.08	1.68	3.20	5.38	10.95
45°ELBOW	0.16	0.14	0.12	0.20	0.28	0.42	0.69	0.80	1.35	2.53	5.10	9.41
TEE	0.13	0.09	0.15	0.29	0.42	0.65	1.04	1.35	2.04	3.98	5.90	17.91
COUPLING	0.04	0.05	0.07	0.13	0.17	0.29	0.45	0.59	0.86	1.40	1.78	2.85
HALF COUPLING	0.04	0.05	0.07	0.13	0.21	0.30	0.34	0.66	1.09	1.63	2.10	3.71
RED COUPLING	0.04	0.05	0.07	0.13	0.09	0.27	0.49	0.59	0.97	1.42	1.88	3.31
CAP	0.03	0.04	0.07	0.10	0.16	0.25	0.45	0.59	0.96	1.43	2.74	4.24
UNION	0.28	0.28	0.25	0.35	0.49	0.81	1.10	1.61	2.16	3.50	5.15	11.59
CROSS	0.57	0.53	0.46	0.39	0.48	0.75	1.19	1.61	2.35			
6000LBS SOCKET WELD												
90°ELBOW			0.29	0.40	0.73	1.17	1.48	2.79	3.28			
45°ELBOW				0.36	0.57	0.92	1.11	2.01	2.09			
TEE	0.14	0.20	0.43	0.56	0.94	1.49	1.93	3.37	3.95			
COUPLING	0.05		0.14	0.24	0.27	0.44	0.60	1.11	1.62			
HALF COUPLING		0.11		0.21	0.31	0.51	0.75	1.25	1.92			
RED COUPLING				0.24	0.33	0.65	0.75	1.20	2.12			
CAP				0.16	0.23	0.36	0.64	0.94	1.41			
CROSS				0.69								