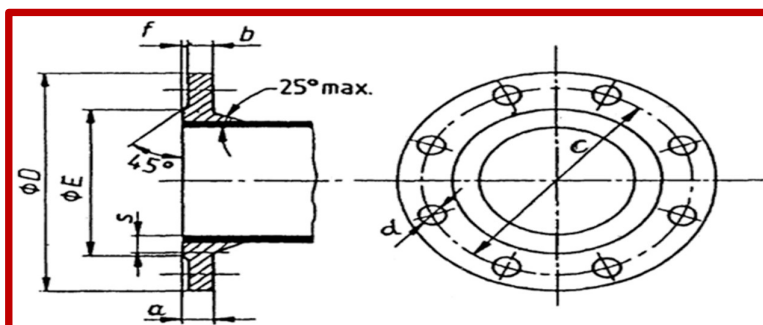
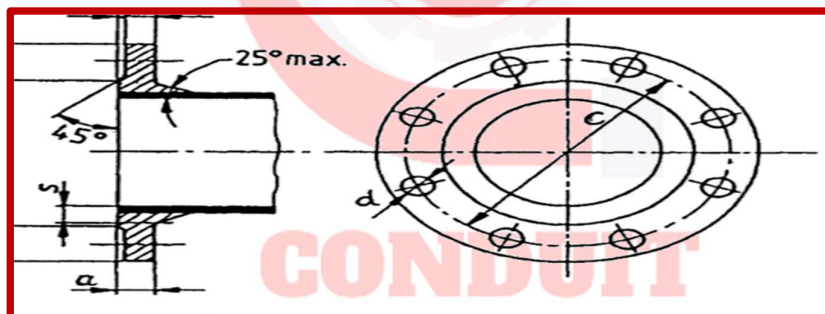




Dimensions of Standard Flange Drilling for Flange Fittings PN 10

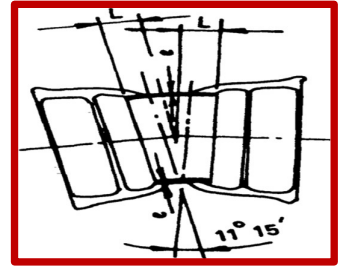
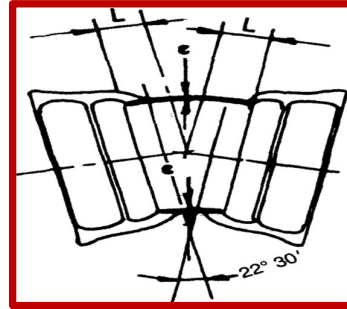
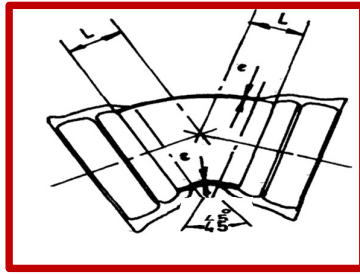
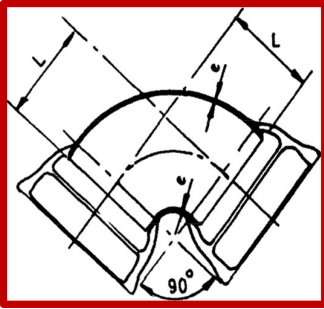
Nominal Diameter DN (1)	Dimensions							Holes		Bolt Size, Metric (11)
	D (2)	E (3)	C (4)	b (5)	f (6)	a (7)	s (8)	No. (9)	Dia (d) (10)	
80	200	132	160	16	3	19	15	4	19	M16
100	220	156	180	16	3	19	15	8	19	M16
125	250	184	210	16	3	19	15	8	19	M16
150	285	211	240	16	3	19	15	8	23	M20
200	340	266	295	17	3	20	15	8	23	M20
250	395	319	350	19	3	22	16	12	23	M20
300	445	370	400	20.5	4	24.5	17.5	12	23	M20
350	505	429	460	20.5	4	24.5	19.5	16	23	M20
400	565	480	515	20.5	4	24.5	19.5	16	28	M24
450	615	530	565	21	4	25.5	20	20	28	M24
500	670	582	620	22.5	4	26.5	21	20	28	M24
600	780	682	725	25	5	30	24	20	31	M27
700	895	794	840	27.5	5	32.5	24	24	31	M27
750	960	857	900	29	5	34	24	24	31	M27
800	1 015	901	950	30	5	35	24.5	24	34	M30
900	1 115	1 001	1 050	32.5	5	37.5	26.5	28	34	M30
1 000	1 230	1 112	1 160	35	5	40	28	28	37	M33
1 100	1 340	1 231	1 270	38	5	43	30	28	37	M33
1 200	1 455	1 328	1 380	40	5	45	31.5	32	40	M36



Dimensions of Standard Flange Drilling for Flange Fittings PN 16

Nominal Diameter DN (1)	Dimensions							Holes		Bolt Size, Metric (11)
	D (2)	E (3)	C (4)	b (5)	f (6)	a (7)	s (8)	No. (9)	Dia (d) (10)	
80	200	132	160	16	3	19	15	8	19	M16
100	220	156	180	16	3	19	15	8	19	M16
125	250	184	210	16	3	19	15	8	19	M16
150	285	211	240	16	3	19	15	8	23	M20
200	340	266	295	17	3	20	16	12	23	M20
250	400	319	355	19	3	22	17.5	12	28	M24
300	455	370	410	20.5	4	24.5	19.5	12	28	M24
350	520	429	470	22.5	4	26.5	21	16	28	M24
400	580	480	525	24	4	28	22.5	16	31	M27
450	640	548	585	26	4	30	24	20	31	M27
500	715	609	650	27.5	4	31.5	25	20	34	M30
600	840	720	770	31	5	36	27	20	37	M33
700	910	794	840	34.5	5	39.5	27.5	24	37	M33
750	970	857	900	36	5	41	28	24	37	M33
800	1 025	901	950	38	5	43	30	24	40	M36
900	1 125	1 001	1 050	41	5	46	32.5	28	40	M36
1 000	1 255	1 112	1 170	45	5	50	35	28	43	M39
1 100	1 355	1 218	1 270	48.5	5	53.5	37.5	32	43	M39
1 200	1 485	1 328	1 390	52	5	57	40	32	49	M45

D.I. D/S BEND



D.I. DOUBLE SOCKET BEND 90°

NOMINAL SIZE	e	L
MM	MM	MM
80	7	100
100	7.2	120
125	7.5	145
150	7.8	170
200	8.4	220
250	9	270
300	9.6	320
350	10.2	370
400	10.8	420
450	11.4	470
500	12	520
600	13.2	620
700	14.4	720
750	15	770
800	15.6	820
900	16.8	920
1000	18	1020
1100	19.2	1130
1200	20.4	1230

D.I. DOUBLE SOCKET BEND 45°

NOMINAL SIZE	e	L
MM	MM	MM
80	7	55
100	7.2	65
125	7.5	75
150	7.8	85
200	8.4	110
250	9	130
300	9.6	150
350	10.2	175
400	10.8	195
450	11.4	220
500	12	240
600	13.2	285
700	14.4	330
750	15	350
800	15.6	370
900	16.8	415
1000	18	460
1100	19.2	505
1200	20.4	550

D.I. DOUBLE SOCKET BEND 22 1/2°

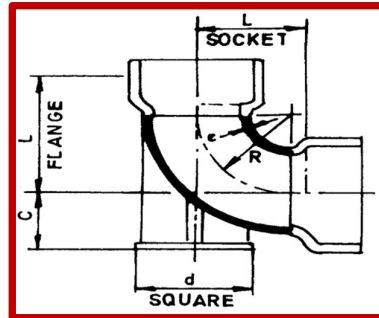
NOMINAL SIZE	e	L
MM	MM	MM
80	7	40
100	7.2	40
125	7.5	50
150	7.8	55
200	8.4	65
250	9	75
300	9.6	85
350	10.2	95
400	10.8	110
450	11.4	120
500	12	130
600	13.2	150
700	14.4	175
750	15	185
800	15.6	195
900	16.8	205
1000	18	210
1100	19.2	220
1200	20.4	240

D.I. DOUBLE SOCKET BEND 11 1/4°

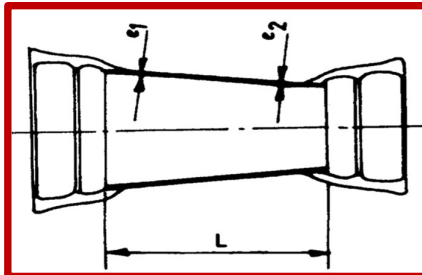
NOMINAL SIZE	e	L
MM	MM	MM
80	7	30
100	7.2	30
125	7.5	35
150	7.8	35
200	8.4	40
250	9	50
300	9.6	55
350	10.2	60
400	10.8	65
450	11.4	70
500	12	75
600	13.2	85
700	14.4	95
750	15	100
800	15.6	110
900	16.8	115
1000	18	120
1100	19.2	120
1200	20.4	130



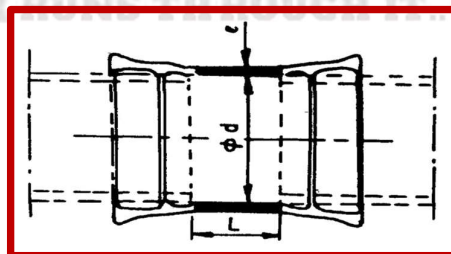
Nominal Size	e	L	c	d
80	7.0	110	110	180
100	7.2	130	125	200
125	7.5	155	140	225
150	7.8	180	160	250
200	8.4	230	190	300
250	9.0	280	225	350
300	9.6	325	255	400
350	10.2	380	290	450
400	10.8	430	320	500
450	11.4	480	355	550
500	12.0	530	385	600
600	13.2	630	450	700
700	14.4	735	515	800
750	15.0	790	545	850
800	15.6	830	580	900
900	16.8	930	645	1 000
1 000	18.0	1 035	710	1 100
1 100	19.2	1 130	775	1 200
1 200	20.4	1 230	840	1 300



Nominal Diameter (DN)		e_1	e_2	L
Larger End	Smaller End			
100	80	7.2	7.0	90
125	80	7.5	7.0	140
150	80	7.8	7.0	190
150	100	7.8	7.2	150
200	100	8.4	7.2	250
200	150	8.4	7.8	150
250	150	9.0	7.8	250
250	200	9.0	8.4	150
300	150	9.6	7.8	350
300	200	9.6	8.4	250
300	250	9.6	9.0	150
350	200	10.2	8.4	360
350	250	10.2	9.0	260
350	300	10.2	9.6	160
400	250	10.8	9.0	360
400	300	10.8	9.6	260
400	350	10.8	10.2	160
450	350	11.4	10.2	260
450	400	11.4	10.8	160
500	350	12.0	10.2	360
500	400	12.0	10.8	260
600	400	13.2	10.8	460
600	500	13.2	12.0	260
700	500	14.4	12.0	480
700	600	14.4	13.2	280
750	500	15.0	12.0	480
750	600	15.0	13.2	280
800	600	15.6	13.2	480
800	700	15.6	14.4	280
900	700	16.8	14.4	480
900	800	16.8	15.6	280
1 000	800	18.0	15.6	480
1 000	900	18.0	16.8	280
1 100	1 000	19.2	18.0	280
1 200	1 000	20.4	18.0	480

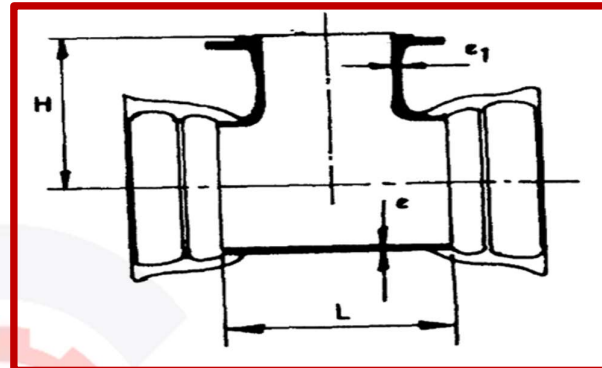
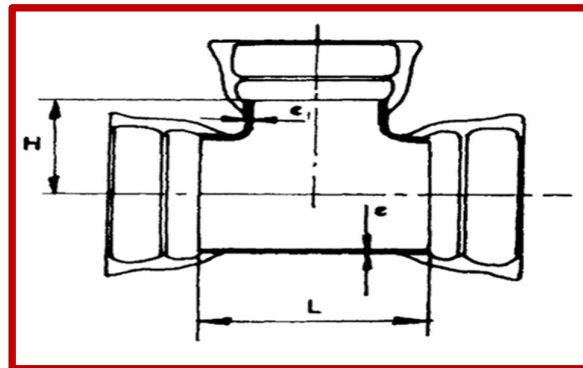


Nominal Dia (DN)	e	L	d
80	7.0	160	109
100	7.2	160	130
125	7.5	165	156
150	7.8	165	183
200	8.4	170	235
250	9.0	175	288
300	9.6	180	340
350	10.2	185	393
400	10.8	190	445
450	11.4	195	498
500	12.0	200	550
600	13.2	210	655
700	14.4	220	760
750	15.0	225	810
800	15.6	230	865
900	16.8	240	970
1 000	18.0	250	1 075
1 100	19.2	260	1 180
1 200	20.4	270	1 285

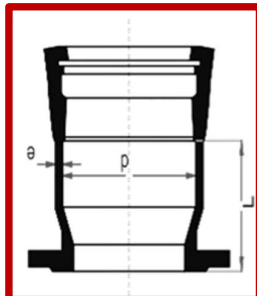
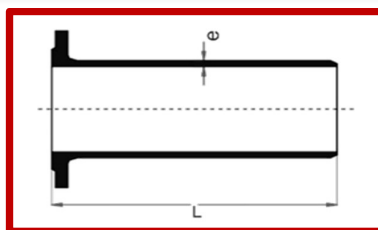


D.I. ALL SOCKET TEE & FLANGE ON DOUBLE SOCKET HYDRANT TEE

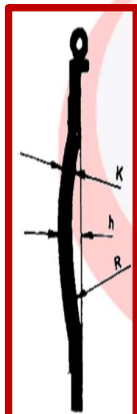
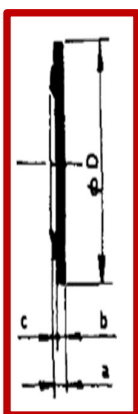
Nominal Dia (DN)		e	e ₁	L		H	
Body	Branch			Branch Flange on Double Socket	All Socket	Flange on Double Socket	All Socket
80	80	7	7	170	170	165	85
100	80	7.2	7	170	170	175	95
100	100	7.2	7.2	190	190	180	95
125	80	7.5	7	170	170	190	105
125	100	7.5	7.2	195	195	195	100
125	125	7.5	7.5	225	225	200	110
150	80	7.8	7	170	170	205	120
150	100	7.8	7.2	195	195	210	120
150	150	7.8	7.8	255	255	220	125
200	80	8.4	7	175	175	235	145
200	100	8.4	7.2	200	200	240	145
200	150	8.4	7.8	255	255	250	150
200	200	8.4	8.4	315	315	260	155
250	80	9	7	180	180	265	170
250	100	9	7.2	200	200	270	170
250	150	9	7.8	260	260	280	175
250	200	9	8.4	315	315	290	180
250	250	9	9	375	375	300	190
300	100	9.6	7.2	210	210	300	220
300	200	9.6	8.4	325	325	320	220
300	300	9.6	9.6	440	440	340	220
350	100	10.2	7.2	205	—	330	—
350	200	10.2	8.4	325	—	350	—
350	350	10.2	10.2	495	—	380	—
400	80	10.8	7.0	185	—	355	—
400	100	10.8	7.2	210	—	360	—
400	150	10.8	7.8	270	—	370	—
400	200	10.8	8.4	325	—	380	—
400	300	10.8	9.6	440	—	400	—
400	400	10.8	10.8	560	—	420	—
450	100	11.4	7.2	215	—	390	—
450	250	11.4	9.0	390	—	420	—
450	450	11.4	11.4	620	—	460	—
500	100	12.0	7.2	215	—	420	—
500	200	12.0	8.4	330	—	440	—
500	400	12.0	10.8	565	—	480	—
500	500	12.0	12.0	680	—	500	—
600	200	13.2	8.4	340	—	500	—
600	400	13.2	10.8	570	—	540	—
600	600	13.2	13.2	800	—	580	—
700	200	14.4	8.4	345	—	525	—
700	400	14.4	10.8	575	—	555	—
700	700	14.4	14.4	925	—	600	—
750	400	15.0	10.8	575	—	585	—
750	750	15.0	15.0	985	—	635	—
800	200	15.6	8.4	350	—	585	—
800	400	15.6	10.8	580	—	615	—
800	600	15.6	13.2	1 045	—	645	—
800	800	15.6	15.6	1 045	—	675	—
900	200	16.8	8.4	355	—	645	—
900	400	16.8	10.8	590	—	675	—
900	600	16.8	13.2	1 170	—	705	—
900	900	16.8	16.8	1 170	—	750	—
1 000	200	18.0	8.4	360	—	705	—
1 000	400	18.0	10.8	595	—	735	—
1 000	600	18.0	13.2	1 290	—	765	—
1 000	1 000	18.0	18.0	1 290	—	825	—
1 100	400	19.2	10.8	600	—	795	—
1 100	600	19.2	13.2	830	—	825	—
1 200	600	20.4	13.2	840	—	885	—
1 200	800	20.4	15.6	1 070	—	915	—
1 200	1 000	20.4	18.0	1 300	—	945	—



Nominal Dia (DN)	DE	e	L
80	98	7.0	350
100	118	7.2	360
125	144	7.5	370
150	170	7.8	380
200	222	8.4	400
250	274	9.0	420
300	326	9.6	440
350	378	10.2	460
400	429	10.8	480
450	480	11.4	500
500	532	12.0	520
600	635	13.2	560
700	738	14.4	600
750	790	15.0	600
800	842	15.6	600
900	945	16.8	600
1 000	1 048	18.0	600
1 100	1 152	19.2	600
1 200	1 255	20.4	600



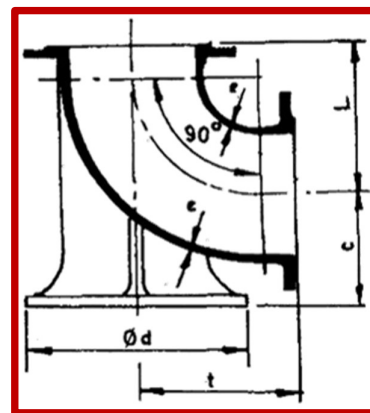
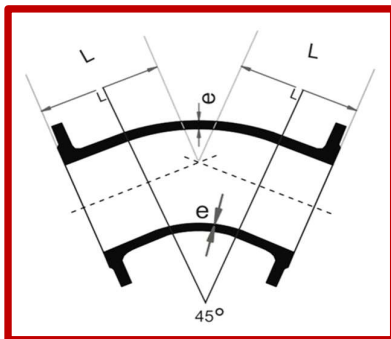
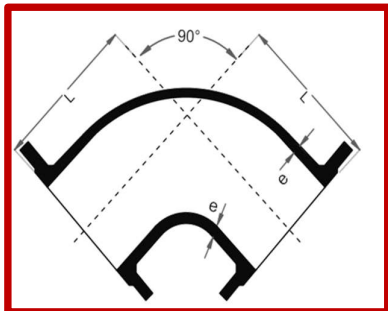
Nominal Dia (DN)	e	L	d
80	7.0	130	109
100	7.2	130	130
125	7.5	135	156
150	7.8	135	183
200	8.4	140	235
250	9.0	145	288
300	9.6	150	340
350	10.2	155	393
400	10.8	160	445
450	11.4	165	498
500	12.0	170	550
600	13.2	180	655
700	14.4	190	760
750	15.0	195	810
800	15.6	200	865
900	16.8	210	970
1 000	18.0	220	1 075
1 100	19.2	230	1 180
1 200	20.4	240	1 285



D.I. BLANK FLANGE TYPE PN - 16

Nominal Dia (DN)	a	b	K and R	h	D
80	19.0	16.0	—	—	200
100	19.0	16.0	—	—	220
125	19.0	16.0	—	—	250
150	19.0	16.0	—	—	285
200	20.0	17.0	—	—	340
250	22.0	19.0	—	—	400
300	24.5	20.5	—	—	455
350	26.5	22.5	325	71	520
400	28.0	24.0	375	80	580
450	30.0	26.0	425	88	640
500	31.5	27.5	475	97	775
600	36.0	31.0	575	114	840
700	39.5	34.5	675	131	910
750	41.0	36.0	625	139	970
800	43.0	38.0	775	148	1 025
900	46.5	41.5	875	165	1 125
1 000	50.0	45.0	975	182	1 255
1 100	53.5	48.5	1 075	199	1 355
1 200	57.0	52.0	1 175	216	1 455

D.I. DOUBLE FLANGE BEND & D.I. DUCKFOOT BEND

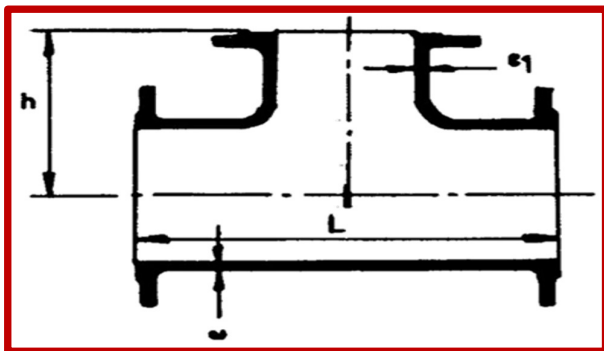


Nominal Size (DN)	e	L
80	7.0	165
100	7.2	180
125	7.5	200
150	7.8	220
200	8.4	260
250	9.0	350
300	9.6	400
350	10.2	450
400	10.8	500
450	11.4	550
500	12.0	600
600	13.2	700
700	14.4	800
750	15.0	850
800	15.6	900
900	16.8	1 000
1 000	18.0	1 100
1 100	19.2	1 235
1 200	20.4	1 340

Nominal Size (DN)	e	L
80	7.0	130
100	7.2	140
125	7.5	150
150	7.8	160
200	8.4	180
250	9.0	350
300	9.6	400
350	10.2	298
400	10.8	324
450	11.4	350
500	12.0	375
600	13.2	426
700	14.4	478
750	15.0	504
800	15.6	529
900	16.8	581
1 000	18.0	632
1 100	19.2	694
1 200	20.4	750

Nominal Size (DN)	e	L	c	d
80	7.0	155	110	180
100	7.2	175	125	200
125	7.5	200	140	225
150	7.8	230	160	250
200	8.4	280	190	300
250	9.0	335	225	350
300	9.6	385	255	400
350	10.2	440	290	450
400	10.8	495	320	500
450	11.4	545	355	550
500	12.0	600	385	600
600	13.2	705	450	700
700	14.4	810	515	800
750	15.0	860	550	850
800	15.6	915	580	900
900	16.8	1 020	645	1 000
1 000	18.0	1 130	710	1 100
1 100	19.2	1 235	775	1 200
1 200	20.4	1 340	840	1 300



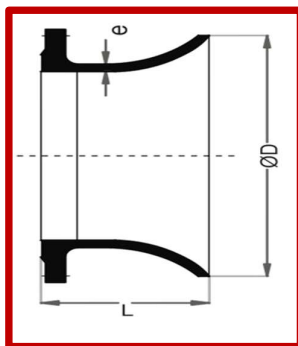


Nominal Diameter (DN)		e	e ₁	L	h
Body	Branch				

80	80	7.0	7.0	330	165
100	80	7.2	7.0	360	175
100	100	7.2	7.2	360	180
125	80	7.5	7.0	400	190
125	100	7.5	7.2	400	195
125	125	7.5	7.5	400	200
150	80	7.8	7.0	440	205
150	100	7.8	7.2	440	210
150	125	7.8	7.5	440	215
150	150	7.8	7.8	440	220
200	80	8.4	7.0	520	235
200	100	8.4	7.2	520	240
200	150	8.4	7.8	520	250
200	200	8.4	8.4	520	260
250	100	9.0	7.2	700	275
250	200	9.0	8.4	700	325
250	250	9.0	9.0	700	350
300	100	9.6	7.2	800	300
300	200	9.6	8.4	800	350
300	300	9.6	9.6	800	400
350	100	10.2	7.2	850	325
350	200	10.2	8.4	850	325
350	350	10.2	10.2	850	425
400	100	10.8	7.2	900	350
400	200	10.8	8.4	900	350
400	400	10.8	10.8	900	450

Nominal Diameter (DN)		e	e ₁	L	h
Body	Branch				

450	100	11.4	7.2	950	375
450	200	11.4	8.4	950	375
450	450	11.4	11.4	950	475
500	100	12.0	7.2	1 000	400
500	200	12.0	8.4	1 000	400
500	400	12.0	10.8	1 000	500
500	500	12.0	12.0	1 000	500
600	200	13.2	8.4	1 100	450
600	400	13.2	10.8	1 100	550
600	600	13.2	13.2	1 100	550
700	200	14.4	8.4	650	525
700	400	14.4	10.4	870	555
700	700	14.4	14.4	1 200	600
750	200	15	8.4	670	555
750	400	15	10.8	890	585
750	750	15	15.0	1 275	640
800	200	15.6	8.4	690	585
800	400	15.6	10.8	910	615
800	600	15.6	13.2	1 350	645
800	800	15.6	15.6	1 350	675
900	200	16.8	8.4	730	645
900	400	16.8	10.8	950	675
900	600	16.8	13.2	1 500	705
900	900	16.8	16.8	1 500	750
1 000	200	18.0	8.4	770	705
1 000	400	18.0	10.8	990	735
1 000	600	18.0	13.2	1 650	765
1 000	1 000	18.0	18.0	1 650	825
1 100	400	19.2	10.8	980	795
1 100	600	19.2	13.2	1 210	825
1 200	600	20.4	13.2	1 240	885
1 200	800	20.4	15.6	1 470	915
1 200	1 000	20.4	18.0	1 700	945



D.I. FLANGE BELMOUTH	NOMINAL SIZE	e	L	D
	MM	MM	MM	MM
	80	7.0	135	160
	100	7.2	140	185
	150	7.8	155	245
	200	8.4	170	310
	250	9.0	190	370
	300	9.6	210	435
	350	10.2	225	495
	400	10.8	245	560
	450	11.4	260	620
	500	12.0	280	685
	600	13.2	300	810
	1100	19.2	465	1400
	1200	20.4	490	1515



CONDUIT

IF WATER RUNS THROUGH IT.. WE DO IT