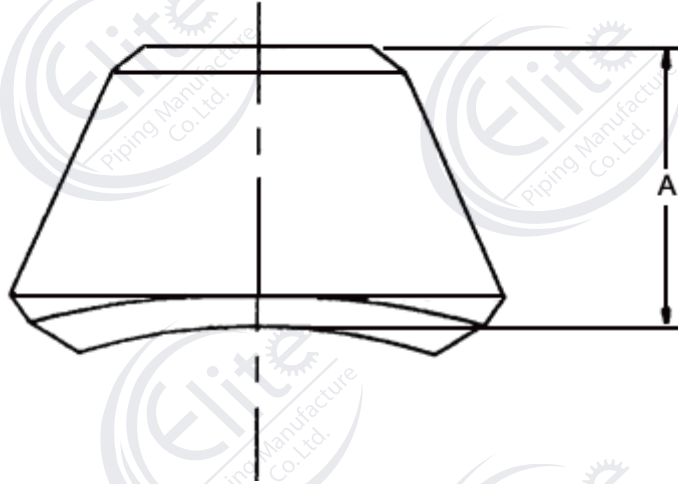
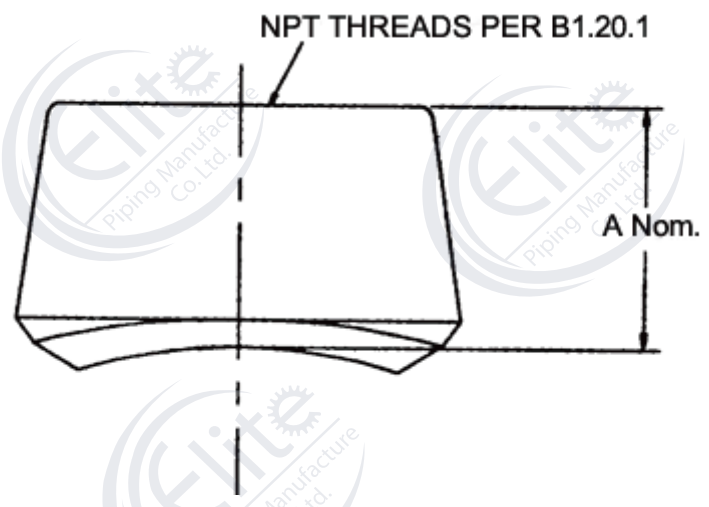


90° Branch Outlets—Buttwelding



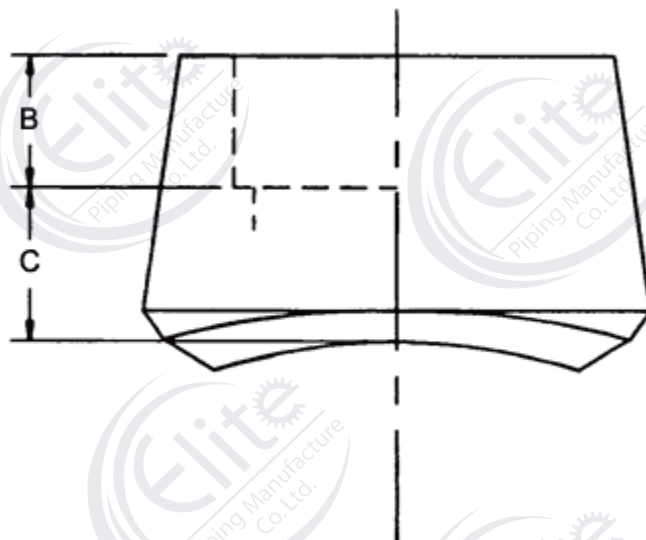
Outlet (DN)	Outlet (NPS)	A (Face of Fitting to Crotch)					
		Standard		Extra Strong		Schedule 160	
		Reducing	Full	Reducing	Full	Reducing	Full
6	1/8	15.7	—	15.7	—	—	—
8	1/4	15.7	—	15.7	—	—	—
10	3/8	19.1	—	19.1	—	—	—
15	1/2	19.1	19.1	19.1	19.1	28.4	28.4
20	3/4	22.4	22.4	22.4	22.4	31.8	31.8
25	1	26.9	26.9	26.9	26.9	38.1	38.1
32	1¼	31.8	31.8	31.8	31.8	44.4	44.4
40	1½	33.3	33.3	33.3	33.3	50.8	50.8
50	2	38.1	38.1	38.1	38.1	55.4	55.4
65	2½	41.1	41.1	41.1	41.1	62.0	62.0
80	3	44.4	44.4	44.4	44.4	73.2	73.2
90	3½	47.8	50.8	47.8	50.8	—	—
100	4	50.8	50.8	50.8	50.8	84.1	84.1
125	5	57.2	57.2	57.2	57.2	93.7	93.7
150	6	60.4	60.4	77.7	77.7	104.6	104.6
200	8	69.8	69.8	98.6	98.6	—	—
250	10	77.7	77.7	93.7	88.9	—	—
300	12	85.9	85.9	103.1	100.1	—	—
350	14	88.9	88.9	100.1	104.6	—	—
400	16	93.7	93.7	106.2	112.8	—	—
450	18	96.8	103.1	111.2	119.1	—	—
500	20	101.6	117.3	119.1	127.0	—	—
600	24	115.8	136.6	139.7	139.7	—	—

90° Branch Outlets—Threaded



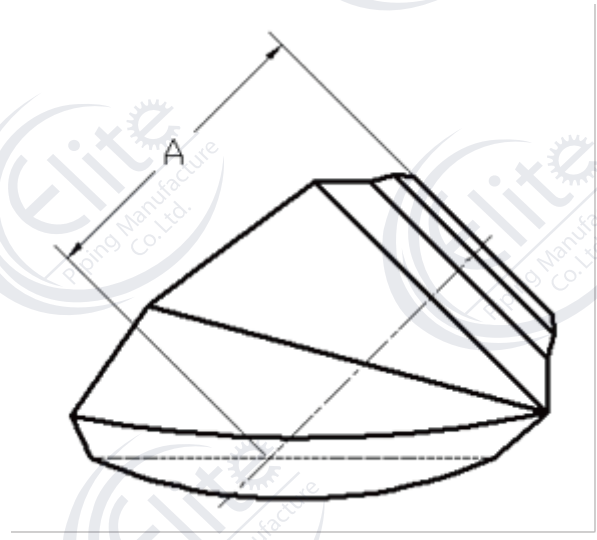
Outlet (DN)	Outlet (NPS)	A Nom. (Face of Fitting to Crotch)	
		Threaded	
		Class 3000	Class 6000
6	1/8	19.0	—
8	1/4	19.0	—
10	3/8	20.6	—
15	1/2	25.4	31.8
20	3/4	26.9	36.6
25	1	33.3	39.6
32	1¼	33.3	41.1
40	1½	35.0	42.3
50	2	38.1	52.3
65	2½	46.0	—
80	3	50.8	—
100	4	57.2	—

90° Branch Outlets—Socket Welding



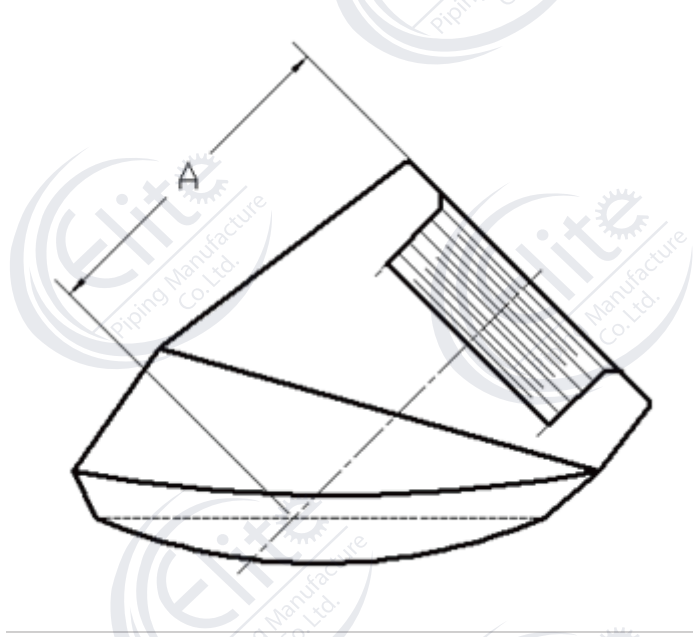
Outlet (DN)	Outlet (NPS)	B Min.	C Max.	
			Class 3000	Class 6000
6	1/8	9.5	11	—
8	1/4	9.5	11	—
10	3/8	9.5	13	—
15	1/2	9.5	16	24
20	3/4	12.5	16	26
25	1	12.5	23	29
32	1¼	12.5	23	31
40	1½	12.5	24	32
50	2	16.0	24	37
65	2½	16.0	26	—
80	3	16.0	31	—
100	4	19.0	31	—

45° Branch Outlets—Butting



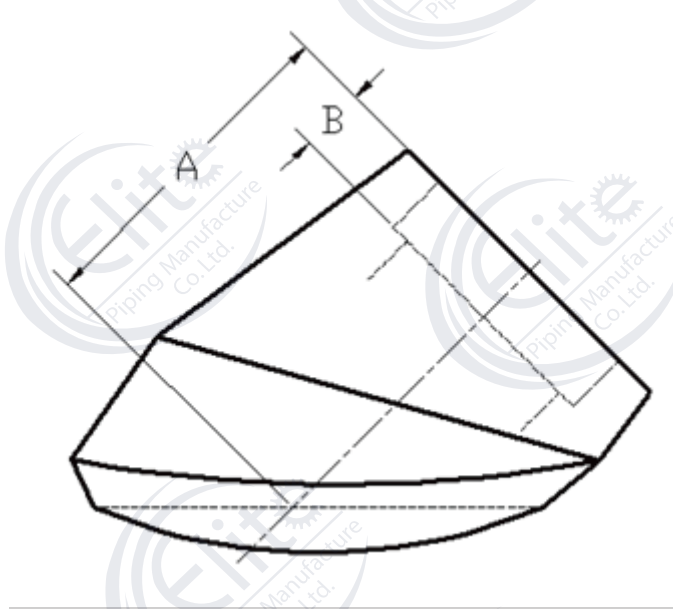
Outlet (DN)	A (Top of Fitting to Run Pipe)	
	Standard / Extra Strong	
	A Min.	A Max.
8	38.1	42.9
10	38.1	42.9
15	38.1	42.9
20	44.5	50.8
25	54.0	65.1
32	54.0	65.1
40	63.5	69.9
50	73.0	88.9

45° Branch Outlets—Threaded



Outlet (DN)	A (Top of Fitting to Run Pipe)			
	Class 3000		Class 6000	
	A Min.	A Max.	A Min.	A Max.
8	38.1	42.9	38.9	47.6
10	38.1	42.9	38.9	47.6
15	38.1	44.5	46.0	55.6
20	46.0	50.8	54.0	63.5
25	54.0	63.5	61.1	73.0
32	61.1	76.2	65.1	77.8
40	63.5	76.2	78.6	85.7
50	76.2	84.1	78.6	104.8

45° Branch Outlets—Socket Welding



Outlet (DN)	B Min. ^(a)	A (Top of Fitting to Run Pipe)			
		Class 3000		Class 6000	
		A Min.	A Max.	A Min.	A Max.
8	9.5	38.1	42.9	38.9	47.6
10	9.5	38.1	42.9	38.9	47.6
15	9.5	38.1	44.5	46.0	55.6
20	12.5	46.0	50.8	54.0	63.5
25	12.5	54.0	63.5	61.1	73.0
32	12.5	61.1	76.2	65.1	77.8
40	12.5	63.5	76.2	78.6	85.7
50	16.0	76.2	84.1	78.6	104.8