



青岛福陆多进出口有限公司
Qingdao Fluido Industrial Co., Ltd

Add: No.5,Nanghai Zhi Road, Qingdao, China
TEL: +86 0532 88550858
Mail: info@fluidovalve.com
Web: www.fluidovalve.com



GLOBE FLUIDO

TECHNICAL BROCHURE



青岛福陆多进出口有限公司
Qingdao Fluido Industrial Co., Ltd

中国·青岛
QINGDAO CHINA

QINGDAO FLUIDO Ductile Iron Pipe Fittings And Valves

Qingdao Fluido have a line of manufacture and sales departments, mainly focus on ductile iron pipe fittings and valves. We can produce the ductile iron pipe fittings according to your drawing or size.

Qingdao Fluido Industrial Co.,Ltd

Visit us: www.fluidovalve.com

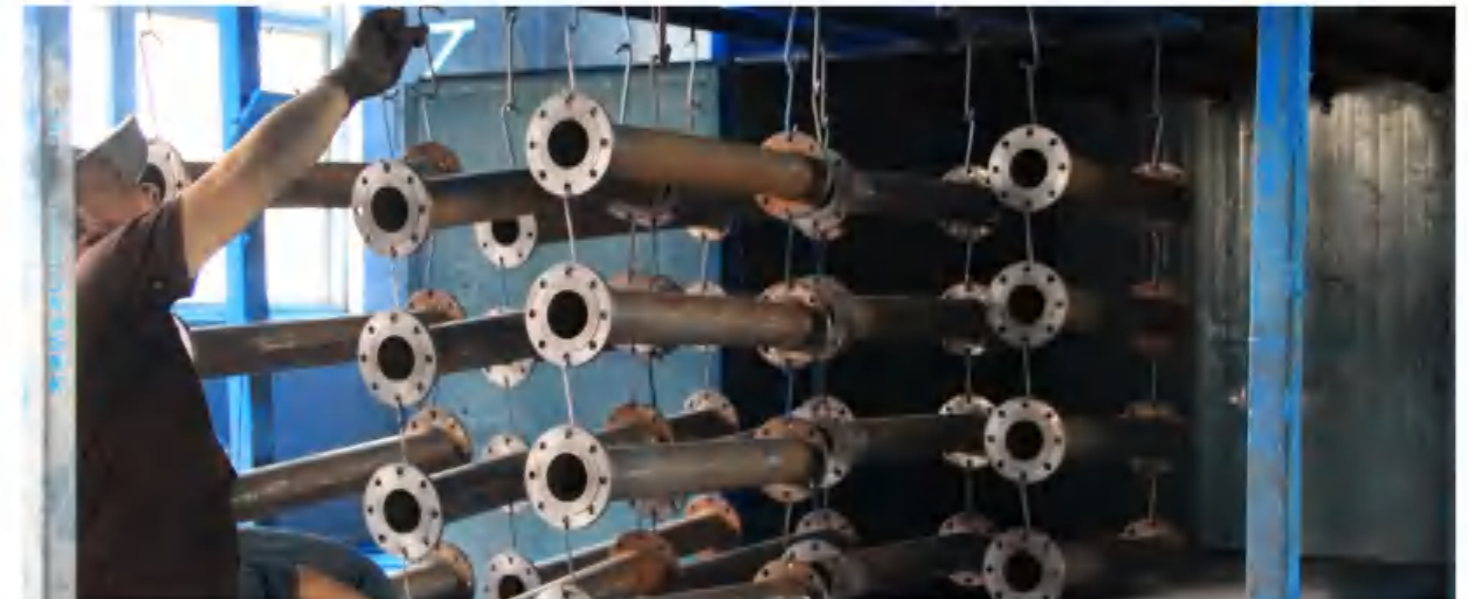
Contact us: info@fluidovalve.com



Our factory GENERATION PROCESS



○ | PROCESSING |



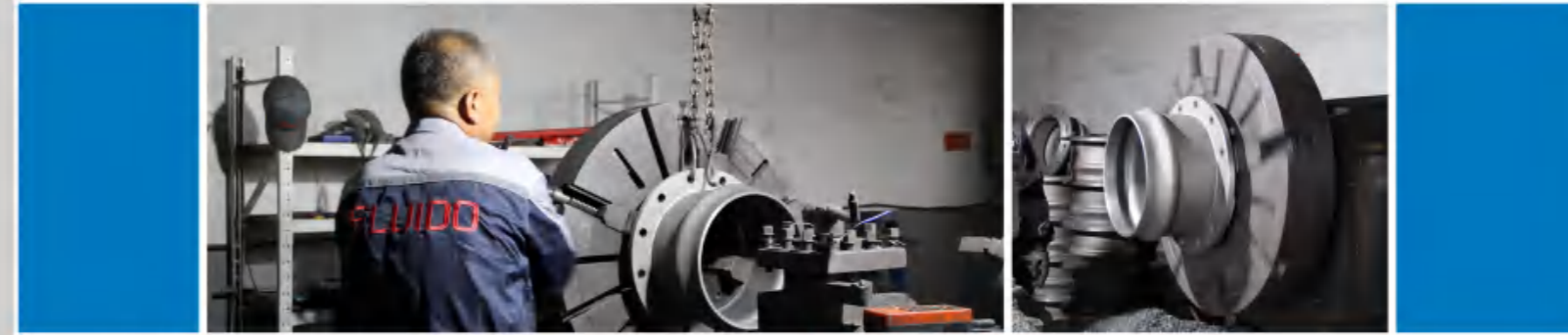
○ | WORKSHOP |



We use the Lost-foam casting process together with induction melting facilities in the production of ductile iron pipe fittings from D50-2600mm. The most popular use of the lost foam process places expanded foam patterns in compacted unbonded sand, patterns are coated with refractory, dried, placed in a flask, backed up with compacted unbonded sand, and liquid metal poured onto the pattern to replace the foam. The process has the capability to make dimensionally accurate, intricate, good surface quality of final casting fittings.



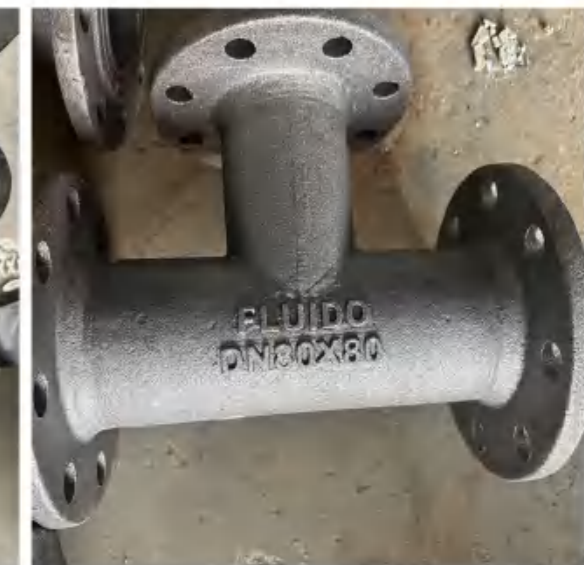
○ | WORKSHOP |



PROFESSIONAL



INSPECTION



Professional packing



Pallet & Wooden Case Packaging



Our Product Range



Cast Iron Globe Valve



Ball Type Check Valve



Flange Adaptor



Quick Adaptor For PE Pipe



Butt Welding Pipe Fitting



Cast Iron Gate Valve



Wafer Check Valve



Dismantling Joints



Backing Up Flange



Cast Steel Valve



Float Valve



Gibault Joint



Ductile Iron Saddle



Expansion Joint



Butterfly Valve



Knife Gate Valve



Universal Coupling



Ductile iron Loosing Flange Fitting



Ductile Iron Fitting

Cast Iron Valve
Cast Steel Valve
Butterfly Valve
Float Valve
Knife Gate Valve

Dismantling Joint
Universal Coupling
Ductile Iron Pipe Fitting
Ductile Iron Saddle
Ductile iron Loosing Flange Fitting



PRODUCTS
DISPLAY



FLUIDO CORE
PRODUCTS

Valves

Flanges

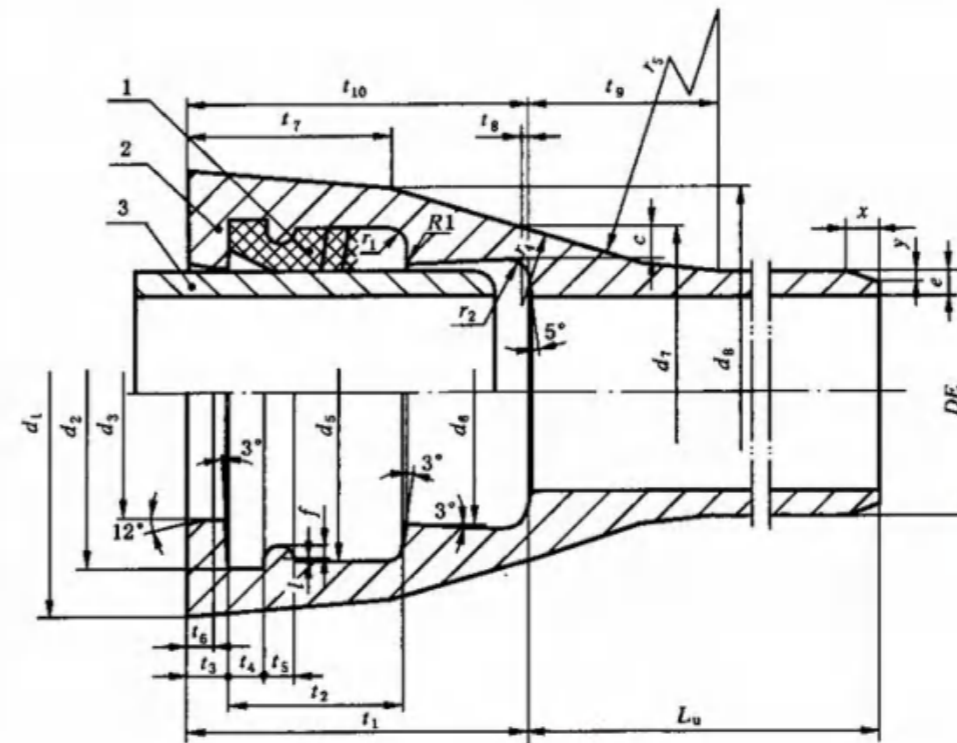
Pipe fittings



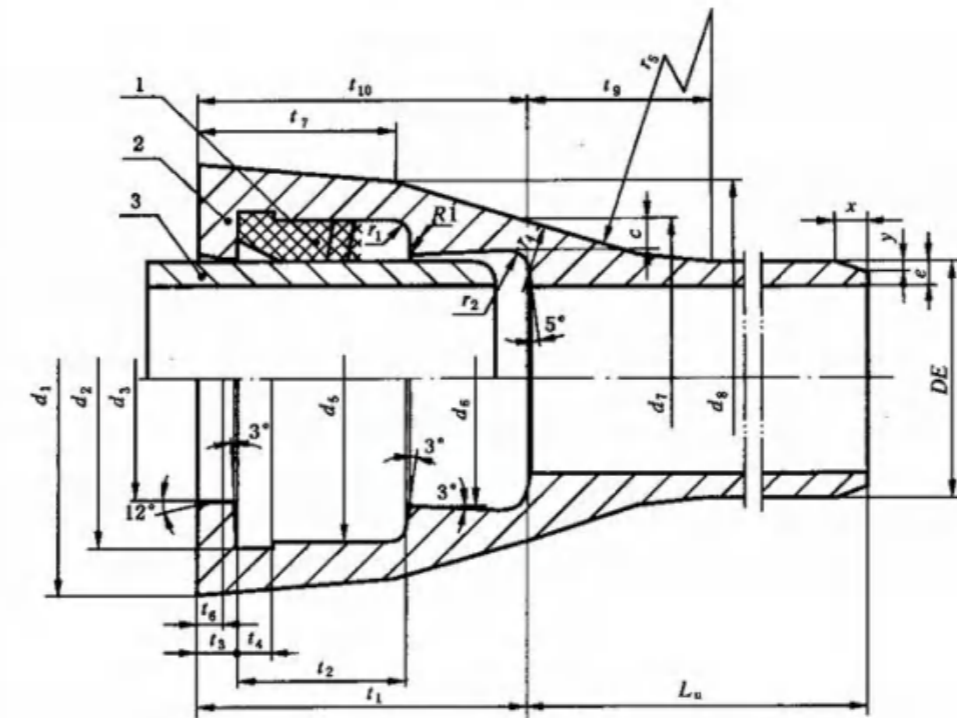
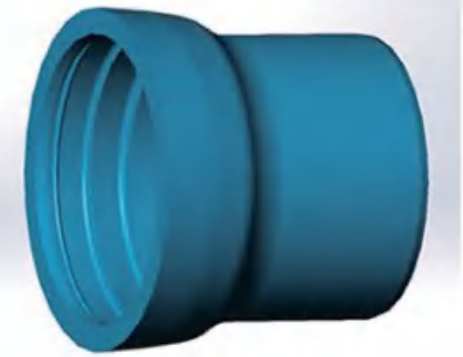
D irectory

序号 NO	名称 NAME	显示 SYMBAOLS	页数 Page
1	T承口图 T type joint	Y	1
2	T承口尺寸表		2
3	K承口图 K type joint	Y	5
4	K承口尺寸表		6
5	PN10法兰图表 PN10 Flange		8
6	PN16法兰图表 PN16 Flange		9
7	PN25法兰图表 PN25 Flange		10
8	承盘短管 Flanged sockets	Y	11
9	插盘短管 Flanged spigots	T	12
10	套管 Collars	Y	12
11	90°双承及承插弯管 90° Socket bends	Y Y	13
12	45°双承及承插弯管 45° Socket bends	Y Y	14
13	22.5°双承及承插弯管 22.5° Socket bends	Y Y	15
14	11.25°双承及承插弯管 11.25° Socket bends	Y Y	16
15	全承三通 All-Socket tees	Y	17
16	承插承三通 Socket-spigot tees with socket branch	Y	21
17	双承单支盘三通 Double-socket tees with flanged branch	Y	25
18	双承一盘泄水三通 Double-socket level invert tees with flanged branch	Y	25
19	承插盘三通 Socket-spigot tees with flanged branch	Y	29
20	双承、承插、插承渐缩管 Socket tapers	Y Y Y	33
21	插堵 Caps	Y	35
22	承堵 Plugs	Y	35
23	双承90°鸭掌 90° Double-Socket duckfoot bends	Y	36
24	全承45°斜三通 All-Socket tees with 45 angle branch	Y	36
25	盲法兰 Blank flanges	Y	37
26	法兰管 Pipes with screwed-on or weld-on flanges	Y	38
27	法兰管 Pipes with integrally cast flanges	Y	38
28	90°双法兰弯管 90° Double-flanged bends	Y Y	39
29	90°双法兰鸭掌弯管 90° Double-flanged duckfoot bends	Y Y	39
30	45°双法兰弯管 45° Double-flanged bends	Y Y	40
31	22.5°双盘弯管 22.5° Double-flanged bends	Y Y	41
32	11.25°双盘弯管 11.25° Double-flanged bends	Y Y	42
33	法兰三通 All-flanged tees	Y	43
34	双法兰渐缩管 Double-flanged tapers	Y	47

序号 NO	名称 NAME	显示SYMBOLS	页数Page
35	90°双盘长半径弯管 90°Double-flanged long radius bends	┘	49
36	喇叭管 Flanged bellmouth	┘	49
37	全盘弧支管 All-flanged radial tees	┘	50
38	全盘四通 All-flanged tees	┘	50
39	45°全盘斜支管 45°All-flanged tees with angle branch	┘	51
40	全盘Y型管 All-flanged "Y"tees	┘	51
41	法兰接头 Flanged adaptor		52
42	柔性接头 Flexible coupling		53
43	万向接头 Universal coupling		53
44	法兰压盖 Gland		54
45	PVC承盘短管 PVC flange socket		55
46	PVC插盘短管 PVC flange spigot		55
47	PVC套管 PVC collar		55
48	PVC插堵 PVC cap		55
49	PVC 双承弯管 Double socket bend		56
50	PVC三承三通 All socket tee		57
51	PVC双承渐缩管 Double socket taper		58
52	PVC两承一盘三通 Double socket tee with flange branch		58
53	活动法兰 Loosing flange		59
54	活动过墙法兰 Loosing puddle flange		59
55	法兰垫片 Flange gaskets		60
56	法兰螺栓 Flange bolts		60
57	活动法兰弯管 Loosing flange bend		61
58	活动法兰三通 All loosing flange tee		62
59	活动法兰四通 Loosing flange crossing tee		63
60	双活动法兰渐缩管 Double loosing flange taper		64
61	双活动法兰短管 Double loosing flange pipe		65
62	活动法兰插盘短管 Loosing flange spigot		66
63	双活动法兰异型管 Double loosing flange pipe esse		66
64	可拆卸接头 Dismantling Adaptor		67
65	变径法兰 Reducing flange		67
66	PVC接头 PVC adaptor		68
67	PE快速接头 PE Quick joint		69



1 DN80~1200 T type joint



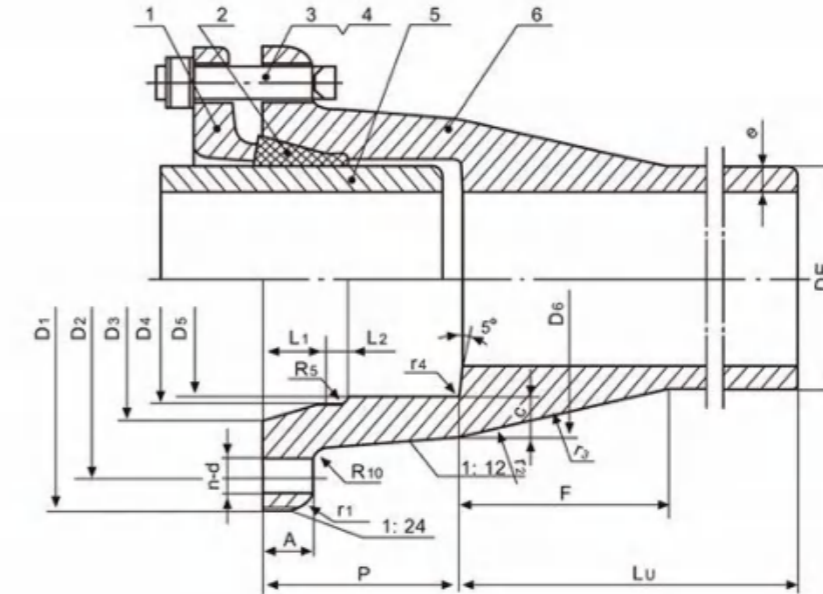
DN1400~1600 T type joint



DN	DE		d1	d2		d3		d5		d6	
80	98	+1	140	123	±1	100.5	±1	119.1	±1	103.2	±2
100	118	-2.8	163	143		120.5		138.9		123.4	
150	170	+1 -2.9	217	195		172.5		190.6		175.3	
200	222	+1 -3	278	250	+1.5	+1.5	+1.5	227.8			
250	274	+1 -3.1	336	301.5	-1	-1	-1	279.7			
300	326	+1 -3.3	393	356.5	+1.8	+1.8	+1.8	332.1			
350	378	+1 -3.4	448	408	-1	-1	-1	383.8			
400	429	+1 -3.5	500	462	+2.1 -1	+2.1 -1	+2.1 -1	435.8	±2.5		
450	480	+1 -3.6	540	514	+2.2 -1	+2.2 -1	+2.2 -1	487			
500	532	+1 -3.8	604	568	+2.4 -1	+2.4 -1	+2.4 -1	539.4	±3		
600	635	+1 -4	713	673.4	+2.7 -1	+2.7 -1	+2.7 -1	642.6			
700	738	+1 -4.2	824	788	+3.5 -1	+3.5 -1	+3.5 -1	745.8	±3.5		
800	842	+1 -4.5	943	894	+3.8 -1	+3.8 -1	+3.8 -1	850	±3.8		
900	945	+1 -4.8	1052	1000	+4.1 -1	+4.1 -1	+4.1 -1	953.2	±4.1		
1000	1048	+1 -5	1158	1105	+4.4 -1	+4.4 -1	+4.4 -1	1056.4	±4.4		
1100	1152	+1 -5.2	1267	1211	+4.7 -1	+4.7 -1	+4.7 -1	1160.2	±4.7		
1200	1255	+1 -5.5	1377	1317	+5 -1	+5 -1	+5 -1	1264	±5		
1400	1462	+1 -6	1610	1529	+5.6 -1	+5.6 -1	+5.6 -1	1471	±5.6		
1500	1565	+1 -6	1710	1635	+5.6 -1	+5.6 -1	+5.6 -1	1575	±5.6		
1600	1668	+1 -6.5	1814	1740	+6.2 -1	+6.2 -1	+6.2 -1	1678	±6.2		
1800	1875	+1 -6	2050	1954	+5 -0	+5 -0	+5 -0	1885	±5		

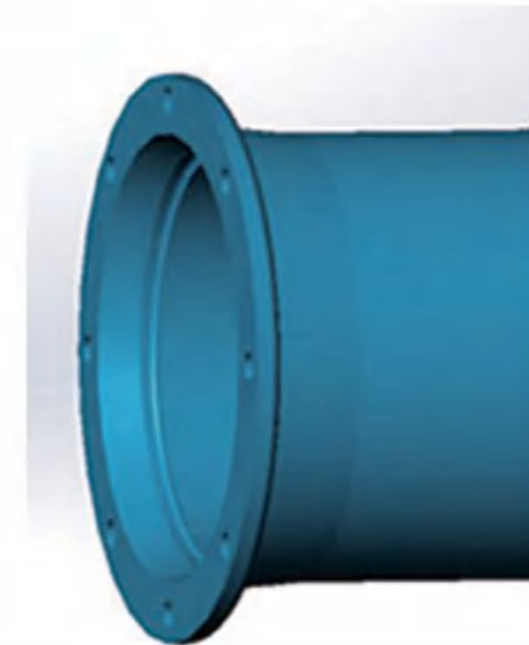
DN	d7	d8	c	f		t1	t2	t3	t4		t5	t6
80	122	135	8	3.5	0 -0.8	85	40	12	6	0 -0.5	5	8
100	142	155.7	8.4	3.5		88	40	12	6		5	8
150	195.6	209	9.1	3.5		94	40	12	6		5	8
200	251	265	9.8	4		100	45	15	7		6	10
250	305	323	10.5	4		105	47	15	7		6	10
300	368.5	384	11.2	4.5		110	50	17	8.5		7	12
350	410.3	433	11.9	4.5		110	50	17	8.5		7	12
400	463	482.4	12.6	5		110	55	19	9.5		8	14
450	518.4	533	13.3	5		120	55	19	9.5		8	15
500	569.7	590.6	14	5.5		120	60	21	11		9	16
600	676.7	698.8	15.4	6	120	65	21	12	10	16		
700	789	813	16.8	7	150	80	21	18	12	16		
800	892.2	922.3	18.2	8	160	85	21	18	14	16		
900	999.2	1030.5	19.6	9	175	90	21	20	16	16		
1000	1106	1139	21	9	185	95	22	20	16	16		
1100	1213.5	1247.3	22.4	10	200	100	24	23	18	16		
1200	1321	1355.6	23.8	10	215	105	25	23	18	17		
1400	1535	1584.5	26.6	-	239	115	27	25	-	18		
1500	1641.5	1701.6	28	-	250	120	29	26	-	19		
1600	1748	1814	29	-	262	125	30	27	-	20		
1800	1960	2022	32	-	300	153	40	33	-	20		

DN	t7	t8	t9	t10	r1	r2	r4	r5	X	Y	Mass (kg)
80	48	5	39	80	4	5	22	62	6	2	3.4
100	48	5	39	88	4	5	17	68	9	3	4.3
150	48	5	43	94	4	5	18.5	74	9	3	7.1
200	56	6.2	48	100	4	6	35	70	9	3	10.3
250	58	6.8	48	105	4	6	36	72	9	3	14.2
300	61	7.2	56	110	6	7	37	74	9	3	18.6
350	61	5.1	55	113	6	7	24.5	98	9	3	23.7
400	68	5.1	58	116	6	8	26	104	9	3	29.3
450	68	6	66	120	6	8	28	105	9	3	38.3
500	75	7	63	120	6	10	29	116	9	3	42.8
600	80	9.2	62	120	6	10	32	128	9	3	59.3
700	90	10.6	77	150	8	10	35	140	15	5	79.1
800	96.5	12.4	86.5	160	8	10	38	160	15	5	102.6
900	103	14.2	92.5	175	8	10	42	175	15	5	129.9
1000	110	16	103	185	8	10	45	200	15	5	161.3
1100	116	17	107.5	200	10	12	46.5	207.5	15	5	194.7
1200	122	17.8	112	215	10	12	48	215	15	5	237.7
1400	125	19	129	239	10	12	100	205	20	7	385.3
1500	149	19	157.5	250	10	10	380	210	21	7	474.7
1600	155	19	165	262	10	10	380	210	21	7	526
1800	64	50	142	300	10	10	200	100	27	9	702



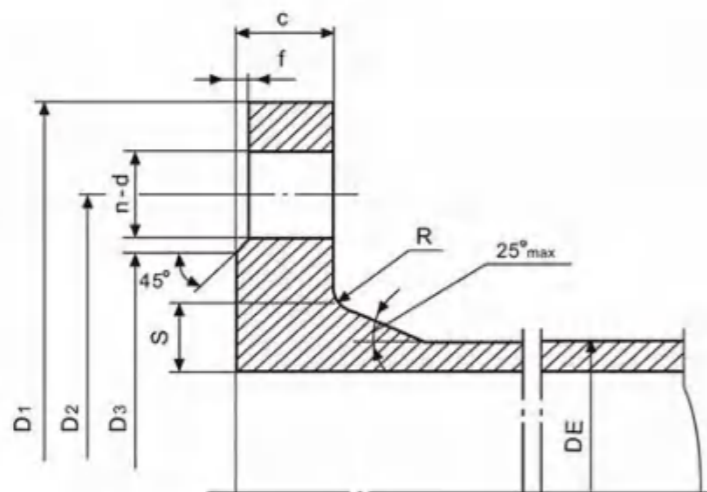
Type	1	2	3	4	5	6
K	Gland	Gasket	Bolt	Nut	Spigot	Socket

3 K Type joint



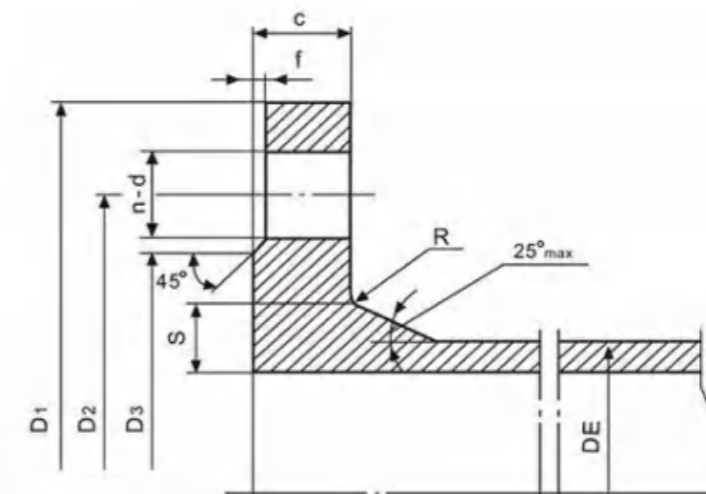
DN	DE		D1	D2	D3	D4		D5		D6	A	
100	118	+1 -3	234	188	148	130	±1	121	+2 -1	140	19	
150	170		288	242	200	182		173		194	20	
200	222		341	295	252	234		225		247	20	
250	274		395	349	304	286		277		301	21	
300	326		455	409	360	342		329		358	22	
350	378		508	462	412	394		382		410	23	
400	429	±1.5	561	515	463	445	433	+3 -1	462	23		
450	480		614	568	514	496	484		515	24		
500	532		667	621	566	548	536		568	25		
600	635		773	727	669	651	639		675	26		
700	738		+1 -4	892	838	780	758		743	+3.5 -2	781	28
800	842			999	945	884	862		847		888	29
900	945	1123		1057	987	965	950	994	31			
1000	1048	+1 -5	1231	1165	1090	1068	±2	1054	+3.5 -3	1101	32	
1100	1152	+1 -5.2	1338	1272	1194	1172		1158		1208	33	
1200	1255	+1 -5.5	1444	1378	1297	1275		1261		1314	35	
1400	1462	+1 -6	1657	1591	1504	1482	±2.5	1469	+4 -3	1527	38	
1500	1565		1766	1700	1608	1586		1573		1634	40	
1600	1668	+1 -6.5	1874	1808	1720	1690	1678	+4.5 -3	1740	41		
1800	1875	+1 -7	2089	2023	1927	1897	±2.8	1883	+5 -4	1954	43	
2000	2082	+1 -7.5	2305	2239	2134	2104		2091	+5.5 -4	2168	46	

DN	c	P	F	r1	r2	r3	L1	L2	d	n/ Hole	Mass (kg)
100	8.4	80	50	8	28	100	33	9	23	4	5.9
150	9.1	80	53	8	18	110	33	9	23	6	8.4
200	9.8	80	57	8	32	115	33	9	23	6	11
250	10.5	80	60	10	20	125	33	9	23	8	14.1
300	11.2	110	68	10	35	135	33	13	23	8	22.4
350	11.9	110	72	10	45	145	33	13	23	10	27.2
400	12.6	110	75	10	40	150	33	13	23	12	31.5
450	13.3	110	78	10	50	150	33	13	23	12	37.3
500	14	110	82	10	55	160	33	13	23	14	42.8
600	15.4	110	89	10	55	170	33	13	23	14	55.4
700	16.8	120	96	10	50	190	43	14	27	16	73.9
800	18.2	120	103	10	52	208	43	14	27	20	90.2
900	19.6	120	110	10	50	225	43	14	33	20	115.6
1000	21	130	119	15	50	240	43	15	33	20	146.6
1100	22	130	126	15	80	245	43	15	33	24	172.4
1200	24	130	133	15	85	250	43	15	33	28	201
1400	27	130	147	15	70	280	43	15	33	28	265.8
1500	28	130	155	15	60	300	43	15	33	28	298.8
1600	29	160	163	15	50	354	59	17	33	30	375.4
1800	32	170	179	20	60	370	59	17	33	34	490.6
2000	35	180	195	20	120	380	59	17	33	36	626.4



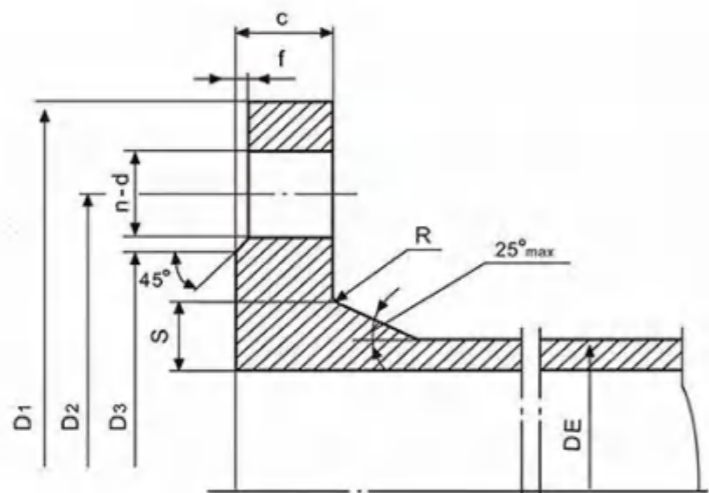
5 PN10 Flange

DN	D1	D2	D3	DE	c	f	S	R	Bolts			Mass
									d	size	n	
80	200	160	132	98	19	3	15	6	19	M16	8	2.9
100	220	180	156	118	19	3	15	6	19	M16	8	3.3
150	285	240	211	170	19	3	15	8	23	M20	8	4.9
200	340	295	266	222	20	3	16	8	23	M20	8	6.8
250	400	350	319	274	22	3	17.5	10	23	M20	12	9.8
300	455	400	370	326	24.5	4	19.5	10	23	M20	12	12.8
350	505	460	429	378	24.5	4	19.5	10	23	M20	16	14.1
400	565	515	480	429	24.5	4	19.5	10	28	M24	16	16.3
450	615	565	530	480	24.5	4	20.5	12	28	M24	20	18.1
500	670	620	582	532	26.5	4	21	12	28	M24	20	21.8
600	780	725	682	635	30	5	24	12	31	M27	20	30.8
700	895	840	794	738	32.5	5	23	16	31	M27	24	40.5
800	1015	950	901	842	35	5	24.5	16	34	M30	24	54.8
900	1115	1050	1001	945	37.5	5	26.5	16	34	M30	28	64.3
1000	1230	1160	1112	1048	40	5	28	16	37	M33	28	81.4
1100	1340	1270	1218	1152	42.5	5	30	20	37	M33	32	105
1200	1455	1380	1328	1255	45	5	31.5	20	40	M36	32	121
1400	1675	1590	1530	1462	46	5	32	20	43	M39	36	148
1500	1785	1700	1640	1565	47.5	5	33	20	43	M39	36	201.4
1600	1915	1820	1750	1668	49	5	34.5	20	49	M45	40	206
1800	2115	2020	1950	1875	52	5	36.5	20	49	M45	44	236.3
2000	2325	2230	2150	2082	55	5	38.5	20	49	M45	48	279.4



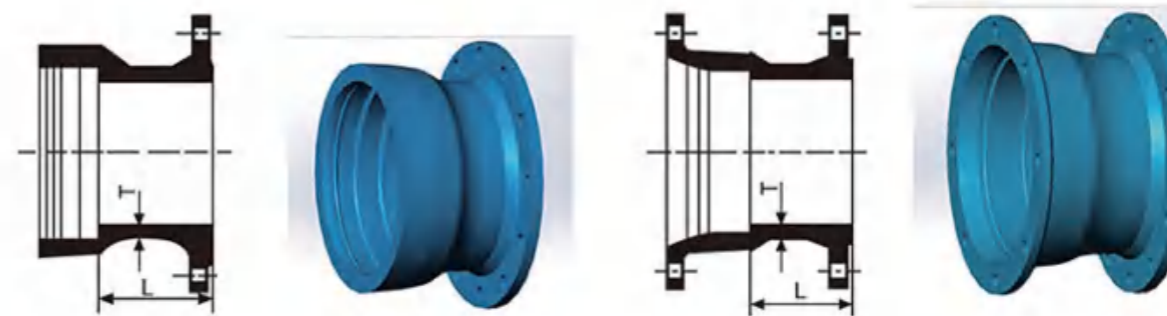
6 PN16 Flange

DN	D1	D2	D3	DE	c	f	S	R	Bolts			Mass
									d	size	n	
80	200	160	132	98	19	3	15	6	19	M16	8	2.9
100	220	180	156	118	19	3	15	6	19	M16	8	3.3
150	285	240	211	170	19	3	15	8	23	M20	8	4.9
200	340	295	266	222	20	3	16	8	23	M20	12	6.6
250	400	355	319	274	22	3	17.5	10	28	M24	12	9.2
300	455	410	370	326	24.5	4	19.5	10	28	M24	12	12.4
350	520	470	429	378	26.5	4	21	10	28	M24	16	17.2
400	580	525	480	429	28	4	22.5	10	31	M27	16	21.9
450	640	585	548	480	30	4	24	12	31	M27	20	26.7
500	715	650	609	532	31.5	4	25	12	34	M30	20	37.0
600	840	770	720	635	36	5	29	12	37	M33	20	57.3
700	910	840	794	738	39.5	5	27.5	16	37	M33	24	55.6
800	1025	950	901	842	43	5	30	16	40	M36	24	74.0
900	1125	1050	1001	945	46.5	5	32.5	16	40	M36	28	88.2
1000	1255	1170	1112	1048	50	5	35	16	43	M39	28	123
1100	1355	1270	1218	1152	53.5	5	37.5	20	43	M39	32	141
1200	1485	1390	1328	1255	57	5	40	20	49	M45	32	185
1400	1685	1590	1530	1462	60	5	42	20	49	M45	36	216
1500	1820	1710	1640	1565	62.5	5	44	20	56	M52	36	289.3
1600	1930	1820	1750	1668	65	5	45.5	20	56	M52	40	308
1800	2130	2020	1950	1875	70	5	49	20	56	M52	44	362.2
2000	2345	2230	2150	2082	75	5	52.5	20	62	M56	48	432.2



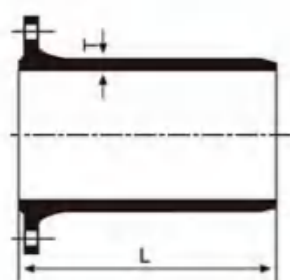
7 PN 25 Flange

DN	D1	D2	D3	DE	c	f	S	R	Bolts			Mass
									d	size	n	
80	200	160	132	98	19	3	15	6	19	M16	8	2.9
100	235	190	156	118	19	3	15	6	23	M20	8	3.8
150	300	250	211	170	20	3	16	8	28	M24	8	5.9
200	360	310	274	222	22	3	17.5	8	28	M24	12	8.7
250	425	370	330	274	24.5	3	19.5	10	31	M27	12	13.1
300	485	430	389	326	27.5	4	22	10	31	M27	16	18.0
350	555	490	448	378	30	4	24	10	34	M30	16	25.5
400	620	550	503	429	32	4	25.5	10	37	M33	16	33.2
450	670	600	548	480	34.5	4	27.5	12	37	M33	20	42.2
500	730	660	609	532	36.5	4	29	12	37	M33	20	48.7
600	845	770	720	635	42	5	32.5	12	40	M36	20	71.5
700	960	875	820	738	46.5	5	33.5	16	43	M39	24	90.3
800	1085	990	928	842	51	5	35.5	16	49	M45	24	123
900	1185	1090	1028	945	55.5	5	39	16	49	M45	28	149
1000	1320	1210	1140	1048	60	5	42	16	56	M52	28	201
1100	1420	1310	1240	1152	64.5	5	45	20	56	M52	32	224
1200	1530	1420	1350	1255	69	5	48.5	20	56	M52	32	285
1400	1755	1640	1560	1462	74	5	52	20	62	M56	36	368
1600	1975	1860	1780	1668	81	5	56.5	20	62	M56	40	486
1800	2195	2070	1985	1875	88	5	61.5	20	70	M64	44	601.9
2000	2425	2300	2210	2082	95	5	66.5	20	70	M64	48	784.9

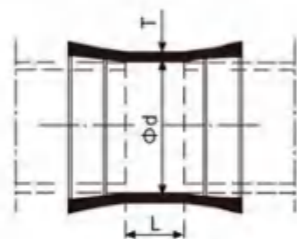


8 Flanged sockets

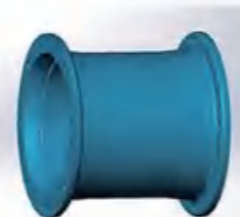
DN	T	L	Mass					
			T			K		
			PN10	PN16	PN25	PN10	PN16	PN25
80	7	130	8.1	8.1	8.1	9.3	9.3	9.3
100	7.2	130	10.0	10.0	10.3	11.3	11.3	12.5
150	7.8	135	15.8	15.8	16.8	18.0	18.0	19.0
200	8.4	140	22.0	22.0	24.0	23.0	23.0	25.0
250	9	145	31.0	31.0	34.5	31.0	31.0	34.5
300	9.6	150	39.0	39.0	44.0	45.3	45.3	50.6
350	10.2	155	47.0	50.0	58.0	53.0	55.5	63.0
400	10.8	160	57	63	74.0	64.0	70.0	81.0
450	11.4	165	71	78	88.5	74.5	82.0	92.5
500	12	170	84	99	110	87.0	100	110
600	13.2	180	112	138	152	115	140	152
700	14.4	190	161	176	210	162	174	211
800	15.6	200	215	235	283	205	220	274
900	16.8	210	263	287	345	252	271	341
1000	18	220	333	370	458	317	351	458
1100	19.2	230	410	446	527	377	412	490
1200	20.4	240	493	557	643	456	521	664
1400	22.8	310	758	825	978	654	711	882
1500	24	330	947	1035	1172	771	859	996
1600	25.2	330	1035	1137	1315	897	999	1176
1800	27.6	350	1308	1421	1638	1137	1263	1503
2000	30	370				1428	1581	1933



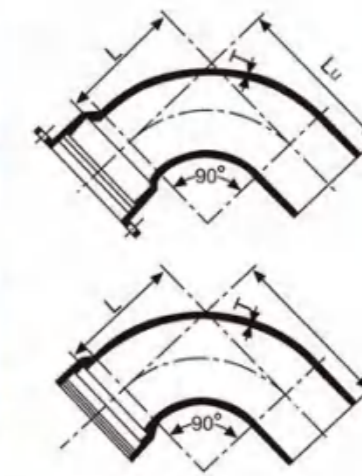
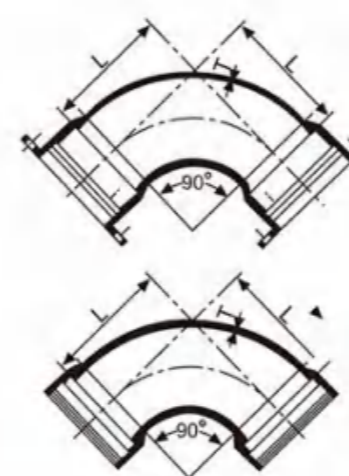
9 Flanged Spigots



10 Collars

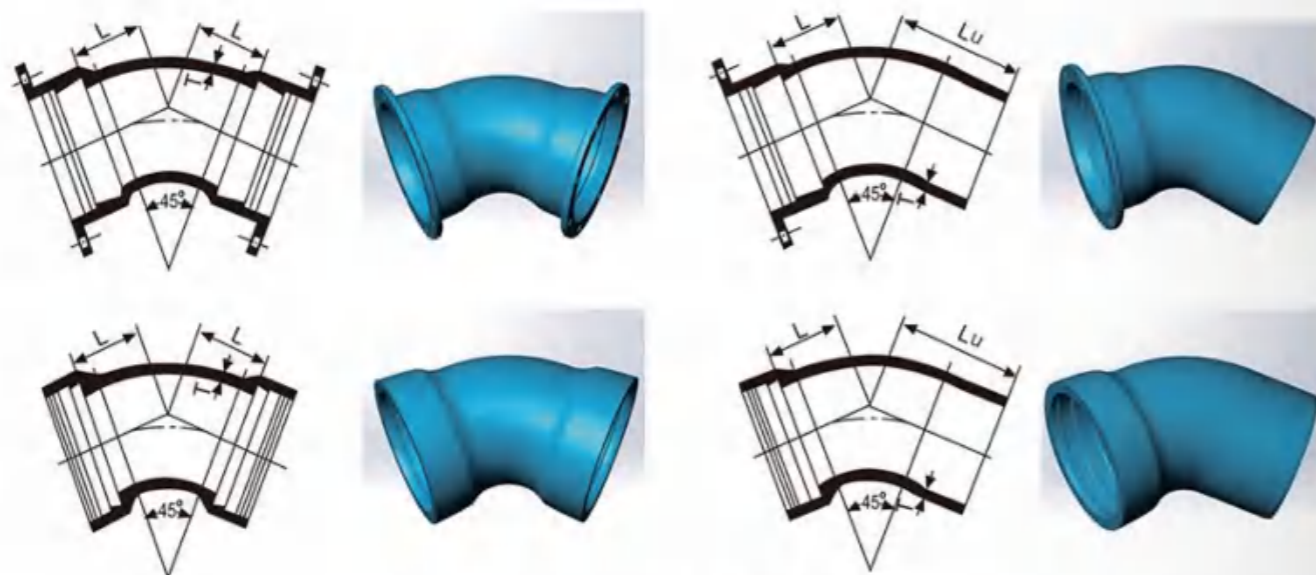


DN	T	Flanged Spigots				Collars			
		L	Mass			L	d	Mass	
			PN10	PN16	PN25			T	K
80	7	350	7.8	7.8	7.8	160	109	9.1	12.9
100	7.2	360	9.7	9.7	10.2	160	130	11.5	15.8
150	7.8	380	15.6	15.6	16.6	165	183	18.0	23.5
200	8.4	400	23	23	25	170	235	25	30.0
250	9	420	32	32	35.5	175	288	33	38.5
300	9.6	440	43	42.5	47.5	180	340	43	54.0
350	10.2	460	52	55	64	185	393	57	67.5
400	10.8	480	64	70	81	190	445	72	81.0
450	11.4	500	79	88	101	195	498	91	98.0
500	12	520	94	109	121	200	550	104	113
600	13.2	560	133	159	173	210	655	146	149
700	14.4	600	179	194	228	220	760	192	198
800	15.6	600	226	245	294	230	865	250	246
900	16.8	600	272	295	356	240	970	316	314
1000	18	600	328	369	447	250	1075	380	396
1100	19.2	600	394	430		260	1180	466	470
1200	20.4	600	456	520		270	1285	570	553
1400	22.8	710	664	732		340	1492	890	777
1500	24	750	812	913		350	1596	1113	884
1600	25.2	780	922	1024		360	1699	1382	1081
1800	27.6	850	1196	1322		380	1906	1822	1410
2000	30	920	1534	1687		400	2133		1798



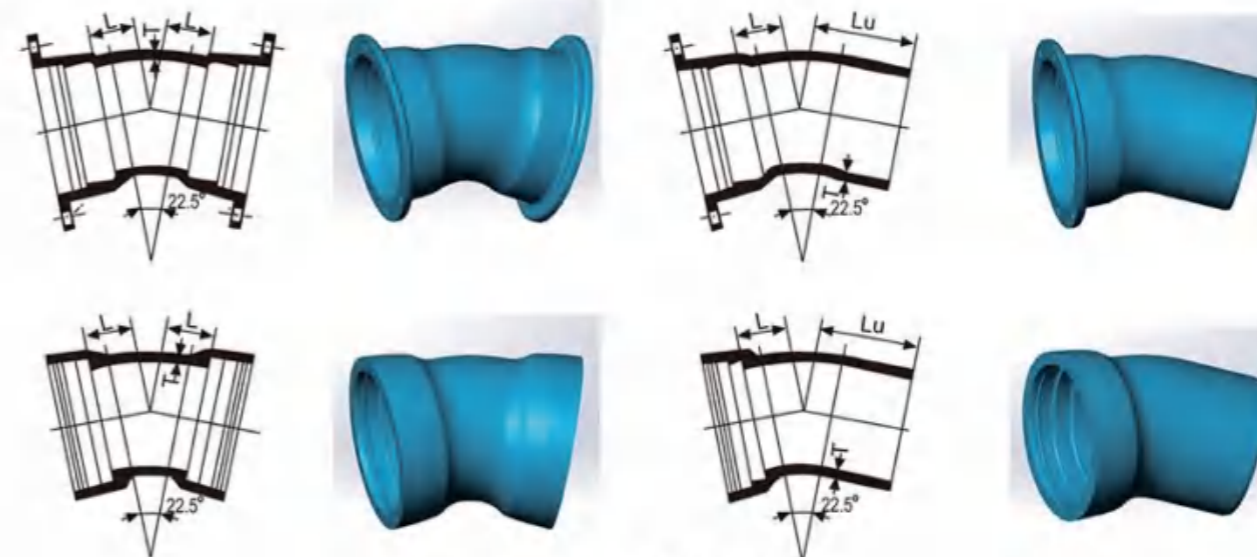
11 90° Socket bends

DN	T	L	Lu	Mass			
				Double-socket		Socket-spigot	
				T	K	T	K
80	7	100	280	8.6	12	9	10.6
100	7.2	120	300	11.5	15.6	11.9	14.3
150	7.8	170	350	20.5	27.5	21.4	23.9
200	8.4	220	400	36	40	35.6	36.4
250	9	270	450	48.5	55.5	54.1	57.6
300	9.6	320	500	70.5	81.5	69.6	75
350	10.2	370	550	97.5	109	99.7	105
400	10.8	420	600	129	139	138	135
450	11.4	470	670	163	172	172	171
500	12	520	720	204	210	205	208
600	13.2	620	820	303	300	301	299
700	14.4	720	900	455	445	436	434
800	15.6	820	1000	605	579	622	597
900	16.8	920	1100	813	720	819	805
1000	18	1020	1200	1045	986	1081	1066
1100	19.2	1120	1300	1418	1373	1354	1331
1200	20.4	1220	1400	1663	1660	1671	1634
1400	22.8	1220	1400	2419	2180	2170	2050
1500	24	1270	1525	2985	2636	2340	2138
1600	25.2	1290	1555	3418	3116	2904	2753
1800	27.6	1320	1560	4283	3861	3320	3469
2000	30	1360	1620		4948		4667



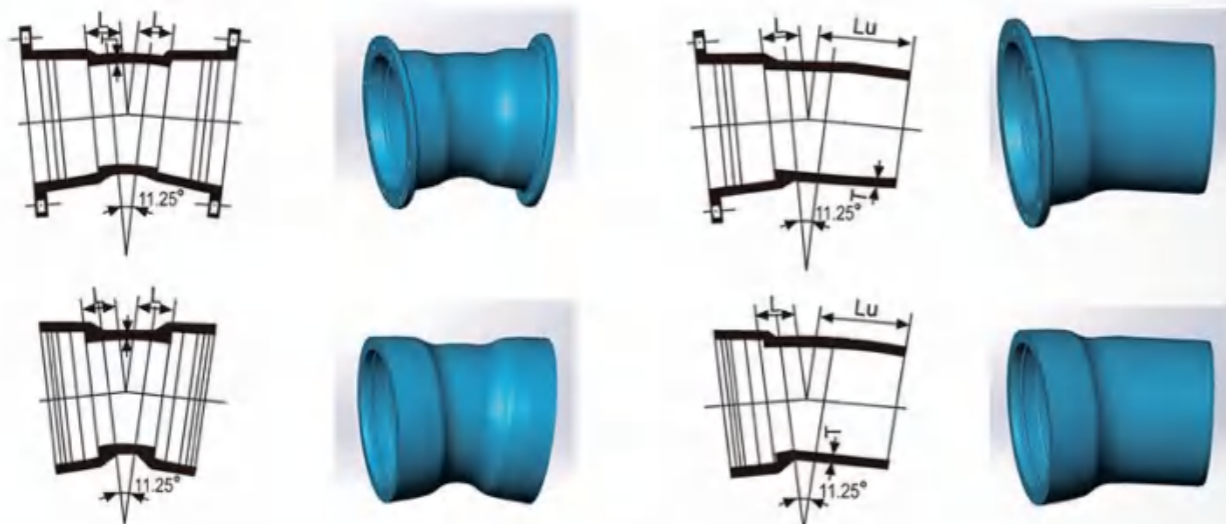
12 45° Socket bends

DN	T	L	Lu	Mass			
				Double-socket		Socket-spigot	
				T	K	T	K
80	7	55	235	7.7	11.1	8.1	8.4
100	7.2	65	245	10.1	14.3	10.6	13
150	7.8	85	265	17.4	24	18.2	20.7
200	8.4	110	290	29	30.4	28.2	30.4
250	9	130	310	47.5	42	40.2	41.6
300	9.6	150	330	55	66	54.6	56
350	10.2	175	355	76	83.5	71.3	69.3
400	10.8	195	375	89	104	89.9	95.1
450	11.4	220	420	123	132	125	129
500	12	240	440	139	150	139	142
600	13.2	285	485	202	209	200	198
700	14.4	330	580	290	289	310	302
800	15.6	370	620	382	373	418	395
900	16.8	415	665	501	488	554	540
1000	18	460	760	640	629	710	695
1100	19.2	505	805	856	836	805	769
1200	20.4	550	850	1089	943	985	929
1400	22.8	515	815	1509	1280	1352	1232
1500	24	540	840	1803	1488	1608	1433
1600	25.2	565	885	2100	1770	1849	1698
1800	27.6	610	890	2782	2300	2509	2222
2000	30	660	920		3020		2656



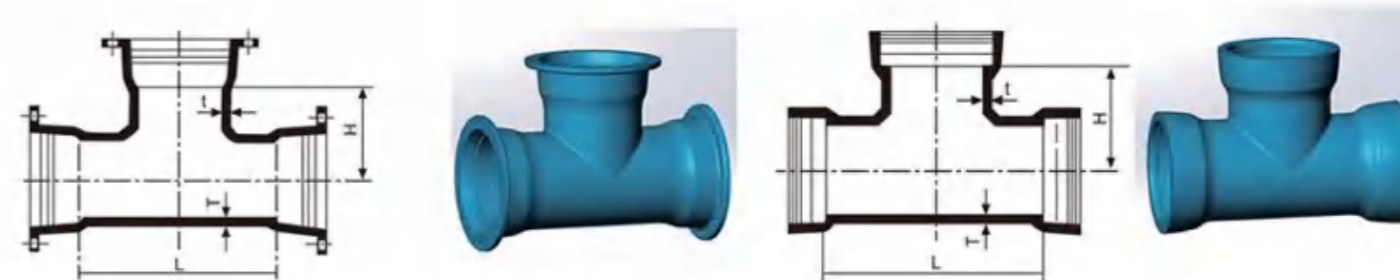
13 22.5° Socket bends

DN	T	L	Lu	Mass			
				Double-socket		Socket-spigot	
				T	K	T	K
80	7	40	220	7.5	10.7	7.7	8.1
100	7.2	40	220	9.5	13.5	9.8	10.2
150	7.8	55	235	15.9	22.5	16.8	16.2
200	8.4	65	245	26	30.5	25.2	22.8
250	9	75	255	36	36	35.2	31.1
300	9.6	85	265	47	56	46.2	46.5
350	10.2	95	275	63	68	59	56.9
400	10.8	110	290	79	84	79.5	84.7
450	11.4	120	320	102	110	107	87.8
500	12	130	330	111	123	117	104.2
600	13.2	150	350	157	164	161	142.7
700	14.4	175	425	248	240	248	240
800	15.6	195	445	331	308	331	308
900	16.8	220	470	432	417	432	388
1000	18	240	540	550	469	550	425
1100	19.2	260	560	710	595	590	552
1200	20.4	285	585	851	720	851	700
1400	22.8	260	560	1241	910	1241	933
1500	24	270	570	1410	1043	1320	1100
1600	25.2	280	640	1659	1198	1527	1377
1800	27.6	305	665	2037	1629	2245	1837
2000	30	330	730		2153		2373



14 11.25 ° Socket bends

DN	T	L	Lu	Mass			
				Double-socket		Socket-spigot	
				T	K	T	K
80	7	30	210	7.1	10.5	7.4	8
100	7.2	30	210	8.9	13.1	9.4	11.7
150	7.8	35	215	16	21.5	16	17.1
200	8.4	40	220	24	25	23.2	25.4
250	9	50	230	34	37.5	32.2	33.6
300	9.6	55	235	43	54	42.2	47.6
350	10.2	60	240	57	66	53.2	58.5
400	10.8	65	245	70	74	70.5	75.7
450	11.4	70	270	92	94	97	101
500	12	75	275	96	108	102	104
600	13.2	85	285	134	141	138	136
700	14.4	95	345	216	187	216	209
800	15.6	110	360	286	234	286	263
900	16.8	120	370	374	297	374	359
1000	18	130	430	473	381	473	431
1100	19.2	140	440	600	455	515	475
1200	20.4	150	450	724	541	724	724
1400	22.8	130	430	1047	697	1047	1047
1500	24	140	440	1204	794	1097	1091
1600	25.2	140	500	1309	1008	1146	1134
1800	27.6	155	515	1707	1331	1458	1270
2000	30	165	565		1702		1594



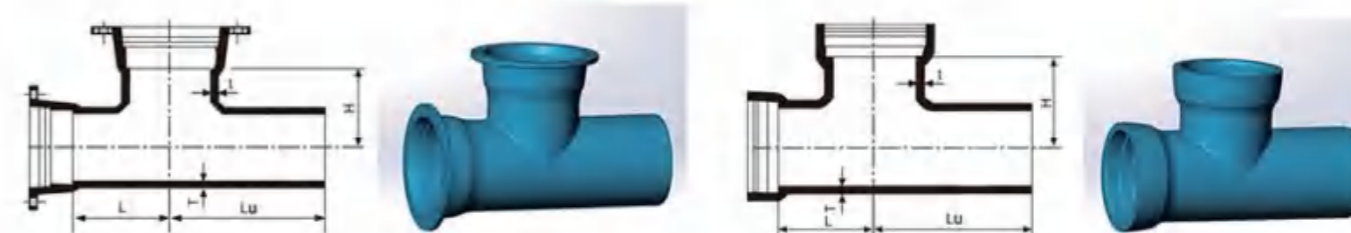
15 All-socket tees

DNx _{dn}	T	L	t	H	Mass	
					T	K
80x80	7.0	170	7.0	85	13.5	17.7
100x80	7.2	170	7.0	95	16.3	21.5
100x100	7.2	190	7.2	95	17.5	23.5
150x80	7.8	170	7.0	120	24	29.5
150x100	7.8	195	7.2	120	26	31
150x150	7.8	255	7.8	125	31	35.6
200x80	8.4	175	7.0	145	30.0	37.9
200x100	8.4	200	7.2	145	32.0	38.8
200x150	8.4	255	7.8	150	37.0	45.0
200x200	8.4	315	8.4	155	48.0	50.5
250x80	9.0	180	7.0	170	40.0	45
250x100	9.0	200	7.2	170	43.0	48
250x150	9.0	255	7.8	175	53.0	57
250x200	9.0	315	8.4	180	60.0	61
250x250	9.0	375	9.0	190	69.0	68
300x100	9.6	205	7.2	195	54.5	68
300x150	9.6	260	7.8	200	68.0	78
300x200	9.6	320	8.4	205	76.0	84.5
300x250	9.6	375	9.0	210	84.0	92.1
300x300	9.6	435	9.6	220	98.0	106
350x100	10.2	200	7.2	220	71.0	80
350x150	10.2	265	7.8	225	87.0	95
350x200	10.2	325	8.4	230	91.0	98
350x250	10.2	360	9.0	235	97.0	109
350x300	10.2	435	9.6	240	106	122
350x350	10.2	495	10.2	250	120	131
400x100	10.8	210	7.2	245	83	95
400x150	10.8	265	7.8	250	98	111
400x200	10.8	325	8.4	255	105	114
400x250	10.8	375	9.0	260	116	128
400x300	10.8	435	9.6	270	132	142
400x350	10.8	495	10.2	270	145	152
400x400	10.8	560	10.8	280	160	167

DNx dn	T	L	t	H	Mass	
					T	K
450x100	11.4	210	7.2	270	110	116
450x150	11.4	270	7.8	280	117	128
450x200	11.4	325	8.4	280	133	132
450x250	11.4	390	9.0	290	138	147
450x300	11.4	445	9.6	290	149	163
450x350	11.4	495	10.2	300	161	175
450x400	11.4	560	10.8	300	175	188
450x450	11.4	620	11.4	310	190	203
500x100	12.0	215	7.2	295	115	123
500x150	12.0	270	7.8	300	137	145
500x200	12.0	330	8.4	310	141	148
500x250	12.0	390	9.0	310	161	168
500x300	12.0	450	9.6	320	174	185
500x350	12.0	510	10.2	320	187	198
500x400	12.0	560	10.8	330	199	210
500x450	12.0	620	11.4	335	214	224
500x500	12.0	680	12.0	340	234	242
600x100	13.2	220	7.2	345	169	168
600x150	13.2	280	7.8	350	185	184
600x200	13.2	340	8.4	360	188	187
600x250	13.2	400	9.0	360	215	213
600x300	13.2	450	9.6	370	237	233
600x350	13.2	510	10.2	370	246	248
600x400	13.2	570	10.8	380	258	259
600x450	13.2	630	11.4	385	280	281
600x500	13.2	685	12.0	390	296	296
600x600	13.2	800	13.2	400	343	337
700x100	14.4	230	7.2	400	224	215
700x150	14.4	290	7.8	400	241	232
700x200	14.4	340	8.4	410	289	250
700x300	14.4	460	9.6	420	326	292
700x400	14.4	575	10.8	430	349	343
700x500	14.4	690	12.0	440	400	390
700x600	14.4	810	13.2	450	452	438
700x700	14.4	920	14.4	460	509	494
800x100	15.6	230	7.2	445	287	264
800x150	15.6	290	7.8	450	307	284
800x200	15.6	350	8.4	460	330	310
800x300	15.6	465	9.6	470	399	353
800x400	15.6	580	10.8	480	439	398
800x500	15.6	700	12.0	490	472	447
800x600	15.6	810	13.2	500	586	521
800x700	15.6	930	14.4	510	629	576
800x800	15.6	1045	15.6	520	701	650

DNx dn	T	L	t	H	Mass	
					T	K
900x100	16.8	240	7.2	500	360	333
900x150	16.8	300	7.8	500	386	366
900x200	16.8	360	8.4	510	436	409
900x300	16.8	470	9.6	520	462	438
900x400	16.8	590	10.8	530	543	501
900x500	16.8	700	12.0	540	594	567
900x600	16.8	820	13.2	550	670	638
900x700	16.8	940	14.4	560	720	687
900x800	16.8	1050	15.6	570	800	785
900x900	16.8	1170	16.8	580	878	835
1000x100	18.0	250	7.2	550	443	445
1000x150	18.0	300	7.8	550	474	485
1000x200	18.0	360	8.4	560	512	513
1000x300	18.0	480	9.6	570	564	568
1000x400	18.0	590	10.8	580	650	638
1000x500	18.0	710	12.0	590	690	690
1000x600	18.0	830	13.2	600	810	776
1000x700	18.0	940	14.4	610	894	860
1000x800	18.0	1055	15.6	620	963	951
1000x900	18.0	1170	16.8	630	1054	1011
1000x1000	18.0	1290	18.0	645	1209	1114
1100x200	19.2	370	8.4	610	619	575
1100x400	19.2	600	10.8	630	781	739
1100x600	19.2	830	13.2	650	929	881
1100x800	19.2	1060	15.6	670	1180	1065
1100x1000	19.2	1295	18.0	695	1333	1274
1100x1100	19.2	1410	19.2	710	1449	1382
1200x100	20.4	260	7.0	650	658	577
1200x150	20.4	320	7.8	650	691	630
1200x200	20.4	370	8.4	660	735	665
1200x300	20.4	490	9.6	670	816	746
1200x400	20.4	605	10.8	680	907	836
1200x500	20.4	720	12.0	690	1000	932
1200x600	20.4	840	13.2	700	1095	1018
1200x700	20.4	950	14.4	710	1193	1115
1200x800	20.4	1070	15.6	720	1303	1217
1200x900	20.4	1185	16.8	730	1426	1339
1200x1000	20.4	1300	18.0	745	1546	1459
1200x1200	20.4	1530	20.4	770	1800	1690

DNx _{dn}	T	L	t	H	Mass	
					T	K
1400x100	22.8	270	7.2	750	1006	792
1400x200	22.8	385	8.4	760	1112	891
1400x400	22.8	620	10.8	780	1330	1098
1400x600	22.8	830	13.2	800	1570	1328
1400x800	22.8	1080	15.6	820	1910	1564
1400x1000	22.8	1310	18.0	845	2004	1845
1400x1200	22.8	1550	20.4	870	2409	2133
1400x1400	22.8	1780	22.8	890	2796	2436
1600x100	25.2	280	7.2	850	1345	1067
1600x200	25.2	400	8.4	860	1551	1190
1600x400	25.2	630	10.8	880	1797	1467
1600x600	25.2	860	13.2	900	2044	1738
1600x800	25.2	1090	15.6	920	2348	2033
1600x1000	25.2	1330	18.0	945	2686	2370
1600x1200	25.2	1560	20.4	970	3042	2705
1600x1400	25.2	1790	22.8	990	3479	3058
1600x1600	25.2	2020	25.2	1010	3921	3500
1800x100	27.6	290	7.2	945	1790	1373
1800x200	27.6	410	8.4	960	1954	1532
1800x400	27.6	640	10.8	980	2280	1859
1800x600	27.6	870	13.2	1000	2620	2193
1800x800	27.6	1110	15.6	1020	2993	2558
1800x1000	27.6	1340	18.0	1045	3377	2940
1800x1200	27.6	1570	20.4	1070	3791	3332
1800x1400	27.6	1800	22.8	1090	4284	3742
1800x1600	27.6	2030	25.2	1110	4781	4209
1800x1800	27.6	2270	27.6	1130	5342	4708
2000x200	30	420	8.4	1060		1930.5
2000x400	30	650	10.8	1080		2318
2000x600	30	890	13.2	1100		2737
2000x800	30	1120	15.6	1120		3146
2000x1000	30	1350	18.0	1145		3591
2000x1200	30	1580	20.4	1170		4045
2000x1400	30	1810	22.8	1190		4517
2000x1600	30	2050	25.2	1210		5062
2000x1800	30	2280	27.6	1230		5610
2000x2000	30	2510	30	1255		6202



16 Socket-spigot tees with socket branch

DNx _{dn}	T	L	Lu	t	H	Mass	
						T	K
80x80	7	85	275	7	85	13.1	15.9
100x80	7.2	85	275	7	95	15.6	19
100x100	7.2	95	275	7.2	95	16.9	21.7
150x80	7.8	85	275	7	120	22.6	26.5
150x100	7.8	100	280	7.2	120	24.6	29.5
150x150	7.8	130	310	7.8	125	28.9	34
200x80	8.4	90	275	7	145	31.4	34.3
200x100	8.4	100	280	7.2	145	33.2	37.8
200x150	8.4	130	310	7.8	150	38.2	42.9
200x200	8.4	160	340	8.4	155	44	48.4
250x80	9	90	300	7	170	41.3	43.2
250x100	9	100	300	7.2	170	43.8	47.6
250x150	9	130	310	7.8	175	51.9	55.8
250x200	9	160	340	8.4	180	56.7	60.3
250x250	9	190	370	9	190	64	66.8
300x100	9.6	105	285	7.2	200	57.5	65.3
300x150	9.6	130	310	7.8	200	67.1	75.1
300x200	9.6	160	340	8.4	205	72.3	79.9
300x250	9.6	190	370	9	210	82.7	89.5
300x300	9.6	220	400	9.6	220	91.3	100
350x100	10.2	100	310	7.2	220	69.9	77.5
350x150	10.2	125	340	7.8	225	81.8	89.5
350x200	10.2	160	340	8.4	230	87.1	94.5
350x250	10.2	190	370	9	235	99.1	106
350x300	10.2	220	400	9.6	240	109	120
350x350	10.2	250	430	10.2	250	118	129
400x100	10.8	105	310	7.2	245	84.2	91.8
400x150	10.8	135	340	7.8	250	98.7	106
400x200	10.8	165	345	8.4	255	103	110
400x250	10.8	190	375	9	260	118	125
400x300	10.8	220	400	9.6	270	128	138
400x350	10.8	250	430	10.2	270	139	149
400x400	10.8	280	460	10.8	280	152	163

DNx _{dn}	T	L	Lu	t	H	Mass	
						T	K
450x100	11.4	105	330	7.2	270	107	114
450x150	11.4	135	360	7.8	280	116	123
450x200	11.4	165	390	8.4	280	127	133
450x250	11.4	195	415	9	290	138	144
450x300	11.4	220	445	9.6	290	150	159
450x350	11.4	250	460	10.2	300	162	171
450x400	11.4	280	500	10.8	300	172	181
450x450	11.4	310	525	11.4	310	185	193
500x100	12	110	330	7.2	295	115	120
500x150	12	135	360	7.8	300	136	141
500x200	12	165	390	8.4	310	140	145
500x250	12	195	395	9	310	161	165
500x300	12	225	425	9.6	320	174	182
500x350	12	255	455	10.2	320	186	194
500x400	12	280	485	10.8	330	199	207
500x450	12	310	525	11.4	335	212	238
500x500	12	340	540	12	340	231	237
600x100	13.2	110	330	7.2	345	165	169
600x150	13.2	140	360	7.8	350	180	180
600x200	13.2	170	390	8.4	360	183	183
600x250	13.2	200	415	9	360	210	210
600x300	13.2	225	430	9.6	370	227	234
600x350	13.2	255	455	10.2	370	241	245
600x400	13.2	285	485	10.8	380	252	256
600x450	13.2	315	525	11.4	385	274	277
600x500	13.2	345	545	12	390	287	289
600x600	13.2	400	600	13.2	400	334	332
700x100	14.4	115	345	7.2	400	224	215
700x150	14.4	145	370	7.8	400	241	232
700x200	14.4	170	400	8.4	410	264	250
700x300	14.4	230	480	9.6	420	301	290
700x400	14.4	290	540	10.8	430	337	329
700x500	14.4	350	595	12	440	380	370
700x600	14.4	405	655	13.2	450	435	418
700x700	14.4	460	715	14.4	460	511	486
800x100	15.6	115	355	7.2	445	287	264
800x150	15.6	145	380	7.8	450	307	284
800x200	15.6	175	410	8.4	460	330	305
800x300	15.6	235	450	9.6	470	374	353
800x400	15.6	290	540	10.8	480	420	420
800x500	15.6	360	600	12	490	472	475
800x600	15.6	405	660	13.2	500	530	500
800x700	15.6	465	690	14.4	510	640	580
800x800	15.6	520	775	15.6	520	655	630

DNx _{dn}	T	L	Lu	t	H	Mass	
						T	K
900x100	16.8	120	425	7.2	500	360	333
900x150	16.8	150	455	7.8	500	386	359
900x200	16.8	180	485	8.4	510	415	383
900x300	16.8	235	535	9.6	520	462	438
900x400	16.8	295	590	10.8	530	518	491
900x500	16.8	350	600	12	540	574	564
900x600	16.8	410	660	13.2	550	635	602
900x700	16.8	470	720	14.4	560	700	667
900x800	16.8	525	815	15.6	570	774	733
900x900	16.8	585	835	16.8	580	858	815
1000x100	18	125	435	7.2	550	445	445
1000x150	18	150	465	7.8	550	474	475
1000x200	18	180	495	8.4	560	510	503
1000x300	18	240	545	9.6	570	564	568
1000x400	18	295	600	10.8	580	630	628
1000x500	18	355	650	12	590	690	690
1000x600	18	415	715	13.2	600	775	771
1000x700	18	470	770	14.4	610	850	842
1000x800	18	530	830	15.6	620	942	930
1000x900	18	585	880	16.8	630	1013	985
1000x1000	18	645	945	18	645	1117	1096
1100x200	19.2	185	510	8.4	610	591.6	556.7
1100x400	19.2	300	615	10.8	630	721	691
1100x600	19.2	415	725	13.2	650	860	830
1100x800	19.2	530	835	15.6	670	1031	981
1100x1000	19.2	650	1060	18	695	1293	1236
1100x1100	19.2	705	1005	19.2	710	1346	1274
1200x100	20.4	130	490	7.2	650	648	649
1200x150	20.4	160	515	7.8	650	685	686
1200x200	20.4	185	545	8.4	660	725	716
1200x300	20.4	245	605	9.6	670	816	819
1200x400	20.4	305	655	10.8	680	884	886
1200x500	20.4	360	710	12	690	966	966
1200x600	20.4	420	675	13.2	700	1064	1050
1200x700	20.4	475	820	14.4	710	1163	1138
1200x800	20.4	535	835	15.6	720	1259	1239
1200x900	20.4	595	895	16.8	730	1361	1325
1200x1000	20.4	650	950	18	745	1481	1447
1200x1200	20.4	765	1070	20.4	770	1743	1697

DNxdn	T	L	Lu	t	H	Mass	
						T	K
1400x100	22.8	135	515	7.2	750	940	794
1400x200	22.8	195	570	8.4	760	1039	895
1400x400	22.8	310	680	10.8	780	1232	1098
1400x600	22.8	425	790	13.2	800	1432	1310
1400x800	22.8	540	905	15.6	820	1787	1552
1400x1000	22.8	655	960	18	845	1963	1830
1400x1200	22.8	775	1075	20.4	870	2278	2123
1400x1400	22.8	890	1190	22.8	890	2665	2426
1600x200	25.2	200	720	8.4	860	1546	1332
1600x300	25.2	255	780	9.6	870	1674	1461
1600x400	25.2	315	830	10.8	880	1786	1578
1600x600	25.2	430	935	13.2	900	2023	1814
1600x800	25.2	545	1050	15.6	920	2296	2068
1600x1000	25.2	665	1165	18	945	2591	2355
1600x1200	25.2	780	1275	20.4	970	2910	2639
1600x1400	25.2	895	1380	22.8	990	3299	3003
1600x1600	25.2	1010	1490	25.2	1010	3752	3445
1800x200	27.6	205	720	8.4	960	1896	1673
1800x300	27.6	265	780	9.6	970	2063	1841
1800x400	27.6	320	830	10.8	980	2201	1983
1800x600	27.6	435	935	13.2	1000	2506	2288
1800x800	27.6	555	1050	15.6	1020	2808	2570
1800x1000	27.6	670	1165	18	1045	3146	2901
1800x1200	27.6	785	1275	20.4	1070	3588	3340
1800x1400	27.6	900	1380	22.8	1090	4081	3751
1800x1600	27.6	1015	1490	25.2	1110	4578	4217
1800x1800	27.6	1135	1595	27.6	1130	5139	4717
2000x200	30	210	720	8.4	1060		2058
2000x400	30	325	830	10.8	1080		2428
2000x600	30	445	935	13.2	1100		2766
2000x800	30	560	1050	15.6	1120		3129
2000x1000	30	675	1165	18	1145		3568
2000x1200	30	790	1275	20.4	1170		4022
2000x1400	30	905	1380	22.8	1190		4494
2000x1600	30	1025	1490	25.2	1210		5038
2000x1800	30	1140	1595	27.6	1230		5587
2000x2000	30	1255	1705	30	1255		6179



17 Double-socket tees with flanged branch



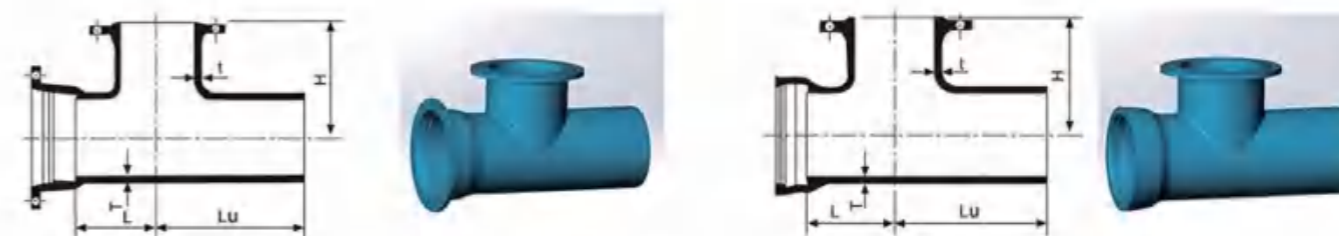
18 Double-socket level invert tees with flanged branch

DNxdn	T	L	t	H	Mass					
					T			K		
					PN10	PN16	PN25	PN10	PN16	PN25
80x80	7.0	170	7.0	165	13.5	13.5	13.5	16.7	16.7	16.7
100x80	7.2	170	7.0	175	17.0	17.0	17.0	19.7	19.7	19.7
100x100	7.2	190	7.2	180	18.5	18.5	18.9	21	21	21.5
150x80	7.8	170	7.0	205	25	25	25	28.5	28.5	28.5
150x100	7.8	195	7.2	210	27	27	31.5	30.5	30.5	31
150x150	7.8	255	7.8	220	32	32	33	35.5	35.5	36.5
200x80	8.4	175	7.0	235	31.5	31.5	31.5	36.5	36.5	36.5
200x100	8.4	200	7.2	240	33.5	33.5	34	38.5	38.5	39
200x150	8.4	255	7.8	250	41	41	42	44.5	44.5	45.5
200x200	8.4	315	8.4	260	49	49	51	51.5	51.0	53.0
250x80	9.0	180	7	265	44	44	44	47.0	47.0	47.0
250x100	9.0	200	7.2	270	45	45	47	48.0	48.0	48.5
250x150	9.0	255	7.8	280	57	57	57.6	59.0	59.0	60.0
250x200	9.0	315	8.4	290	59	59	59.0	62.5	62.0	64.0
250x250	9.0	375	9.0	300	71	71	75.0	71.5	71.0	74.5
300x100	9.6	205	7.2	300	60	60	60.5	68.0	68.0	68.5
300x150	9.6	260	7.8	310	69	69	69	78.5	78.5	79.5
300x200	9.6	320	8.4	320	77	77	79	84.0	84.0	86.0
300x250	9.6	375	9.0	330	89	87.5	91	94.0	91.0	96.0
300x300	9.6	435	9.6	340	89	98.4	104	102	102	107
350x100	10.2	200	7.2	330	68.0	71	71.5	78.4	78.1	79.0
350x150	10.2	265	7.8	340	87.5	87.5	88	93.0	93.0	94.0
350x200	10.2	325	8.4	350	90.5	90.5	89.5	96.0	96.0	98.0
350x250	10.2	360	9.0	360	103	114	125	114	118	123
350x300	10.2	435	9.6	370	113	118	129	118	124	135
350x350	10.2	495	10.2	380	117	120	132	129	132	139

DNx dn	T	L	t	H	Mass					
					T			K		
					PN10	PN16	PN25	PN10	PN16	PN25
400x100	10.8	210	7.2	360	83	83	83	93	93	93.5
400x150	10.8	265	7.8	370	102	102	103	109	109	110
400x200	10.8	325	8.4	380	112	112	114	113	112	114
400x250	10.8	375	9.0	390	119	118	122	127	128	132
400x300	10.8	435	9.6	400	131	132	137	137	140	142
400x350	10.8	495	10.2	410	143	146	153	158	156	163
400x400	10.8	560	10.8	420	160	166	177	163	168	178
450x100	11.4	210	7.2	390	99	99	99	110	110	110.5
450x150	11.4	270	7.8	400	119	119	120	127	127	128
450x200	11.4	325	8.4	410	122	122	124	130	130	132
450x250	11.4	390	9.0	420	141	141	145	149	149	153
450x300	11.4	445	9.6	430	149	149	154	157	157	162
450x350	11.4	495	10.2	440	166	169	177	174	177	186
450x400	11.4	560	10.8	450	179	185	192	185	189	200
450x450	11.4	620	11.4	460	192	200	211	200	208	219
500x100	12.0	215	7.2	420	116	116	117	124	124	125
500x150	12.0	270	7.8	430	137	137	137	143	143	144
500x200	12.0	330	8.4	440	142	142	143	149	149	151
500x250	12.0	390	9.0	450	165	171	169	172	171	177
500x300	12.0	450	9.6	460	171	179	176	177	177	182
500x350	12.0	510	10.2	470	192	195	203	198	201	210
500x400	12.0	560	10.8	480	199	205	216	207	212	223
500x450	12.0	620	11.4	490	220	228	244	226	235	250
500x500	12.0	680	12.0	500	236	249	260	242	256	266
600x100	13.2	200	7.2	480	170	170	178	152	152	153
600x150	13.2	280	7.8	490	187	187	188	183	183	184
600x200	13.2	340	8.4	500	189	189	191	187	187	188
600x250	13.2	400	9.0	510	219	218	222	215	215	218
600x300	13.2	450	9.6	520	235	235	240	222	222	227
600x350	13.2	510	10.2	530	252	255	263	247	251	260
600x400	13.2	570	10.8	540	258	263	274	258	263	274
600x450	13.2	630	11.4	550	285	293	309	281	289	305
600x500	13.2	685	12.0	560	304	309	331	301	305	327
600x600	13.2	800	13.2	580	340	366	380	345	368	380
700x100	14.4	230	7.2	510	242	242	243	243	243	244
700x150	14.4	290	7.8	520	246	246	247	246	246	247
700x200	14.4	340	8.4	525	253	252	254	250	249	251
700x300	14.4	460	9.6	540	300	300	306	301	301	307
700x400	14.4	575	10.8	555	331	337	344	329	334	345
700x500	14.4	690	12.0	570	391	406	418	392	407	409
700x600	14.4	810	13.2	585	421	445	460	422	445	457
700x700	14.4	920	14.5	600	478	492	525	476	488	521
800x100	15.6	230	7.2	570	295	295	295.5	295	295	295
800x150	15.6	290	7.8	580	308	308	309	298	298	299
800x200	15.6	350	8.4	585	321.5	321	323	302	301	303

DNx dn	T	L	t	H	Mass					
					T			K		
					PN10	PN16	PN25	PN10	PN16	PN25
800x300	15.6	465	9.6	600	371	371	377	362	362	368
800x400	15.6	580	10.8	615	412	419	428	396	401	412
800x500	15.6	700	12.0	630	500	515	527	513	528	540
800x600	15.6	815	13.2	645	560	586	602	579	603	614
800x700	15.6	930	14.4	660	620	635	669	595	610	643
800x800	15.6	1045	15.6	675	646	664	710	631	646	699
900x100	16.8	240	7.2	630	363	363	364	340	340	340.5
900x150	16.8	300	7.8	640	386	386	387	368	368	369
900x200	16.8	360	8.4	645	414	414	416	371	371	373
900x300	16.8	470	9.6	660	464	464	469	442	442	448
900x400	16.8	590	10.8	675	526	530	540	484	488	499
900x500	16.8	700	12.0	690	600	620	630	572	588	600
900x600	16.8	820	13.2	705	670	700	711	669	669	683
900x700	16.8	940	14.4	720	744	759	792	716	731	764
900x800	16.8	1050	15.6	735	808	823	876	780	800	847
900x900	16.8	1170	16.8	750	852	873	929	822	841	907
1000x100	18.0	250	7.2	690	449	449	449.5	420	420	420.5
1000x150	18.0	300	7.8	700	477	477	478	447	447	448
1000x200	18.0	360	8.4	705	498	498	500	467	468	469
1000x300	18.0	480	9.6	720	569	568.5	574	540	539	545
1000x400	18.0	590	10.8	735	634	640	651	605	611	622
1000x500	18.0	710	12	750	718	733	745	689	704	716
1000x600	18.0	830	13.2	765	958	982	994	771	797	812
1000x700	18.0	940	14.4	780	985	1000	1032	861	876	909
1000x800	18.0	1055	15.6	795	980	1055	1123	951	966	1016
1000x900	18.0	1170	16.8	810	1011	1086	1093	982	1006	1064
1000x1000	18.0	1290	18.0	825	1111	1153	1224	1082	1123	1195
1100x200	19.2	370	8.4	765	623	623	625	569	569	571
1100x400	19.2	600	10.8	795	788	794	805.3	724	730	741.3
1100x600	19.2	830	13.2	825	958	984.5	1009	894	920.5	935
1100x800	19.2	1060	15.6	855	1151	1171	1209	1027	1106	1155
1100x1000	19.2	1295	16.8	885	1315	1356	1427	1251	1292	1363
1100x1100	19.2	1410	19.2	900	1414.5	1450	1526	1350.5	1386	1462
1200x100	20.4	260	7.0	810	668	668	669	573	573	574
1200x150	20.4	320	7.8	820	695	695	696	621	621	622
1200x200	20.4	370	8.4	825	732	732	733	658	658	660
1200x300	20.4	490	9.6	840	823	823	827	769	769	775
1200x400	20.4	605	10.8	855	900	906	917	827	833	844
1200x500	20.4	720	12.0	870	984	1000	1012	911	930	940
1200x600	20.4	840	13.2	885	1091	1117	1131	1018	1044	1058
1200x700	20.4	950	14.4	900	1175	1190	1223	1102	1117	1150
1200x800	20.4	1070	15.6	915	1280	1299	1347	1207	1226	1274
1200x900	20.4	1185	16.8	930	1311	1394	1452	1297	1321	1379
1200x1000	20.4	1300	18.0	945	1472	1513	1584	1399	1440	1512
1200x1200	20.4	1530	20.4	975	1715	1779	1865	1642	1706	1792

DNx _{dn}	T	L	t	H	Mass					
					T			K		
					PN10	PN16	PN25	PN10	PN16	PN25
1400x100	22.8	450	7.2	905	1158	1158	1159	865	865	866
1400x200	22.8	565	8.4	920	1264	1264	1266	911	911	913
1400x400	22.8	800	10.8	950	1469	1475	1486	1176	1182	1193
1400x600	22.8	1030	13.2	980	1695	1722	1737	1402	1429	1443
1400x800	22.8	1260	15.6	1010	1912	1931	1979	1619	1638	1682
1400x1000	22.8	1495	18.0	1040	2174	2216	2289	1881	1922	1994
1400x1200	22.8	1725	20.4	1070	2414	2478	2364	2127	2185	2271
1400x1400	22.8	1960	22.8	1100	2708	2715	2928	2415	2482	2635
1600x100	25.2	460	7.2	1015	1550	1550	1552	1261	1261	1263
1600x200	25.2	580	8.4	1030	1748	1748	1750	1391	1391	1393
1600x400	25.2	810	10.8	1060	2002	2008	2017	1658	1664	1765
1600x600	25.2	1040	13.2	1090	2272	2298	2312	1971	1997	2011
1600x800	25.2	1275	15.6	1120	2811	2829	2875	2381	2399	2443
1600x1000	25.2	1505	18.0	1150	2890	2931	3002	2589	2630	2701
1600x1200	25.2	1740	20.4	1180	3194	3260	3344	2893	2957	3043
1600x1400	25.2	1970	22.8	1210	3520	3587	3740	3219	3286	3459
1600x1600	25.2	2200	25.2	1240	4039	4141	4319	3738	3840	4018
1800x100	27.6	475	7.2	1125	2065	2065	2066	1622	1622	1623
1800x200	27.6	590	8.4	1140	2185	2185	2186	1742	1742	1743
1800x400	27.6	820	10.8	1170	2525	2531	2542	2082	2088	2099
1800x600	27.6	1055	13.2	1200	2876	2903	2917	2433	2460	2474
1800x800	27.6	1285	15.6	1230	3195	3215	3263	2752	2772	2820
1800x1000	27.6	1520	18.0	1260	3637	3679	3750	3194	3235	3307
1800x1200	27.6	1750	20.4	1290	3998	4062	4248	3555	3619	3805
1800x1400	27.6	1980	22.8	1320	4277	4344	4497	3834	3901	4054
1800x1600	27.6	2215	25.2	1350	4717	4817	4995	4274	4374	4552
1800x1800	27.6	2445	27.6	1380	5275	5401	5641	4838	4958	5198
2000x200	30	600	8.4	1250				2212	2212	2214
2000x400	30	830	10.8	1280				2614	2620	2631
2000x600	30	1065	13.2	1310				3030	3056	3100
2000x800	30	1300	12.6	1340				3410	3359	3407
2000x1000	30	1530	18.0	1370				3876	3918	4050
2000x1200	30	1760	20.4	1400				4198	4261	4347
2000x1400	30	1995	22.8	1430				4769	4836	4989
2000x1600	30	2225	25.2	1460				5037	5157	5335
2000x1800	30	2460	27.6	1490				5582	5709	5949
2000x2000	30	2690	30	1520				6160	6313	6666



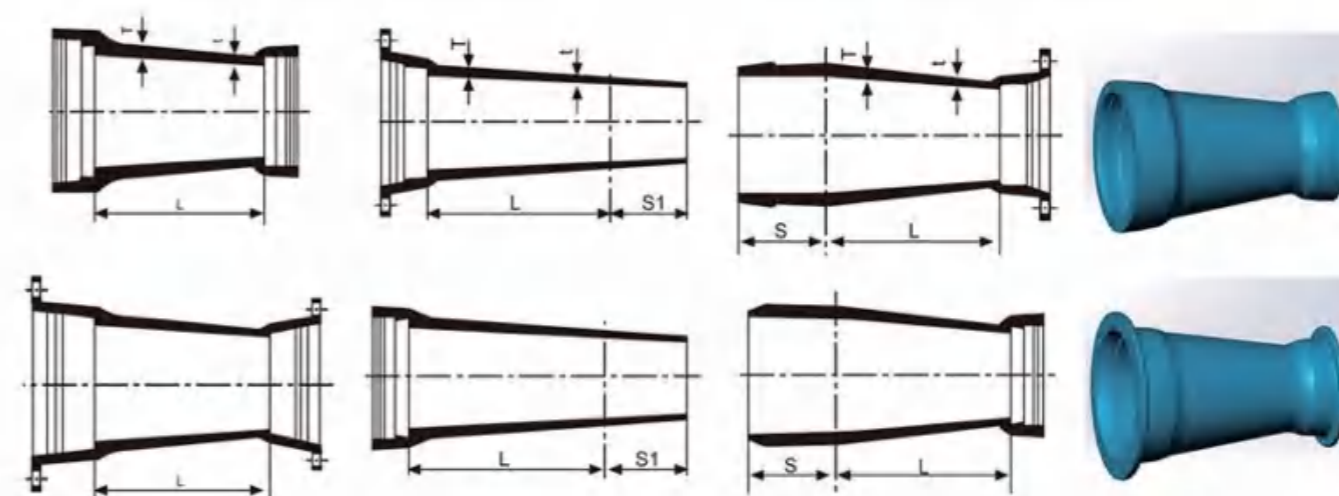
19 Socket-spigot tees with flanged branch

DNx _{dn}	T	L	Lu	t	H	Mass					
						T			K		
						PN10	PN16	PN25	PN10	PN16	PN25
80x80	7	85	275	7	165	14	14	14	14.7	14.7	14.7
100x80	7.2	85	275	7	175	16.4	16.4	16.4	18.7	18.7	18.7
100x100	7.2	95	285	7.2	180	17.8	17.8	18.3	20.1	20.1	20.4
150x80	7.8	85	275	7	205	23.7	23.7	23.7	26.1	26.1	26.1
150x100	7.8	100	285	7.2	210	25.4	25.4	25.9	27.6	27.6	28.1
150x150	7.8	130	310	7.8	220	30.2	30.2	31.2	32.7	32.7	33.7
200x80	8.4	90	275	7	235	32.5	32.5	32.5	34.5	34.5	34.5
200x100	8.4	100	280	7.2	240	34.3	34.3	34.8	36.3	36.3	36.8
200x150	8.4	130	310	7.8	250	40.2	40.2	41.2	42.2	42.2	43.2
200x200	8.4	150	340	8.4	260	46.6	46.6	48.5	48.6	48.6	50.5
250x80	9	90	315	7	265	43.4	43.4	43.4	44.8	44.8	44.8
250x100	9	100	325	7.2	270	44.9	44.9	45.4	46.4	46.4	46.9
250x150	9	130	360	7.8	280	57.3	57.3	58.3	58.7	58.7	59.7
250x200	9	150	385	8.4	290	57.9	57.9	59.7	59.1	59.1	61.1
250x250	9	180	415	9	300	66.7	66.7	70.2	68.1	68.1	71.1
300x100	9.6	105	355	7.2	300	62.1	62.1	62.6	64.4	64.4	64.9
300x150	9.6	130	390	7.8	310	70.9	70.9	71.9	76.3	76.3	77.3
300x200	9.6	160	415	8.4	320	77.6	77.6	79.4	79.9	79.9	81.7
300x250	9.6	190	445	9	330	87.3	87.3	90.6	89.6	89.6	92.9
300x300	9.6	215	475	9.6	340	97.8	97.8	112.7	100.1	100.1	115
350x100	10.2	100	355	7.2	330	72.7	72.7	73.2	77.7	77.7	78.2
350x150	10.2	135	390	7.8	340	85.2	85.2	86.2	90.2	90.2	91.2
350x200	10.2	160	415	8.4	350	88.7	88.7	90.5	93.7	93.7	95.5
350x250	10.2	190	445	9	350	106	106	110	110	110	114
350x300	10.2	210	475	9.6	370	114	114	120	122	122	128
350x350	10.2	240	500	10.2	380	121	123.3	132	125	128	136
400x100	10.8	105	355	7.2	360	84.2	84.2	84.7	89.3	89.3	89.8
400x150	10.8	135	390	7.8	370	99.8	99.8	100.8	104	104	105
400x200	10.8	160	415	8.4	380	105	105	107	109	109	111
400x250	10.8	190	445	9	390	120	120	124	125	125	129
400x300	10.8	220	475	9.6	400	134	134	139	138	138	143
400x350	10.8	240	500	10.2	410	144	147	155	148	151	159
400x400	10.8	280	530	10.8	420	152	158	168	159	165	174

DNx dn	T	L	Lu	t	H	Mass					
						T			K		
						PN10	PN16	PN25	PN10	PN16	PN25
450x100	11.4	110	355	7.2	390	106	106	106.5	110	110	110.5
450x150	11.4	135	390	7.8	400	120	120	121	124	124	125
450x200	11.4	165	415	8.4	410	130	130	132	134	134	136
450x250	11.4	195	445	9	420	141	141	144	145	145	148
450x300	11.4	220	475	9.6	430	156	156	161	158	158	164
450x350	11.4	240	500	10.2	440	165	168	177	169	172	181
450x400	11.4	280	530	10.8	450	180	185	196	184	189	200
450x450	11.4	310	555	11.4	460	191	199	215	195	203	219
500x100	12	110	355	7.2	420	116	116	116.5	121.3	121.3	121.8
500x150	12	140	390	7.8	430	138	138	139	140	140	141
500x200	12	165	415	8.4	440	142	142	144	146	146	148
500x250	12	190	445	9	450	165	165	168	168	168	171
500x300	12	220	475	9.6	460	178	178	183	181	181	186
500x350	12	245	500	10.2	470	192	195	203	194	197	206
500x400	12	280	530	10.8	480	198	204	215	203	210	219
500x450	12	300	555	11.4	490	219	227	243	222	230	245
500x500	12	340	580	12	500	231	246	258	237	252	262
600x100	13.2	100	355	7.2	480	166	166	166.5	164	164	164.5
600x150	13.2	130	390	7.8	490	183	186.3	184	181	181	182
600x200	13.2	170	415	8.4	500	184	184	186	188	188	190
600x250	13.2	190	445	9	510	215	215	219	202	202	205
600x300	13.2	215	475	9.6	520	231	231	235	228	228	233
600x350	13.2	245	500	10.2	530	247	250	258	245	248	256
600x400	13.2	285	530	10.8	540	253	258	269	256	262	273
600x450	13.2	305	555	11.4	550	279	288	303	277	286	301
600x500	13.2	335	580	12	560	299	312	335	297	310	333
600x600	13.2	400	635	13.2	580	333	359	373	340	365	377
700x100	14.4	115	345	7.2	510	244	244	244.5	243	243	243.5
700x150	14.4	140	370	7.8	520	246	246	247	246	246	247
700x200	14.4	170	385	8.4	525	249	249	251	249	249	251
700x300	14.4	220	440	9.6	540	300	300	306	301	301	307
700x400	14.4	285	495	10.8	555	329	338	344	329	334	345
700x500	14.4	340	560	12	570	391	406	418	392	407	419
700x600	14.4	385	595	13.2	585	421	445	456	422	445	460
700x700	14.4	460	690	14.4	600	476	487	525	476	488	525
800x100	15.6	130	355	7.2	570	304	304	304.5	295	295	295.5
800x150	15.6	155	381	7.8	580	308	308	309	298	298	299
800x200	15.6	175	395	8.4	585	311	311	313	302	302	304
800x300	15.6	240	451	9.6	600	371	371	377	362	362	368
800x400	15.6	290	505	10.8	615	405	410	421	396	401	412
800x500	15.6	345	571	12	630	522	537	549	513	528	540
800x600	15.6	405	605	13.2	645	588	612	624	579	603	615
800x700	15.6	460	700	14.4	660	620	635	669	626	641	660
800x800	15.6	520	760	15.6	675	650	655	710	631	646	705

DNx dn	T	L	Lu	t	H	Mass					
						T			K		
						PN10	PN16	PN25	PN10	PN16	PN25
900x100	16.8	130	450	7.2	630	364.9	364.9	365.4	345.9	345.9	346.4
900x150	16.8	155	485	7.8	640	391.3	391.3	392.3	372.3	372.3	373.3
900x200	16.8	180	515	8.4	645	416.5	416.5	418.4	397.5	397.5	399.4
900x300	16.8	240	565	9.6	660	467.5	467.5	482.4	448.5	448.5	463.4
900x400	16.8	295	630	10.8	675	526	530	540	503.7	510.2	519.4
900x500	16.8	345	700	12	690	580.3	594.7	605.1	561.3	575.7	586.1
900x600	16.8	410	760	13.2	705	654.4	670.4	682.8	626.4	651.4	663.8
900x700	16.8	460	795	14.4	720	699.5	713.6	746.1	680.5	694.6	727.1
900x800	16.8	520	855	15.6	735	776.4	794.1	840.1	757.4	775.1	821.1
900x900	16.8	585	905	16.8	750	853.2	874.8	930.8	834.2	855.8	911.8
1000x100	18	130	460	7.2	690	448.4	448.4	448.9	426.8	426.8	427.3
1000x150	18	155	495	7.8	700	476	476	477	455	455	456
1000x200	18	180	525	8.4	705	505	505	507	484	484	486
1000x300	18	240	575	9.6	720	564	564	579	543.2	543.2	558
1000x400	18	295	640	10.8	735	628	635	644	607	614	623
1000x500	18	345	710	12	750	694	709	719	673	588	698
1000x600	18	410	770	13.2	765	768	793	805	747	772	785
1000x700	18	465	805	14.4	780	830	844	876	809	823	855
1000x800	18	520	865	15.6	795	911	929	975	890	908	954
1000x900	18	580	915	16.8	810	991	1013	1069	970	992	1048
1000x1000	18	645	980	18	825	1096	1133	1206	1075	1112	1185
1100x200	19.2	180	540	8.4	765	610	610	612	573	573	575
1100x400	19.2	300	655	10.8	795	755	761	770	718	725	734
1100x600	19.2	415	785	13.2	825	913	938	951	877	902	914
1100x800	19.2	525	880	15.6	855	1082	1096	1144	1056	1074	1123
1100x1000	19.2	640	995	18	885	1295	1331	1408	1251	1292	1363
1100x1100	19.2	695	1045	19.2	900	1395	1430	1506	1351	1386	1445
1200x100	20.4	130	510	7.2	810	664	664	664.5	608	608	608.5
1200x150	20.4	155	545	7.8	820	705	705	706	649	649	650
1200x200	20.4	180	570	8.4	825	739	739	741	683	683	685
1200x300	20.4	240	630	9.6	840	824	824	830	768	768	784
1200x400	20.4	295	690	10.8	855	903	909	918	847	853	862
1200x500	20.4	355	760	12	870	994	1009	1019	938	952	963
1200x600	20.4	420	820	13.2	885	1091	1116	1128	1035	1060	1072
1200x700	20.4	470	855	14.4	900	1169	1184	1198	1103	1117	1149
1200x800	20.4	535	915	15.6	915	1267	1285	1331	1211	1229	1275
1200x900	20.4	595	965	16.8	930	1367	1427	1480	1302	1323	1379
1200x1000	20.4	650	1030	18	945	1476	1514	1586	1420	1458	1530
1200x1200	20.4	760	1145	20.4	975	1710	1768	1859	1654	1712	1803

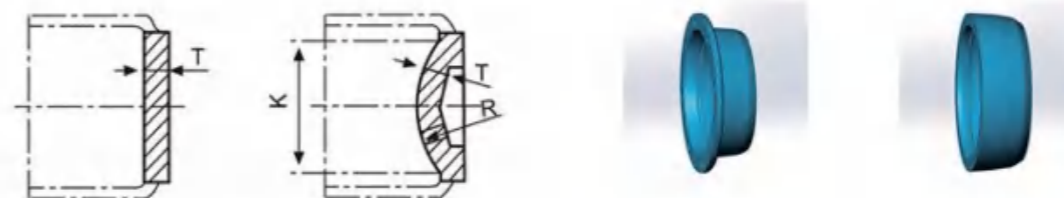
DNx _{dn}	T	L	Lu	t	H	Mass					
						T			K		
						PN10	PN16	PN25	PN10	PN16	PN25
1400x100	22.8	210	535	7.2	905	1120	1120	1120.5	876.2	876.2	876.7
1400x200	22.8	270	595	8.4	920	1189	1189	1192	981	981	983
1400x400	22.8	385	715	10.8	950	1357	1368	1374	1221	1226	1239
1400x600	22.8	515	845	13.2	980	1573	1598	1610	1426	1451	1464
1400x800	22.8	630	940	15.6	1010	1783	1801	1847	1637	1655	1701
1400x1000	22.8	750	1055	18	1040	2030	2067	2140	1884	1920	1994
1400x1200	22.8	850	1170	20.4	1070	2375	2475	2569	2205	2305	2405
1400x1400	22.8	965	1270	22.8	1100	2697	2765	2917	2491	2547	2708
1600x100	25.2	225	755	8.4	1015	1612	1612	1612	1397	1397	1397
1600x200	25.2	290	730	9.6	1030	1658	1658	1660	1443	1443	1445
1600x400	25.2	405	860	10.8	1060	1927	1934	1943	1712	1719	1728
1600x600	25.2	520	915	13.2	1090	2121	2146	2158	1906	1931	1943
1600x800	25.2	640	970	15.6	1120	2335	2353	2399	2120	2138	2184
1600x1000	25.2	750	1090	18	1150	2622	2659	2732	2407	2444	2517
1600x1200	25.2	870	1210	20.4	1180	2949	3007	3098	2734	2792	2883
1600x1400	25.2	985	1315	22.8	1210	3270	3331	3471	3055	3116	3256
1600x1600	25.2	1100	1430	25.2	1240	3788	3890	4008	3638	3740	3918
1800x200	27.6	300	730	8.4	1140	2040	2040	2042	1816	1816	1818
1800x400	27.6	410	860	10.8	1170	2367	2374	2383	2143	2149	2158
1800x600	27.6	525	970	13.2	1200	2675	2700	2712	2450	2475	2487
1800x800	27.6	640	1090	15.6	1230	2999	3017	3063	2775	2792	2838
1800x1000	27.6	760	1210	18	1260	3348	3386	3459	3124	3162	3234
1800x1200	27.6	875	1315	20.4	1290	3699	3757	3848	3474	3533	3623
1800x1400	27.6	990	1430	22.8	1320	4074	4134	4274	3849	3910	4050
1800x1600	27.6	1110	1540	25.2	1350	4512	4604	4764	4287	4380	4540
1800x1800	27.6	1225	1615	27.6	1380	5072	5196	5438	4841	4967	5207
2000x200	30	300	730	8.4	1250				2230	2230	2232
2000x400	30	415	860	10.8	1280				2621	2628	2637
2000x600	30	530	970	13.2	1310				3013	3039	3065
2000x800	30	640	1090	15.6	1340				3362	3380	3226
2000x1000	30	765	1210	18	1370				3799	3844	3913
2000x1200	30	880	1315	20.4	1400				4181	4230	4329
2000x1400	30	1000	1430	22.8	1430				4661	4728	4881
2000x1600	30	1110	1540	25.2	1460				5089	5174	5334
2000x1800	30	1230	1615	27.6	1490				5565	5692	5932
2000x2000	30	1345	1725	30	1520				6143	6296	6648



20 Socket tapers

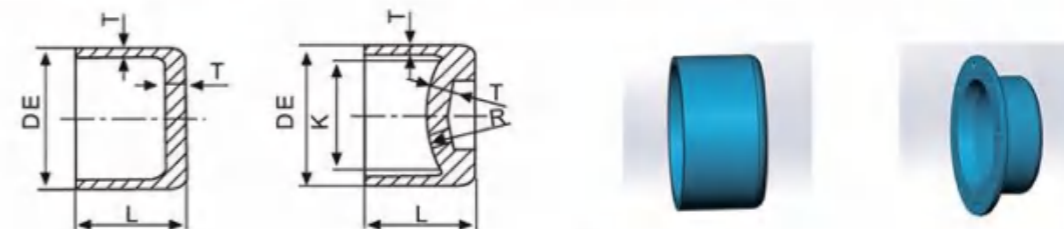
DNx _{dn}	S	S ₁	L	Mass					
				Double-Socket		Socket-Spigot		Spigot-Socket	
				T	K	T	K	T	K
100x80	150	150	90	8.5	11.9	7.7	9.3	7.2	8.8
150x80	200	150	190	14.5	18.6	13.0	14.2	13.0	15.5
150x100	200	150	150	15	19.1	13.3	14.7	13.5	15.7
200x100	200	150	250	21.8	26.0	20.0	20.9	19.4	22.6
200x150	200	200	150	22.5	27.0	21.0	21.9	20.5	22.6
250x150	200	200	250	31	33.0	30.0	29.6	27.5	31.6
250x200	200	200	150	31.5	33.0	29.0	28.6	27.9	29.9
300x150	200	200	350	42.4	50.0	39.5	43.3	37.5	45.6
300x200	200	200	250	44.3	49.0	39.9	43.7	37.1	43.9
300x250	200	200	150	41	47.5	38.0	41.8	37.0	41.1
350x200	200	200	360	58.5	62.5	56.0	59.5	49.6	57.4
350x250	200	200	260	55.5	61.0	52.0	55.4	48.5	54.6
350x300	200	200	160	54.3	65.0	49.0	62.8	47.0	50.8
400x250	200	200	360	71	76.5	67.0	69.0	76.8	79.0
400x300	200	200	260	70	80.0	64.5	67.0	60.5	66.3
400x350	200	200	160	67	78.0	60.5	58.0	58.0	61.5

DNx _{dn}	S	S ₁	L	Mass					
				Double-Socket		Socket-Spigot		Spigot-Socket	
				T	K	T	K	T	K
450x350	200	200	260	86	95	81	80	88	87
450x400	200	200	160	83.1	92	75.7	74.7	70	71.6
500x350	200	200	360	98.0	115	100.8	100.8	90.9	97.8
500x400	200	200	260	94.0	111	93.7	93.7	88	92.0
500x450	200	200	160	99.5	112	87	86	86	95.5
600x400	200	200	460	142	156	144	140	133	138
600x500	200	200	260	131	145	128	124	121	119
700x500	200	200	480	194	203	195	190	179	185
700x600	200	200	280	178	187	173	168	163	164
800x600	200	200	480	252	279.3	239	229	229	260
800x700	200	200	280	229	236	209	208	209	203
900x700	250	200	480	337	227	300	329	303	278
900x800			280	313	294	263	303	260	248
1000x800	250	200	480	392	404	385	413	372	418
1000x900	250	200	280	354	368	336	379	339	392
1100x1000	250	250	280	481	444	422	449	408	457
1200x1000	250	250	480	631	580	573	589	511	560
1400x1200	300	250	360	862	663	678	617	687	650
1500x1400	300	250	260	951	742	833	696	808	696
1600x1400	300	300	360	1244	936	1040	889	956	837
1800x1600	380	300	360	1605	1235	1345	1134	1323	1173
2000x1800	380	380	360		1566	1504	1669	1458	



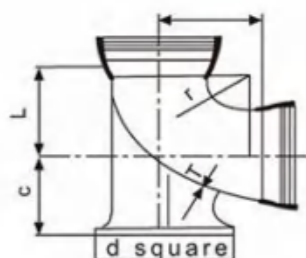
21 Caps

DN	T	K&R	Mass	
			T	K
80			7.3	6.5
100	18	-	8.5	8.5
150	18	-	14.1	12
200	18	-	19.8	18.4
250	19.5	-	27.4	22
300	23	-	42.8	38
350	24	315	61.7	50
400	25	370	76.3	62.5
450	26	420	93.7	76.5
500	27	460	107	91
600	29.5	565	132	128
700	31	665	202	175
800	33	760	275	228
900	35	860	353	300
1000	37	960	454	380
1100	39	1060	520	
1200	41	1160	813	580
1400	43	1260	1018	1027



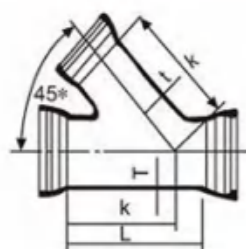
22 Plugs

DN	DE	T	t	K&R	L		Mass	
					K	T	T	K
100	118	18	7.2	-	87	200	4.5	5.7
150	170	18	7.8	-	88	225	9.5	8.8
200	222	18	8.4	-	89	250	14.8	13
250	274	19.5	9.0	-	90	250	21.5	18
300	326	23	9.6	-	95	275	33.5	25
350	378	24	10.2	315	96	275	45.5	33
400	429	25	10.8	370	100	275	56.0	43
450	480	26	11.4	420	105	275	68.5	52.5
500	532	27	12	460	105	275	81.0	64
600	635	29.5	13.2	565	110	300	112	88
700	738	31	14.4	665	125	300	193	166
800	842	33	15.6	760	130	300	259	250
900	945	35	16.8	860	130	350	337	333
1000	1048	37	18	960	135	350	437	434
1200	1255	41	20.4	1160	137	350	783	671
1400	1462	43	22.4	1260	140	350	1078	1110



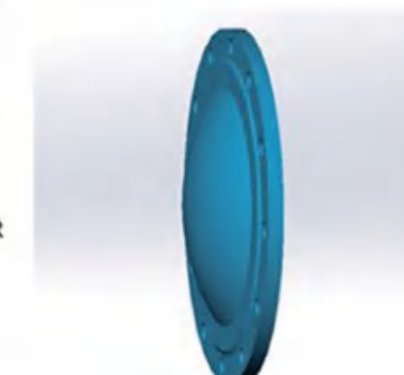
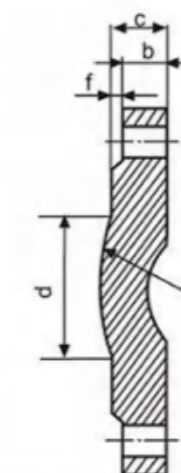
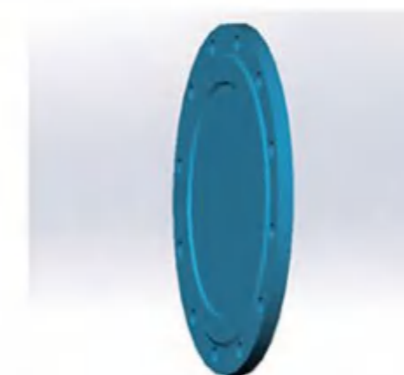
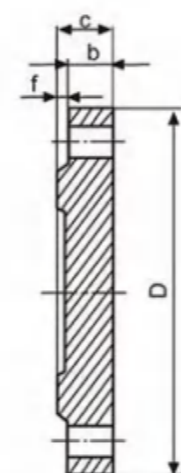
23 90° Double-Socket duckfoot bends

DN	T	L	r	c	d	Mass
80	7.0	100	80	110	180	11.3
100	7.2	120	95	125	200	14.8
150	7.8	170	145	160	250	28.5
200	8.4	220	195	190	300	44.5
250	9.0	270	245	225	350	68.5
300	9.6	320	290	225	400	100.0
350	10.2	370	340	290	450	133.0
400	10.8	420	390	320	500	180.0
450	11.4	470	435	355	550	230.0
500	12.0	520	485	385	600	294.0
600	13.2	620	580	450	700	442.0
700	14.4	720	655	515	800	618.0
800	15.6	820	745	580	900	832.0
900	16.8	920	855	645	1000	1113.0
1000	18.0	1020	945	710	1100	1435.0
1100	19.2	1120	1065	775	1200	1781.0
1200	20.4	1220	1155	840	1300	2153.0



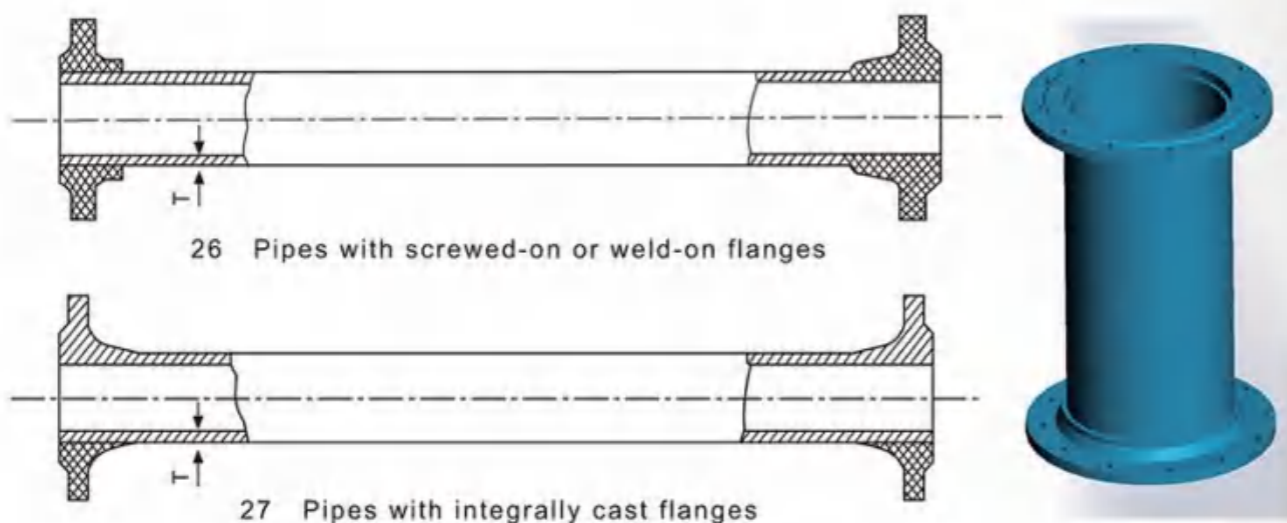
24 All-Socket tees with 45° angle branch

DNx _{dn}	T	t	L	K	Mass
80	8.1	8.1	325	240	21.4
100	8.4	8.4	360	265	26.8
150	9.1	9.1	460	335	46
200	9.8	9.8	560	400	71.5
250	10.5	10.5	655	465	104
300	11.2	11.2	675	530	145
350	11.9	11.9	845	595	186
400	12.6	12.6	945	665	242
450	13.3	13.3	1040	730	307
500	14.0	14.0	1135	795	383
600	15.4	15.4	1310	930	567



25 DN ≤ 250 Blank flanges DN ≥ 300

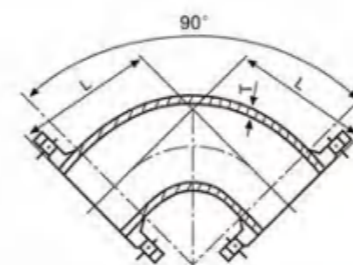
DN	Mass		
	PN10	PN16	PN25
80	3.5	3.5	3.5
100	4.3	4.3	4.8
150	7.2	7.2	8.3
200	11.0	10.8	13.3
250	16.9	16.6	21.0
300	24.0	23.5	30.0
350	31.0	35.0	45.0
400	38.0	46.0	59.0
450	46.5	63.5	79.0
500	59.0	80.0	98.0
600	89.0	126	151
700	129	164	216
800	180	229	300
900	235	301	399
1000	310	406	536
1100	405	518	615
1200	575	662	702
1400	739	994	1085
1500	990	1201	1398
1600	1239	1409	1674
1800	1717	1858	2245
2000	2272	2407	2985



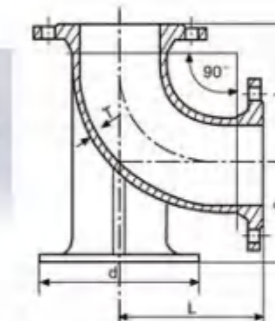
26 Pipes with screwed-on or weld-on flanges

27 Pipes with integrally cast flanges

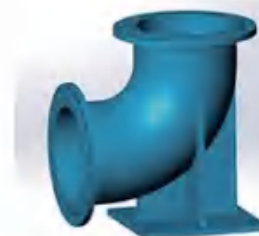
DN	Barrel				Flange mass					
	K=12		K=14		Integral flange			Screwed-on or weld on flanges		
	T	Mass/m	T	Mass/m	PN10	PN16	PN25	PN10	PN16	PN25
80	7.0	14.1	8.1	16.1	2.9	2.9	2.9	3.5	3.5	3.5
100	7.2	17.7	8.4	20.4	3.3	3.3	3.8	4.0	4.0	4.5
125	7.5	22.7	8.8	26.4	4.0	4.0	4.6	5.0	5.0	5.6
150	7.8	28.0	9.1	32.4	4.9	4.9	5.9	6.1	6.1	7.1
200	8.4	39.7	9.8	46.1	6.8	6.6	8.7	8.5	8.3	10.4
250	9.0	52.8	10.5	61.3	9.6	9.2	13.1	11.8	11.4	15.3
300	9.6	67.3	11.2	78.1	12.8	12.4	18.0	15.6	15.2	20.8
350	10.2	83.1	11.9	96.5	14.1	17.2	25.5	19	20.7	29.0
400	10.8	100.0	12.6	116.2	16.3	21.9	33.2	23	26.1	37.4
450	11.4	118.3	13.3	137.5	18.1	26.7	42.2	25	32.7	43.0
500	12.0	138.2	14.0	160.6	21.8	37.0	48.7	29	42.8	54.5
600	13.2	181.8	15.4	211.3	30.8	57.3	71.5	40	64.9	79.1
700	14.4	230.8	16.8	268.4	40.5	55.6	90.3	54	65.3	-
800	15.6	285.5	18.2	332.1	54.8	74.0	123	72	85.9	-
900	16.8	345.4	19.6	401.7	64.3	88.2	149	85	102.6	-
1000	18.0	410.6	21.0	477.7	81.4	123	201	111	145	-
1100	19.2	481.7	22.4	560.4	105	141	224	131	164	-
1200	20.4	557.7	23.8	649.0	121	185	285	160	211	-
1400	22.8	726.8	26.6	845.7	148	216	368	212	264	-
1500	24.0	819.1	28.0	953.2	201.4	289.3	427	243	326	-
1600	25.2	916.9	29.4	1067.0	206	308	486	288	369	-
1800	27.6	1129.3	32.2	1314.2	236.3	362.2	601.9	337	435	-
2000	30.0	1363.4	35.0	1586.8	279.4	432.2	784.9	390	507	-



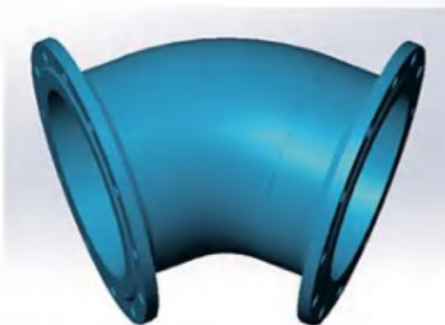
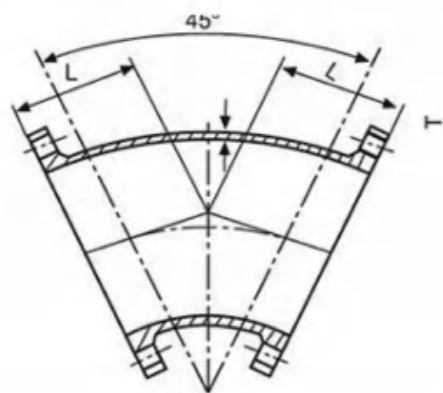
28 90° Double-flanged bends



29 90° Double-flanged duckfoot bends

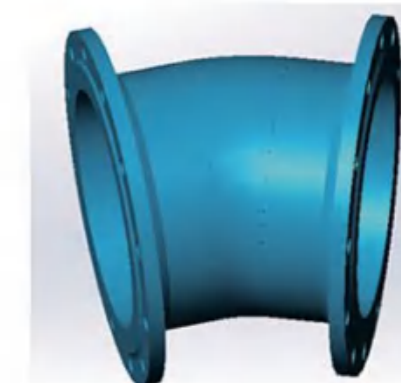
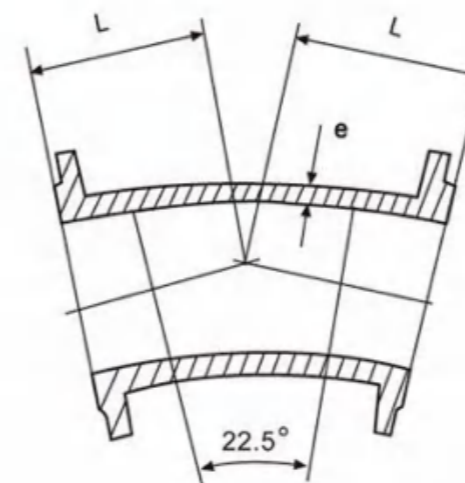


DN	T	90° Bends				90° Duckfoot bends					
		L	Mass			L	c	d	Mass		
			PN10	PN16	PN25				PN10	PN16	PN25
80	7	165	9.6	9.6	9.6	165	110	180	14.1	14.1	14.1
100	7.2	180	11.9	11.9	12.9	180	125	200	17.3	17.8	18.8
150	7.8	220	20	20	22	220	160	250	30	30	32
200	8.4	260	31	30.5	34.5	260	190	300	46.5	46	50.5
250	9	350	50	49.5	57	350	225	350	75	75	82
300	9.6	400	70	70	81	400	255	400	106	105	116
350	10.2	450	90	96	113	450	290	450	139	145	162
400	10.8	500	117	127	149	500	320	500	178	189	212
450	11.4	550	147	163	184	550	355	550	245	261	283
500	12	600	184	211	235	600	385	600	283	313	337
600	13.2	700	272	325	353	700	450	700	428	481	509
700	14.4	800	399	429	497	800	515	800	700	721	811
800	15.6	900	552	590	686	900	580	900	944	974	1070
900	16.8	1000	722	770	886	1000	645	1000	1252	1290	1406
1000	18	1100	937	1020	1162	1100	710	1100	1698	1781	1931
1100	19.2	1200	1205	1275	1427	1200	776	1200	2080	2150	2302
1200	20.4	1300	1490	1619	1791	1300	840	1300	2599	2709	2881
1400	22.8	1350	2199	2335	2641						
1500	24.0	1400	2273	2449	2843						
1600	25.2	1450	3137	3341	3697						
1800	27.6	1500	3860.5	4112.3	4592						



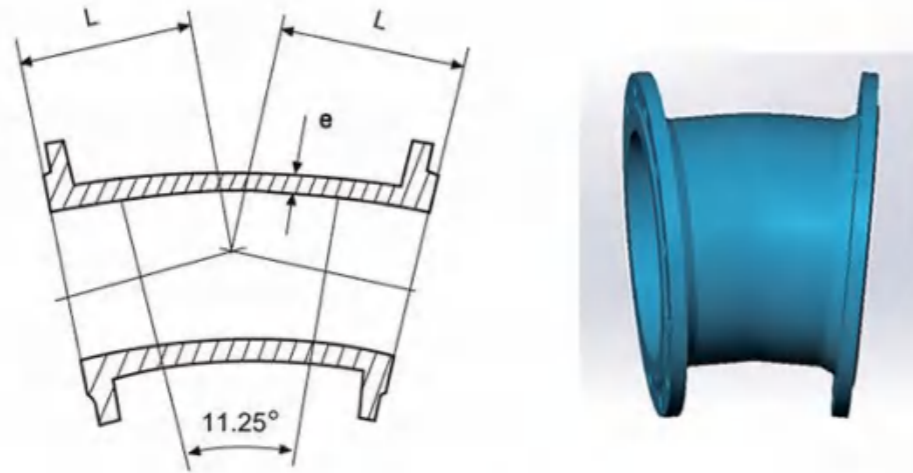
30 45° Double-flanged bends

DN	T	L	Mass		
			PN10	PN16	PN25
80	7	130	9.3	9.3	9.3
100	7.2	140	11.3	11.3	12.4
150	7.8	160	18.5	18.5	20.5
200	8.4	180	27.5	27	31
250	9	350	55	54	62
300	9.6	400	76	77	88
350	10.2	300	78	83	98
400	10.8	325	96	107	129
450	11.4	350	120	135	157
500	12	375	147	175	198
600	13.2	425	216	266	294
700	14.4	480	302	328	395
800	15.6	530	412	442	538
900	16.8	580	529	569	685
1000	18	630	680	753	895
1100	19.2	695	857	927	1079
1200	20.4	750	1062	1178	1350
1400	22.8	775	1422	1544	1850
1500	24	810	1677	1853	2129
1600	25.2	845	1962	2151	2507
1800	27.6	910	2528	2763	3243
2000	30	980	3231	3519	4225



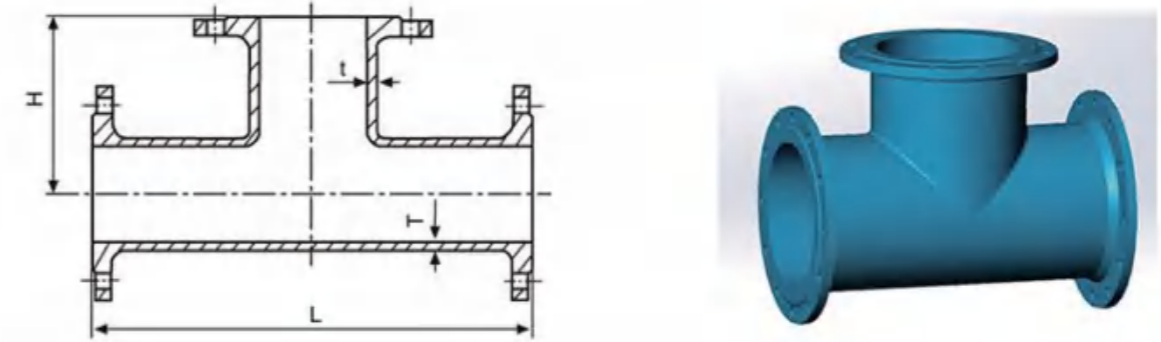
31 22.5° Double-flanged bends

DN	Mass			e	L
	PN10	PN16	PN25		
80	9	9	9	7	105
80	9.4	9.4	9.4	7	130
100	11	11	12	7.2	110
100	11.5	11.5	12.5	7.2	140
150	17.1	17.1	19	7.8	109
150	19.1	19.1	21	7.8	160
200	25.5	25	29	8.4	131
200	28.5	28	32	8.4	180
250	50	50	58	9	190
250	56.5	56	63.5	9	350
300	70	70	78	9.6	210
300	79	78.5	89	9.6	400
350	76	80	93	10.2	210
350	78.5	84	99.5	10.2	298
400	90	100	122	10.8	239
400	99.5	109	131	10.8	324
450	122	138	160	11.4	349
500	151	178	199	12	375
600	221	268	296.6	13.2	426
700	311	334		14.4	478
800	423	453		15.6	529
900	543	581		16.8	581
1000	700	807		18	632
1100	877	947		19.2	683
1200	1088	1198		20.4	735
1400	1551	1832		22.8	835
1500	1838	2014		24	880
1600	2216	2420		25.2	940
1800	1640	1864		27.6	480
2000	2081	2357		30	520



32 11.25° Double-flanged bends

DN	Mass			e	L
	PN10	PN16	PN25		
80	9	9	9	7	113
80	9.5	9.5	9.5	7	130
100	11	11	12	7.2	115
100	11.5	11.5	12.5	7.2	140
150	17.1	17.1	19	7.8	113
150	19.1	19.1	21	7.8	160
200	25.5	25	29	8.4	132
200	28.5	28	32	8.4	180
250	50	50	58	9	165
250	56.5	56	63.5	9	350
300	70	70	78	9.6	175
300	79.5	79	89.5	9.6	400
350	76	80	93	10.2	191
350	79	84	100	10.2	298
400	101	100	122	10.8	205
400	100	109	131	10.8	324
450	123	139	160	11.4	349
500	152	179	200	12	375
600	222	269	294	13.2	426
700	313	336		14.4	478
800	426	456		15.6	529
900	546	599.2		16.8	581
1000	704	773		18	632
1100	882	952		19.2	683
1200	1094	1204		20.4	735
1400	1560	1674		22.8	835
1500	1849	2025		24	885
1600	2203	2382		25.2	940
1800	1342	1566		27.6	345
2000	1694	1970		30	375



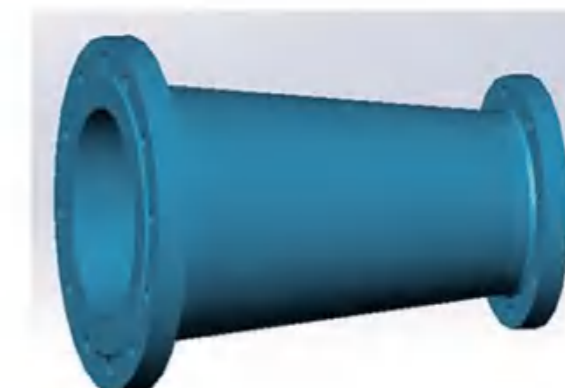
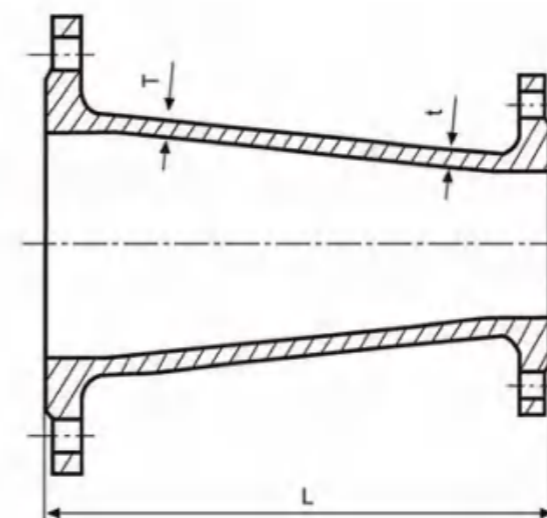
33 All-flanged tees

DN x dn	T	L	t	H	Mass		
					PN10	PN16	PN25
80x80	7.0	330	7.0	165	15.6	15.6	15.6
100x80	7.2	360	7.0	175	18.4	18.4	19.5
100x100	7.2	360	7.2	180	19.4	19.4	21
150x80	7.8	440	7.0	205	28.5	28.5	31
150x100	7.8	440	7.2	210	29.5	29.5	32
150x150	7.8	440	7.8	220	32.5	32.5	36
200x80	8.4	520	7.0	235	42	41.5	46
200x100	8.4	520	7.2	240	43	42	47.5
200x150	8.4	520	7.8	250	46	45.5	51
200x200	8.4	520	8.4	260	49.5	49	56
250x80	9.0	700	7	270	66	66	73
250x100	9.0	700	7.2	275	68	67	75
250x150	9.0	700	7.8	300	73.5	71	81
250x200	9.0	700	8.4	325	76	75	85
250x250	9.0	700	9.0	350	82	81	93
300x100	9.6	800	7.2	300	94	93	105
300x150	9.6	800	7.8	325	99	98.5	109
300x200	9.6	800	8.4	350	102	101	114
300x250	9.6	800	9.0	375	109	108	121
300x300	9.6	800	9.6	400	116	115	131
350x100	10.2	850	7.2	325	116	122	139
350x150	10.2	850	7.8	325	120	126	143
350x200	10.2	850	8.4	325	121	128	146
350x250	10.2	850	9.0	325	128	134	154
350x300	10.2	850	9.6	425	140	145	166
350x350	10.2	850	10.2	425	142	151	176
400x100	10.8	900	7.2	350	143	154	177
400x150	10.8	900	7.8	350	144	158	181
400x200	10.8	900	8.4	350	148	159	184
400x250	10.8	900	9.0	350	151	161	198
400x300	10.8	900	9.6	450	168	177	204
400x350	10.8	900	10.2	450	170	183	215
400x400	10.8	900	10.8	450	174	191	225

DN x dn	T	L	t	H	Mass		
					PN10	PN16	PN25
450x100	11.4	950	7.2	375	177	193	215
450x150	11.4	950	7.8	375	182	197	219
450x200	11.4	950	8.4	375	185	200	224
450x250	11.4	950	9.0	375	194	210	235
450x300	11.4	950	9.6	475	203	218	245
450x350	11.4	950	10.2	475	209	228	258
450x400	11.4	950	10.8	475	215	236	270
450x450	11.4	950	11.4	475	225	251	284
500x100	12.0	1000	7.2	400	210	241	265
500x150	12.0	1000	7.8	400	214	243	269
500x200	12.0	1000	8.4	400	215	245	271
500x250	12.0	1000	9.0	400	218	258	280
500x300	12.0	1000	9.6	500	237	264	287
500x350	12.0	1000	10.2	500	239	268	298
500x400	12.0	1000	10.8	500	242	276	311
500x450	12.0	1000	11.4	500	249	298	327
500x500	12.0	1000	12.0	500	252	301	336
600x100	13.2	1100	7.2	450	297	347	372
600x150	13.2	1100	7.8	450	298	356	375
600x200	13.2	1100	8.4	450	305	358	388
600x250	13.2	1100	9.0	450	307	360	392
600x300	13.2	1100	9.6	550	312	375	404
600x350	13.2	1100	10.2	550	326	380	413
600x400	13.2	1100	10.8	550	329	387	427
600x450	13.2	1100	11.4	550	338	417	448
600x500	13.2	1100	12.0	550	349	420	464
600x600	13.2	1100	13.2	550	355	434	477
700x100	14.4	540	7.2	510	253	295	362.3
700x150	14.4	595	7.8	515	255	296	363.8
700x200	14.4	650	8.4	525	266	298	367
700x300	14.4	760	9.6	540	319	342	414
700x400	14.4	870	10.8	555	343	379	457
700x500	14.4	980	12.0	570	442	481	560
700x600	14.4	1200	13.2	585	476	523	604
700x700	14.4	1200	14.4	600	477	543	643
800x100	15.6	580	7.2	570	345	383	480
800x150	15.6	635	7.8	575	349	387	484
800x200	15.6	690	8.4	585	352	390	488
800x300	15.6	800	9.6	600	423	443	544.6
800x400	15.6	910	10.8	615	441	484	591
800x500	15.6	1020	12.0	630	561	599	706
800x600	15.6	1350	13.2	645	613	678	788
800x700	15.6	1350	14.4	660	663	711	840
800x800	15.6	1350	15.6	675	667	715	859

DN x dn	T	L	t	H	Mass	
					PN10	PN16
900x100	16.8	620	7.2	630	428	476
900x150	16.8	675	7.8	635	432	480
900x200	16.8	730	8.4	645	436	484
900x300	16.8	840	9.6	660	523	569
900x400	16.8	950	10.8	675	541	594
900x500	16.8	1060	12.0	690	726	784
900x600	16.8	1500	13.2	705	787	860
900x700	16.8	1500	14.4	720	843	901
900x800	16.8	1500	15.6	735	853	913
900x900	16.8	1500	16.8	750	860	924
1000x100	18.0	660	7.2	690	524	572
1000x150	18.0	715	7.8	695	534	582
1000x200	18.0	770	8.4	705	546	629
1000x300	18.0	880	9.6	720	651	739
1000x400	18.0	990	10.8	735	668	755
1000x500	18.0	1100	12	750	955	1007
1000x600	18.0	1650	13.2	765	1007	1116
1000x700	18.0	1650	14.4	780	1067	1152
1000x800	18.0	1650	15.6	795	1085	1168
1000x900	18.0	1650	16.8	810	1095	1219
1000x1000	18.0	1650	18.0	825	1105	1229
1100x400	19.2	1030	10.8	795	839	913
1100x600	19.2	1800	13.2	825	1298	1391
1100x800	19.2	1800	15.6	855	1345	1430
1100x1000	19.2	1800	18.0	885	1407	1512
1100x1100	19.2	1800	19.2	900	1450	1555
1200x100	20.4	660	7.2	810	996	1082
1200x150	20.4	715	7.8	815	998	1084
1200x200	20.4	775	8.4	825	1000	1086
1200x300	20.4	890	9.6	840	1004	1122
1200x400	20.4	1010	10.8	855	1008	1160
1200x500	20.4	1125	12.0	870	1089	1255
1200x600	20.4	1240	13.2	885	1101	1256
1200x700	20.4	1355	14.4	900	1279	1432
1200x800	20.4	1470	15.6	915	1291	1439
1200x900	20.4	1585	16.8	930	1427	1662
1200x1000	20.4	1700	18.0	945	1494	1664
1200x1200	20.4	1935	20.4	975	1806	1970

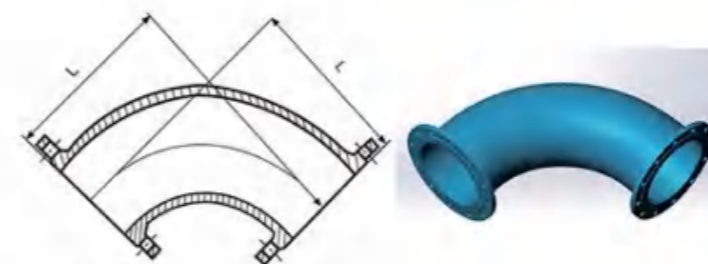
DN x dn	T	L	t	H	Mass	
					PN10	PN16
1400x100	22.8	970	7.2	905	1227	1363
1400x200	22.8	1085	8.4	920	1231	1367
1400x400	22.8	1315	10.8	950	1514	1656
1400x600	22.8	1550	13.2	980	1655	1818
1400x800	22.8	1780	15.6	1010	1886	2041
1400x1000	22.8	2015	18.0	1040	2131	2309
1400x1200	22.8	2245	20.4	1070	2467	2667
1400x1400	22.8	2480	22.8	1100	2781	2985
1600x100	25.2	1020	7.2	1015	1874	2078
1600x200	25.2	1135	8.4	1030	1880	2084
1600x400	25.2	1370	10.8	1060	2000	2210
1600x600	25.2	1600	13.2	1090	2167	2398
1600x800	25.2	1835	15.6	1120	2452	2675
1600x1000	25.2	2063	18.0	1150	2740	2986
1600x1200	25.2	2300	20.4	1180	3058	3327
1600x1400	25.2	2535	22.8	1210	3498	3770
1600x1600	25.2	2765	25.2	1240	3886	4192
1800x100	27.6	1075	7.2	1125	2346	2598
1800x200	27.6	1190	8.4	1140	2350	2602
1800x400	27.6	1420	10.8	1170	2574	2835
1800x600	27.6	1655	13.2	1200	2694	2972
1800x800	27.6	1885	15.6	1230	3023	3299
1800x1000	27.6	2120	18.0	1260	3375	3669
1800x1200	27.6	2355	20.4	1290	3740	4056
1800x1400	27.6	2585	22.8	1320	4254	4574
1800x1600	27.6	2820	25.2	1350	4691	5147
1800x1800	27.6	3050	27.6	1380	5123	5501
2000x200	30	1235	8.4	1250	2840	3146
2000x400	30	1470	10.8	1280	3002	3314
2000x600	30	1705	13.2	1310	3309	3642
2000x800	30	1935	15.6	1340	3844	4169
2000x1000	30	2170	18.0	1370	4112	4459
2000x1200	30	2400	20.4	1400	4681	5051
2000x1400	30	2635	22.8	1430	4966	5340
2000x1600	30	2865	25.2	1460	5625	6033
2000x1800	30	3100	27.6	1490	6005	6547
2000x2000	30	3330	30	1520	6648	7107



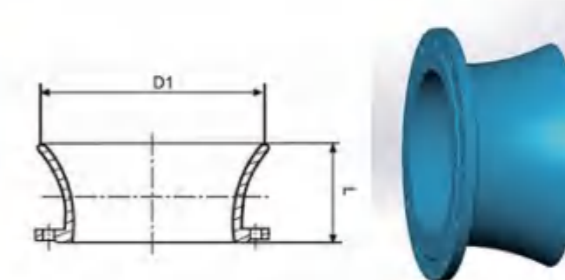
34 Double-flanged tapers

DN x dn	T	t	L	Mass		
				PN10	PN16	PN25
100x80	7.2	7.0	200	9.3	9.3	9.3
150x80	7.8	7.0	400	16.4	16.4	17.4
150x100	7.8	7.2	300	15.3	15.3	16.8
200x100	8.4	7.2	600	27.5	27.5	30.0
200x150	8.4	7.8	300	22	21.5	31.5
250x150	9.0	7.8	600	39	39.0	43.5
250x200	9.0	8.4	300	30	29.5	35.5
300x150	9.6	7.8	650	48.5	48.5	55
300x200	9.6	8.4	600	52.0	51.5	59
300x250	9.6	9.0	300	40.5	39.5	49
350x200	10.2	8.4	650	61.5	64.0	74.0
350x250	10.2	9.0	600	65.5	67.5	79.0
350x300	10.2	9.6	300	49.5	52.5	66
400x200	10.8	8.4	700	73.5	77.5	90.5
400x250	10.8	9.0	650	77.0	81.5	96.0
400x300	10.8	9.6	300	55	60	77
400x350	10.8	9.6	600	80.5	85.0	101
400x350	10.8	10.2	300	58	67	86
450x250	11.4	9.0	700	89.5	97	112
450x300	11.4	9.6	650	93.5	101	117
450x350	11.4	10.2	600	95.6	106	126
450x400	11.4	10.8	300	70.5	83	105
500x300	12.0	9.6	700	109	122	138
500x350	12.0	10.2	650	111	127	145
500x400	12.0	10.8	600	110	130	153
500x450	12.0	11.4	300	83	104	126
600x350	13.2	10.2	750	147	174	193
600x400	13.2	10.8	700	150	178	201

DN x dn	T	t	L	Mass		
				PN10	PN16	PN25
600x450	13.2	11.4	650	151	183	260
600x500	13.2	12.0	600	149	190	216
700x400	14.4	10.8	800	196	212	
700x450	14.4	11.4	750	197	217	
700x500	14.4	12.0	700	200	225	
700x600	14.4	13.2	600	195	236	
800x450	15.6	11.4	900	263	286	
800x500	15.6	12.0	800	256	284	
800x600	15.6	13.2	700	260	298	
800x700	15.6	14.4	600	250	285	
900x500	16.8	12.0	1000	328	370	
900x600	16.8	13.2	800	318	360	
900x700	16.8	14.4	700	321	352	
900x800	16.8	15.6	600	308	352	
1000x600	18	13.2	1000	422	490	
1000x700	18	14.4	800	396	442	
1000x800	18	15.6	700	399	448	
1000x900	18	16.8	600	373	438	
1100x700	19.2	14.4	1000	515	562	
1100x800	19.2	15.6	800	483	532	
1100x900	19.2	16.8	700	476	530	
1100x1000	19.2	18.0	600	460	543	
1200x700	20.4	14.4	1345	711	777	
1200x800	20.4	15.6	1160	688	758	
1200x900	20.4	16.8	975	652	726	
1200x1000	20.4	18.0	790	586	692	
1200x1100	20.4	19.2	605	566	655	
1400x800	22.8	15.6	1590	1034	1105	
1400x900	22.8	16.8	1405	998	1074	
1400x1000	22.8	18.0	1220	961	1052	
1400x1100	22.8	19.2	1035	914	1005	
1400x1200	22.8	20.4	850	814	947	
1500x900	24.0	16.8	1620	1211	1317	
1500x1000	24.0	18.0	1435	1174	1297	
1500x1100	24.0	19.2	1250	1127	1250	
1500x1200	24.0	20.4	1065	1074	1216	
1500x1400	24.0	22.8	695	914	1052	
1600x1000	25.2	18.0	1650	1424	1547	
1600x1100	25.2	19.2	1465	1377	1502	
1600x1200	25.2	20.4	1280	1324	1468	
1600x1400	25.2	22.8	910	1103	1273	
1600x1500	25.2	24.0	725	1073	1250	
1800x1100	27.6	19.2	1895	1910	2057	
1800x1200	27.6	20.4	1710	1858	2024	
1800x1400	27.6	22.8	1340	1701	1870	
1800x1500	27.6	24.0	1155	1610	1810	
1800x1600	27.6	25.2	970	1436	1664	
2000x1200	30	20.4	2140	2512	2705	
2000x1400	30	22.8	1770	2358	2553	
2000x1500	30	24.0	1585	2268	2494	
2000x1600	30	25.2	1400	2176	2404	
2000x1800	30	27.6	1030	1800	2079	



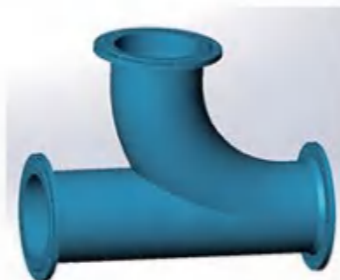
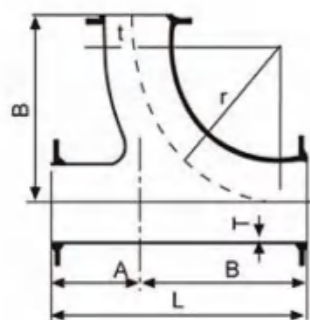
35 90° Double-flanged long radius bends



36 Flanged bellmouth

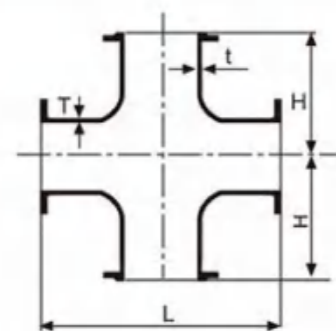
DN	L	Mass		
		PN10	PN16	PN25
80	380	14.5	14.5	14.5
100	400	18	18	19.0
125	425	23.5	23.5	24.1
150	450	30.1	30.1	32.1
200	500	45.9	45.4	49.6
250	550	66.4	65.2	73.2
300	600	89.5	90.8	101
350	660	115.8	121.6	138.4
400	700	149	158	180
450	750	184	200	221
500	800	227	252.6	275.8
600	900	326.2	377	407.6
700	1000	466	492	-
800	1100	632	666	-
900	1200	816	854	-
1000	1300	1048	1190	-
1100	1400	1315	1385	-
1200	1500	1627	1737	-

DN	D1	L	Mass		
			PN10	PN16	PN25
80	150	130	6	6	6
100	175	135	7	7	7
150	230	150	15	15	16
200	290	170	16	16	18
250	345	183	21	21	24.5
300	405	205	28.5	28.5	33.5
350	460	220	36	38	46
400	520	240	45	50	61
450	575	255	54	62	73
500	635	275	67	80	91
600	750	310	97	120	134
700	865	345	135	146	180
800	980	380	185	204	213
900	1095	415	231	250	306
1000	1210	450	297	331	406
1100	1325	485	369	405	488
1200	1440	520	447	512	603
1400	1670	590	646	702	854
1500	1785	625	772	851	999
1600	1900	660	906	995	1173
1800	2130	730	1185	1298	1538
2000	2360	800	1530	1668	2036



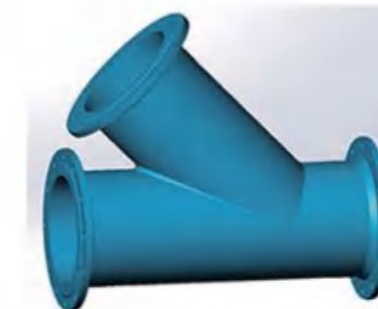
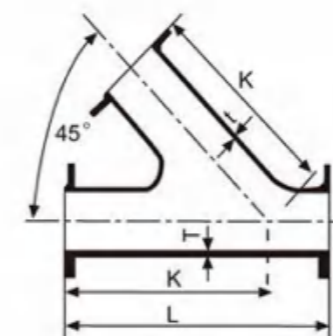
37 All-flanged tees with radial branch

DN x dn	T	L	A	B	r	Mass PN16
80 X 80	8.1	545	165	380	330	23
100X100	8.4	580	180	400	340	29.5
150X150	9.1	670	220	450	385	47.9
200X200	9.8	750	250	500	430	71.6
250X250	10.5	900	350	550	475	104.8
300X300	11.2	1000	400	600	515	144.5
350X350	11.9	1100	450	650	560	203.4
400X400	12.6	1200	500	700	605	263.1
450X450	13.3	1300	550	750	650	332
500X500	14.0	1400	600	800	690	421.9
600X600	15.4	1600	700	900	780	623.7



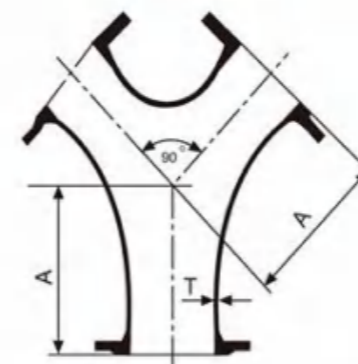
38 All-flanged cross

DN x dn	T	t	L	H	Mass PN16
80 X 80	8.1	8.1	330	165	20.5
100X100	8.4	8.4	360	180	25
150X150	9.1	9.1	440	220	41.1
200X200	9.8	9.8	520	260	60.9
250X250	10.5	10.5	700	350	101
300X300	11.2	11.2	800	400	143
350X350	11.9	11.9	850	425	186
400X400	12.6	12.6	900	450	237
450X450	13.3	13.3	950	475	319
500X500	14.0	14.0	1000	500	354
600X600	15.4	15.4	1100	550	527



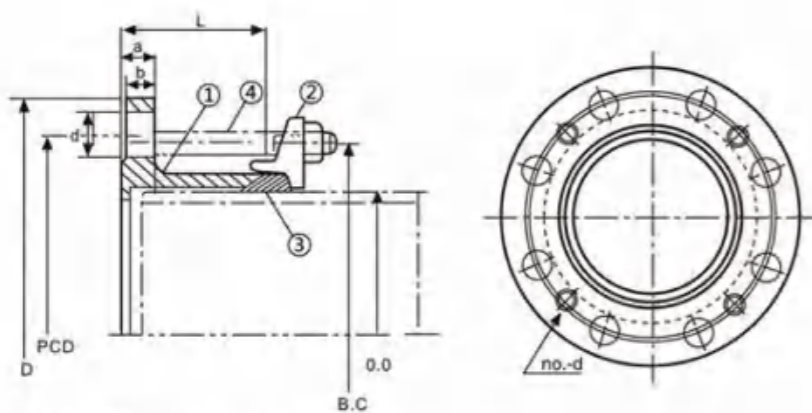
39 All-flanged tees with 45° angle branch

DN x dn	T	t	L	K	Mass PN16
80 X 80	8.1	8.1	500	375	21.4
100X100	8.4	8.4	540	405	27.0
150X150	9.1	9.1	640	480	46.4
200X200	9.8	9.8	735	560	70.9
250X250	10.5	10.5	830	640	103.8
300X300	11.2	11.2	930	715	145.5
350X350	11.9	11.9	880	790	195
400X400	12.6	12.6	970	870	255
450X450	13.3	13.3	1060	950	321
500X500	14.0	14.0	1140	1025	414
600X600	15.4	15.4	1310	1180	625



40 All-flanged "Y" tees

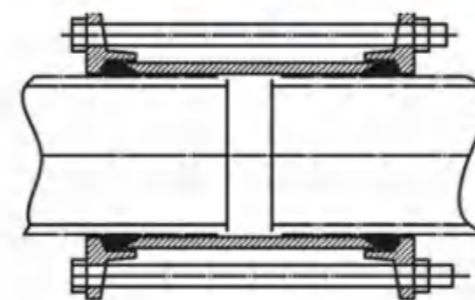
DNxDNxDN	T	A	Mass PN16
80 x 80x80	8.1	165	15.6
100x100x100	8.4	180	19.3
150x150x150	9.1	220	31.9
200x200x200	9.8	260	48.1
250x250x250	10.5	350	79.8
300x300x300	11.2	400	113.5
350x350x350	11.9	450	165.4
400x400x400	12.6	500	219.1
450x450x450	13.3	550	280.0
500x500x500	14.0	600	363.9
600x600x600	15.4	700	562.7



No.	DESCRIPTION	MATERIAL
①	FLANGE ADAPTOR	DUCTILE IRON
②	GLAND	DUCTILE IRON
③	GASKET	RUBBER
④	BOLT & NUT	MILD STEEL

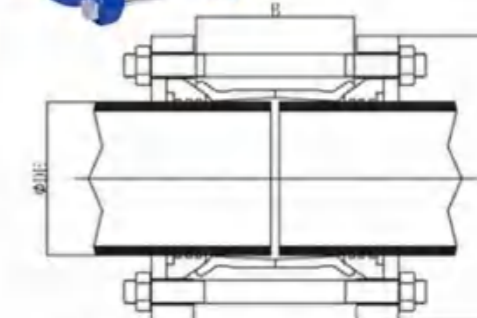
41 Flanged adaptor

PN	Nominal DN	Pipe O.D.	Size							孔数	B.C	Mass
			D	PCD	a	b	L	d				
PN10	80	98	200	160	19.0	16.0	70	19	8	166	7.2	
	100	118	220	180	19.0	16.0	70	19	8	187	8.0	
	125	144	250	210	19.0	16.0	70	19	8	216	10.5	
	150	170	285	240	19.0	16.0	70	23	8	240	12.9	
	200	222	340	295	20.0	17.0	75	23	8	293	18.5	
	250	274	400	350	22.0	19.0	90	23	12	346	25.5	
	300	326	455	400	24.5	20.5	90	23	12	410	30.2	
	350	378	505	460	24.5	20.5	100	23	16	469	41.9	
	400	429	565	515	24.5	20.5	100	28	16	521	52.9	
	450	480	615	565	25.5	21.5	110	28	20	573	62.4	
	500	532	670	620	26.5	22.5	110	28	20	626	62.3	
	600	635	780	725	30.0	25.0	115	31	20	730	65.0	
	700	738	895	840	32.5	27.5	115	31	24	837	105.4	
	800	842	1015	950	35.0	30.0	115	34	24	943	125.8	
	900	945	1115	1050	37.5	32.5	115	34	28	1047	152.1	
	1000	1048	1230	1160	40.0	35.0	115	37	28	1159	164.3	
	1100	1152	1340	1270	42.5	37.5	115	37	32	1264	275.0	
	1200	1255	1455	1380	45.0	40.0	115	40	32	1368	314.7	
1400	1462	1675	1590	46.0	41.0	130	43	36	1582	447.7		
1500	1565	1785	1700	47.5	42.5	130	43	36	1686	591.6		
1600	1668	1915	1820	49.0	44.0	190	49	40	1790	1146.0		
1800	1875	2115	2020	52.0	47.0	190	49	44	1999	1456.1		
2000	2082	2325	2230	55.0	50.0	190	49	48	2208	1597.2		
PN16	80	98	200	160	19.0	16.0	70	19	8	166	7.2	
	100	118	220	180	19.0	16.0	70	19	8	187	8.0	
	125	144	250	210	19.0	16.0	70	19	8	216	10.5	
	150	170	285	240	19.0	16.0	70	23	8	240	12.9	
	200	222	340	295	20.0	17.0	75	23	12	293	18.3	
	250	274	400	355	22.0	19.0	90	28	12	346	25.1	
	300	326	455	410	24.5	20.5	90	28	12	410	29.8	
	350	378	520	470	26.5	22.5	100	28	16	469	45.0	
	400	429	580	525	28.0	24.0	100	31	16	521	56.0	
	450	480	640	585	30.0	26.0	110	31	20	573	68.0	
	500	532	715	650	31.5	27.5	110	34	20	626	77.5	
	600	635	840	770	36.0	31.0	115	37	20	730	91.5	
	700	738	910	840	39.5	34.5	115	37	24	837	120.5	
	800	842	1025	950	43.0	38.0	115	40	24	943	145.0	
	900	945	1125	1050	46.5	41.5	115	40	28	1047	176.0	
	1000	1048	1255	1170	50.0	45.0	115	43	28	1159	205.8	
	1100	1152	1355	1270	53.5	48.5	115	43	32	1264	310.0	
	1200	1255	1485	1390	57.0	52.0	115	49	32	1368	379.0	
1400	1462	1685	1590	60.0	55.0	130	49	36	1582	512.0		
1500	1565	1820	1710	62.5	57.5	130	56	36	1686	679.0		
1600	1668	1930	1820	65.0	60.0	190	56	40	1790	1248.0		
1800	1875	2130	2020	70.0	65.0	190	56	44	1999	1582.0		
2000	2082	2345	2230	75.0	70.0	190	62	48	2208	1750.0		



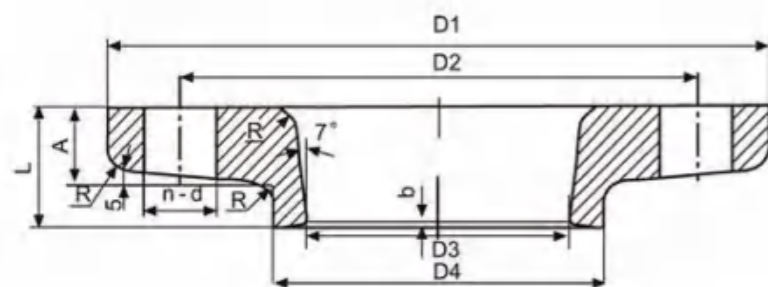
Flexible Coupling

DN	DE(mm)	Weight(Kg)
40	56	3
50	66	4
60	77	4.5
65	82	5
80	98	6
100	118	6.5
125	144	8.5
150	170	11.5
200	222	14.5
250	274	21.5
300	326	24.5
350	378	35.5
400	429	42
450	480	50
500	532	55.5
600	635	74.5
700	738	96
800	842	120.5
900	945	162.5
1000	1048	185
1100	1152	195
1200	1255	255
1400	1462	375
1500	1565	395
1600	1668	420
1800	1875	650
2000	2082	850



Universal Coupling

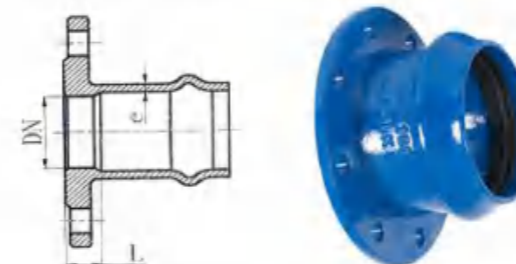
DN	DE(mm)	Weight(Kg)
50	59-73	3.2
65	72-85	4.2
80	88-103	5.2
100	108-128	5.9
125	132-146	7.7
150	158-181	9.7
175	192-209	11.6
200	218-235	11.6
225	250-267	16.5
250	262-289	18.9
300	315-332	20.4
300	322-339	20.9
300	340-360	22
350	351-368	31.9
350	374-391	33
400	400-429	38.5
400	425-442	40.7
450	455-472	45.1
450	476-493	47.3
500	500-532	52.8
500	527-544	53.9
500	555-572	55
500	566-583	55
500	582-599	57.2
600	600-630	71.5
600	630-647	72.6
600	645-662	74.8
600	662-679	77
600	675-692	79.2



44 Gland

DN/mm	D1/mm	D2/mm	D3/mm	D4/mm	A/mm	L/mm	R/mm	b/mm	n-d/(Holes-mm)	Mass/kg
150	288	242	174	198	17	36	5	2	6-23	5.7
200	341	295	226	250	18	37	5	2	6-23	7.5
250	395	349	278	302	19	38	5	2	8-23	9.5
300	455	409	330	354	20	39	5	2	8-23	12.2
350	508	462	382	406	21	40	5	2	10-23	14.6
400	561	515	433	457	22	41	7	2	12-23	17.2
450	614	568	484	508	23	41	7	2	12-23	21.0
500	667	621	536	560	24	43	7	2	14-23	22.9
600	773	727	639	663	25	44	7	2	14-23	28.5
700	892	838	743	773	26	45	7	2.5	16-27	38.6
800	999	945	847	877	28	47	9	2.5	20-27	47.4
900	1123	1057	950	980	29	48	9	2.5	20-33	61.9
1000	1231	1165	1054	1083	30	49	9	2.5	20-33	63.8
1100	1338	1272	1158	1187	31	50	9	2.5	24-33	68.5
1200	1444	1378	1262	1290	32	51	9	2.5	28-33	82.5
1400	1657	1591	1469	1497	34	53	9	3	28-33	104
1500	1766	1700	1573	1605	35	54	9	3	30-33	119
1600	1874	1808	1676	1711	36	55	9	3	30-33	123
1800	2089	2023	1883	1918	38	57	11	3	34-33	162
2000	2305	2239	2090	2125	40	59	11	3	36-33	196

Flange Socket



OD	DN	L	Weight / kg	
			PN10	PN16
63	50	15	3.8	3.8
75	65	15	4.3	4.3
90	80	15	5.5	5.6
110	100	15	6.5	6.6
125	100	15	7.0	7.2
125	125	15	7.0	8.1
140	125	20	9.5	9.5
160	150	35	10.3	10.3
180	150	35	13.5	13.8
200	200	40	14.0	14.6
225	200	40	18.0	19.0
250	250	50	24.0	25.0
280	250	50	27.5	28.0
315	300	60	33.0	35.0
355	350	60	42.7	45.4
400	400	70	50.0	53.5
450	450	70	54.0	58.0
500	450	80	73.0	78.0
500	500	80	80.5	83.5
630	600	90	110.0	114.0

Flange Spigot



OD	DN	L	Weight / kg	
			PN10	PN16
63	50	93	2.2	2.2
75	65	98	4.3	4.3
90	80	102	5.0	5.0
110	100	110	5.4	5.4
125	100	114	8.0	8.0
125	125	114	8.5	8.5
140	125	119	9.0	9.0
160	150	127	11.5	11.5
180	150	133	14.5	14.5
200	200	139	16.0	15.8
225	200	147	16.7	16.5
250	250	156	23.0	23.3
280	250	166	25.0	25.3
315	300	176	35.0	35.5
355	350	187	41.0	44.0
400	400	198	52.0	58.0
450	450	200	53.0	59.5
500	500	224	76.0	92.0
630	600	260	108.0	136.0

Collar



OD	L	Weight / kg
50	60	2.5
63	60	3.2
75	60	4.2
90	60	5.1
110	60	7.0
125	60	7.6
140	60	8.6
160	60	10.5
180	60	14.0
200	60	15.1
225	60	19.5
250	60	27.0
280	60	31.2
315	60	43.2
355	60	49.5
400	60	59.4
450	60	70.0
500	60	89.6

Cap



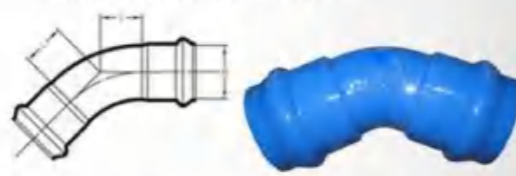
OD	L	Weight / kg
50	95	1.0
63	100	1.5
75	100	1.7
90	120	2.5
110	130	3.5
125	135	4.5
140	145	5.0
160	155	6.5
180	170	8.2
200	175	10.0
225	185	12.0
250	195	15.5
280	205	20.0
315	220	24.6
355	240	30.0
400	260	40.0

Double Socket Bend 90°



OD	L	Weight / kg
50	60	3.0
63	65	3.8
75	70	5.0
90	75	6.5
110	85	8.6
125	110	9.5
140	110	12.5
160	130	16.0
180	160	19.2
200	160	22.0
225	160	28.0
250	185	38.0
315	215	60.0
355	290	86.0
400	300	101.0
450	300	138.0
500	315	147.0
630	515	270.0

Double Socket Bend 45°



OD	L	Weight / kg
50	40	2.5
63	40	3.5
75	40	4.3
90	50	5.0
110	60	6.6
125	65	9.0
140	65	10.0
160	70	11.3
180	70	15.5
200	70	17.3
225	80	22.0
250	110	32.4
315	135	52.0
355	170	65.0
400	175	87.0
450	200	103.0
500	210	139.0
630	235	195.0

Double Socket Bend 30°



OD	L	Weight / kg
50	40	2.3
63	40	3.0
75	40	3.8
90	50	5.0
110	60	7.6
125	65	8.2
140	65	9.5
160	70	10.8
180	70	14.5
200	70	16.5
225	80	20.0
250	110	29.8
315	135	48.0
355	170	59.0
400	175	63.7
450	195	81.0
500	210	126.0
630	235	172.0

Double Socket Bend 22.5°



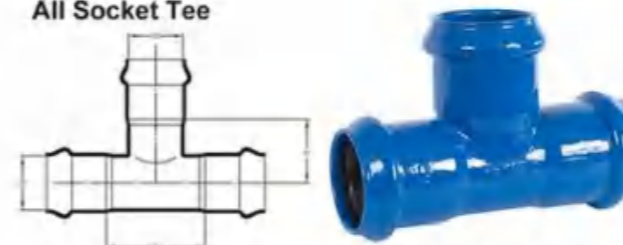
OD	L	Weight / kg
50	20	2.2
63	20	2.7
75	25	4.0
90	25	5.0
110	30	6.5
125	30	8.0
140	30	8.6
160	35	12.0
180	40	13.8
200	40	15.0
225	45	18.5
250	50	27.5
315	85	44.3
355	95	54.0
400	110	74.0
450	120	75.6
500	130	115.0
630	150	152.0

Double Socket Bend 11.25°



OD	L	Weight / kg
50	20	2.2
63	20	2.7
75	25	3.8
90	25	4.9
110	30	6.0
125	30	7.6
140	30	8.6
160	30	12.0
180	30	13.5
200	30	14.0
225	40	19.0
250	40	24.8
315	55	41.0
355	60	50.0
400	65	68.0
450	70	72.0
500	75	101.0
630	90	129.0

All Socket Tee

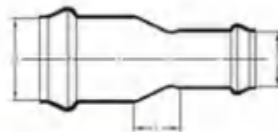


OD	od	L	H	Weight / kg
50	50	60	30	3.5
63	50	65	30	4.3
	63	70	30	4.5
75	50	65	45	5.4
	63	70	45	6.0
75	75	85	45	6.5
	90	75	50	6.5
90	63	80	50	6.8
	75	90	50	7.6
	90	105	50	10.3
110	50	65	60	8.0
	63	75	60	8.6
	75	90	60	10.5
	90	105	60	10.8
110	110	125	60	13.0
	50	65	70	9.7
	63	75	70	10.0
	75	90	70	11.8
125	90	105	70	13.0
	125	150	70	15.1
	140	65	75	10.5
140	63	75	75	12.0
	75	90	75	12.5
	90	105	75	14.0
	125	150	75	16.0
160	40	55	85	11.9
	50	65	85	12.5
	63	75	85	13.0
	75	90	85	14.8
	90	105	85	16.5
	110	125	85	19.0
	125	125	85	19.5
160	175	85	21.1	
200	50	70	105	16.2
	75	120	105	19.4
	110	160	105	22.1
	125	160	105	22.7
	160	210	105	24.8
	200	240	105	27.0
225	50	70	120	20.5
	63	110	120	21.6
	75	120	120	22.1
	90	140	120	23.8
	110	160	120	25.9
	125	170	120	27.0
	160	210	120	28.6
200	240	120	32.4	
225	260	120	34.6	

OD	od	L	H	Weight / kg
250	50	70	130	30.2
	63	110	130	30.5
	75	130	130	30.8
	90	155	130	33.0
	110	175	130	33.5
	125	180	130	35.6
	140	200	130	36.0
	160	225	130	39.0
280	200	250	130	41.6
	225	270	130	43.7
	250	300	130	55.5
	63	80	145	37.0
	90	155	145	38.0
	110	175	145	39.0
	160	225	145	43.2
	180	230	145	45.4
315	225	250	145	53.0
	280	325	145	62.0
	63	80	165	46.5
	75	100	165	48.0
	90	120	165	49.0
	110	175	165	50.0
	125	180	165	51.2
	160	225	165	53.0
	180	225	165	55.0
	200	250	165	58.5
	225	250	165	61.6
	250	300	165	66.0
355	280	325	165	70.0
	315	375	165	81.0
	110	140	190	58.3
	200	220	190	69.0
	225	250	190	73.0
	250	270	190	74.5
400	280	300	190	84.2
	315	340	190	91.0
	355	380	190	98.0
	90	120	215	65.0
	110	140	215	70.2
	125	155	215	74.5
500	160	180	215	77.0
	180	200	215	78.0
	200	220	215	90.0
	250	270	215	93.0
	315	340	215	112.0
	400	430	215	123.0
500	110	140	260	110.0
	125	155	260	115.0
	160	180	260	119.0
	200	220	260	128.0
	250	270	260	143.0
	315	340	260	150.0
500	400	430	260	167.0
	500	530	270	199.0

Double Socket Taper

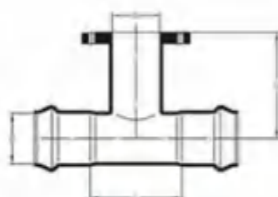
OD	od	L	Weight / kg
63	50	70	3.2
75	50	80	3.3
	63	80	3.8
90	50	80	4.3
	63	80	4.5
75	80	4.9	
	50	100	5.0
110	63	160	5.7
	75	120	5.8
	90	85	6.5
125	63	190	7.6
	75	190	8.1
	90	135	8.6
140	110	100	9.0
	63	200	8.0
	75	190	9.0
	90	135	9.2
160	110	100	9.4
	125	100	9.8
	50	160	8.8
	63	210	9.3
75	200	9.7	
	110	150	10.8
	125	100	11.5
140	140	100	14.0
	63	250	14.0
	75	250	14.3
	90	250	15.1
200	110	250	15.5
	125	250	16.2
	140	200	16.0
	160	145	16.3



OD	od	L	Weight / kg
225	63	200	14.0
	75	200	15.1
	90	250	15.2
	110	250	15.5
	125	250	16.2
	140	200	16.5
	160	145	17.3
250	200	145	19.4
	63	300	18.4
	90	300	21.1
	110	300	22.0
	125	300	24.0
	140	250	23.0
	160	250	27.5
280	200	150	28.1
	160	250	28.6
	225	150	29.0
	63	220	30.0
315	90	110	26.0
	110	125	29.5
	160	150	30.5
	200	250	40.0
	250	150	41.0
400	63	260	39.0
	110	250	41.0
	250	360	64.0
	315	260	66.0
500	315	460	74.5
	400	260	86.0

Double Socket Tee With Flange Branch

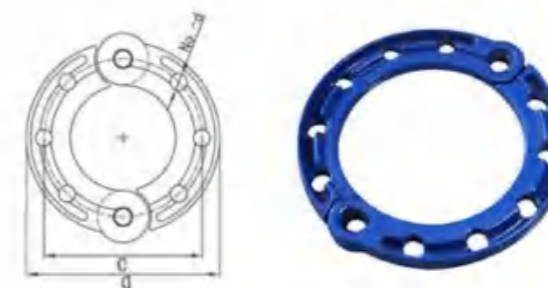
PN16				
OD	od	L	H	Weight / kg
63	50	70	140	6.5
90	80	105	160	10.3
	50	75	145	10.3
110	80	105	170	13.0
	100	125	170	14.5
	50	80	160	10.0
125	80	105	170	11.5
	100	125	180	13.0
160	50	75	170	14.6
	100	125	205	17.8
	150	175	220	24.8
200	50	110	195	17.3
	80	140	225	18.5
	100	160	230	20.5
	125	185	240	22.0
	150	210	245	25.4
225	200	260	250	30.0
	80	140	225	26.0
	100	160	230	27.5
	150	210	245	34.0
200	260	260	39.0	



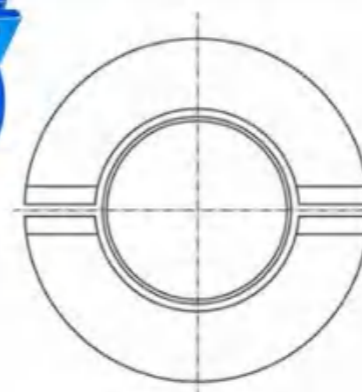
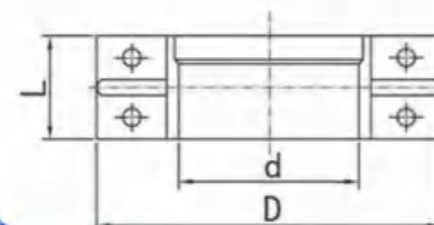
OD	od	L	H	Weight / kg
250	80	155	250	35.5
	100	175	255	36.3
	125	200	260	39.0
	150	225	265	43.1
400	200	275	275	45.0
	80	175	340	69.2
	100	210	355	75.6
	150	275	360	79.0
500	200	325	365	93.0
	80	120	375	112.3
	100	140	380	119.0
	150	275	385	127.5
	200	250	390	134.0
	250	300	400	157.0
630	300	420	440	164.2
	400	450	440	184.0
	500	550	460	249.0
	80	140	450	141.0
	100	160	450	146.0
	150	275	450	168.0
	200	280	450	174.0
	250	300	460	179.0
	300	420	460	200.0
	400	470	480	239.0
600	680	560	355.0	

Loosing Flange

Flange Dimensions: BS EN1092-2
Loosing Flange for DN40 - DN1000



DN	PN10						PN16					
	D	C	Bolt			Weight (Kg)	D	C	Bolt			Weight (Kg)
			d	Size	No.				d	Size	No.	
40	150	110	19	M16	4	1.4	150	110	19	M16	4	1.4
50	165	125	19	M16	4	1.6	165	125	19	M16	4	1.6
60	175	135	19	M16	4	2.0	175	135	19	M16	4	2.0
65	185	145	19	M16	4	2.2	185	145	19	M16	4	2.2
80	200	160	19	M16	8	2.4	200	160	19	M16	8	2.4
100	220	180	19	M16	8	2.7	220	180	19	M16	8	2.7
125	250	210	19	M16	8	3.6	250	210	19	M16	8	3.6
150	285	240	23	M20	8	4.2	285	240	23	M20	8	4.2
200	340	295	23	M20	8	6.0	340	295	23	M20	12	5.7
250	400	350	23	M20	12	8.6	400	355	28	M24	12	8.5
300	455	400	23	M20	12	11.3	455	410	28	M24	12	11.0
350	505	460	23	M20	16	14.5	520	470	28	M24	16	14.9
400	565	515	28	M24	16	20.0	580	525	31	M27	16	21.0
450	615	565	28	M24	20	26.0	640	585	31	M27	20	29.0
500	670	620	28	M24	20	28.0	715	650	34	M30	20	38.0
600	780	725	31	M27	20	33.0	840	770	37	M33	20	58.0
700	895	840	31	M27	24	35.0	910	840	37	M33	24	64.0
800	1015	950	34	M30	24	41.0	1025	950	40	M36	24	70.0
900	1115	1050	34	M30	28	50.0	1125	1050	40	M36	28	79.0
1000	1230	1160	37	M33	28	65.0	1255	1170	43	M39	28	92.0



Loosing Puddle Flange

DN	D	L	d	Weight (Kg)
80	260	110	100	11.5
100	305	110	120	14.5
125	345	130	146	19
150	390	130	172	23
200	430	130	224	28
250	490	130	276	37
300	555	130	329	46
350	610	130	381	50
400	660	130	432	62
450	725	150	483	73
500	790	150	535	85
600	900	165	638	120
700	1000	165	746	144
800	1100	185	850	189
900	1200	185	953	221
1000	1340	200	1056	342
1100	1440	200	1160	378
1200	1570	225	1263	487
1400	1780	225	1470	634
1600	1996	225	1686	702

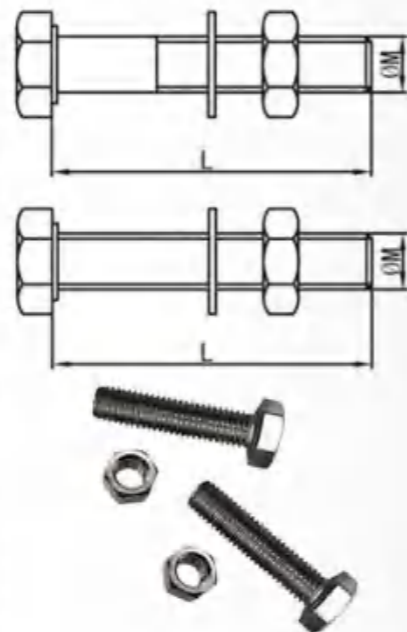
Flange Gaskets



DN	Flange Gaskets for PN10					Flange Gaskets for PN16				
	d1	d2	d3	a	n-Ød	d1	d2	d3	a	n-Ød
40	150	110	84	3	4-19	150	110	84	3	4-19
50	165	125	99	3	4-19	165	125	99	3	4-19
60	175	135	109	3	4-19	175	135	109	3	4-19
65	185	145	118	3	4-19	185	145	118	3	4-19
80	200	160	132	3	8-19	200	160	132	3	8-19
100	220	180	156	3	8-19	220	180	156	3	8-19
125	250	210	184	3	8-19	250	210	184	3	8-19
150	285	240	211	3	8-23	285	240	211	3	8-23
200	340	295	266	3	8-23	340	295	266	3	12-23
250	400	350	319	4	12-23	400	355	319	4	12-28
300	455	400	370	4	12-23	455	410	370	4	12-28
350	505	460	429	4	16-23	520	470	429	4	16-28
400	565	515	480	4	16-28	580	525	480	4	16-31
450	615	565	530	4	20-28	640	585	548	4	20-31
500	670	620	582	5	20-28	715	650	609	5	20-34
600	780	725	682	5	20-31	840	770	720	5	20-37
700	895	840	794	6	24-31	910	840	794	6	24-37
800	1015	950	901	6	24-34	1025	950	901	6	24-40
900	1115	1050	1001	8	28-34	1125	1050	1001	8	28-40
1000	1230	1160	1112	8	28-37	1255	1170	1112	8	28-43

DN	Bolts for PN10			Bolts for PN16		
	Ø M	L	N°	Ø M	L	N°
40	M16	80	4	M16	80	4
50	M16	80	4	M16	80	4
60	M16	80	4	M16	80	4
65	M16	80	4	M16	80	4
80	M16	80	8	M16	80	8
100	M16	80	8	M16	80	8
125	M16	80	8	M16	80	8
150	M20	90	8	M20	90	8
200	M20	90	8	M20	90	12
250	M20	100	12	M24	100	12
300	M20	110	12	M24	120	12
350	M20	110	16	M24	120	16
400	M24	120	16	M27	130	16
450	M24	120	20	M27	130	20
500	M24	120	20	M30	140	20
600	M27	130	20	M33	150	20
700	M27	140	24	M33	170	24
800	M30	150	24	M36	180	24
900	M30	160	28	M36	180	28
1000	M33	170	28	M39	190	28

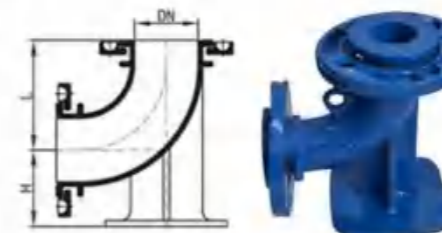
Flange Bolts



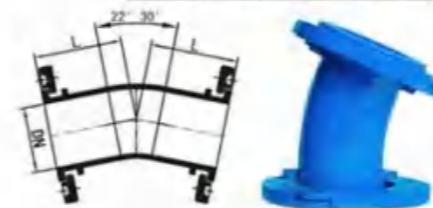
Loosing Flange Bend



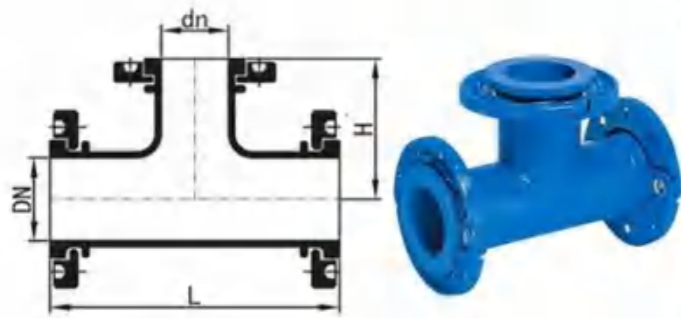
DN	L	Weight / Kg	
		PN10	PN16
40	140	5	
50	150	6.5	
60	160	7.5	
65	165	7.5	
80	165	9.5	
100	180	12.5	
125	200	16.5	
150	220	20.5	
200	260	34.5	34
250	350	54	53
300	400	77	77
350	450	97	103
400	500	125	137
450	550	159	177
500	600	195	227
600	700	293	351
700	800	416	449
800	900	565	606
900	1000	740	789
1000	1100	974	1049



DN	L	H	Weight / Kg	
			PN10	PN16
40	140	90	9	
50	150	95	10	
60	160	100	11	
65	165	100	11	
80	165	110	15	
100	180	125	19	
125	200	140	25	
150	220	160	32	
200	260	190	50	51
250	350	225	83	83
300	400	255	114	116
350	450	290	147	153
400	500	320	199	210
450	550	355	266	282
500	600	385	314	344
600	700	450	464	517
700	800	515	684	708
800	900	580	944	974
900	1000	645	1278	1308
1000	1100	710	1730	1799



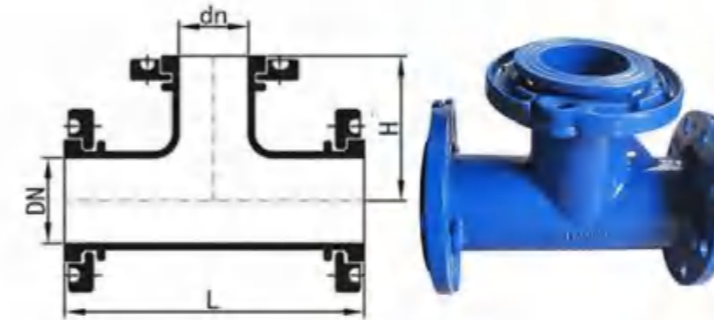
DN	L	Weight / kg	
		PN10	PN16
40	99	4.5	
50	109	5	
60	119	6	
65	124	6.5	
80	113	9	
100	115	10	
125	111	13	
150	113	16.5	
200	132	29	29
250	165	58	56
300	175	79	79
350	191	85	91
400	205	108	117
450	349	132	150
500	375	162	192
600	426	239	290
700	478	338	362
800	529	451	482
900	581	578	619
1000	632	746	819



All Loosing Flange Tee

DN	dn	L	H	Weight / Kg		
				PN10	PN16	
40	40	280	140	8		
50	40	300	145	8.5		
	50		150	9		
60	40	300	130	10.5		
	50		150	11		
60	60	320	160	11.5		
	60		150	11.5		
65	40	330	150	12		
	60		160	13		
	65		165	13.5		
80	40	330	150	13.5		
	50		155	14		
	60		160	14.5		
	65		160	15		
80	65	330	160	15		
	80		165	15.5		
	100		165	16.5		
	100		165	17		
100	60	360	170	17.5		
	65		175	17.5		
	80		175	18		
	100		180	20.5		
125	40	400	180	21.5		
	50		185	22		
	60		185	22		
	65		190	22.5		
	80		190	23		
	100		195	24.5		
150	40	440	195	26.5		
	50		200	27		
	60		200	27		
	65		205	27.5		
	80		205	28		
	100		210	29		
200	125	520	215	31.5		
	150		220	33		
	40		225	41	41	
	50		230	41.5	40	
	60		230	42	41.5	
	65		235	42.5	42	
200	80	520	235	43.5	43	
	100		240	44.5	44	
	125		245	47	46.5	
	150		250	47.5	47	
	200		260	54	53.5	

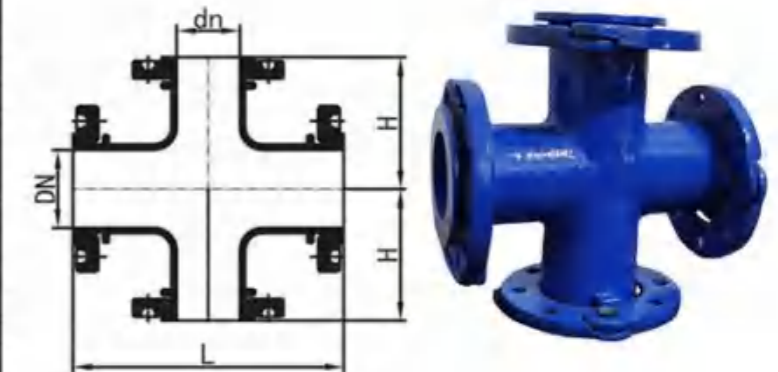
DN	dn	L	H	Weight / Kg	
				PN10	PN16
250	40	700	245	57	58
	50		250	57.5	59
	60		255	58	59.5
	65		260	58.5	60
	80		265	59	60.5
	100		275	60	61.5
	125		280	63	64.5
	150		300	65	66.5
	200		325	71	72.5
	250		350	79	81
300	40	800	270	80	79
	50		275	81	80
	60		280	82	81.5
	65		285	82.5	82
	80		290	83	82.5
	100		300	86	86
	125		315	87.5	87
	150		325	89	88
	200		350	90	90.5
	250		375	97	96
350	40	850	390	106	105
	50		390	120	125
	60		390	120.5	126
	65		390	121	126.5
	80		390	121	126.5
	100		390	121.5	127
	125		390	122.5	128
	150		390	124	130
	200		420	129	136
	250		420	134	140
400	40	900	420	142	148
	50		420	149	156
	60		320	148.5	157
	65		325	149	158
	80		330	150	159
	100		330	150	159
	125		340	151	160
	150		350	152	161
	200		350	154	163
	250		350	156	165
500	40	1000	350	160	169
	50		375	165	174
	60		450	180	189
	65		450	190	202
	80		450	200	214
	100		370	251	277
	125		375	252	278
	150		380	253	279
	200		380	253	279
	250		380	253	279
500	40	1000	370	251	277
	50		375	252	278
	60		380	253	279
	65		380	253	279
	80		390	254	280
	100		400	256	282
	125		400	258	284
	150		400	261	287
	200		400	265	291
	250		475	270	296
500	300	1000	500	275	303
	350		500	280	309
	400		500	286	320
	450		500	295	329
	500		500	310	381



All Loosing Flange Tee

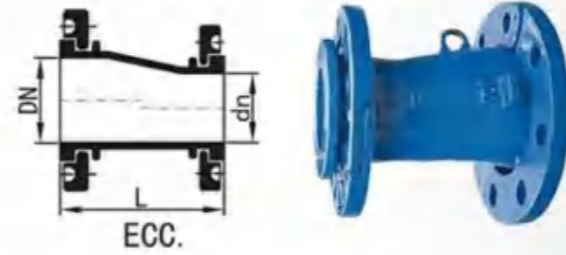
DN	dn	L	H	Weight / Kg	
				PN10	PN16
600	40	1100	420	353	400
	50		425	353	400
	60		430	355	402
	65		430	355	402
	80		440	357	404
	100		450	358	405
	125		450	360	407
	150		450	362	409
	200		450	365	412
	250		525	378	431
	300		550	385	432
	350		550	390	441
	400		550	395	453
	450		550	400	479
500	550	410	492		
600	550	430	509		
700	80	600	600	257	281
	100	540	510	259	284
	150	595	515	261	286
	200	650	525	299	322
	250	705	530	324	347
	300	760	540	344	369
	400	870	555	380	409
	500	980	570	444	483
	600	1200	585	528	578
	700	1200	600	554	591
800	80	670	440	329	360
	100	580	570	335	365
	150	585	575	339	369
	200	690	585	376	407
	300	800	600	430	461
	400	910	615	470	506
	500	1020	630	524	570
	600	1350	645	684	740
	700	1350	660	704	748
	800	1350	675	738	785
900	80	720	490	417	457
	100	620	630	419	460
	150	675	635	421	462
	200	730	645	427	466
	300	840	660	543	583
	400	950	675	581	626
	500	1060	690	647	701
	600	1500	705	887	951

DN	dn	L	H	Weight / Kg	
				PN10	PN16
900	700	1500	720	906	958
	800	1500	735	932	987
	900	1500	750	972	1032
1000	80	770	545	521	594
	100	660	690	523	596
	150	715	695	525	598
	200	770	705	528	601
	300	880	720	673	745
	400	990	735	713	790
	500	1100	750	796	883
	600	1650	765	1075	1173
	700	1650	780	1152	1237
	800	1650	795	1172	1260
900	1650	810	1211	1304	
1000	1650	825	1257	1366	



Loosing Flange Crossing Tee

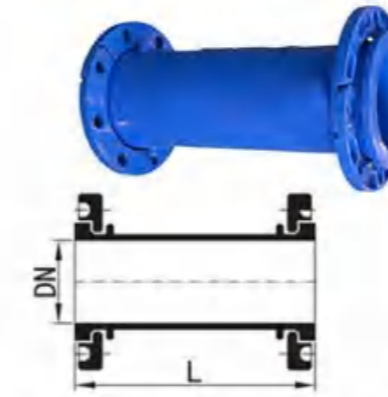
DN	dn	L	H	Weight / Kg	
				PN10	PN16
65	65	330	165	17.5	
80	80	330	135	20.5	
100	100	360	180	24.5	
125	125	400	200	34.5	
150	150	440	220	45	
200	200	520	260	69	70
250	250	700	350	110	110
300	300	800	400	157	154
350	350	850	425	201	205
400	400	900	450	228	253
450	450	950	475	346	382
500	500	1000	500	398	416
600	600	1100	550	454	563
700	700	1200	600	884	930
800	800	1350	675	1181	1240
900	900	1500	750	1544	1620
1000	1000	1650	825	2102	2240



Double Loosing Flange Taper

DN	dn	L	Weight / Kg		
			PN10	PN16	
50	40	150	5		
60	40	200	5.5		
	50		6		
65	40	200	6		
	50		6.5		
80	40	200	6.5		
	50		7.5		
	60		7.5		
	65		8		
100	40	200	7.5		
	50		7.7		
	60		8		
	65		8.5		
125	40	200	9.5		
	50		9.8		
	60		10.5		
	65		10.5		
	80		11		
150	40	200	11		
	50		11.5		
	60		12		
	65		12.5		
	80		12.5		
200	100	200	13.5		
	125		15		
	50		300	17	16.5
	60			17.5	17
	65			17.5	17
	80			18	17.8
100	19.5	19.5			
125	21	21			
250	150	300	22	21.8	
	60		300	23	23.5
	65			23.5	24
	80			24.5	25.5
	100			26	27
	125			27	28
300	150	300		28	29
	200		32	32.5	
	80		300	29	29
	100			30	30
	125			32.5	32.5
150	35	35			
200	39	38.5			
250	41	41.5			

DN	dn	L	Weight / Kg		
			PN10	PN16	
350	150	300	46	49	
	200		50	52.5	
	250		55	58.5	
	300		57	59.5	
400	150	300	52	56.5	
	200		55	59.5	
	250		59	64	
	300		64	68.5	
450	350	300	69	76	
	200		73	81	
	250		82	90.5	
	300		89	96.5	
500	350	300	96	107	
	400		98	110.5	
	200		93	106.5	
	250		97	111	
600	300	400	103	116.5	
	350		500	115	131
	400		600	140	158
	450		300	102	123
700	350	750	180	203	
	400		700	177	206
	450		650	180	208
	500		600	210	206
800	400	800	207	224	
	450		750	208	230
	500		700	212	271
	600		600	206	250
900	450	900	278	303	
	500		800	271	301
	600		700	275	315
	700		600	278	307
1000	500	1000	358	392	
	600		800	337	381
	700		700	340	373
	800		600	326	373
1000	600	1000	447	519	
	700		800	419	468
	800		700	422	474
	900		600	398	464

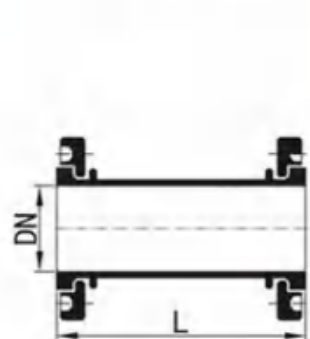


Double Loosing Flange Pipe

DN	L	Weight / Kg	
		PN10	PN16
40	100	4.5	
	150	5	
	200	5.5	
	250	6	
	300	6.3	
	350	6.7	
50	400	7.2	
	450	7.5	
	500	7.8	
	100	5.5	
	150	5.9	
60	200	6.5	
	250	6.8	
	300	7.3	
	350	7.8	
	400	8.2	
	450	8.7	
70	500	9.5	
	100	6.2	
	150	6.7	
	200	7.2	
	250	7.8	
	300	8.3	
80	350	8.8	
	400	9.4	
	450	10	
	500	10.5	
	100	7	
	150	7.3	
90	200	7.9	
	250	8.5	
	300	9	
	350	9.6	
	400	10.2	
	450	10.8	
100	500	11.5	
	100	7.5	
	150	8	
	200	8.7	
	250	9.5	
	300	10.5	
	350	11	
	400	11.5	
	450	12.5	
	500	13	
125	600	14.5	
	700	16	
	800	17.5	
	900	19	
	100	7	
	150	7.3	
	200	7.9	
	250	8.5	
	300	9	
	350	9.6	
150	400	10.2	
	450	10.8	
	500	11.5	
	100	18.5	18
	150	20.5	20
	200	22.5	22
	250	24.5	24
	300	26.5	26
	350	28.5	28
	400	30.5	30
200	450	32.5	32
	500	34.5	34
	600	38.5	38
	700	42	42
	800	46	46
	900	50	50
	1000	54	53.5
	1200	62	62

DN	L	Weight / Kg	
		PN10	PN16
100	100	8.5	
	150	9.5	
	200	10.5	
	250	11.5	
	300	12	
	350	13	
	400	14	
	450	14.8	
	500	15.5	
	600	17.5	
	700	19	
	800	21	
125	900	23	
	1000	24.5	
	1200	28	
	100	10.5	
	150	11.5	
	200	13	
	250	14	
	300	15	
	350	16	
	400	17.5	
	450	18.5	
	500	19.5	
150	600	22	
	700	24	
	800	26.5	
	900	28.5	
	1000	31	
	1200	35.5	
	100	13	
	150	14.5	
	200	16	
	250	17.5	
	300	19	
	350	20	
400	21.5		
200	450	23	
	500	24.5	
	600	27	
	700	30	
	800	33	
	900	35.5	
	1000	38.5	
	100	18.5	18
	150	20.5	20
	200	22.5	22
	250	24.5	24
	300	26.5	26
350	28.5	28	
400	30.5	30	
450	32.5	32	
500	34.5	34	
600	38.5	38	
700	42	42	
800	46	46	
900	50	50	
1000	54	53.5	
1200	62	62	

DN	L	Weight / Kg	
		PN10	PN16
250	100	23.5	25.5
	150	26	27.5
	200	29	30
	250	31.5	32.5
	300	34	35.5
	350	36.5	38
	400	39.5	40.5
	450	42	43
	500	44.5	46
	600	50	51
	700	55	56.5
	800	60.5	61.5
300	900	66	67
	1000	71	72
	1200	81.5	83
	200	40	39
	250	43	43
	300	47	46
	350	51	50
	400	55	54
	450	59	58
	500	63	62
	600	71	70
	700	79	78
800	87	87	
900	96	95	
1000	105	104	
1200	121	121	
350	250	51	56
	300	55	61
	350	60	65
	400	64	70
	450	69	74
	500	74	79
	600	83	89
	700	93	98
	800	103	108
	900	113	118
	1000	123	128
	1200	143	148
400	300	66	75
	350	71	80
	400	77	86
	450	82	91
	500	88	97
	600	99	108
	700	110	119
	800	121	130
	900	133	142
	1000	145	154
	1200	183	199
	450	350	83
400		89	105
450		95	111
500		102	118
600		115	131
700		128	144
800		141	157
900		155	170
1000		168	184
1200		195	211



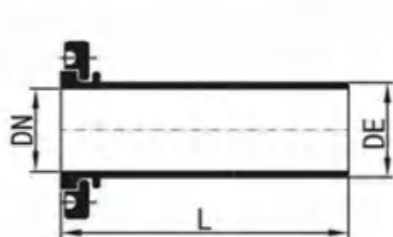
Double Loosing Flange Pipe

DN	L	Weight / Kg		
		PN10	PN16	
500	350	97	124	
	400	104	131	
	450	111	138	
	500	118	145	
	600	132	159	
	700	146	173	
	800	160	186	
	900	173	200	
	1000	187	214	
	1200	215	242	
	600	350	132	179
		400	141	188
450		150	197	
500		159	206	
600		177	224	
700		195	243	
800	213	261		
900	232	279		
1000	250	297		
1200	286	333		



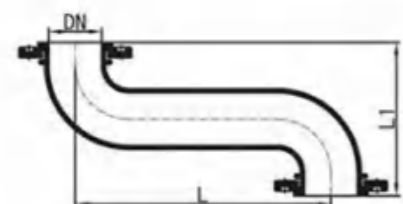
DN	L	Weight / Kg		
		PN10	PN16	
700	350	174	197	
	400	185	209	
	450	197	220	
	500	209	232	
	600	232	255	
	700	255	278	
	800	278	301	
	900	301	324	
	1000	324	347	
	1200	370	393	
	800	350	225	254
		400	239	269
450		253	283	
500		267	297	
600		296	326	
700		325	354	
800		353	383	
900		382	411	
1000		410	440	
1200		467	497	

DN	L	Weight / Kg		
		PN10	PN16	
900	350	267	305	
	400	285	323	
	450	303	341	
	500	321	359	
	600	356	394	
	700	392	430	
	800	428	466	
	900	464	502	
	1000	500	538	
	1200	572	610	
	1000	350	330	399
		400	351	420
450		372	441	
500		393	462	
600		435	504	
700		477	546	
800	520	589		
900	562	631		
1000	605	674		
1200	690	759		



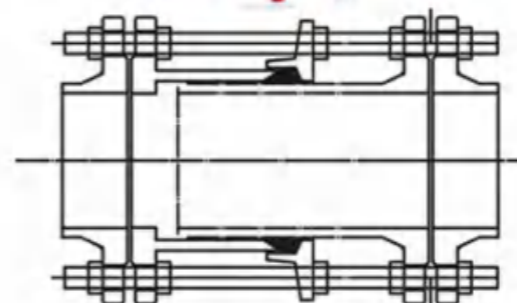
Flange Spigot

DN	L	DE	Weight / Kg	
			PN10	PN16
40	335	56	4.5	
50	340	66	5	
60	345	77	5.6	
65	345	82	6	
80	350	98	8	
100	360	118	10.5	
125	370	144	12	
150	380	170	16.5	
200	400	222	26	26
250	420	274	36	36
300	440	326	47	46
350	460	378	56	59
400	480	429	69	75
450	500	480	84	95
500	520	532	101	117
600	560	632	143	171
700	600	738	193	209
800	600	842	239	259
900	600	945	288	312
1000	600	1048	347	391



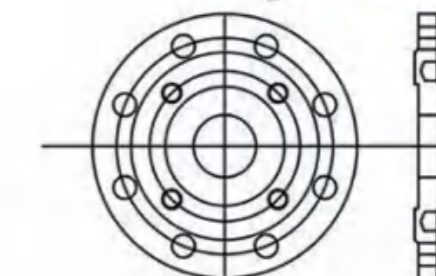
Double Loosing Flange Pipe Esse

DN	L	L1	Weight / Kg
			PN10 / PN16
80	500	300	16
100	500	300	20
150	500	320	32



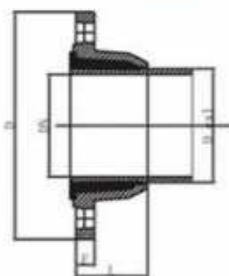
Dismantling Adaptor

DN	Weight (Kg)		
	PN10	PN16	PN25
50	14.5	14.5	14.5
65	16.8	16.8	16.8
80	18	18	22
100	22	22	33
125	28	28	38
150	30	30	40.5
200	43	43	58
250	54	55	82.5
300	76	84	115
350	94	107	152
400	125	147.5	208
450	145	183.3	265
500	162	205.8	315
600	210.6	271.8	395
700	254	336.8	571
800	338.8	400	685
900	438.6	522.6	886
1000	618.2	716	1050
1200	778.5	967	1305
1400	1250	1360	1550
1500	1450	1510	1850
1600	1550	1690	2150
1800	2350	2500	3420
2000	2650	2930	3750



Reducing Flange

DN	Weight(Kg)
40X50	3.5
50X65	4.5
80X50	4.8
80X65	5
100X50	6.5
100X80	7.5
100X125	8.5
125X150	9.8
150X50	7.8
150X80	8.5
150X100	9.2
150X200	13.5
200X80	12
200X100	12.5
200X150	13.5
200X250	21
250X100	25.5
250X150	23.5
250X200	22.5
250X300	29.5
300X100	31
300X150	29.5
300X200	28.5
300X250	27
350X300	42
400X350	55
450X400	65



PVC Adaptor

OD	Weight (Kg)
50/63	4.5
65/75	5.8
80/90	6.5
100/110	8
125/125	12.5
140/140	13.5
150/160	16.5
150/180	17.5
200/200	22.5
200/225	23.5
250/250	28
300/315	42.5
400/400	82



PE Quick Joint

DN	Weight (Kg)
50/PE63	2.2
60*65/PE63	2.4
60*65/PE75	2.6
80/PE90	3.2
100/PE110	3.9
125/PE125	4.7
125/PE140	4.8
150/PE160	6.6
200/PE200	9.6
200/PE225	9.8
250/PE250	11.5
300/PE315	13.6
400/PE400	35

BRIEF INTRODUCTION



FLUIDO offers a full range of ductile iron pipe fittings, including double flanged bends, flange spigot pipes with puddle flanges, Russia-hydrant cross tees, DN2600 30° bends (polyurethane coating), concentric reducers, and MJ fittings. Specialized types include restrained joint, self-anchored, lock joint, and K-edge fittings.

Our fittings meet EN545, EN598, ISO2531, AWWA C110, BS4772, and DIN2501 standards. Available in sizes from DN60–2500mm and pressure ratings PN10–PN25, they are customizable with coatings (zinc, FBE, epoxy) and linings (cement, FBE). Rubber rings available in NBR, SBR, and EPDM (ISO4633/EN681.1).



GLOBE FLUIDO

OEM & ODM: Accept
 LOGO Custom: Accept
 Customizable Coatings