



SC MFG. GROUP

DBA HIDALGO METALS ENTERPRISE LTD.

ONTARIO, CANADA
OVER TWENTY YEARS IN PRODUCTION

REFERENCE TABLES · 2026

PIPE FITTINGS

Butt-welded, cast and forged pipe fittings in stainless and carbon steel, seamless or welded, up to 64" outside diameter. Dimension tables for each range: Class 150 threaded and socket weld, forged Class 3000 and 6000, branch outlets and butt weld fittings. Specifications can be customised at your request.

Class 150 threaded (NPT) and socket weld

Branch outlets, MSS SP-97

Stub ends, MSS SP-43 and B16.9

Forged Class 3000 & 6000, ASME B16.11

Butt weld, ASME B16.9, A/SA-403

Cam & groove couplings

5

FAMILIES

1/8"-48"

NOMINAL SIZE

5S-XXS

BUTT WELD SCHEDULES

1,500+

TON PRESS

01 THE RANGE

CLASS 150 – 6000

Five families of fittings: cast Class 150, forged Class 3000 and 6000 in threaded and socket weld patterns, branch outlets, butt weld fittings, and cam & groove couplings. Forged fittings are machined from solid forgings of ASTM/ASME A/SA-182 in accordance with ASME B16.11 and carry permanent identification. Branch outlets are designed per MSS SP-97. Butt weld fittings are made to ASME B16.9 from ASTM/ASME A/SA-403, welded or seamless.

How the tables read. All dimensions are in inches. Dimension letters follow each fitting's drawing on the original data sheets; the letter key is noted beneath each table where it is not self-evident. Forged fitting tables give Class 3000 and Class 6000 side by side, and weights are pounds each.

CAST CLASS 150 Threaded (NPT) and socket weld: elbows, tees, crosses, street elbows, laterals, couplings, unions, caps, plugs, bushings and nipples.	FORGED 3000 & 6000 ASME B16.11. Class 3000 for schedule 10, 40 and 80 pipe; Class 6000 for schedule 160 pipe. Threaded and socket weld patterns, plus swage nipples and inserts.	BRANCH AND BUTT WELD Outlets to MSS SP-97 in threaded, socket weld, butt weld and elbow patterns. Butt weld fittings to ASME B16.9 in schedule 5S through XXS, with stub ends to MSS SP-43 and B16.9.
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PLUGS AND BUSHINGS

Plugs and bushings are not identified by class; they may be used for ratings up through Class 6000.

02 CLASS 150 – THREADED (NPT) & SOCKET WELD

NPS 1/8" TO 6"

ELBOWS, TEES & CROSSES

NPS 1/8" TO 6" • 14 SIZES

NPS	CENTER TO END, ELBOWS, TEES & CROSSES A	CENTER TO END, 45° ELBOWS B
1/8	0.69	0.59
1/4	0.81	0.73
3/8	0.95	0.8
1/2	1.12	0.88
3/4	1.31	0.98
1	1.5	1.12
1 1/4	1.75	1.29
1 1/2	1.94	1.43
2	2.25	1.68
2 1/2	2.7	1.95
3	3.08	2.17
4	3.79	2.61
5	—	—
6	5.2	3.54

STREET ELBOWS, LATERALS

NPS 1/8" TO 6" • 14 SIZES

NPS	CENTER TO END, STREET ELBOWS A	CENTER TO END OF MALE END B	LATERAL END TO END C	LATERAL D	LATERAL E
1/8	0.71	1.02	—	—	—
1/4	0.83	1.14	—	—	—
3/8	0.93	1.41	—	—	—
1/2	1.06	1.61	2.24	1.2	1.54
3/4	1.3	1.85	2.62	1.46	1.91
1	1.46	2.09	3.23	1.77	2.3
1 1/4	1.73	2.48	3.8	2.15	2.76
1 1/2	1.85	2.71	4.24	2.43	3.11
2	2.32	3.15	4.98	2.96	3.17
2 1/2	2.7	4.13	—	—	—
3	3.08	4.45	—	—	—
4	3.86	5.12	—	—	—
5	—	—	—	—	—
6	—	—	—	—	—

02 CLASS 150 – THREADED (NPT) & SOCKET WELD

NPS 1/8" TO 6"

FULL, HALF & REDUCING COUPLINGS

NPS 1/8" TO 6" • 14 SIZES

NPS	STRAIGHT COUPLING LENGTH W, MIN.	HALF COUPLING LENGTH X	REDUCING COUPLING LENGTH M
1/8	1	0.5	—
1/4	1.12	0.56	0.98
3/8	1.19	0.6	1.1
1/2	1.5	0.75	1.34
3/4	1.56	0.78	1.5
1	1.75	0.88	1.65
1 1/4	2	1	1.89
1 1/2	2.12	1.06	2.05
2	2.5	1.25	2.28
2 1/2	2.87	1.44	2.56
3	3.18	1.59	2.83
4	3.68	1.84	3.35
5	4.37	2.19	—
6	4.37	2.19	—

UNIONS

NPS 1/8" TO 6" • 14 SIZES

NPS	UNION LENGTH A	O.D. OF NUT S2	O.D. AT END S1	NUT WIDTH H
1/8	1.5	1.18	0.73	0.59
1/4	1.5	1.18	0.73	0.59
3/8	1.63	1.33	0.85	0.63
1/2	1.94	1.5	1.03	0.59
3/4	1.94	1.85	1.26	0.63
1	2.37	2.22	1.52	0.71
1 1/4	2.63	2.59	1.85	0.83
1 1/2	3	2.87	2.11	0.87
2	3.13	3.58	2.66	0.98
2 1/2	3.75	4.33	3.13	0.98
3	4.13	5.19	3.78	1.14
4	3.9	6.14	4.92	1.33
5	—	—	—	—
6	—	—	—	—

02 CLASS 150 — THREADED (NPT) & SOCKET WELD

NPS 1/8" TO 6"

CAPS

NPS 1/8" TO 6" • 14 SIZES

NPS	CAP HEIGHT P, MIN.	FLAT TOP CAP THICKNESS G1	OUTSIDE DIAMETER H
1/8	0.69	0.28	0.56
1/4	0.69	0.43	0.75
3/8	0.81	0.43	0.87
1/2	0.81	0.55	1.06
3/4	0.95	0.55	1.31
1	0.95	0.71	1.62
1 1/4	1	0.73	1.94
1 1/2	1	0.75	2.19
2	1.25	0.79	2.75
2 1/2	1.25	1.14	3.44
3	1.37	1.2	3.9
4	1.65	1.3	4.9
5	1.75	—	5.87
6	1.78	—	7

PLUGS — SQUARE, HEXAGON & COUNTERSUNK

NPS 1/8" TO 6" • 14 SIZES

NPS	SQUARE HEAD LENGTH F	SQUARE HEAD ACROSS FLATS G	HEXAGON HEAD LENGTH H	HEXAGON HEAD ACROSS FLATS I	COUNTERSUNK LENGTH J	COUNTERSUNK HEX SOCKET K
1/8	0.71	0.28	0.67	0.55	.280/.260	.193/.188
1/4	0.75	0.35	0.71	0.67	.425/.395	.255/.250
3/8	0.79	0.39	0.93	0.83	.425/.395	.318/.313
1/2	0.91	0.51	1.1	1.02	.560/.520	.380/.375
3/4	1.18	0.71	1.1	1.26	.570/.530	.568/.563
1	1.3	0.75	1.34	1.5	.710/.670	.630/.625
1 1/4	1.54	0.91	1.38	1.81	.730/.690	.755/.750
1 1/2	1.58	1.02	1.42	2.05	.840/.800	1.005/1.000
2	1.77	1.14	1.48	2.56	.900/.870	1.005/1.000
2 1/2	1.89	1.58	1.58	3.15	—	—
3	2.13	1.73	1.77	3.74	—	—
4	2.32	2.32	2.01	4.73	—	—
5	—	—	—	—	—	—
6	—	—	—	—	—	—

02 CLASS 150 — THREADED (NPT) & SOCKET WELD

NPS 1/8" TO 6"

HEX BUSHINGS, LOCK NUTS

NPS 1/8" TO 4" • 12 SIZES

NPS	HEXAGON ACROSS FLATS I	HEXAGON BUSHING LENGTH L	HEXAGON LOCK NUT W
1/8	0.55	0.67	—
1/4	0.67	0.71	0.85
3/8	0.83	1.93	1.08
1/2	1.02	1.1	1.34
3/4	1.26	1.1	1.69
1	1.5	1.34	1.91
1 1/4	1.81	1.38	2.32
1 1/2	2.05	1.42	2.62
2	2.56	1.48	3.23
2 1/2	3.15	1.58	—
3	3.74	1.77	—
4	4.73	2.01	—

HOSE & COMBINATION NIPPLES

NPS 1/8" TO 4" • 12 SIZES

NPS	HEXAGON HOSE NIPPLE LENGTH L	COMBINATION NIPPLE LENGTH N	HEXAGON NIPPLE LENGTH P
1/8	—	—	—
1/4	1.75-2.00	—	1.25-1.50
3/8	1.75-2.00	—	1.25-1.50
1/2	2.25-2.50	2.50-3.00	1.75-2.00
3/4	2.37-2.75	2.75-3.25	1.75-2.00
1	2.75-3.00	3.25-3.75	1.85-2.15
1 1/4	3.00-3.50	3.50-4.00	2.25-2.50
1 1/2	3.00-3.50	3.50-4.00	2.25-2.50
2	3.50-4.00	3.75-4.25	2.50-3.00
2 1/2	—	4.25-4.75	—
3	—	5.25-5.75	—
4	—	6.50-7.50	—

Hose and combination nipple lengths are given as ranges in inches.

03 FORGED CLASS 3000 & 6000 — THREADED (NPT)

ASME B16.11 • NPS 1/8" TO 4"

90° ELBOWS

CLASS 3000 AND 6000

NPS	CLASS 3000			CLASS 6000		
	A	B	WT. (LB)	A	B	WT. (LB)
1/8	7/8	7/8	.20	31/32	1 1/16	.35
1/4	31/32	1 1/16	.33	1 1/8	1 5/16	.68
3/8	1 1/8	1 5/16	.61	1 5/16	1 1/2	.95
1/2	1 5/16	1 1/2	.92	1 1/2	1 13/16	1.72
3/4	1 1/2	1 13/16	1.47	1 3/4	2 3/16	2.76
1	1 3/4	2 3/16	2.33	2	2 1/2	3.79
1 1/4	2	2 1/2	2.98	2 3/8	3	6.66
1 1/2	2 3/8	3	5.72	2 1/2	3 5/16	8.39
2	2 1/2	3 5/16	6.53	3 1/4	4	13.74
2 1/2	3 1/4	4	11.03	3 3/4	4 3/4	23.24
3	3 3/4	4 3/4	18.83	4 3/16	5 7/8	36.22
3 1/2	4 3/16	5 7/8	29.37	4 3/16	5 7/8	32.6
4	4 3/16	5 7/8	24.05	—	—	—

45° ELBOWS

CLASS 3000 AND 6000

NPS	CLASS 3000			CLASS 6000		
	A	B	WT. (LB)	A	B	WT. (LB)
1/8	3/4	7/8	.29	3/4	1 1/16	.28
1/4	3/4	1 1/16	.25	7/8	1 5/16	.57
3/8	7/8	1 5/16	.50	1	1 1/2	.86
1/2	1	1 1/2	.76	1 1/8	1 13/16	1.41
3/4	1 1/8	1 13/16	1.23	1 5/16	2 3/16	2.25
1	1 5/16	2 3/16	1.87	1 3/8	2 1/2	2.81
1 1/4	1 3/8	2 1/2	2.29	1 11/16	3	5.28
1 1/2	1 11/16	3	4.6	1 25/32	3 5/16	6.16
2	1 25/32	3 5/16	4.58	2 1/16	4	10.04
2 1/2	2 1/16	4	7.84	2 1/2	4 3/4	15.63
3	2 1/2	4 3/4	13.52	3 1/8	5 7/8	30.54
3 1/2	3 1/8	5 7/8	24.7	3 1/8	5 7/8	28.72
4	3 1/8	5 7/8	19.35	—	—	—

Machined from solid forgings of ASTM/ASME A/SA-182, in accordance with ASME B16.11, permanently identified.

03 FORGED CLASS 3000 & 6000 — THREADED (NPT)

ASME B16.11 • NPS 1/8" TO 4"

STREET ELBOWS

CLASS 3000 AND 6000

NPS	CLASS 3000				CLASS 6000			
	A	B	C	WT. (LB)	A	B	C	WT. (LB)
1/8	1 1/4	1	7/8	.22	1 1/4	1	7/8	.22
1/4	1 1/4	1	7/8	.20	1 1/2	1 5/16	1 1/8	.44
3/8	1 1/2	1 5/16	1 1/8	.45	1 11/16	1 1/2	1 1/4	.99
1/2	1 11/16	1 1/2	1 1/4	.59	1 7/8	1 3/4	1 3/8	1.06
3/4	1 7/8	1 3/4	1 3/8	.89	2 1/4	2	1 3/4	1.74
1	2 1/4	2	1 3/4	1.33	2 5/8	2 7/16	2	3.16
1 1/4	2 5/8	2 7/16	2	2.45	2 7/8	2 3/4	2 1/8	3.94
1 1/2	2 7/8	2 3/4	2 1/8	3.04	3 5/16	3 5/16	2 1/2	6.47
2	3 5/16	3 5/16	2 1/2	4.84	—	—	—	—

TEES AND REDUCING TEES

CLASS 3000 AND 6000

NPS	CLASS 3000			CLASS 6000		
	A	B	WT. (LB)	A	B	WT. (LB)
1/8	7/8	7/8	0.31	31/32	1 1/16	.44
1/4	31/32	1 1/16	0.45	1 1/8	1 5/16	.91
3/8	1 1/8	1 5/16	0.78	1 5/16	1 1/2	1.36
1/2	1 5/16	1 1/2	1.2	1 1/2	1 13/16	2.21
3/4	1 1/2	1 13/16	1.87	1 3/4	2 3/16	3.57
1	1 3/4	2 3/16	2.95	2	2 1/2	5.11
1 1/4	2	2 1/2	3.92	2 3/8	3	8.25
1 1/2	2 3/8	3	7.35	2 1/2	3 5/16	10.46
2	2 1/2	3 5/16	7.58	3 1/4	4	17.54
2 1/2	3 1/4	4	14.61	3 3/4	4 3/4	30.65
3	3 3/4	4 3/4	22.82	4 3/16	5 7/8	49.5
3 1/2	4 3/16	5 7/8	36.19	4 3/16	5 7/8	40.88
4	4 3/16	5 7/8	28.02	—	—	—

03 FORGED CLASS 3000 & 6000 – THREADED (NPT)

ASME B16.11 • NPS 1/8" TO 4"

CROSSES

CLASS 3000 AND 6000

NPS	CLASS 3000			CLASS 6000		
	A	B	WT. (LB)	A	B	WT. (LB)
1/8	31/32	1 1/16	.54	31/32	1 1/16	.54
1/4	31/32	1 1/16	.52	1 1/8	1 5/16	1.14
3/8	1 1/8	1 5/16	1.02	1 5/16	1 1/2	1.71
1/2	1 5/16	1 1/2	1.54	1 1/2	1 13/16	2.67
3/4	1 1/2	1 13/16	2.27	1 3/4	2 3/16	4.38
1	1 3/4	2 3/16	3.68	2	2 1/2	5.92
1 1/4	2	2 1/2	4.98	2 3/8	3	10.15
1 1/2	2 3/8	3	8.68	2 1/2	3 5/16	11.65
2	2 1/2	3 5/16	8.57	3 1/4	4	21.71
2 1/2	3 1/4	4	16.66	3 3/4	4 3/4	36.85
3	3 3/4	4 3/4	27.9	4 3/16	5 7/8	54.83
4	4 3/16	5 7/8	33.28	—	—	—

LATERALS

CLASS 3000 AND 6000

NPS	CLASS 3000				CLASS 6000			
	A	B	C	WT. (LB)	A	B	C	WT. (LB)
1/8	1 3/4	1 1/2	2 1/2	1.27	1 3/4	1 1/2	2 1/2	1.31
1/4	1 3/4	1 1/2	2 1/2	1.27	1 3/4	1 1/2	2 1/2	1.31
3/8	1 3/4	1 1/2	2 1/2	1.12	1 3/4	1 1/2	2 1/2	1.18
1/2	1 3/4	1 1/2	2 1/2	.95	2 1/8	1 3/4	3	1.84
3/4	2 1/8	1 3/4	3	1.51	2 1/2	2	3 1/2	3.1
1	2 1/2	2	3 1/2	2.21	2 13/16	2 7/16	4	4.54
1 1/4	2 13/16	2 7/16	4	3.4	3 3/16	2 3/4	4 1/2	5.73
1 1/2	3 3/16	2 3/4	4 1/2	4.72	4 3/8	3 5/16	6	11.84
2	4 3/8	3 5/16	6	9.41	5 5/16	4	7 1/2	16.8
2 1/2	5 5/16	4	7 1/2	15.6	—	—	—	—
3	—	—	—	—	—	—	—	—
4	—	—	—	—	—	—	—	—

03 FORGED CLASS 3000 & 6000 – THREADED (NPT)

ASME B16.11 • NPS 1/8" TO 4"

FULL COUPLINGS

CLASS 3000 AND 6000

NPS	CLASS 3000			CLASS 6000		
	A	B	WT. (LB)	A	B	WT. (LB)
1/8	5/8	1 1/4	.08	7/8	1 1/4	.18
1/4	3/4	1 3/8	.10	1	1 3/8	.23
3/8	7/8	1 1/2	.14	1 1/4	1 1/2	.40
1/2	1 1/8	1 7/8	.29	1 1/2	1 7/8	.69
3/4	1 3/8	2	.42	1 3/4	2	.95
1	1 3/4	2 3/8	.83	2 1/4	2 3/8	1.9
1 1/4	2 1/4	2 5/8	1.58	2 1/2	2 5/8	2.27
1 1/2	2 1/2	3 1/8	2.16	3	3 1/8	4.11
2	3	3 3/8	2.99	3 5/8	3 3/8	6.17
2 1/2	3 5/8	3 5/8	4.75	4 1/4	3 5/8	9.25
3	4 1/4	4 1/4	6.51	5	4 1/4	13.65
3 1/2	4 3/4	4 1/2	7.93	5 3/4	4 1/2	18.53
4	5 1/2	4 3/4	12.37	6 1/4	4 3/4	22.13

REDUCING COUPLINGS

CLASS 3000 AND 6000

NPS	CLASS 3000			CLASS 6000		
	A	B	WT. (LB)	A	B	WT. (LB)
1/8	—	—	—	—	—	—
1/4	3/4	1 3/8	.11	1	1 3/8	.29
3/8	7/8	1 1/2	.16	1 1/4	1 1/2	.44
1/2	1 1/8	1 7/8	.32	1 1/2	1 7/8	.73
3/4	1 3/8	2	.50	1 3/4	2	1.02
1	1 3/4	2 3/8	.98	2 1/4	2 3/8	2.06
1 1/4	2 1/4	2 5/8	1.87	2 1/2	2 5/8	2.58
1 1/2	2 1/2	3 1/8	2.41	3	3 1/8	4.42
2	3	3 3/8	3.71	3 5/8	3 3/8	7.27
2 1/2	3 5/8	3 5/8	5.92	4 1/4	3 5/8	10.01
3	4 1/4	4 1/4	10.13	5	4 1/4	16.07
3 1/2	4 3/4	4 1/2	11.98	5 3/4	4 1/2	30.69
4	5 1/2	4 3/4	14.71	6 1/4	4 3/4	36.65

03 FORGED CLASS 3000 & 6000 – THREADED (NPT)

ASME B16.11 • NPS 1/8" TO 4"

HALF COUPLINGS

CLASS 3000 AND 6000

NPS	CLASS 3000			CLASS 6000		
	A	B	WT. (LB)	A	B	WT. (LB)
1/8	5/8	5/8	.04	7/8	5/8	.15
1/4	3/4	11/16	.05	1	11/16	.17
3/8	7/8	3/4	.11	1 1/4	3/4	.20
1/2	1 1/8	15/16	.15	1 1/2	15/16	.35
3/4	1 3/8	1	.21	1 3/4	1	.48
1	1 3/4	1 3/16	.41	2 1/4	1 3/16	.95
1 1/4	2 1/4	1 5/16	.79	2 1/2	1 5/16	2.02
1 1/2	2 1/2	1 9/16	1.09	3	1 9/16	2.55
2	3	1 11/16	1.53	3 5/8	1 11/16	3.8
2 1/2	3 5/8	1 13/16	2.38	4 1/4	1 13/16	5.2
3	4 1/4	2 1/8	3.33	5	2 1/8	7.54
3 1/2	4 3/4	2 1/4	4.02	5 3/4	2 1/4	9.27
4	5 1/2	2 3/8	6.16	6 1/4	2 3/8	15.19

CAPS

CLASS 3000 AND 6000

NPS	CLASS 3000			CLASS 6000		
	A	B	WT. (LB)	A	B	WT. (LB)
1/8	5/8	3/4	.05	7/8	7/8	.13
1/4	3/4	1	.08	1	1 1/16	.19
3/8	7/8	1	.11	1 1/4	1 1/16	.34
1/2	1 1/8	1 1/4	.23	1 1/2	1 5/16	.55
3/4	1 3/8	1 7/16	0.38	1 3/4	1 1/2	.78
1	1 3/4	1 5/8	.70	2 1/4	1 11/16	1.62
1 1/4	2 1/4	1 3/4	1.28	2 1/2	1 13/16	1.91
1 1/2	2 1/2	1 3/4	1.58	3	1 7/8	3.07
2	3	1 7/8	2.25	3 5/8	2	4.53
2 1/2	3 5/8	2 3/8	4.22	4 1/4	2 1/2	7.37
3	4 1/4	2 9/16	6.38	5	2 11/16	11.32
3 1/2	4 3/4	2 5/8	7.09	5 3/4	2 7/8	13.5
4	5 1/2	2 11/16	11.13	6 1/4	2 15/16	23.01

03 FORGED CLASS 3000 & 6000 — THREADED (NPT)

ASME B16.11 • NPS 1/8" TO 4"

UNIONS

CLASS 3000 AND 6000

NPS	CLASS 3000					CLASS 6000				
	A	B	D	E	WT. (LB)	A	B	D	E	WT. (LB)
1/8	1 11/16	1 31/64	25/32	7/16	.38	1 11/16	1 31/64	25/32	7/16	.5
1/4	1 11/16	1 31/64	25/32	7/16	.36	1 27/32	1 11/16	31/32	7/16	.56
3/8	1 27/32	1 11/16	31/32	7/16	.50	2	1 15/16	1 3/32	7/16	.75
1/2	2	1 15/16	1 3/32	7/16	.695	2 5/16	2 3/8	1 5/32	9/16	1.25
3/4	2 5/16	2 3/8	1 5/32	9/16	1.175	2 7/16	2 25/32	1 3/8	9/16	1.75
1	2 7/16	2 25/32	1 3/8	9/16	1.64	2 7/8	3 23/64	1 45/64	9/16	3
1 1/4	2 7/8	3 23/64	1 45/64	9/16	2.59	3	3 23/32	1 7/8	9/16	3.75
1 1/2	3	3 23/32	1 7/8	9/16	3.41	3 1/2	4 27/64	2 1/16	11/16	6
2	3 1/2	4 27/64	2 1/16	11/16	5.12	4 1/8	5 15/64	2 3/8	7/8	10.5
2 1/2	4 1/4	5 15/64	2 3/8	7/8	8.75	—	—	—	—	—
3	4 7/16	6 5/32	2 7/16	1	12.625	—	—	—	—	—

HEXAGON BUSHINGS

NPS 1/8" TO 4"

NPS	A	B	C	WT. (LB)
1/8	—	—	—	—
1/4	5/8	1/2	1/8	.02
3/8	11/16	9/16	5/32	.04
1/2	7/8	11/16	3/16	.06
3/4	1 1/16	3/4	7/32	.11
1	1 3/8	7/8	1/4	.19
1 1/4	1 3/4	7/8	9/32	.39
1 1/2	2	15/16	5/16	.63
2	2 1/2	1	11/32	.79
2 1/2	3	1 3/16	1/2	1.19
3	3 5/8	1 3/8	1/2	2.56
3 1/2	4 1/4	1 1/2	5/8	5.5
4	4 3/4	1 1/2	5/8	7.06
5	5 3/4	1 1/2	3/4	9.32
6	6 3/4	1 3/4	3/4	13.15

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 pressure. Plugs and bushings are not identified by class; they may be used for ratings up through Class 6000.

03 FORGED CLASS 3000 & 6000 — THREADED (NPT)

ASME B16.11 • NPS 1/8" TO 4"

SQUARE HEAD PLUGS

NPS 1/8" TO 6"

NPS	A	B	C	WT. (LB)
1/8	9/32	3/8	1/4	.02
1/4	3/8	7/16	1/4	.03
3/8	7/16	1/2	5/16	.06
1/2	9/16	9/16	3/8	.11
3/4	5/8	5/8	7/16	.18
1	13/16	3/4	1/2	.35
1 1/4	15/16	13/16	9/16	.60
1 1/2	1 1/8	13/16	5/8	.82
2	1 5/16	7/8	11/16	1.36
2 1/2	1 1/2	1 1/16	3/4	2.21
3	1 11/16	1 1/8	13/16	3.47
3 1/2	1 7/8	1 3/16	7/8	4.73
4	2 1/2	1 1/4	1	8.64
5	3 1/4	1 7/8	1 5/8	16.93
6	4 1/4	2	1 7/8	27.92

HEXAGON HEAD PLUGS

NPS 1/8" TO 6"

NPS	A	B	C	WT. (LB)
1/8	7/16	7/16	1/4	.03
1/4	5/8	1/2	1/4	.05
3/8	11/16	9/16	5/16	.09
1/2	7/8	11/16	5/16	.16
3/4	1 1/16	3/4	3/8	.27
1	1 3/8	7/8	3/8	.48
1 1/4	1 3/4	7/8	9/16	.95
1 1/2	2	15/16	5/8	1.32
2	2 1/2	1	11/16	2.23
2 1/2	3	1 3/16	3/4	3.81
3	3 5/8	1 3/8	13/16	4.75
3 1/2	4 1/4	1 1/2	1	8.37
4	4 3/4	1 1/2	1	13
5	5 3/4	1 1/2	3/4	15.61
6	6 3/4	1 3/4	3/4	22.32

03 FORGED CLASS 3000 & 6000 – THREADED (NPT)

ASME B16.11

ROUND HEAD PLUGS

NPS 1/8" TO 6"

NPS	A	B	WT. (LB)
1/8	13/32	1 3/8	.05
1/4	35/64	1 5/8	.10
3/8	11/16	1 5/8	.16
1/2	27/32	1 3/4	.25
3/4	1 1/16	1 3/4	.40
1	1 5/16	2	.72
1 1/4	1 11/16	2	1.17
1 1/2	1 29/32	2	1.64
2	2 3/8	2 1/2	3.04
2 1/2	2 7/8	2 3/4	5.13
3	3 1/2	2 3/4	7.19
3 1/2	4	3	10.34
4	4 1/2	3	13.25
5	5 5/8	5 1/2	16.81
6	6 5/8	5 1/2	24.11

Plugs are not identified by class; they may be used for ratings up through Class 6000. Hexagon bull plugs are also available, in hexagon or round head; dimensions on request.

03 SWAGE NIPPLES

43 SIZE COMBINATIONS • CONCENTRIC OR ECCENTRIC

SIZE	LARGE END O.D.	SMALL END O.D.	END TO END
1/4 X 1/8	0.54	0.405	2.25
3/8 X 1/8	0.675	0.405	2.5
3/8 X 1/8	0.675	0.54	2.5
1/2 X 1/8	0.84	0.405	2.75
1/2 X 1/4	0.84	0.405	2.75
1/2 X 3/8	0.84	0.675	2.75
3/4 X 1/8	1.05	0.405	3
3/4 X 1/4	1.05	0.54	3
3/4 X 3/8	1.05	0.54	3
3/4 X 1/2	1.05	0.84	3
1 X 1/8	1.315	0.405	3.5
1 X 1/4	1.315	0.54	3.5
1 X 3/8	1.315	0.675	3.5
1 X 1/2	1.315	0.84	3.5
1 X 3/4	1.315	1.05	3.5
1 1/4 X 3/4	1.66	1.05	4
1 1/4 X 1	1.66	1.315	4
1 1/2 X 3/4	1.9	1.05	4.5
1 1/2 X 1	1.9	1.315	4.5
1 1/2 X 1 1/4	1.9	1.66	4.5
2 X 3/4	2.375	1.05	6.5
2 X 1	2.375	1.315	6.5

SIZE	LARGE END O.D.	SMALL END O.D.	END TO END
2 X 1 1/4	2.375	1.66	6.5
2 X 1 1/2	2.375	1.9	6.5
2 1/2 X 1 1/2	2.875	1.9	7
2 1/2 X 2	2.875	2.375	7
3 X 1 1/2	3.5	1.9	8
3 X 2	3.5	2.375	8
3 X 2 1/2	3.5	2.875	8
3 1/2 X 1 1/2	4	1.9	8
3 1/2 X 2 1/2	4	2.875	8
3 1/2 X 3	4	3.5	8
4 X 1 1/2	4.5	1.9	9
4 X 2	4.5	2.375	9
4 X 2 1/2	4.5	2.875	9
4 X 3	4.5	3.5	9
4 X 3 1/2	4.5	4	9
6 X 2	6.625	2.375	12
6 X 2 1/2	6.625	2.875	12
6 X 3	6.625	3.5	12
6 X 3 1/2	6.625	4	12
6 X 4	6.625	4.5	12
6 X 5	6.625	5.563	12

Concentric or eccentric, in schedules 10S through XXS.

04 FORGED CLASS 3000 & 6000 – SOCKET WELD

ASME B16.11 • NPS 1/8" TO 4"

90° ELBOWS

CLASS 3000 AND 6000

NPS	CLASS 3000 – SCH 10, 40 & 80 PIPE						CLASS 6000 – SCH 160 PIPE					
	A	B	C	D	E	WT. (LB)	A	B	C	D	E	WT. (LB)
1/8	7/8	7/8	.426	7/16	7/16	.20	7/8	7/8	.426	7/16	7/16	.37
1/4	7/8	7/8	.560	7/16	7/16	.17	1 1/16	31/32	.560	7/16	17/32	.32
3/8	1 1/16	31/32	.693	7/16	17/32	.24	1 5/16	1 1/8	.693	1/2	5/8	.60
1/2	1 5/16	1 1/8	.859	1/2	5/8	.48	1 1/2	1 5/16	.859	9/16	3/4	.92
3/4	1 1/2	1 5/16	1.071	9/16	3/4	.68	1 13/16	1 1/2	1.071	5/8	7/8	1.52
1	1 13/16	1 1/2	1.335	5/8	7/8	1.06	2 3/16	1 3/4	1.335	11/16	1 1/16	2.42
1 1/4	2 3/16	1 3/4	1.682	11/16	1 1/16	1.72	2 1/2	2	1.682	3/4	1 1/4	3.18
1 1/2	2 1/2	2	1.922	3/4	1 1/4	2.33	3	2 3/8	1.922	7/8	1 1/2	6.23
2	3	2 3/8	2.41	7/8	1 1/2	3.88	3 5/16	2 1/2	2.41	7/8	1 5/8	7.27
2 1/2	3 5/8	3	2.91	1 3/8	1 5/8	7.34	4	3 1/4	2.91	1	2 1/4	12.06
3	4 5/16	3 3/8	3.536	1 1/8	2 1/4	11.61	4 3/4	3 3/4	3.536	1 1/4	2 1/2	21.16
4	5 7/8	4 3/16	4.545	1 9/16	2 5/8	22.47	5 7/8	4 3/16	4.545	1 9/16	2 5/8	27.21

45° ELBOWS

CLASS 3000 AND 6000

NPS	CLASS 3000 – SCH 10, 40 & 80 PIPE						CLASS 6000 – SCH 160 PIPE					
	A	B	C	D	E	WT. (LB)	A	B	C	D	E	WT. (LB)
1/8	7/8	3/4	.426	7/16	5/16	.26	7/8	3/4	.426	7/16	5/16	.25
1/4	7/8	3/4	.560	7/16	5/16	.24	1 1/16	3/4	.560	7/16	5/16	.24
3/8	1 1/16	3/4	.693	7/16	5/16	.18	1 5/16	7/8	.693	7/16	7/16	.48
1/2	1 5/16	7/8	.859	7/16	7/16	.40	1 1/2	1	.859	1/2	1/2	.74
3/4	1 1/2	1	1.071	1/2	1/2	.55	1 13/16	1 1/8	1.071	9/16	9/16	1.25
1	1 13/16	1 1/8	1.335	9/16	9/16	.89	2 3/16	1 5/16	1.335	5/8	11/16	2.03
1 1/4	2 3/16	1 5/16	1.682	5/8	11/16	1.23	2 1/2	1 3/8	1.682	9/16	13/16	2.17
1 1/2	2 1/2	1 3/8	1.922	9/16	13/16	1.76	3	1 11/16	1.922	11/16	1	2.39
2	3	1 11/16	2.41	11/16	1	3.02	3 5/16	1 25/32	2.41	21/32	1 1/8	5.11
2 1/2	4	2 1/16	2.91	15/16	1 1/8	7.62	4	2 1/16	2.91	13/16	1 1/4	8.37
3	4 3/4	2 1/2	3.536	1 1/4	1 1/4	12.49	4 3/4	2 1/2	3.536	1 1/8	1 3/8	12.02
4	5 7/8	3 1/8	4.545	1 1/2	1 5/8	19.34	5 7/8	3 1/8	4.545	1 1/2	1 5/8	21.76

Machined from solid forgings of ASTM/ASME A/SA-182, in accordance with ASME B16.11. Class 3000 fittings are for use with schedule 10, 40 and 80 pipe; Class 6000 with schedule 160 pipe.

04 FORGED CLASS 3000 & 6000 – SOCKET WELD

ASME B16.11 • NPS 1/8" TO 4"

LATERALS

CLASS 3000 AND 6000

NPS	CLASS 3000 – SCH 10, 40 & 80 PIPE						CLASS 6000 – SCH 160 PIPE				
	A	B	C	D	E	WT. (LB)	A	B	D	E	WT. (LB)
1/8	1 1/2	2 1/2	.426	13/32	1 3/4	1.25	1 1/2	2 1/2	13/32	1 3/4	1.45
1/4	1 1/2	2 1/2	.560	13/32	1 3/4	1.21	1 1/2	2 1/2	13/32	1 3/4	1.31
3/8	1 1/2	2 1/2	.693	13/32	1 3/4	1.09	1 1/2	2 1/2	13/32	1 3/4	1.18
1/2	1 1/2	2 1/2	.859	13/32	1 3/4	.94	1 1/2	2 1/2	13/32	1 3/4	1.04
3/4	1 3/4	3	1.071	17/32	2 1/8	1.47	1 3/4	3	17/32	2 1/8	1.66
1	2	3 1/2	1.335	17/32	2 1/2	2.23	2	3 1/2	17/32	2 1/2	2.7
1 1/4	2 7/16	4	1.682	17/32	2 13/16	3.31	2 7/16	4	17/32	2 13/16	3.84
1 1/2	2 3/4	4 1/2	1.922	17/32	3 3/16	4.89	2 3/4	4 1/2	17/32	3 3/16	5.57
2	3 5/16	6	2.41	21/32	4 3/8	9.68	3 5/16	6	21/32	4 3/8	11.63
2 1/2	4	7 1/2	2.91	21/32	5 5/16	18.33	4	7 1/2	21/32	5 5/16	19.1
3	–	–	–	–	–	–	–	–	–	–	–
4	–	–	–	–	–	–	–	–	–	–	–

TEES

CLASS 3000 AND 6000

NPS	CLASS 3000 – SCH 10, 40 & 80 PIPE						CLASS 6000 – SCH 160 PIPE					
	A	B	C	D	E	WT. (LB)	A	B	C	D	E	WT. (LB)
1/8	7/8	7/8	.426	7/16	7/16	.25	7/8	7/8	.426	7/16	7/16	.44
1/4	7/8	7/8	.560	7/16	7/16	.22	1 1/16	31/32	.560	7/16	17/32	.41
3/8	1 1/16	31/32	.693	7/16	17/32	.31	1 5/16	1 1/8	.693	1/2	5/8	.81
1/2	1 5/16	1 1/8	.859	1/2	5/8	.62	1 1/2	1 5/16	.859	9/16	3/4	1.18
3/4	1 1/2	1 5/16	1.071	9/16	3/4	.88	1 13/16	1 1/2	1.071	5/8	7/8	1.93
1	1 13/16	1 1/2	1.335	5/8	7/8	1.3	2 3/16	1 3/4	1.335	11/16	1 1/16	3.1
1 1/4	2 3/16	1 3/4	1.682	11/16	1 1/16	2	2 1/2	2	1.682	3/4	1 1/4	4.22
1 1/2	2 1/2	2	1.922	3/4	1 1/4	2.99	3	2 3/8	1.922	7/8	1 1/2	7.59
2	3	2 3/8	2.41	7/8	1 1/2	4.6	3 5/16	2 1/2	2.41	7/8	1 5/8	8.7
2 1/2	3 5/8	3	2.91	1 3/8	1 5/8	8.49	4	3 1/4	2.91	1	2 1/4	15.09
3	4 5/16	3 3/8	3.536	1 1/8	2 1/4	13.85	4 3/4	3 3/4	3.536	1 1/4	2 1/2	25.24
4	5 7/8	4 3/16	4.545	1 9/16	2 5/8	27.14	5 7/8	4 3/16	4.545	1 9/16	2 5/8	32.51

04 FORGED CLASS 3000 & 6000 – SOCKET WELD

ASME B16.11 • NPS 1/8" TO 4"

REDUCING TEES

CLASS 3000 AND 6000

NPS	CLASS 3000 – SCH 10, 40 & 80 PIPE						CLASS 6000 – SCH 160 PIPE					
	A	B	C	D	E	WT. (LB)	A	B	C	D	E	WT. (LB)
1/8	7/8	7/8	.426	7/16	7/16	.25	7/8	7/8	.426	7/16	7/16	.44
1/4	7/8	7/8	.560	7/16	7/16	.22	1 1/16	31/32	.560	7/16	17/32	.41
3/8	1 1/16	31/32	.693	7/16	17/32	.31	1 5/16	1 1/8	.693	1/2	5/8	.81
1/2	1 5/16	1 1/8	.859	1/2	5/8	.62	1 1/2	1 5/16	.859	9/16	3/4	1.18
3/4	1 1/2	1 5/16	1.071	9/16	3/4	.88	1 13/16	1 1/2	1.071	5/8	7/8	1.93
1	1 13/16	1 1/2	1.335	5/8	7/8	1.3	2 3/16	1 3/4	1.335	11/16	1 1/16	3.1
1 1/4	2 3/16	1 3/4	1.682	11/16	1 1/16	2	2 1/2	2	1.682	3/4	1 1/4	4.22
1 1/2	2 1/2	2	1.922	3/4	1 1/4	2.99	3	2 3/8	1.922	7/8	1 1/2	7.59
2	3	2 3/8	2.41	7/8	1 1/2	4.6	3 5/16	2 1/2	2.41	7/8	1 5/8	8.7
2 1/2	3 5/8	3	2.91	1 3/8	1 5/8	8.49	4	3 1/4	2.91	1	2 1/4	15.09
3	4 5/16	3 3/8	3.536	1 1/8	2 1/4	13.85	4 3/4	3 3/4	3.536	1 1/4	2 1/2	25.24
4	5 7/8	4 3/16	4.545	1 9/16	2 5/8	27.14	5 7/8	4 3/16	4.545	1 9/16	2 5/8	32.51

CROSSES

CLASS 3000 AND 6000

NPS	CLASS 3000 – SCH 10, 40 & 80 PIPE						CLASS 6000 – SCH 160 PIPE					
	A	B	C	D	E	WT. (LB)	A	B	C	D	E	WT. (LB)
1/8	1 1/16	31/32	.426	17/32	7/16	.47	1 1/16	31/32	.426	17/32	7/16	.50
1/4	1 1/16	31/32	.560	17/32	7/16	.40	1 1/16	31/32	.560	7/16	17/32	1.12
3/8	1 1/16	31/32	.693	7/16	17/32	.35	1 5/16	1 1/8	.693	1/2	5/8	1.55
1/2	1 5/16	1 1/8	.859	1/2	5/8	.73	1 1/2	1 5/16	.859	9/16	3/4	1.35
3/4	1 1/2	1 5/16	1.071	9/16	3/4	.96	1 13/16	1 1/2	1.071	5/8	7/8	2.29
1	1 13/16	1 1/2	1.335	5/8	7/8	1.53	2 3/16	1 3/4	1.335	11/16	1 1/16	3.67
1 1/4	2 3/16	1 3/4	1.682	11/16	1 1/16	2.32	2 1/2	2	1.682	3/4	1 1/4	5.2
1 1/2	2 1/2	2	1.922	3/4	1 1/4	3.59	3	2 3/8	1.922	7/8	1 1/2	9.26
2	3	2 3/8	2.41	7/8	1 1/2	5.5	3 5/16	2 1/2	2.41	7/8	1 5/8	9.03
2 1/2	4	3 1/4	2.91	1 5/8	1 5/8	14.98	4	3 1/4	2.91	1	2 1/4	18.28
3	4 3/4	3 3/4	3.536	1 1/2	2 1/4	17.56	4 3/4	3 3/4	3.536	1 1/4	2 1/2	29.07
4	5 7/8	4 3/16	4.545	1 9/16	2 5/8	30.84	5 7/8	4 3/16	4.545	1 9/16	2 5/8	38.28

04 FORGED CLASS 3000 & 6000 – SOCKET WELD

ASME B16.11 • NPS 1/8" TO 4"

UNIONS

CLASS 3000 AND 6000

NPS	CLASS 3000 – SCH 10, 40 & 80 PIPE						CLASS 6000 – SCH 160 PIPE					
	A	B	C	D	E	WT. (LB)	A	B	C	D	E	WT. (LB)
1/8	1 11/16	55/64	1 3/8	13/16	.426	.40	1 11/16	55/64	1 3/8	13/16	.426	.48
1/4	1 11/16	55/64	1 3/8	13/16	.560	.38	1 13/16	1 1/32	1 5/8	13/16	.560	.56
3/8	1 13/16	1 1/32	1 5/8	15/16	.693	.52	1 15/16	1 15/64	1 13/16	15/16	.693	.75
1/2	1 15/16	1 15/64	1 13/16	15/16	.859	.73	2 1/4	1 15/32	2 1/4	15/16	.859	1.35
3/4	2 1/4	1 15/32	2 1/4	1 1/8	1.071	1.19	2 7/16	1 51/64	2 9/16	1 1/8	1.071	2.01
1	2 7/16	1 51/64	2 9/16	1 3/16	1.335	1.66	2 13/16	2 11/64	3 1/16	1 3/16	1.335	3.17
1 1/4	2 13/16	2 11/64	3 1/16	1 7/16	1.682	2.66	3	2 7/16	3 7/16	1 7/16	1.682	3.92
1 1/2	3	2 7/16	3 7/16	1 1/2	1.922	3.42	3 3/8	2 31/32	4 1/16	1 1/2	1.922	6.6
2	3 3/8	2 31/32	4 1/16	1 5/8	2.41	5.36	4 1/32	3 39/64	4 7/8	1 5/8	2.41	10.12
2 1/2	4 1/32	3 39/64	4 7/8	2 1/4	2.91	9.12	4 5/16	4 5/16	5 11/16	2 1/4	2.91	14
3	4 5/16	4 5/16	5 11/16	2 5/16	3.536	12.58	–	–	–	–	–	–

COUPLINGS

CLASS 3000 AND 6000

NPS	CLASS 3000 – SCH 10, 40 & 80 PIPE						CLASS 6000 – SCH 160 PIPE					
	A	B	C	D	E	WT. (LB)	A	B	C	D	E	WT. (LB)
1/8	1 1/8	3/4	.426	7/16	.269	.09	1 1/8	7/8	.426	7/16	.157	.18
1/4	1 1/8	7/8	.560	7/16	.364	.11	1 1/8	1	.560	7/16	.250	.16
3/8	1 1/8	1 1/16	.693	7/16	.493	.14	1 1/8	1 1/4	.693	7/16	.359	.29
1/2	1 1/4	1 1/4	.859	7/16	.622	.28	1 1/4	1 1/2	.859	7/16	.466	.08
3/4	1 7/16	1 1/2	1.071	17/32	.824	.40	1 7/16	1 3/4	1.071	17/32	.614	.12
1	1 9/16	1 13/16	1.335	17/32	1.049	.65	1 9/16	2	1.335	17/32	.815	1.08
1 1/4	1 9/16	2 1/4	1.682	17/32	1.38	1.05	1 9/16	2 1/2	1.682	17/32	1.16	1.61
1 1/2	1 9/16	2 1/2	1.922	17/32	1.61	1.23	1 9/16	2 3/4	1.922	17/32	1.338	2.58
2	2 1/16	3	2.41	21/32	2.067	2.05	2 1/16	3 5/8	2.41	21/32	1.689	4.74
2 1/2	2 1/16	3 5/8	2.91	21/32	2.469	3.12	2 1/16	4 1/4	2.91	21/32	2.125	6.36
3	2 1/16	4 5/16	3.536	21/32	3.068	3.83	2 1/16	5	3.536	21/32	2.625	7.06
4	2 5/16	5 1/2	4.545	25/32	4.026	7.13	2 5/16	6	4.545	25/32	3.438	18.35

04 FORGED CLASS 3000 & 6000 – SOCKET WELD

ASME B16.11 • NPS 1/8" TO 3"

REDUCING COUPLINGS

CLASS 3000 AND 6000

NPS	CLASS 3000 – SCH 10, 40 & 80 PIPE					CLASS 6000 – SCH 160 PIPE				
	A	B	C	D	WT. (LB)	A	B	C	D	WT. (LB)
1/8	1 1/8	3/4	.426	7/16	.05	1 1/8	7/8	.426	7/16	.18
1/4	1 1/8	7/8	.560	7/16	.09	1 1/8	1	.560	7/16	.16
3/8	1 1/8	1 1/16	.693	7/16	.13	1 1/8	1 1/4	.693	7/16	.29
1/2	1 1/4	1 1/4	.859	7/16	.34	1 1/4	1 1/2	.859	7/16	.08
3/4	1 7/16	1 1/2	1.071	17/32	.35	1 7/16	1 3/4	1.071	17/32	.12
1	1 9/16	1 13/16	1.335	17/32	.52	1 9/16	2	1.335	17/32	1.08
1 1/4	1 9/16	2 1/4	1.682	17/32	1.01	1 9/16	2 1/2	1.682	17/32	1.61
1 1/2	1 9/16	2 1/2	1.922	17/32	1.13	1 9/16	2 3/4	1.922	17/32	2.58
2	2 1/16	3	2.41	21/32	2.03	2 1/16	3 5/8	2.41	21/32	4.74
2 1/2	2 1/16	3 5/8	2.91	21/32	2.79	2 1/16	4 1/4	2.91	21/32	6.36
3	2 1/16	4 5/16	3.536	21/32	4.43	2 1/16	5	3.536	21/32	7.06
4	2 5/16	5 1/2	4.545	25/32	7.86	2 5/16	6	4.545	25/32	18.35

04 INSERTS – TYPE 1 AND TYPE 2

41 SIZE COMBINATIONS • BOTH CLASSES

SIZE	DIA. C	DIA. D	CLASS 3000 – SCH 40 & 80 PIPE					CLASS 6000 – SCH 160 PIPE				
			TYPE	A	B	E	F	TYPE	A	B	E	F
1/4 X 1/8	.540	.426	1	7/16	3/4	3/4	9/16	1	7/16	13/16	7/8	5/8
3/8 X 1/4	.675	.560	1	7/16	3/4	7/8	9/16	1	7/16	13/16	1 1/16	5/8
3/8 X 1/8	.675	.426	1	7/16	3/4	3/4	9/16	1	7/16	13/16	7/8	5/8
1/2 X 3/8	.840	.693	1	7/16	13/16	1 1/16	5/8	1	7/16	7/8	1 5/16	5/8
1/2 X 1/4	.840	.560	1	7/16	13/16	7/8	5/8	1	7/16	13/16	1	5/8
1/2 X 1/8	.840	.426	2	7/16	13/16	–	–	1	7/16	13/16	7/8	5/8
3/4 X 1/2	1.05	.859	1	1/2	7/8	1 1/4	11/16	1	1/2	1	1 1/2	3/4
3/4 X 3/8	1.05	.693	2	7/16	5/8	–	–	1	7/16	7/8	1 5/16	3/4
3/4 X 1/4	1.05	.560	2	7/16	11/16	–	–	2	7/16	7/8	–	–
3/4 X 1/8	1.05	.426	2	7/16	11/16	–	–	2	7/16	7/8	–	–
1 X 3/4	1.315	1.071	1	9/16	15/16	1 1/2	3/4	1	9/16	1 1/8	1 3/4	13/16
1 X 1/2	1.315	.859	2	1/2	5/8	–	–	1	1/2	1 1/8	1 1/2	13/16
1 X 3/8	1.315	.693	2	7/16	11/16	–	–	2	7/16	7/8	–	–
1 X 1/4	1.315	.560	2	7/16	3/4	–	–	2	7/16	15/16	–	–
1 1/4 X 1	1.66	1.335	1	5/8	1	1 13/16	13/16	1	5/8	1 3/16	2 1/4	7/8
1 1/4 X 3/4	1.66	1.071	2	9/16	11/16	–	–	2	9/16	13/16	–	–
1 1/4 X 1/2	1.66	.859	2	1/2	3/4	–	–	2	1/2	7/8	–	–
1 1/2 X 1 1/4	1.9	1.682	1	11/16	1 1/8	2 1/4	7/8	1	11/16	1 3/8	2 1/2	1
1 1/2 X 1	1.9	1.335	2	5/8	11/16	–	–	1	5/8	1 1/8	2 1/4	1
1 1/2 X 3/4	1.9	1.071	2	9/16	3/4	–	–	2	9/16	1	–	–
1 1/2 X 1/2	1.9	.859	2	1/2	13/16	–	–	2	1/2	1 1/16	–	–
2 X 1 1/2	2.375	1.922	1	3/4	1 1/4	2 1/2	1	1	3/4	1 17/32	3	1 1/8
2 X 1 1/4	2.375	1.682	2	11/16	13/16	–	–	2	11/16	15/16	–	–
2 X 1	2.375	1.335	2	5/8	7/8	–	–	2	5/8	1	–	–
2 X 3/4	2.375	1.071	2	9/16	15/16	–	–	2	9/16	1 1/16	–	–
2 X 1/2	2.375	.859	2	1/2	1	–	–	2	1/2	1 1/8	–	–
2 1/2 X 2	2.875	2.41	1	7/8	1 13/16	3	1 1/2	1	7/8	1 11/16	3 5/8	1 1/4
2 1/2 X 1 1/2	2.875	1.922	2	3/4	1 3/8	–	–	2	3/4	1 1/4	–	–
2 1/2 X 1 1/4	2.875	1.682	2	11/16	1 7/16	–	–	2	11/16	1 5/16	–	–
2 1/2 X 1	2.875	1.335	2	5/8	1 1/2	–	–	2	5/8	1 3/8	–	–
3 X 2 1/2	3.5	2.91	1	7/8	1 1/2	3 5/8	1 1/4	1	7/8	1 13/16	4 1/4	1 3/8
3 X 2	3.5	2.41	2	7/8	1	–	–	2	7/8	1 3/8	–	–
3 X 1 1/2	3.5	1.922	2	3/4	1 1/8	–	–	2	3/4	1 1/2	–	–
3 X 1 1/4	3.5	1.682	2	11/16	1 3/16	–	–	2	11/16	1 9/16	–	–
3 X 1	3.5	1.335	2	5/8	1 1/4	–	–	2	5/8	1 5/8	–	–
4 X 3	4.5	3.536	2	1 1/16	1 5/16	–	–	1	1	2 9/16	4 3/4	1 3/4
4 X 2 1/2	4.5	2.91	2	7/8	1 1/2	–	–	2	7/8	2	–	–
4 X 2	4.5	2.41	2	7/8	1 1/2	–	–	2	7/8	2	–	–
4 X 1 1/2	4.5	1.922	2	3/4	1 5/8	–	–	2	3/4	2 1/8	–	–
4 X 1 1/4	4.5	1.682	2	11/16	1 11/16	–	–	2	11/16	2 3/16	–	–
4 X 1	4.5	1.335	2	5/8	1 3/4	–	–	2	5/8	2 1/4	–	–

Type 1 and type 2 refer to the two insert body patterns; the type column shows which pattern each combination is supplied in.

05 THREADED & SOCKET WELD OUTLETS

CLASS 3000 AND 6000 • DESIGN PER MSS SP-97

Machined from solid forgings of ASTM A-182 / ASME SA-182, designed per MSS SP-97, permanently identified.

THREADED OUTLETS – CLASS 3000

15 OUTLET SIZES

OUTLET SIZE	A	B	C	APPROX. WT. (LB)
1/8	3/4	1	5/8	0.1
1/4	3/4	1	5/8	0.1
3/8	13/16	1 1/4	3/4	0.2
1/2	1	1 13/32	15/16	0.25
3/4	1 1/16	1 23/32	1 5/32	0.35
1	1 5/16	2	1 7/16	0.6
1 1/4	1 5/16	2 9/16	1 3/4	0.9
1 1/2	1 3/8	2 27/32	2	1
2	1 1/2	3 15/32	2 9/16	1.75
2 1/2	1 13/16	4 1/16	3	3
3	2	4 13/16	3 11/16	4.35
3 1/2	2 1/8	5 7/32	4	5.75
4	2 1/4	5 31/32	4 3/4	7.1
5	2 5/8	7 5/16	5 9/16	12
6	2 3/4	8 5/8	6 11/16	15.3

THREADED OUTLETS – CLASS 6000

8 OUTLET SIZES

OUTLET SIZE	A	B	C	APPROX. WT. (LB)
1/4	1 1/8	1 11/32	9/16	0.3
3/8	1 1/8	1 11/32	9/16	0.3
1/2	1 1/4	1 23/32	3/4	0.45
3/4	1 7/16	1 61/64	1	0.75
1	1 9/16	2 7/16	1 5/16	1.25
1 1/4	1 5/8	2 23/32	1 1/2	1.6
1 1/2	1 11/16	3 1/4	1 15/16	1.95
2	2 1/16	4 1/32	2 3/4	5

05 THREADED & SOCKET WELD OUTLETS

CLASS 3000 AND 6000 • DESIGN PER MSS SP-97

SOCKET WELD OUTLETS – CLASS 3000

15 OUTLET SIZES

OUTLET SIZE	A	B	C	D	APPROX. WT. (LB)
1/8	3/4	1	5/8	9/32	0.1
1/4	3/4	1	5/8	9/32	0.1
3/8	13/16	1 1/4	3/4	7/16	0.2
1/2	1	1 13/32	29/32	9/16	0.3
3/4	1 1/16	1 23/32	1 5/32	9/16	0.35
1	1 5/16	2	1 7/16	25/32	0.6
1 1/4	1 5/16	2 9/16	1 3/4	3/4	0.85
1 1/2	1 3/8	2 27/32	2	3/4	1
2	1 1/2	3 15/32	2 9/16	13/16	1.6
2 1/2	1 9/16	4 1/16	3	3/4	2.75
3	1 3/4	4 13/16	3 11/16	15/16	3.8
3 1/2	2 1/8	5 7/32	4	1	4.3
4	1 7/8	5 31/32	4 3/4	1 1/16	7.25
5	2 5/8	7 5/16	5 9/16	1 11/32	12
6	2 3/4	8 5/8	6 11/16	1 13/32	14.5

SOCKET WELD OUTLETS – CLASS 6000

6 OUTLET SIZES

OUTLET SIZE	A	B	C	D	APPROX. WT. (LB)
1/2	1 1/4	1 23/32	3/4	7/8	0.5
3/4	1 7/16	1 61/64	1	7/8	0.8
1	1 9/16	2 7/16	1 5/16	15/16	1.3
1 1/4	1 5/8	2 23/32	1 1/2	13/16	1.6
1 1/2	1 11/16	3 1/4	1 15/16	7/8	2
2	2 1/16	4 1/32	2 3/4	1 3/16	5.15

Every outlet size listed is available to fit any run curvature. Threaded ends are in accordance with ANSI/ASME B1.20.1; socket dimensions are in accordance with ASME B16.11.

05 BUTT WELD & ELBOW OUTLETS

BW ENDS PER B16.9 AND B16.25

BUTT WELDING OUTLETS

22 OUTLET SIZES

OUTLET SIZE	A	B	C	APPROX. WT. (LB)
1/2	3/4	1 3/8	15/16	0.15
3/4	7/8	1 5/8	1 3/16	0.25
1	1 1/16	2	1 7/16	0.4
1 1/4	1 1/4	2 3/8	1 3/4	0.7
1 1/2	1 5/16	2 7/8	2	0.8
2	1 1/2	3 1/2	2 9/16	1.5
2 1/2	1 5/8	4 1/16	3	2.25
3	1 3/4	4 13/16	3 11/16	3.75
3 1/2	2	5 3/8	3 7/8	5
4	2	6	4 3/4	6.7
5	2 1/4	7 1/8	5 9/16	8.5
6	2 3/8	8 1/2	6 11/16	14
8	2 3/4	10 3/8	8 11/16	28
10	3 1/16	12 9/16	10 13/16	39
12	3 3/8	14 7/8	12 13/16	65
14	3 1/2	16 1/8	14 1/16	70
16	3 11/16	18 1/4	16 1/16	92
18	4 1/16	20 3/4	18 5/8	125
20	4 5/8	23 1/16	20 1/16	175
24	5 3/8	27 7/8	25 1/8	280
30	5 3/8	34 1/16	30 7/16	440
36	5 3/8	34 1/16	36 1/2	1180

ELBOW OUTLETS

9 OUTLET SIZES

OUTLET SIZE	CLASS 3000 THD. & SW • STD. & XS BW		CLASS 6000 THD. & SW • SCH 160 & XXS BW	
	C	E	C	E
1/4	1 1/2	1 19/32	1 1/2	1 19/32
3/8	1 1/2	1 19/32	1 1/2	1 19/32
1/2	1 1/2	1 19/32	1 23/32	1 7/8
3/4	1 23/32	1 7/8	2 1/4	2 1/4
1	2 1/4	2 1/4	2 7/8	2 1/2
1 1/4	2 7/8	2 1/2	3 1/8	2 11/16
1 1/2	3 1/8	2 11/16	4 3/16	3 1/4
2	4 3/16	3 1/4	—	—

Every outlet size listed is available to fit any run curvature; larger outlet sizes available on application. Butt welding outlets are available in all schedules. Elbow outlet threaded dimensions to ANSI/ASME B1.20.1, socket dimensions to ASME B16.11, butt welding end dimensions to ASME B16.9 and B16.25.

05 45° LATERAL & NIPPLE OUTLETS

NIPPLE OUTLETS, PLAIN END AND THREADED

NIPPLE OUTLETS — PLAIN END AND THREADED

7 SIZES • XS AND XXS

SIZE	XS		XXS	
	A	C	A	C
1/2	3 1/2	15/16	3 1/2	9/16
3/4	3 1/2	1 3/16	3 1/2	3/4
1	3 1/2	1 7/16	3 1/2	1
1 1/4	3 1/2	1 3/4	3 1/2	1 5/16
1 1/2	3 1/2	2	3 1/2	1 1/2
2	3 1/2	2 9/16	3 1/2	1 11/16

Nipple outlets are available in 3 1/2" to 6 1/2" lengths, plain or threaded end. 45° lateral outlets are made in sizes 1/4" through 4"; dimensional information on request.

06 BUTT WELD FITTINGS

ASME B16.9 • A/SA-403 • NPS 1/2" TO 48"

In accordance with ASME B16.9, from ASTM/ASME A/SA-403, welded or seamless construction, schedule 5S through XXS, permanently identified.

LONG RADIUS

ELBOWS & RETURN BENDS

NPS	O.D. (IN)	DN	A	B	K
1/2	0.84	15mm	1.5	0.625	1.88
3/4	1.05	20mm	1.5	0.625	1.88
1	1.315	25mm	1.5	0.875	2.19
1 1/4	1.66	32mm	1.875	1	2.75
1 1/2	1.9	40mm	2.25	1.125	3.25
2	2.375	50mm	3	1.375	4.19
2 1/2	2.875	65mm	3.75	1.75	5.19
3	3.5	80mm	4.5	2	6.25
3 1/2	4	90mm	5.25	2.25	7.25
4	4.5	100mm	6	2.5	8.25
5	5.563	125mm	7.5	3.125	10.31
6	6.625	150mm	9	3.75	12.31
8	8.625	200mm	12	5	16.31
10	10.75	250mm	15	6.25	20.38
12	12.75	300mm	18	7.5	24.38
14	14	350mm	21	8.75	28
16	16	400mm	24	10	32
18	18	450mm	27	11.25	36
20	20	500mm	30	12.5	40
22	22	550mm	33	13.5	44
24	24	600mm	36	15	48
26	26	650mm	39	16	—
28	28	700mm	42	17.25	—
30	30	750mm	45	18.5	—
32	32	800mm	48	19.75	—
34	34	850mm	51	21	—
36	36	900mm	54	22.25	—
40	40	1000mm	60	24.88	—
44	44	1100mm	66	27.38	—
48	48	1200mm	72	29.88	—

SHORT RADIUS & CAPS

ELBOWS, RETURN BENDS

NPS	O.D. (IN)	DN	C	E	L
1/2	0.84	15mm	—	1	—
3/4	1.05	20mm	—	1	—
1	1.315	25mm	1	1.5	1.625
1 1/4	1.66	32mm	1.25	1.5	2.063
1 1/2	1.9	40mm	1.5	1.5	2.438
2	2.375	50mm	2	1.5	3.188
2 1/2	2.875	65mm	2.5	1.5	3.938
3	3.5	80mm	3	2	4.75
3 1/2	4	90mm	3.5	2.5	5.5
4	4.5	100mm	4	2.5	6.25
5	5.563	125mm	5	3	7.75
6	6.625	150mm	6	3.5	9.313
8	8.625	200mm	8	4	12.313
10	10.75	250mm	10	5	15.375
12	12.75	300mm	12	6	18.375
14	14	350mm	14	6.5	21
16	16	400mm	16	7	24
18	18	450mm	18	8	27
20	20	500mm	20	9	30
22	22	550mm	22	10	33
24	24	600mm	24	10.5	36
26	26	650mm	26	10.5	—
28	28	700mm	28	10.5	—
30	30	750mm	30	10.5	—
32	32	800mm	32	10.5	—
34	34	850mm	34	10.5	—
36	36	900mm	36	10.5	—
40	40	1000mm	40	12	—
44	44	1100mm	44	13.5	—
48	48	1200mm	48	13.5	—

A — center to face, 90° and reducing 90° long radius. B — mid length on 45° long radius elbows. K — back to face on 180° long radius return bends. C — center to face, short radius 90° and 180°. E — overall length of caps; refer to ANSI B16.9 for cap lengths when wall thickness is greater than extra strong. L — back to face on 180° short radius return bends.

06 BUTT WELD FITTINGS

ASME B16.9 • NPS 1/2" TO 48"

TEES & CROSSES

30 ROWS

NPS	O.D. (IN)	DN	D	M
1/2	0.84	15mm	1	1
3/4	1.05	20mm	1.125	1.125
1	1.315	25mm	1.5	1.5
1 1/4	1.66	32mm	1.875	1.875
1 1/2	1.9	40mm	2.25	2.25
2	2.375	50mm	2.5	2.5
2 1/2	2.875	65mm	3	3
3	3.5	80mm	3.375	3.375
3 1/2	4	90mm	3.75	3.75
4	4.5	100mm	4.125	4.125
5	5.563	125mm	4.875	4.875
6	6.625	150mm	5.625	5.625
8	8.625	200mm	7	7
10	10.75	250mm	8.5	8.5
12	12.75	300mm	10	10
14	14	350mm	11	11
16	16	400mm	12	12
18	18	450mm	13.5	13.5
20	20	500mm	15	15
22	22	550mm	16.5	16.5
24	24	600mm	17	17
26	26	650mm	19.5	19.5
28	28	700mm	20.5	20.5
30	30	750mm	22	22
32	32	800mm	23.5	23.5
34	34	850mm	25	25
36	36	900mm	26.5	26.5
40	40	1000mm	29.5	29.5
44	44	1100mm	32	30
48	48	1200mm	35	33

LAP JOINT STUB ENDS

TYPES A, B AND C

NPS	O.D. (IN)	DN	SHORT LENGTH E	LONG LENGTH F	LAP DIA. G	FILLET RADIUS R
1/2	0.84	15mm	2	3	1.38	0.12
3/4	1.05	20mm	2	3	1.38	0.12
1	1.315	25mm	2	4	2	0.12
1 1/4	1.66	32mm	2	4	2.5	0.19
1 1/2	1.9	40mm	2	4	2.88	0.25
2	2.375	50mm	2.5	6	3.62	0.31
2 1/2	2.875	65mm	2.5	6	4.12	0.31
3	3.5	80mm	2.5	6	5	0.38
3 1/2	4	90mm	3	6	5.5	0.38
4	4.5	100mm	3	6	6.19	0.44
5	5.563	125mm	3	8	7.31	0.44
6	6.625	150mm	3.5	8	8.5	0.5
8	8.625	200mm	4	8	10.62	0.5
10	10.75	250mm	5	10	12.75	0.5
12	12.75	300mm	6	10	15	0.5
14	14	350mm	6	12	16.25	0.5
16	16	400mm	6	12	18.5	0.5
18	18	450mm	6	12	21	0.5
20	20	500mm	6	12	23	0.5
22	22	550mm	6	12	25.25	0.5
24	24	600mm	6	12	27.25	0.5
26	26	650mm	6	—	—	—
28	28	700mm	6	—	—	—
30	30	750mm	6	—	—	—
32	32	800mm	6	—	—	—
34	34	850mm	6	—	—	—
36	36	900mm	6	—	—	—
40	40	1000mm	6	—	—	—
44	44	1100mm	6	—	—	—
48	48	1200mm	6	—	—	—

D — center to end on the run. M — center to end on the outlet. E is the end-to-end length of the short (MSS SP-43) pattern and F of the long (ASME B16.9) pattern. The fillet radius R applies to type A only, short and long. Sizes 26" and above are listed with the short pattern length only; remaining dimensions on request.

06 REDUCING TEES, CONCENTRIC & ECCENTRIC REDUCERS

NPS 3/4" TO 48" • 167 ROWS

NPS RUN	DN RUN	NPS OUTLET	DN OUTLET	D	N	H	NPS RUN	DN RUN	NPS OUTLET	DN OUTLET	D	N	H
3/4	20mm	1/2	15mm	1.13	1.13	1.5	4	100mm	2 1/2	65mm	4.13	3.75	4
1	25mm	3/4	20mm	1.5	1.5	2	4	100mm	2	50mm	4.13	3.5	4
1	25mm	1/2	15mm	1.5	1.5	2	4	100mm	1 1/2	40mm	4.13	3.38	4
1 1/4	32mm	1	25mm	1.88	1.88	2	5	125mm	4	100mm	4.88	4.63	5
1 1/4	32mm	3/4	20mm	1.88	1.88	2	5	125mm	3 1/2	90mm	4.88	4.5	5
1 1/4	32mm	1/2	15mm	1.88	1.88	2	5	125mm	3	80mm	4.88	4.38	5
1 1/2	40mm	1 1/4	32mm	2.25	2.25	2.5	5	125mm	2 1/2	65mm	4.88	4.25	5
1 1/2	40mm	1	25mm	2.25	2.25	2.5	5	125mm	2	50mm	4.88	4.13	5
1 1/2	40mm	3/4	20mm	2.25	2.25	2.5	6	150mm	5	125mm	5.63	5.38	5.5
1 1/2	40mm	1/2	15mm	2.25	2.25	2.5	6	150mm	4	100mm	5.63	5.13	5.5
2	50mm	1 1/2	40mm	2.5	2.38	3	6	150mm	3 1/2	90mm	5.63	5	5.5
2	50mm	1 1/4	32mm	2.5	2.25	3	6	150mm	3	80mm	5.63	4.88	5.5
2	50mm	1	25mm	2.5	2	3	6	150mm	2 1/2	65mm	5.63	4.75	5.5
2	50mm	3/4	20mm	2.5	1.75	3	8	200mm	6	150mm	7	6.63	6
2 1/2	65mm	2	50mm	3	2.75	3.5	8	200mm	5	125mm	7	6.38	6
2 1/2	65mm	1 1/2	40mm	3	2.63	3.5	8	200mm	4	100mm	7	6.13	6
2 1/2	65mm	1 1/4	32mm	3	2.5	3.5	8	200mm	3 1/2	90mm	7	6	6
2 1/2	65mm	1	25mm	3	2.25	3.5	10	250mm	8	200mm	8.5	8	7
3	80mm	2 1/2	65mm	3.38	3.25	3.5	10	250mm	6	150mm	8.5	7.63	7
3	80mm	2	50mm	3.38	3	3.5	10	250mm	5	125mm	8.5	7.5	7
3	80mm	1 1/2	40mm	3.38	2.88	3.5	10	250mm	4	100mm	8.5	7.25	7
3	80mm	1 1/4	32mm	3.38	2.75	3.5	12	300mm	10	250mm	10	9.5	8
3 1/2	90mm	3	80mm	3.75	3.63	4	12	300mm	8	200mm	10	9	8
3 1/2	90mm	2 1/2	65mm	3.75	3.5	4	12	300mm	6	150mm	10	8.63	8
3 1/2	90mm	2	50mm	3.75	2.25	4	12	300mm	5	125mm	10	8.5	8
3 1/2	90mm	1 1/2	40mm	3.75	3.13	4	14	350mm	12	300mm	11	10.63	13
4	100mm	3 1/2	90mm	4.13	4	4	14	350mm	10	250mm	11	10.13	13
4	100mm	3	80mm	4.13	3.88	4	14	350mm	8	200mm	11	9.75	13

D — center to end on the run. N — center to end on the outlet. H — length of concentric and eccentric reducers.

06 REDUCING TEES, CONCENTRIC & ECCENTRIC REDUCERS

NPS 3/4" TO 48" • 167 ROWS

NPS RUN	DN RUN	NPS OUTLET	DN OUTLET	D	N	H	NPS RUN	DN RUN	NPS OUTLET	DN OUTLET	D	N	H
14	350mm	6	150mm	11	9.38	13	24	600mm	12	300mm	17	15.63	20
16	400mm	14	350mm	12	12	14	24	600mm	10	250mm	17	15.13	20
16	400mm	12	300mm	12	10.63	14	26	650mm	24	600mm	19.5	19	24
16	400mm	10	250mm	12	11.13	14	26	650mm	22	550mm	19.5	18.5	24
16	400mm	8	200mm	12	10.75	14	26	650mm	20	500mm	19.5	18	24
16	400mm	6	150mm	12	10.38	14	26	650mm	18	450mm	19.5	17.5	24
18	450mm	16	400mm	13.5	13	15	26	650mm	16	400mm	19.5	17	24
18	450mm	14	350mm	13.5	13	15	26	650mm	14	350mm	19.5	17	24
18	450mm	12	300mm	13.5	12.62	15	26	650mm	12	300mm	19.5	16.63	24
18	450mm	10	250mm	13.5	12.12	15	28	700mm	26	650mm	20.5	20.5	24
18	450mm	8	200mm	13.5	11.75	15	28	700mm	24	600mm	20.5	20	24
20	500mm	18	450mm	15	14.5	20	28	700mm	22	550mm	20.5	19.5	24
20	500mm	16	400mm	15	20	20	28	700mm	20	500mm	20.5	19	24
20	500mm	14	350mm	15	20	20	28	700mm	18	450mm	20.5	18	24
20	500mm	12	300mm	15	13.63	20	28	700mm	16	400mm	20.5	18	24
20	500mm	10	250mm	15	13.13	20	28	700mm	12	350mm	20.5	17.63	24
20	500mm	8	200mm	15	12.75	20	30	750mm	28	700mm	22	21.5	24
22	550mm	20	500mm	16.5	16	20	30	750mm	26	650mm	22	21.5	24
22	550mm	18	450mm	16.5	15.5	20	30	750mm	24	600mm	22	21	24
22	550mm	16	400mm	16.5	15	20	30	750mm	22	550mm	22	20.5	24
22	550mm	14	350mm	16.5	15	20	30	750mm	20	500mm	22	20	24
22	550mm	12	300mm	16.5	14.63	20	30	750mm	18	450mm	22	19.5	24
22	550mm	10	250mm	16.5	14.13	20	30	750mm	16	400mm	22	19	24
24	600mm	22	550mm	17	17	20	30	750mm	14	350mm	22	19	24
24	600mm	20	500mm	17	17	20	30	750mm	12	300mm	22	18.63	24
24	600mm	18	450mm	17	16.5	20	30	750mm	10	250mm	22	18.13	24
24	600mm	16	400mm	17	16	20	32	800mm	3	750mm	23.5	23	24
24	600mm	14	350mm	17	16	20	32	800mm	28	700mm	23.5	22.5	24

D — center to end on the run. N — center to end on the outlet. H — length of concentric and eccentric reducers.

06 REDUCING TEES, CONCENTRIC & ECCENTRIC REDUCERS

NPS 3/4" TO 48" • 167 ROWS

NPS RUN	DN RUN	NPS OUTLET	DN OUTLET	D	N	H	NPS RUN	DN RUN	NPS OUTLET	DN OUTLET	D	N	H
32	800mm	26	650mm	23.5	22.5	24	40	1000mm	32	800mm	29.5	28	24
32	800mm	24	600mm	23.5	22	24	40	1000mm	30	750mm	29.5	27.5	24
32	800mm	22	550mm	23.5	21.5	24	40	1000mm	28	700mm	29.5	26.5	24
32	800mm	80	500mm	23.5	21	24	40	1000mm	26	650mm	29.5	26.5	24
32	800mm	18	450mm	23.5	20.5	24	40	1000mm	24	600mm	29.5	26	24
32	800mm	16	400mm	23.5	20	24	40	1000mm	22	550mm	29.5	25.5	24
32	800mm	14	350mm	23.5	20	24	40	1000mm	20	500mm	29.5	25	24
34	850mm	32	800mm	25	24.5	24	44	1100mm	40	1000mm	32	29.5	24
34	850mm	50	750mm	25	24	24	44	1100mm	36	900mm	32	28.5	24
34	850mm	28	700mm	25	23.5	24	44	1100mm	34	850mm	32	28.5	24
34	850mm	26	650mm	25	23.5	24	44	1100mm	32	800mm	32	28	24
34	850mm	24	600mm	25	23	24	44	1100mm	30	750mm	32	28	24
34	850mm	22	550mm	25	22.5	24	44	1100mm	28	700mm	32	27.5	24
34	850mm	20	500mm	25	22	24	44	1100mm	26	650mm	32	27.5	24
34	850mm	18	450mm	25	21.5	24	44	1100mm	24	600mm	32	27.5	24
34	850mm	16	400mm	25	21	24	44	1100mm	22	550mm	32	27	—
36	900mm	34	850mm	26.5	26	24	44	1100mm	20	500mm	32	27	—
36	900mm	32	800mm	26.5	25.5	24	48	1200mm	44	1100mm	35	33	28
36	900mm	90	750mm	26.5	25	24	48	1200mm	40	1000mm	35	32	28
36	900mm	28	700mm	26.5	24.5	24	48	1200mm	36	900mm	35	31	28
36	900mm	26	650mm	26.5	24.5	24	48	1200mm	34	850mm	35	31	28
36	900mm	24	600mm	26.5	24	24	48	1200mm	32	800mm	35	31	28
36	900mm	22	550mm	26.5	23.5	24	48	1200mm	30	750mm	35	30	28
36	900mm	20	500mm	26.5	23	24	48	1200mm	28	700mm	35	30	28
36	900mm	18	450mm	26.5	22.5	24	48	1200mm	26	650mm	35	30	28
36	900mm	16	400mm	26.5	22	24	48	1200mm	24	600mm	35	29	28
40	1000mm	36	900mm	29.5	29	24	48	1200mm	22	550mm	35	29	—
40	1000mm	34	850mm	29.5	28.5	24							

D — center to end on the run. N — center to end on the outlet. H — length of concentric and eccentric reducers.

06 LATERALS

NPS 1/2" TO 48" · 30 ROWS

NPS	O.D. (IN)	DN	Q OR R	S
1/2	0.84	15mm	—	—
3/4	1.05	20mm	—	—
1	1.315	25mm	5.75	1.75
1 1/4	1.66	32mm	6.25	1.75
1 1/2	1.9	40mm	7	2
2	2.375	50mm	8	2.5
2 1/2	2.875	65mm	9.5	2.5
3	3.5	80mm	10	3
3 1/2	4	90mm	11.5	3
4	4.5	100mm	12	3
5	5.563	125mm	13.5	3.5
6	6.625	150mm	14.5	3.5
8	8.625	200mm	17.5	4.5
10	10.75	250mm	20.5	5
12	12.75	300mm	24.5	5.5
14	14	350mm	27	6
16	16	400mm	30	6.5
18	18	450mm	32	7
20	20	500mm	35	8
22	22	550mm	—	—
24	24	600mm	40.5	9
26	26	650mm	—	—
28	28	700mm	—	—
30	30	750mm	—	—
32	32	800mm	—	—
34	34	850mm	—	—
36	36	900mm	—	—
40	40	1000mm	—	—
44	44	1100mm	—	—
48	48	1200mm	—	—

Q or R — center to end on the run; S — center to end on the branch. Sizes below 1" and above 20" on request.

07 CAM & GROOVE COUPLINGS

SIX END CONFIGURATIONS

Male adapter × female NPT	Male adapter × male NPT	Male adapter × hose shank
Female coupler × male NPT	Female coupler × female NPT	Female coupler × hose shank

Cam & groove couplings are supplied in six end configurations. Tell us the configuration and size and we will confirm dimensions at quotation.