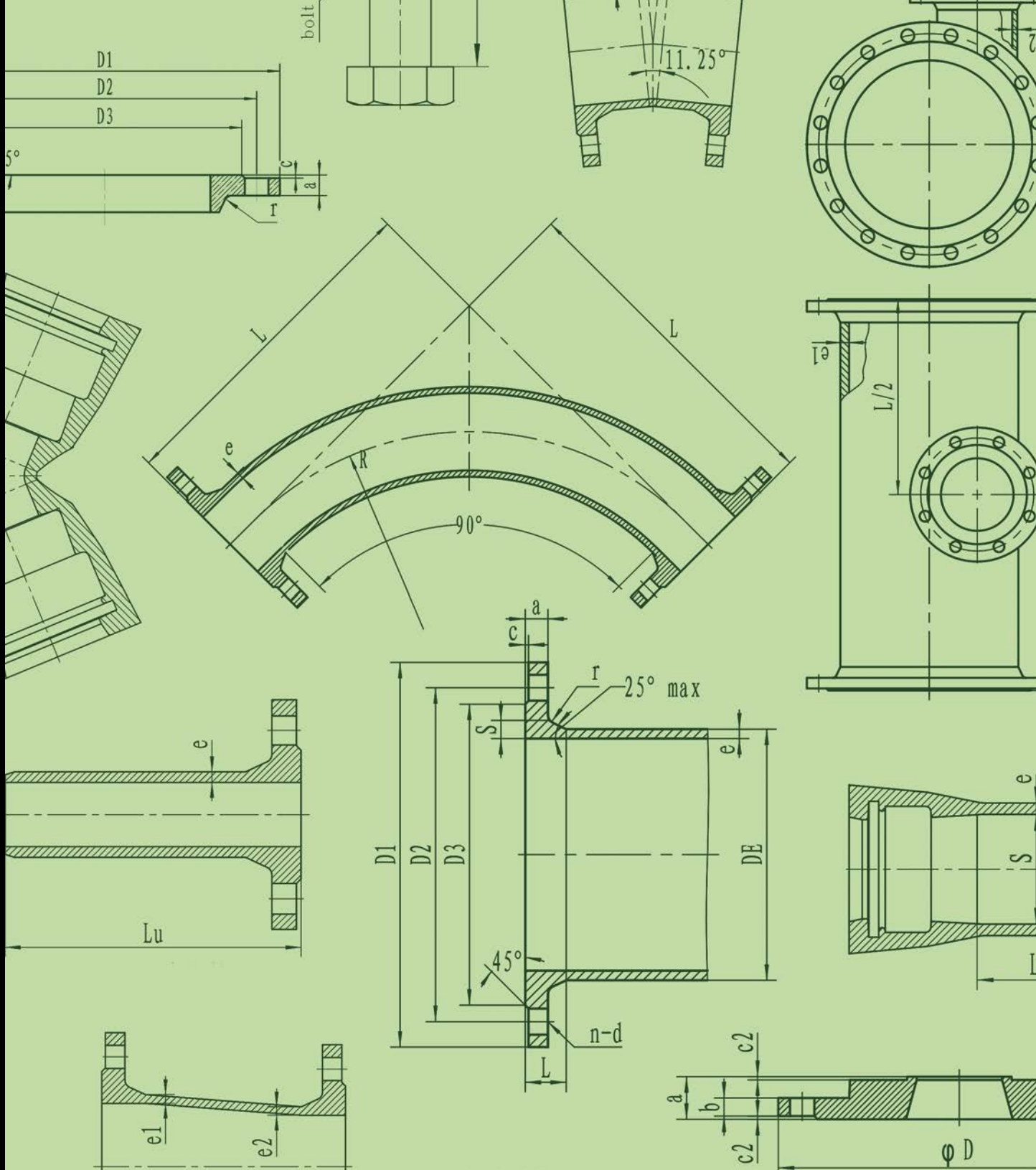




Technical Manual for ductile iron fittings

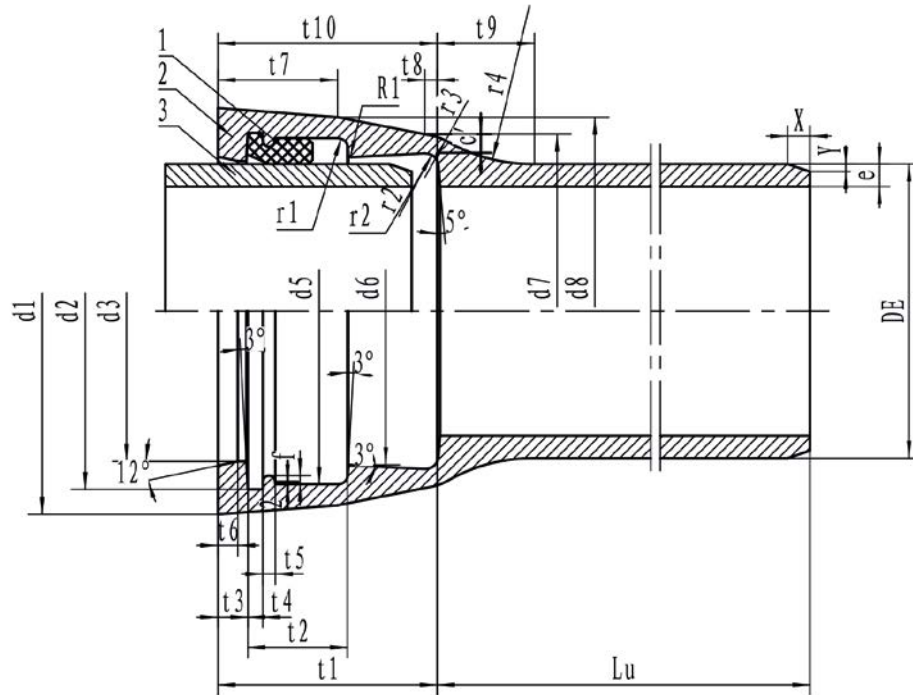
EDITION 1/20



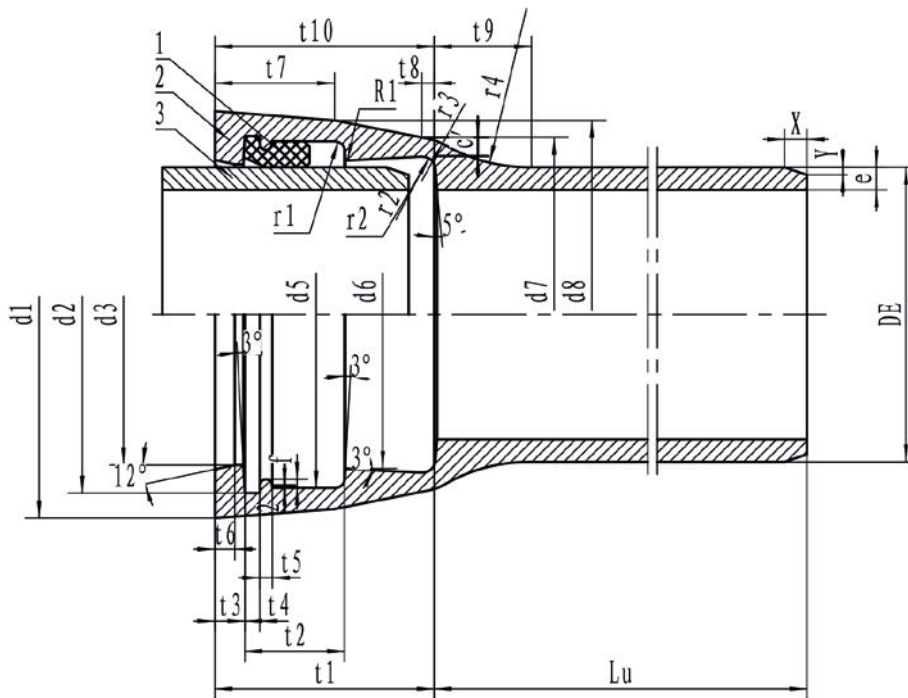
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CONTENTS

T-Type Joint	4
Flange	8
Flanged Socket Fittings	12
Flanged Socket	12
Double-socket Tee with Flanged Branch	13
Fittings with Socketed Joints	20
Collar	20
Double Socket 90°Bend(1/4)	21
Double Socket 45°Bend(1/8)	22
Double Socket 22.5°Bend(1/16)	23
Double Socket 11.25°Bend(1/32)	24
All Socket Tee	25
All Socket Crossing	31
Taper Reducer	37
Fittings for Flanged Joints	42
Double Flange Bend 90°(1/4)	42
Double Flanged Duckfoot Bend 90°(1/4)	43
Double Flanged Bend 45°(1/8)	44
Double Flanged Bend 22.5°(1/16)	45
Double Flanged Bend 11.25°(1/32)	46
All Flanged Tee	47
All Flanged Crossing	54
Double Flanged Taper	57
Blank Flange	59
Reducing Flanges	63
Flanged Spigot Fittings	65
Flanged spigot	65
Others	66
Caps	66
Welded Flange	67
Puddle Flange	68
Double Socket Duckfoot Bend 90°(1/4)	69
Double Flanged Long Radius Bend 90°(1/4)	70
All Flanged Radius Tee	71
Flanged Bellmouth	72
Double Flanged Flat Taper	73
Double Socket Level Invert Tee with Flanged Branch	75
All Flanged Level Invert Tee	77
All Socket Tee with 45°Angle Branch	78
All Flanged Tee with 45° Angle Branch	79
All Flanged “Y”Tees	80
Wall Thickness	81
Deviation	81
Appendix I. Weight Table for per Meter of Double Flange Pipe	84
Appendix 2 Weight Table for per size of Double Flanged Straight Pipe	85
Bolts and Nuts for Flanged fittings	91



DN40 - 1200 T TYPE JOINT			
Type	1	2	3
T	Gasket	Socket	Spigot



DN1400 - 1600 T TYPE JOINT			
Type	1	2	3
T	Gasket	Socket	Spigot

Nominal size and weight of T type joint

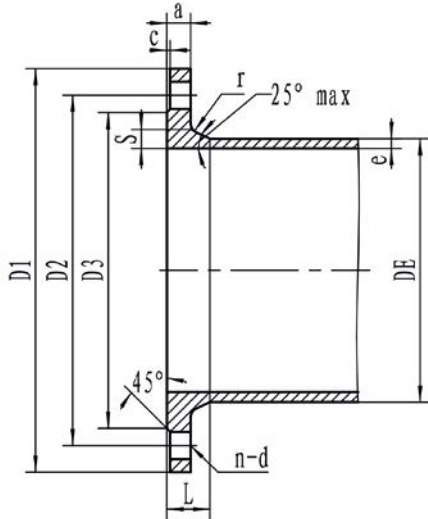
DN	DE		d1	d2		d3		d5		d6	
80	98	+1 -2.8	140	123	± 1	100.5	± 1	119.1	± 1	103.2	± 2
100	118		163	143		120.5		138.9		123.4	
125	144		190	169		146.5		164.8		150	
150	170	+1 -2.9	217	195		172.5		190.6		175.3	
200	222	+1 -3	278	250	+1.5 -1	224.5	+1.5 -1	245.2	+1.5 -1	227.8	
250	274	+1 -3.1	336	301.5	+1.8 -1	276.5	+1.8 -1	296.9	+1.8 -1	279.7	
300	326	+1 -3.3	393	356.5		328.5		351.7		332.1	
350	378	+1 -3.4	448	408		380.5		403.4		383.8	
400	429	+1 -3.5	500	462	+2.1 -1	431.5	+2.1 -1	457.2	+2.1 -1	435.8	± 2.5
450	480	+1 -3.6	540	514	+2.2 -1	482.5	+2.2 -1	509	+2.2 -1	487	
500	532	+1 -3.8	604	568	+2.4 -1	534.5	+2.4 -1	562.6	+2.4 -1	539.4	± 3
600	635	+1 -4	713	673.4	+2.7 -1	637.5	+2.7 -1	668	+2.7 -1	642.6	
700	738	+1 -4.2	824	788	+3.5 -1	740.5	+3.5 -1	779.3	+3.5 -1	745.8	± 3.5
800	842	+1 -4.5	943	894	+3.8 -1	844.5	+3.8 -1	885.9	+3.8 -1	850	± 3.8
900	945	+1 -4.8	1052	1000	+4.1 -1	947.5	+4.1 -1	991.3	+4.1 -1	953.2	± 4.1
1000	1048	+1 -5	1158	1105	+4.4 -1	1050.5	+4.4 -1	1097.1	+4.4 -1	1056.4	± 4.4
1100	1152	+1 -5.2	1267	1211	+4.7 -1	1155	+4.7 -1	1202.5	+4.7 -1	1160.2	± 4.7
1200	1255	+1 -5.5	1377	1317	+5 -1	1258	+5 -1	1308	+5 -1	1264	± 5
1400	1462	+1 -5.5	1610	1529	+5.6 -1	1465	+5.6 -1	1509	+5.6 -1	1471	± 5.6
1500	1565	+1 -5.5	1710	1635	+5 0	1570	+5 0	1615	+5 0	1575	± 5
1600	1668	+1 -6.0	1820	1740		1673		1717		1678	

Nominal size and weight of T type joint

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
125	170.7	183	8.8	3.5		91	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	0 -1	110	50	17	8.5	0 -0.5	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	0 -1.2	150	80	21	18	0 -0.8	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	1642	1702	28	—		250	120	29	26		—	19
1600	1748	1814	29	—		262	125	30	27		—	20

Nominal size and weight of T type joint

DN	t7	t8	t9	t10	r1	r2	r3	r4	X	Y	weight (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
125	48	5	41	91	4	5	19	61	9	3	5.7
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	–	129	239	10	12	100	205	20	7	385.3
1500	149	–	157.5	250	10	10	380	210	21	7	434
1600	155	–	165	262	10	10	380	210	21	7	521



FLANGE

Nominal size and weight of PN10 flange (unit:mm)

DN	D1	D2	D3	DE	a	c	S	r	L	n-d	weight (Kg)
40	150	110	84	56	19	3	15	6	36	4- Φ	1.7
50	165	125	99	66	19	3	15	6	36	4- Φ	2.1
60	175	135	108	77	19	3	15	6	36	4- Φ	2.2
65	185	145	118	82	19	3	15	6	36	4- Φ	2.5
80	200	160	132	98	19	3	15	6	36	8- Φ	2.9
100	220	180	156	118	19	3	15	6	36	8- Φ	3.3
125	250	210	184	144	19	3	15	6	35	8- Φ	4
150	285	240	211	170	19	3	15	8	34	8- Φ	4.9
200	340	295	266	222	20	3	16	8	36	8- Φ	6.8
250	400	350	319	274	22	3	17.5	10	40	12- Φ	9.8
300	455	400	370	326	24.5	4	19.5	10	46	12- Φ	12.8
350	505	460	429	378	24.5	4	19.5	10	44	16- Φ	14.1
400	565	515	480	429	24.5	4	19.5	10	43	16- Φ	16.3
450	615	565	530	480	24.5	4	20.5	12	44	20- Φ	18.1
500	670	620	582	532	26.5	4	21	12	46	20- Φ	21.8
600	780	725	682	635	30	5	24	12	53	20- Φ	30.8
700	895	840	794	738	32.5	5	23	16	51	24- Φ	40.5
800	1015	950	901	842	35	5	24.5	16	54	24- Φ	54.8
900	1115	1050	1001	945	37.5	5	26.5	16	58	28- Φ	64.3
1000	1230	1160	1112	1048	40	5	28	16	61	28- Φ	81.4
1100	1340	1270	1218	1152	42.5	5	30	20	66	32- Φ	105
1200	1455	1380	1328	1255	45	5	31.5	20	69	32- Φ	121
1400	1675	1590	1530	1462	46	5	32	20	66	36- Φ	148
1500	1785	1700	1640	1668	47.5	5	33	20	67	36- Φ	201
1600	1915	1820	1750	1668	49	5	34.5	20	69	40- Φ	206

Nominal size and weight of PN16 flange (unit:mm)

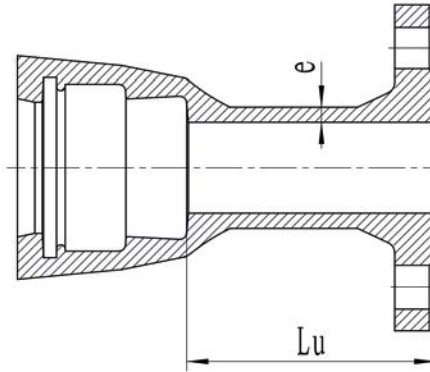
DN	D1	D2	D3	DE	a	c	S	r	L	n-d	weight (Kg)
40	150	110	84	56	19	3	15	6	36	4- ϕ 19	1.7
50	165	125	99	66	19	3	15	6	36	4- ϕ 19	2.1
60	175	135	108	77	19	3	15	6	36	4- ϕ 19	2.2
65	185	145	118	82	19	3	15	6	36	4- ϕ 19	2.5
80	200	160	132	98	19	3	15	6	36	8- ϕ 19	2.9
100	220	180	156	118	19	3	15	6	36	8- ϕ 19	3.3
125	250	210	184	144	19	3	15	6	35	8- ϕ 19	4
150	285	240	211	170	19	3	15	8	34	8- ϕ 23	4.9
200	340	295	266	222	20	3	16	8	36	12- ϕ 23	6.6
250	400	355	319	274	22	3	17.5	10	40	12- ϕ 28	9.2
300	455	410	370	326	24.5	4	19.5	10	46	12- ϕ 28	12.4
350	520	470	429	378	26.5	4	21	10	50	16- ϕ 28	17.2
400	580	525	480	429	28	4	22.5	10	53	16- ϕ 31	21.9
450	640	585	548	480	30	4	24	12	57	20- ϕ 31	26.7
500	715	650	609	532	31.5	4	25	12	59	20- ϕ 34	37
600	840	770	720	635	36	5	29	12	70	20- ϕ 37	57.3
700	910	840	794	738	39.5	5	27.5	16	68	24- ϕ 37	55.6
800	1025	950	901	842	43	5	30	16	74	24- ϕ 40	74
900	1125	1050	1001	945	46.5	5	32.5	16	80	28- ϕ 40	88.2
1000	1255	1170	1112	1048	50	5	35	16	86	28- ϕ 43	123
1100	1355	1270	1218	1152	53.5	5	37.5	20	93	32- ϕ 43	141
1200	1485	1390	1328	1255	57	5	40	20	99	32- ϕ 49	185
1400	1685	1590	1530	1462	60	5	42	20	101	36- ϕ 49	216
1500	1820	1710	1640	1565	62.5	5	44	20	105	36- ϕ 56	280
1600	1930	1820	1750	1668	65	5	45.5	20	109	40- ϕ 56	308

Nominal size and weight of PN25 flange (unit:mm)

DN	D1	D2	D3	DE	a	c	S	r	L	n-d	weight (Kg)
40	150	110	84	56	19	3	15	6	36	4- ϕ 19	1.7
50	165	125	99	66	19	3	15	6	36	4- ϕ 19	2.1
60	175	135	108	77	19	3	15	6	36	8- ϕ 19	2.1
65	185	145	118	82	19	3	15	6	36	8- ϕ 19	2.4
80	200	160	132	98	19	3	15	6	36	8- ϕ 19	2.9
100	235	190	156	118	19	3	15	6	36	8- ϕ 23	3.8
125	270	220	184	144	19	3	15	6	35	8- ϕ 28	4.6
150	300	250	211	170	20	3	16	8	38	8- ϕ 28	5.9
200	360	310	274	222	22	3	17.5	8	42	12- ϕ 28	8.7
250	425	370	330	274	24.5	3	19.5	10	47	12- ϕ 31	13.1
300	485	430	389	326	27.5	4	22	10	54	16- ϕ 31	18
350	555	490	448	378	30	4	24	10	60	16- ϕ 34	25.5
400	620	550	503	429	32	4	25.5	10	64	16- ϕ 37	33.2
450	670	600	548	480	34.5	4	27.5	12	69	20- ϕ 37	42.2
500	730	660	609	532	36.5	4	29	12	73	20- ϕ 37	48.7
600	845	770	720	635	42	5	33.5	12	86	20- ϕ 40	71.5
700	960	875	820	738	46.5	5	32.5	16	85	24- ϕ 43	90.3
800	1085	990	928	842	51	5	35.5	16	94	24- ϕ 49	123
900	1185	1090	1028	945	55.5	5	39	16	103	28- ϕ 49	149
1000	1320	1210	1140	1048	60	5	42	16	111	28- ϕ 56	201
1100	1420	1310	1240	1152	64.5	5	45	20	120	32- ϕ 56	224
1200	1530	1420	1350	1255	69	5	48.5	20	129	32- ϕ 56	285
1400	1755	1640	1560	1462	74	5	52	20	137	36- ϕ 62	368
1600	1975	1860	1780	1668	81	5	56.5	20	148	40- ϕ 62	486

Nominal size and weight of PN40 flange (unit:mm)

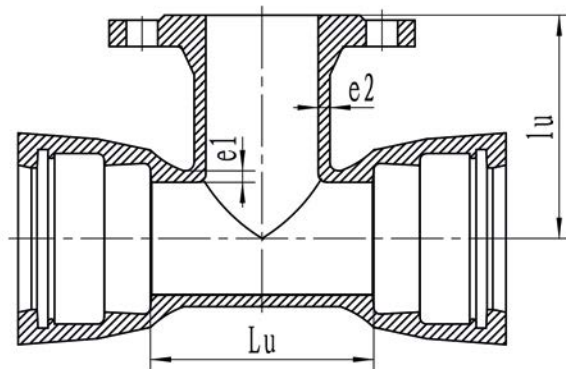
DN	D1	D2	D3	DE	a	c	S	r	L	n-d	weight (Kg)
40	150	110	84	56	19	3	15	5	36	4- ϕ 19	1.7
50	165	125	99	66	19	3	15	5	36	4- ϕ 19	2.1
60	175	135	108	77	19	3	15	6	36	8- ϕ 19	2.1
65	185	145	118	82	19	3	15	6	36	8- ϕ 19	2.4
80	200	160	132	98	19	3	15	6	36	8- ϕ 19	2.9
100	235	190	156	118	19	3	15	6	36	8- ϕ 23	3.8
125	270	220	184	144	20.5	3	16.5	6	43	8- ϕ 28	5.9
150	300	250	211	170	26	3	18	8	48	8- ϕ 28	8
200	375	320	284	222	30	3	21	8	57	12- ϕ 31	14
250	450	385	345	274	34.5	3	24	10	64	12- ϕ 34	23.2
300	515	450	409	326	39.5	4	27.5	10	78	16- ϕ 34	33.5
350	580	510	465	378	44	4	31	10	89	16- ϕ 37	46.7
400	660	585	535	429	48	4	33.5	10	97	16- ϕ 40	66.9
450	685	610	560	480	50	4	35	12	101	20- ϕ 40	65.5
500	755	670	615	532	52	4	36.5	12	105	20- ϕ 43	82.3
600	890	795	735	635	58	5	40.5	12	117	20- ϕ 49	124



FLANGED SOCKET

Nominal size and weight of flanged socket

DN/mm	e/mm	Lu	weight (Kg)			
			PN10	PN16	PN25	PN40
40	7	125	4.5	4.5	4.5	4.5
50	7	125	5.4	5.4	5.4	5.4
60	7	125	5.9	5.9	5.9	5.9
65	7	125	6.4	6.4	6.3	6.3
80	7	130	7.4	7.4	7.4	7.4
100	7.2	130	9	9	9.5	9.5
125	7.5	135	11.5	11.5	12.1	13.4
150	7.8	135	14.2	14.2	15.2	17.3
200	8.4	140	20.5	20	22	27.5
250	9	145	28	27.5	31.5	41.5
300	9.6	150	37	36.5	42	58
350	10.2	155	45	48	56	77
400	10.8	160	55	60	71	105
450	11.4	165	68	77	88	111
500	12	170	78	93	104	138
600	13.2	180	108	135	149	202
700	14.4	190	144	159	216	–
800	15.6	200	189	208	287	–
900	16.8	210	235	258	356	–
1000	18	220	293	324	458	–
1100	19.2	230	406.4	413.8	550	–
1200	20.4	240	456	521	664	–
1400	22.8	310	654	723	882	–
1500	24	330	773	857	939	–
1600	25.2	330	887	989	1167	–



DOUBLE-SOCKET TEE WITH FLANGED BRANCH

Nominal size and weight of double-socket tee with flanged branch

DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)			
					PN10	PN16	PN25	PN40
40×40	7	7	120	130	6.9	6.9	6.9	6.9
50×50	7	7	130	140	8.6	8.6	8.5	8.5
60×40	7	7	120	145	8.4	8.4	8.4	8.4
60×50	7	7	135	145	9.6	9.6	9.6	9.6
60×60	7	7	145	150	10	10	9.9	9.9
65×40	7	7	120	145	8.7	8.7	8.7	8.7
65×50	7	7	135	150	10	10	10	10
65×60	7	7	145	150	10.5	10.5	10.4	10.4
65×65	7	7	150	150	10.9	10.8	10.8	10.8
80×40	7	7	120	155	9.9	9.9	9.9	9.9
80×50	7	7	135	160	11.1	11.1	11.1	11.1
80×60	7	7	145	160	11.7	11.7	11.6	11.6
80×65	7	7	150	160	12.2	12.2	12.0	12.0
80×80	7	7	170	165	13.5	13.5	13.5	13.5
100×40	7.2	7	120	170	11.9	11.9	11.9	11.9
100×50	7.2	7	135	170	13.2	13.2	13.2	13.2
100×60	7.2	7	145	170	13.8	13.8	13.7	13.7
100×65	7.2	7	150	173	14.3	14.3	14.2	14.2
100×80	7.2	7	170	175	15.8	15.8	15.8	15.8

DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)			
					PN10	PN16	PN25	PN40
100×100	7.2	7.2	190	180	17.2	17.2	17.7	17.7
125×40	7.5	7	125	185	14.9	14.9	14.9	14.9
125×50	7.5	7	135	185	16.2	16.2	16.2	16.2
125×60	7.5	7	150	185	17.0	17.0	16.8	16.8
125×65	7.5	7	155	190	17.6	17.6	17.4	17.4
125×80	7.5	7	170	190	19.4	19.4	19.4	19.4
125×100	7.5	7.2	195	195	21	21	21.5	21.5
125×125	7.5	7.5	225	200	23	23	24	25.5
150×40	7.8	7	125	200	17.5	17.5	17.5	17.5
150×50	7.8	7	140	200	19.0	19.0	19.0	19.0
150×60	7.8	7	150	200	19.7	19.7	19.6	19.6
150×65	7.8	7	155	205	20.3	20.3	20.2	20.2
150×80	7.8	7	170	205	23	23	23	23
150×100	7.8	7.2	195	210	24.5	24.5	25	25
150×125	7.8	7.5	225	215	25.8	25.8	26.4	27.6
150×150	7.8	7.8	255	220	29.5	29.5	30.5	32.5
200×40	8.4	7	130	230	26.0	26.0	26.0	26.0
200×50	8.4	7	140	230	27.5	27.5	27.5	27.5
200×60	8.4	7	150	230	28.4	28.4	28.2	28.2
200×65	8.4	7	160	235	29.3	29.3	29.2	29.2
200×80	8.4	7	175	235	31.5	31.5	31.5	31.5
200×100	8.4	7.2	200	240	33.5	33.5	34	34
200×125	8.4	7.5	230	245	35.8	35.8	36.4	37.6
200×150	8.4	7.8	255	250	39	39	40	42
200×200	8.4	8.4	315	260	45.6	46	47.5	53
250×40	9	7	130	260	36.7	36.7	36.7	36.7
250×50	9	7	145	260	38.6	38.6	38.6	38.6
250×60	9	7	155	260	39.6	39.6	39.5	39.5
250×65	9	7	160	265	40.4	40.4	40.3	40.3
250×80	9	7	180	265	44	44	44	44
250×100	9	7.2	200	270	43.5	43.5	44	44
250×125	9	7.5	230	275	48	48	48.6	49.9
250×150	9	7.8	260	280	56.6	56.6	57.6	59.9
250×200	9	8.4	315	290	57	57	59	64.5
250×250	9	9	375	300	65	66	69	79
300×40	9.6	7	135	290	53.7	53.7	53.7	53.7
300×50	9.6	7	145	290	55.4	55.4	55.4	55.4

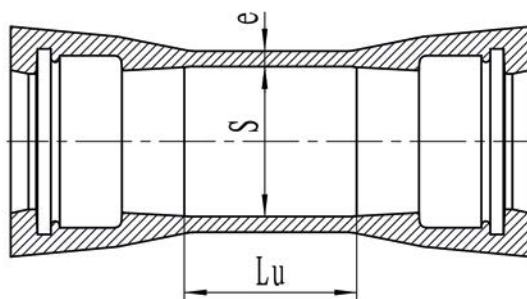
DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)			
					PN10	PN16	PN25	PN40
300×60	9.6	7	160	290	57.1	57.1	56.9	56.9
300×65	9.6	7	165	295	57.9	57.9	57.8	57.8
300×80	9.6	7	180	295	54.5	54.5	54.5	54.5
300×100	9.6	7.2	205	300	55	55	56	56
300×125	9.6	7.5	235	305	67	67	67	69
300×150	9.6	7.8	260	310	68	68	69	73
300×200	9.6	8.4	320	320	71	70	73	73
300×250	9.6	9	375	330	83	81	85	96
300×300	9.6	9.6	435	340	89	91	95	110
350×80	10.2	7	185	325	63.5	63	63	63
350×100	10.2	7.2	205	330	68	68	68	68
350×125	10.2	7.5	240	335	75	75	75	77
350×150	10.2	7.8	265	340	82.3	81.3	83.3	86
350×200	10.2	8.4	325	350	86	86	88	94
350×250	10.2	9	380	360	103	104	108	118
350×300	10.2	9.6	440	370	113	113	118	134
350×350	10.2	10.2	495	380	117	120	129	151
400×80	10.8	7	185	355	76	76	76	76
400×100	10.8	7.2	210	360	83	83	83	83
400×125	10.8	7.5	240	365	86	86	86	87
400×150	10.8	7.8	270	370	99	99	100	102
400×200	10.8	8.4	325	380	103	102	104	110
400×250	10.8	9	385	390	119	118	122	133
400×300	10.8	9.6	440	400	131	131	137	153
400×350	10.8	10.2	500	410	143	146	153	175
400×400	10.8	10.8	560	420	150	156	167	202
450×80	11.4	7	190	385	85	85	85	85
450×100	11.4	7.2	215	390	107	107	108	108
450×125	11.4	7.5	240	395	94	94	95	96
450×150	11.4	7.8	270	400	119	119	120	122
450×200	11.4	8.4	330	410	130	129	132	138
450×250	11.4	9	390	420	141	140	144	155
450×300	11.4	9.6	445	430	154	154	160	176
450×350	11.4	10.2	505	440	166	169	178	200
450×400	11.4	10.8	560	450	179	185	196	231
450×450	11.4	11.4	620	460	191	200	216	244
500×80	12	7	205	415	107	107	107	107

DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)			
					PN10	PN16	PN25	PN40
500×100	12	7.2	215	420	116	116	117	117
500×125	12	7.5	245	425	116	116	117	118
500×150	12	7.8	275	430	137	137	139	141
500×200	12	8.4	330	440	142	141	143	149
500×250	12	9	390	450	165	165	169	180
500×300	12	9.6	450	460	179	179	184	200
500×350	12	10.2	505	470	192	195	203	225
500×400	12	10.8	565	480	199	205	216	251
500×450	12	11.4	620	490	220	228	244	272
500×500	12	12	680	500	232	247	259	294
600×80	13.2	7	200	475	138	138	138	138
600×100	13.2	7.2	220	480	171	171	171	171
600×125	13.2	7.5	250	485	152	152	152	154
600×150	13.2	7.8	280	490	187	187	188	190
600×200	13.2	8.4	340	500	189	189	191	197
600×250	13.2	9	395	510	219	218	222	233
600×300	13.2	9.6	455	520	235	235	240	256
600×350	13.2	10.2	510	530	252	255	263	285
600×400	13.2	10.8	570	540	258	263	274	309
600×450	13.2	11.4	630	550	285	293	309	337
600×500	13.2	12	685	560	304	309	331	366
600×600	13.2	13.2	800	580	340	366	380	434
700×80	14.4	7	225	505	219	219	220	221
700×100	14.4	7.2	230	510	242	242	243	243
700×125	14.4	7.5	260	515	217	218	218	219
700×150	14.4	7.8	285	520	246	246	247	249
700×200	14.4	8.4	345	525	249	249	251	257
700×250	14.4	9	400	535	269	268	272	282
700×300	14.4	9.6	460	540	300	300	306	322
700×350	14.4	10.2	520	550	312	315	324	346
700×400	14.4	10.8	575	555	320	325	344	379
700×450	14.4	11.4	635	565	369	378	391	419
700×500	14.4	12	690	570	391	406	418	453
700×600	14.4	13.2	810	585	421	445	456	510
700×700	14.4	14.4	925	600	460	475	525	419
800×80	15.6	7	250	565	280	280	280	280
800×100	15.6	7.2	270	570	314	314	314.5	314.5

DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)			
					PN10	PN16	PN25	PN40
800×125	15.6	7.5	300	575	299	299	300	301
800×150	15.6	7.8	330	580	300	300	301	302
800×200	15.6	8.4	380	585	329	328	331	336
800×250	15.6	9	410	595	351	351	355	366
800×300	15.6	9.6	465	600	371	371	377	393
800×350	15.6	10.2	525	610	399	402	410	429
800×400	15.6	10.8	580	615	398	403	421	456
800×450	15.6	11.4	640	625	451	460	470	495
800×500	15.6	12	700	630	522	537	549	584
800×600	15.6	13.2	815	645	579	605	619	672
800×700	15.6	14.4	930	660	620	635	669	–
800×800	15.6	15.6	1045	675	623	642	691	–
900×80	16.8	7	255	625	359	359	359	359
900×100	16.8	7.2	270	630	388	388	389	389
900×125	16.8	7.5	300	635	380	380	380	382
900×150	16.8	7.8	320	640	388	388	389	391
900×200	16.8	8.4	355	645	404	404	406	412
900×250	16.8	9	415	655	438	438	442	451
900×300	16.8	9.6	470	660	455	455	461	477
900×350	16.8	10.2	530	670	497	500	508	527
900×400	16.8	10.8	590	675	490	495	513	548
900×450	16.8	11.4	645	685	557	567	577	601
900×500	16.8	12	705	690	666	681	693	728
900×600	16.8	13.2	820	705	748	774	794	848
900×700	16.8	14.4	935	720	788	803	837	–
900×800	16.8	15.6	1050	735	808	823	876	–
900×900	16.8	16.8	1170	750	821	843	920	–
1000×80	18	7	260	685	438	438	438	438
1000×100	18	7.2	280	690	475	475	476	476
1000×125	18	7.5	305	695	463	463	463	464
1000×150	18	7.8	335	700	476	476	477	479
1000×200	18	8.4	360	705	491	490	493	498
1000×250	18	9	420	715	521	521	525	536
1000×300	18	9.6	480	720	552	552	558	574
1000×350	18	10.2	535	730	598	601	609	628
1000×400	18	10.8	595	735	591	596	614	649
1000×450	18	11.4	650	745	667	677	687	711

DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)			
					PN10	PN16	PN25	PN40
1000×500	18	12	710	750	852	867	879	914
1000×600	18	13.2	825	765	947	973	994	1048
1000×700	18	14.4	940	780	985	1000	1032	–
1000×800	18	15.6	1060	795	1006	1021	1074	–
1000×900	18	16.8	1175	810	1052	1076	1137	–
1000×1000	18	18	1290	825	1044	1086	1192	–
1100×80	19.2	7	260	745	538	538	538	538
1100×100	19.2	7.2	280	750	550	550	551	551
1100×125	19.2	7.5	310	755	569	569	570	571
1100×150	19.2	7.8	330	760	582	582	583	585
1100×200	19.2	8.4	380	765	615	615	617	622
1100×250	19.2	9	425	775	646	646	650	659
1100×300	19.2	9.6	485	780	687	687	692	706
1100×350	19.2	10.2	540	788	724	727	734	754
1100×400	19.2	10.8	600	795	765	770	780	812
1100×450	19.2	11.4	660	805	806	815	826	850
1100×500	19.2	12	715	810	847	861	872	902
1100×600	19.2	13.2	830	825	935	960	972	1021
1100×700	19.2	14.4	950	840	1031	1045	1077	–
1100×800	19.2	15.6	1065	855	1132	1149	1195	–
1100×900	19.2	16.8	1180	870	1231	1252	1308	–
1100×1000	19.2	18	1295	885	1342	1380	1452	–
1100×1100	19.2	19.2	1410	900	1458	1496	1580	–
1200×80	20.4	7	255	805	647	647	647	–
1200×100	20.4	7.2	280	810	687	687	688	688
1200×125	20.4	7.5	295	815	677	677	677	679
1200×150	20.4	7.8	335	820	689	689	690	692
1200×200	20.4	8.4	375	825	730	730	732	738
1200×250	20.4	9	430	835	778	778	781	791
1200×300	20.4	9.6	490	840	811	811	817	833
1200×350	20.4	10.2	550	848	869	872	880	899
1200×400	20.4	10.8	605	855	852	856	867	902
1200×450	20.4	11.4	665	865	959	969	979	1003
1200×500	20.4	12	720	870	968	973	995	1030
1200×600	20.4	13.2	840	885	1000	1027	1067	1121
1200×700	20.4	14.4	955	900	1169	1184	1218	–
1200×800	20.4	15.6	1070	915	1190	1210	1295	–

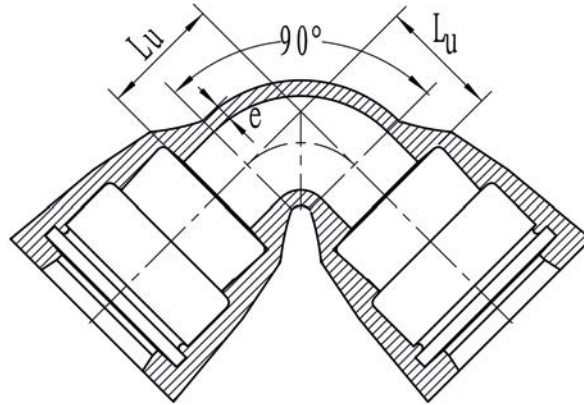
DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)			
					PN10	PN16	PN25	PN40
1200×900	20.4	16.8	1185	930	1367	1427	1452	–
1200×1000	20.4	18	1300	945	1416	1455	1556	–
1200×1100	20.4	19.2	1420	960	1686	1724	1808	–
1200×1200	20.4	20.4	1535	975	1682	1736	1846	–
1400×80	22.8	7	425	900	1146	1146	1146	1146
1400×100	22.8	7.2	450	905	1167	1167	1167	1167
1400×125	22.8	7.5	480	910	1196	1196	1197	1198
1400×150	22.8	7.8	510	915	1224	1224	1225	1227
1400×200	22.8	8.4	565	920	1268	1268	1270	1276
1400×250	22.8	9	625	930	1332	1332	1335	1345
1400×300	22.8	9.6	680	935	1371	1371	1377	1393
1400×350	22.8	10.2	740	945	1443	1445	1453	1473
1400×400	22.8	10.8	800	950	1476	1482	1494	1529
1400×450	22.8	11.4	855	960	1555	1564	1574	1599
1400×500	22.8	12	915	965	1579	1596	1608	1644
1400×600	22.8	13.2	1030	980	1478	1505	1519	1573
1400×700	22.8	14.4	1145	995	1863	1877	1909	–
1400×800	22.8	15.6	1260	1010	1709	1728	1777	–
1400×900	22.8	16.8	1380	1025	2133	2154	2210	–
1400×1000	22.8	18	1495	1040	1955	1996	2075	–
1400×1100	22.8	19.2	1610	1055	2425	2464	2548	–
1400×1200	22.8	20.4	1725	1070	2375	2439	2539	–
1400×1400	22.8	22.8	1960	1100	2697	2765	2917	–
1500×600	24	13.2	1035	1035	2035	2060	2072	2121
1500×800	24	15.6	1270	1065	2324	2342	2388	–
1500×1000	24	18	1500	1095	2626	2664	2736	–
1600×100	24	13.2	460	1015	1261	1261	1261	1261
1600×200	24	15.6	580	1030	1361	1361	1361	1367
1600×400	24	18	810	1060	1561	1565	1576	1611
1600×600	24	20.4	1040	1090	1908	1934	1942	1996
1600×800	24	13.2	1275	1120	2192	2211	2264	–
1600×1000	24	18	1505	1150	2480	2522	2607	–
1600×1200	24	20.4	1740	1180	2799	2863	2962	–
1600×1400	24	22.8	1970	1210	3129	3186	3349	–
1600×1600	24	24	2200	1240	3517	4607	4792	–



COLLAR

Nominal size and weight of collar

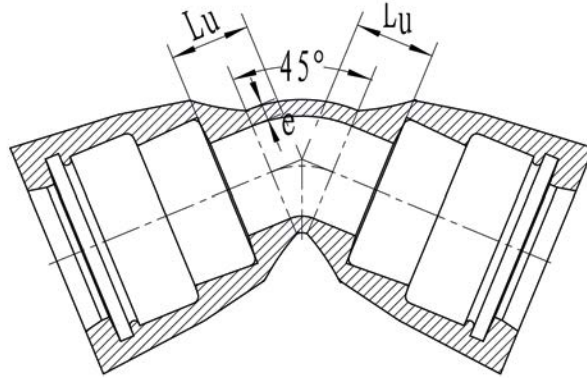
DN/mm	e/mm	Lu	S	weight (Kg)
80	7	160	109	9.3
100	7.2	160	130	12.2
125	7.5	165	156	14.2
150	7.8	165	183	17.7
200	8.4	170	235	24.6
250	9	175	288	32.9
300	9.6	180	340	42.8
350	10.2	185	393	57.3
400	10.8	190	445	71.6
450	11.4	195	498	84
500	12	200	550	104.2
600	13.2	210	655	146.2
700	14.4	220	760	192
800	15.6	230	865	250.6
900	16.8	240	970	316.2
1000	18	250	1075	390
1100	19.2	260	1180	465.8
1200	20.4	270	1285	560
1400	22.8	340	1492	816
1500	24	350	1596	829
1600	25.2	360	1699	1094



DOUBLE SOCKET 90° BEND (1/4)

Nominal size and weight of double socket 90° bend (1/4)

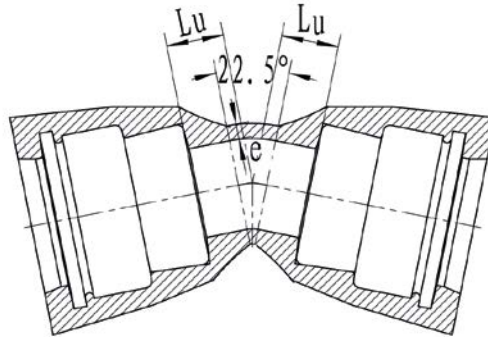
DN/mm	e/mm	Lu	weight (Kg)
80	7	100	8.6
100	7.2	120	11.4
125	7.5	145	15.7
150	7.8	170	20.5
200	8.4	220	33
250	9	270	48.5
300	9.6	320	68
350	10.2	370	98.4
400	10.8	420	129
450	11.4	470	163
500	12	520	204
600	13.2	620	303
700	14.4	720	455
800	15.6	820	605
900	16.8	920	813
1000	18	1020	1045
1100	19.2	1120	1298
1200	20.4	1220	1663
1400	22.8	1220	2172
1500	24	1270	2405
1600	25.2	1290	2737



DOUBLE SOCKET 45° BEND (1/8)

Nominal size and weight of double socket 45° bend (1/8)

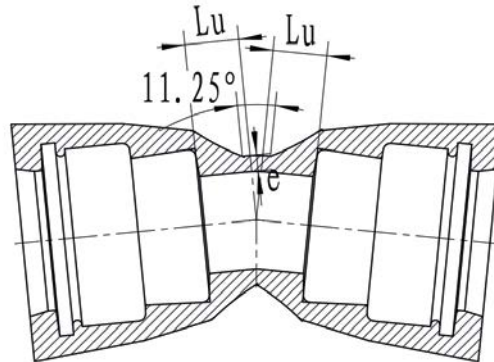
DN/mm	e/mm	Lu	weight (Kg)
80	7	55	7.7
100	7.2	65	10.1
125	7.5	75	13.6
150	7.8	85	17.4
200	8.4	110	27
250	9	130	38.5
300	9.6	150	53
350	10.2	175	70
400	10.8	195	89
450	11.4	220	119
500	12	240	139
600	13.2	285	202
700	14.4	330	282
800	15.6	370	378
900	16.8	415	496
1000	18	460	635
1100	19.2	505	856
1200	20.4	550	986
1400	22.8	515	1273
1500	24	540	1755
1600	25.2	565	1740



DOUBLE SOCKET 22,5° BEND (1/16)

Nominal size and weight of double socket 22,5° bend (1/16)

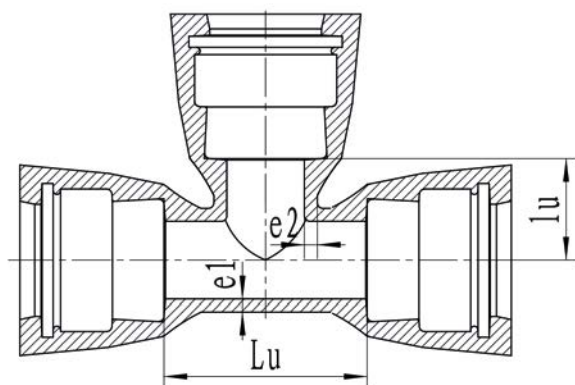
DN/mm	e/mm	Lu	weight (Kg)
80	7	40	7.3
100	7.2	40	9.3
125	7.5	50	12.6
150	7.8	55	15.9
200	8.4	65	24
250	9	75	33.5
300	9.6	85	44.5
350	10.2	95	58
400	10.8	110	74
450	11.4	120	97
500	12	130	111
600	13.2	150	157
700	14.4	175	217
800	15.6	195	287
900	16.8	220	373
1000	18	240	470
1100	19.2	260	644
1200	20.4	285	716
1400	22.8	260	933
1500	24	270	1094
1600	25.2	280	1259



DOUBLE SOCKET 11,25° BEND (1/32)

Nominal size and weight of double socket 11,25° bend (1/32)

DN/mm	e/mm	Lu	weight (Kg)
80	7	30	7.1
100	7.2	30	8.9
125	7.5	35	11.9
150	7.8	35	14.8
200	8.4	40	22
250	9	50	30.5
300	9.6	55	40.5
350	10.2	60	52
400	10.8	65	65
450	11.4	70	90
500	12	75	96
600	13.2	85	134
700	14.4	95	181
800	15.6	110	239
900	16.8	120	305
1000	18	130	381
1100	19.2	140	525
1200	20.4	150	568
1400	22.8	130	747
1500	24	140	1056
1600	25.2	140	1007



ALL-SOCKET TEES

Nominal size and weight of all-socket tees

DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)
80×80	7	7	170	85	12.4
100×80	7.2	7	170	95	14.8
100×100	7.2	7.2	190	95	16.1
125×80	7.5	7	170	105	17.2
125×100	7.5	7.2	195	110	18.9
125×125	7.5	7.5	225	110	22
150×80	7.8	7	170	120	21.5
150×100	7.8	7.2	195	120	23.5
150×125	7.8	7.5	225	125	24.2
150×150	7.8	7.8	255	125	28
200×80	8.4	7	175	145	30
200×100	8.4	7.2	200	145	32
200×125	8.4	7.5	230	150	34.0
200×150	8.4	7.8	255	150	37
200×200	8.4	8.4	315	155	43
250×80	9	7	180	170	40
250×100	9	7.2	200	170	42.7
250×125	9	7.5	230	175	46.2

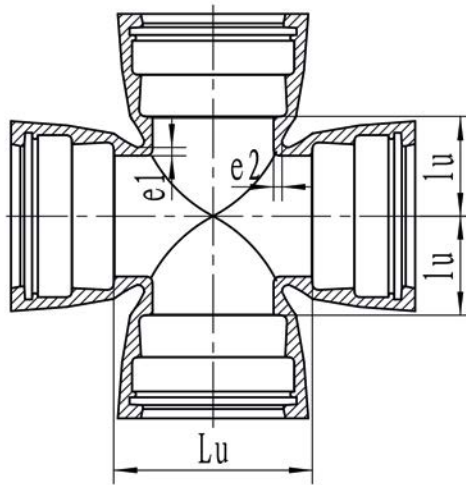
DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)
250×150	9	7.8	260	175	51.1
250×200	9	8.4	315	180	55.9
250×250	9	9	375	190	67.1
300×80	9.6	7	180	195	51.5
300×100	9.6	7.2	205	195	54.2
300×125	9.6	7.5	235	200	65
300×150	9.6	7.8	260	200	64.3
300×200	9.6	8.4	320	205	69.9
300×250	9.6	9	375	210	79.9
300×300	9.6	9.6	435	220	86.2
350×80	10.2	7	185	220	63.6
350×100	10.2	7.2	210	225	67.2
350×125	10.2	7.5	240	225	73
350×150	10.2	7.8	265	230	79.6
350×200	10.2	8.4	320	235	84.9
350×250	10.2	9	380	240	96.9
350×300	10.2	9.6	440	245	106
350×350	10.2	10.2	495	250	116
400×80	10.8	7	190	245	76.1
400×100	10.8	7.2	210	245	82.2
400×125	10.8	7.5	240	250	83
400×150	10.8	7.8	270	250	96.7
400×200	10.8	8.4	325	255	102
400×250	10.8	9	385	260	116
400×300	10.8	9.6	440	270	126
400×350	10.8	10.2	500	275	137
400×400	10.8	10.8	560	280	150
450×80	11.4	7	190	270	101
450×100	11.4	7.2	215	270	106
450×125	11.4	7.5	240	275	92
450×150	11.4	7.8	270	275	116
450×200	11.4	8.4	330	285	127
450×250	11.4	9	390	290	138
450×300	11.4	9.6	445	295	149
450×350	11.4	10.2	505	300	161
450×400	11.4	10.8	560	305	173
450×450	11.4	11.4	620	310	186

DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)
500×80	12	7	205	295	112
500×100	12	7.2	215	295	115
500×125	12	7.5	245	300	113
500×150	12	7.8	275	300	137
500×200	12	8.4	330	310	141
500×250	12	9	390	315	161
500×300	12	9.6	450	320	174
500×350	12	10.2	505	325	187
500×400	12	10.8	565	330	199
500×450	12	11.4	620	335	214
500×500	12	12	680	340	234
600×80	13.2	7	200	345	165
600×100	13.2	7.2	220	345	169
600×125	13.2	7.5	250	350	149
600×150	13.2	7.8	280	350	185
600×200	13.2	8.4	340	360	188
600×250	13.2	9	395	365	215
600×300	13.2	9.6	455	370	231
600×350	13.2	10.2	510	375	246
600×400	13.2	10.8	570	380	258
600×450	13.2	11.4	630	385	280
600×500	13.2	12	685	390	296
600×600	13.2	13.2	800	400	343
700×80	14.4	7	225	400	217
700×100	14.4	7.2	230	395	224
700×125	14.4	7.5	260	400	217
700×150	14.4	7.8	285	400	241
700×200	14.4	8.4	345	405	259
700×250	14.4	9	400	415	265
700×300	14.4	9.6	460	420	297
700×350	14.4	10.2	520	425	317
700×400	14.4	10.8	575	430	337
700×450	14.4	11.4	635	435	361
700×500	14.4	12	690	440	380
700×600	14.4	13.2	810	450	430
700×700	14.4	14.4	925	460	486
800×80	15.6	7	250	450	290

DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)
800×100	15.6	7.2	270	460	287
800×125	15.6	7.5	300	460	298
800×150	15.6	7.8	330	460	307
800×200	15.6	8.4	380	460	348
800×250	15.6	9	410	465	371
800×300	15.6	9.6	465	470	374
800×350	15.6	10.2	525	475	398
800×400	15.6	10.8	580	480	420
800×450	15.6	11.4	640	485	448
800×500	15.6	12	700	490	472
800×600	15.6	13.2	815	500	526
800×700	15.6	14.4	930	510	586
800×800	15.6	15.6	1045	525	655
900×80	16.8	7	255	505	357
900×100	16.8	7.2	270	505	364
900×125	16.8	7.5	300	505	377
900×150	16.8	7.8	320	505	386
900×200	16.8	8.4	355	505	410
900×250	16.8	9	415	515	437
900×300	16.8	9.6	470	520	462
900×350	16.8	10.2	530	525	490
900×400	16.8	10.8	590	530	518
900×450	16.8	11.4	645	535	547
900×500	16.8	12	705	540	574
900×600	16.8	13.2	820	550	635
900×700	16.8	14.4	935	560	700
900×800	16.8	15.6	1050	575	774
900×900	16.8	16.8	1170	585	858
1000×80	18	7	260	555	436
1000×100	18	7.2	280	555	446
1000×125	18	7.5	305	555	460
1000×150	18	7.8	335	555	475
1000×200	18	8.4	360	555	502
1000×250	18	9	420	565	533
1000×300	18	9.6	480	570	564
1000×350	18	10.2	535	575	594
1000×400	18	10.8	595	580	626

DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)
1000×450	18	11.4	650	585	659
1000×500	18	12	710	590	690
1000×600	18	13.2	825	600	758
1000×700	18	14.4	940	610	831
1000×800	18	15.6	1060	625	913
1000×900	18	16.8	1175	635	1000
1000×1000	18	18	1290	645	1096
1100×80	19.2	7	260	610	536
1100×100	19.2	7.2	280	610	548
1100×125	19.2	7.5	310	610	566
1100×150	19.2	7.8	330	610	578
1100×200	19.2	8.4	380	610	610
1100×250	19.2	9	425	615	641
1100×300	19.2	9.6	485	620	682
1100×350	19.2	10.2	540	625	716
1100×400	19.2	10.8	600	630	754
1100×450	19.2	11.4	660	635	792
1100×500	19.2	12	715	640	832
1100×600	19.2	13.2	830	650	914
1100×700	19.2	14.4	950	660	1014
1100×800	19.2	15.6	1065	675	1114
1100×900	19.2	16.8	1180	685	1219
1100×1000	19.2	18	1295	695	1325
1100×1100	19.2	19.2	1410	705	1444
1200×80	20.4	7	255	660	654
1200×100	20.4	7.2	280	660	674
1200×125	20.4	7.5	295	660	677
1200×150	20.4	7.8	335	660	716
1200×200	20.4	8.4	375	665	759
1200×250	20.4	9	430	665	806
1200×300	20.4	9.6	490	670	816
1200×350	20.4	10.2	550	675	896
1200×400	20.4	10.8	605	680	884
1200×450	20.4	11.4	665	685	991
1200×500	20.4	12	720	690	966
1200×600	20.4	13.2	840	700	1054
1200×700	20.4	14.4	955	710	1143

DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)
1200×800	20.4	15.6	1070	725	1239
1200×900	20.4	16.8	1185	735	1339
1200×1000	20.4	18	1300	745	1447
1200×1100	20.4	19.2	1420	755	1667
1200×1200	20.4	20.4	1535	770	1697
1400×80	22.8	7	310	780	1047
1400×100	22.8	7.2	330	780	1065
1400×125	22.8	7.5	360	780	1092
1400×150	22.8	7.8	380	780	1110
1400×200	22.8	8.4	435	780	1161
1400×250	22.8	9	485	780	1208
1400×300	22.8	9.6	530	780	1254
1400×350	22.8	10.2	590	780	1308
1400×400	22.8	10.8	620	780	1337
1400×450	22.8	11.4	675	785	1387
1400×500	22.8	12	735	790	1448
1400×600	22.8	13.2	850	800	1561
1400×700	22.8	14.4	965	810	1691
1400×800	22.8	15.6	1080	825	1824
1400×900	22.8	16.8	1200	835	1966
1400×1000	22.8	18	1315	845	2105
1400×1100	22.8	19.2	1430	855	2256
1400×1200	22.8	20.4	1545	865	2416
1400×1400	22.8	22.8	1780	890	2816
1500×600	24	13.2	855	850	1839
1500×800	24	15.6	1090	875	2131
1500×1000	24	18	1320	895	2432
1600×100	24	7.2	280	845	1431
1600×200	24	8.4	400	855	1566
1600×400	24	10.8	630	880	1832
1600×600	24	13.2	860	900	2108
1600×800	24	15.6	1095	925	2426
1600×1000	24	18	1325	945	2753
1600×1200	24	20.4	1560	965	3121
1600×1400	24	22.8	1790	990	3566
1600×1600	24	25.2	2020	1010	4042



ALL SOCKET CROSS

Nominal size and weight of all socket cross

DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)
80×80	7	7	170	85	16
100×80	7.2	7	170	95	18.2
100×100	7.2	7.2	190	95	19.8
125×80	7.5	7	170	105	21.3
125×100	7.5	7.2	195	110	24.1
125×125	7.5	7.5	225	110	27.7
150×80	7.8	7	170	120	24.2
150×100	7.8	7.2	195	120	26.6
150×125	7.8	7.5	225	125	31.0
150×150	7.8	7.8	255	125	33.6
200×80	8.4	7	175	145	33.3
200×100	8.4	7.2	200	145	34.2
200×125	8.4	7.5	230	150	40.8
200×150	8.4	7.8	255	150	41.7
200×200	8.4	8.4	315	155	50.9
250×80	9	7	180	170	44.8
250×100	9	7.2	200	170	44.9
250×125	9	7.5	230	175	52.9
250×150	9	7.8	260	175	57.9

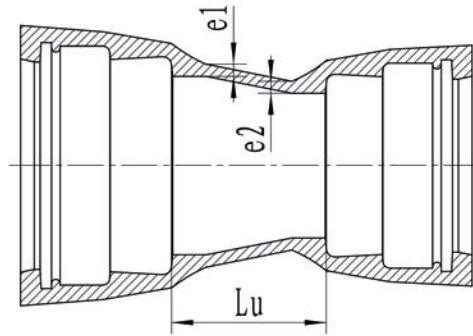
DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)
250×200	9	8.4	315	180	64.2
250×250	9	9	375	190	75.1
300×80	9.6	7	180	195	62.2
300×100	9.6	7.2	205	195	55.7
300×125	9.6	7.5	235	200	71
300×150	9.6	7.8	260	200	71.1
300×200	9.6	8.4	320	205	77.6
300×250	9.6	9	375	210	93.3
300×300	9.6	9.6	435	220	101
350×80	10.2	7	185	220	69
350×100	10.2	7.2	210	225	74
350×125	10.2	7.5	240	225	79
350×150	10.2	7.8	265	230	85
350×200	10.2	8.4	320	235	91.7
350×250	10.2	9	380	240	110
350×300	10.2	9.6	440	245	123
350×350	10.2	10.2	495	250	137
400×80	10.8	7	190	245	79
400×100	10.8	7.2	210	245	83
400×125	10.8	7.5	240	250	90
400×150	10.8	7.8	270	250	96
400×200	10.8	8.4	325	255	108
400×250	10.8	9	385	265	130
400×300	10.8	9.6	440	270	142
400×350	10.8	10.2	500	275	157
400×400	10.8	10.8	560	280	177
450×80	11.4	7	190	270	87
450×100	11.4	7.2	215	270	92
450×125	11.4	7.5	240	275	99
450×150	11.4	7.8	270	275	105
450×200	11.4	8.4	330	285	122
450×250	11.4	9	390	290	142
450×300	11.4	9.6	445	295	169
450×350	11.4	10.2	505	300	184
450×400	11.4	10.8	560	305	203

DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)
450×450	11.4	11.4	620	310	221
500×80	12	7	205	295	109
500×100	12	7.2	215	295	112
500×125	12	7.5	245	300	120
500×150	12	7.8	275	300	127
500×200	12	8.4	330	310	145
500×250	12	9	390	315	174
500×300	12	9.6	450	320	191
500×350	12	10.2	505	325	207
500×400	12	10.8	565	330	223
500×450	12	11.4	620	335	250
500×500	12	12	680	340	272
600×80	13.2	7	200	345	140
600×100	13.2	7.2	220	345	146
600×125	13.2	7.5	250	350	156
600×150	13.2	7.8	280	350	164
600×200	13.2	8.4	340	360	186
600×250	13.2	9	395	365	209
600×300	13.2	9.6	455	370	249
600×350	13.2	10.2	510	375	267
600×400	13.2	10.8	570	380	278
600×450	13.2	11.4	630	385	306
600×500	13.2	12	685	390	330
600×600	13.2	13.2	800	400	399
700×80	14.4	7	225	400	210
700×100	14.4	7.2	230	395	213
700×125	14.4	7.5	260	400	224
700×150	14.4	7.8	285	400	233
700×200	14.4	8.4	345	405	257
700×250	14.4	9	400	415	284
700×300	14.4	9.6	460	420	319
700×350	14.4	10.2	520	425	413
700×400	14.4	10.8	575	430	447
700×450	14.4	11.4	635	435	394
700×500	14.4	12	690	440	520

DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)
700×600	14.4	13.2	810	450	607
700×700	14.4	14.4	925	460	712
800×80	15.6	7	250	450	283
800×100	15.6	7.2	270	460	292
800×125	15.6	7.5	300	460	304
800×150	15.6	7.8	330	460	317
800×200	15.6	8.4	380	460	342
800×250	15.6	9	410	465	363
800×300	15.6	9.6	465	470	400
800×350	15.6	10.2	525	475	427
800×400	15.6	10.8	580	480	548
800×450	15.6	11.4	640	485	486
800×500	15.6	12	700	490	632
800×600	15.6	13.2	815	500	725
800×700	15.6	14.4	930	510	831
800×800	15.6	15.6	1045	525	963
900×80	16.8	7	255	505	361
900×100	16.8	7.2	275	505	371
900×125	16.8	7.5	300	505	384
900×150	16.8	7.8	320	505	394
900×200	16.8	8.4	355	505	416
900×250	16.8	9	415	515	452
900×300	16.8	9.6	470	520	493
900×350	16.8	10.2	530	525	524
900×400	16.8	10.8	590	530	560
900×450	16.8	11.4	645	535	591
900×500	16.8	12	705	540	757
900×600	16.8	13.2	820	550	859
900×700	16.8	14.4	935	560	969
900×800	16.8	15.6	1050	575	1105
900×900	16.8	16.8	1170	585	1262
1000×80	18	7	260	555	440
1000×100	18	7.2	280	555	452
1000×125	18	7.5	305	555	466
1000×150	18	7.8	335	555	483

DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)
1000×200	18	8.4	360	555	503
1000×250	18	9	420	565	543
1000×300	18	9.6	480	570	591
1000×350	18	10.2	535	575	624
1000×400	18	10.8	595	580	664
1000×450	18	11.4	650	585	699
1000×500	18	12	710	590	751
1000×600	18	13.2	825	600	1011
1000×700	18	14.4	940	610	1130
1000×800	18	15.6	1060	625	1276
1000×900	18	16.8	1175	635	1432
1000×1000	18	18	1290	645	1612
1100×80	19.2	7	260	610	540
1100×100	19.2	7.2	280	610	553
1100×125	19.2	7.5	310	610	572
1100×150	19.2	7.8	330	610	586
1100×200	19.2	8.4	380	610	622
1100×250	19.2	9	425	615	659
1100×300	19.2	9.6	485	620	711
1100×350	19.2	10.2	540	625	749
1100×400	19.2	10.8	600	630	794
1100×450	19.2	11.4	660	635	836
1100×500	19.2	12	715	640	890
1100×600	19.2	13.2	830	650	994
1100×700	19.2	14.4	950	660	1312
1100×800	19.2	15.6	1065	675	1459
1100×900	19.2	16.8	1180	685	1622
1100×1000	19.2	18	1295	695	1803
1100×1100	19.2	19.2	1410	705	2011
1200×80	20.4	7	255	660	649
1200×100	20.4	7.2	280	660	667
1200×125	20.4	7.5	295	660	680
1200×150	20.4	7.8	335	660	709
1200×200	20.4	8.4	375	665	743
1200×250	20.4	9	430	665	789

DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)
1200×300	20.4	9.6	490	670	847
1200×350	20.4	10.2	550	675	893
1200×400	20.4	10.8	605	680	940
1200×450	20.4	11.4	665	685	988
1200×500	20.4	12	720	690	1047
1200×600	20.4	13.2	840	700	1164
1200×700	20.4	14.4	955	710	1311
1200×800	20.4	15.6	1070	725	1677
1200×900	20.4	16.8	1185	735	1847
1200×1000	20.4	18	1300	745	2034
1200×1100	20.4	19.2	1420	755	1999
1200×1200	20.4	20.4	1535	765	2497
1400×80	22.8	7	310	780	1051
1400×100	22.8	7.2	330	780	1070
1400×125	22.8	7.5	360	780	1099
1400×150	22.8	7.8	380	780	1118
1400×200	22.8	8.4	435	780	1174
1400×250	22.8	9	485	780	1227
1400×300	22.8	9.6	530	780	1283
1400×350	22.8	10.2	590	780	1340
1400×400	22.8	10.8	620	780	1376
1400×450	22.8	11.4	675	785	1431
1400×500	22.8	12	735	790	1504
1400×600	22.8	13.2	850	800	1640
1400×700	22.8	14.4	965	810	1810
1400×800	22.8	15.6	1080	825	1991
1400×900	22.8	16.8	1200	835	2261
1400×1000	22.8	18	1315	845	2640
1400×1100	22.8	19.2	1430	855	2683
1400×1200	22.8	20.4	1545	865	2940
1400×1400	22.8	22.8	1780	890	3446
1500×600	24	13.2	855	850	1918
1500×800	24	15.6	1090	875	2298
1500×1000	24	18	1320	895	2698
1600×600	24	13.2	860	900	2186
1600×800	24	15.6	1095	925	2593
1600×1000	24	18	1325	945	3018
1600×1200	24	20.4	1560	965	3522



TAPER REDUCER

Nominal size and weight of taper reducer

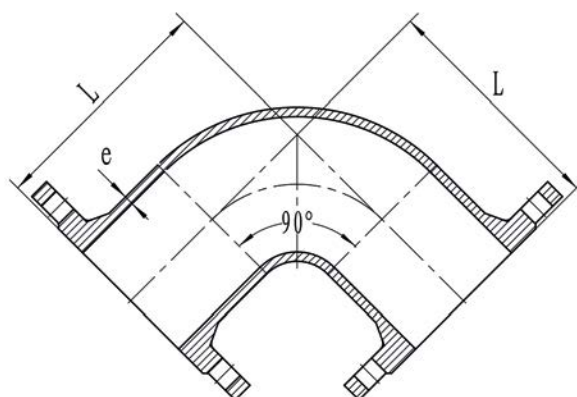
DN×dn/mm	e1/mm	e2/mm	Lu	weight (Kg)
100×80	7.2	7	90	8.5
125×80	7.5	7	140	10.8
125×100	7.5	7.2	100	11.1
150×80	7.8	7	190	13.5
150×100	7.8	7	150	13.8
150×125	7.8	7.5	100	20.5
200×80	8.4	7	290	19.4
200×100	8.4	7.2	250	20.5
200×125	8.4	7.5	200	20.5
200×150	8.4	7.8	150	21
250×80	9	7	390	28.6
250×100	9	7.2	350	28.5
250×125	9	7.5	300	29
250×150	9	7.8	250	29
250×200	9	8.4	150	29
300×80	9.6	7	490	42
300×100	9.6	7.2	450	39
300×125	9.6	7.5	400	43
300×150	9.6	7.8	350	39.5

DN×dn/mm	e1/mm	e2/mm	Lu	weight (Kg)
300×200	9.6	8.4	250	39.5
300×250	9.6	9	150	38.5
350×80	10.2	7	600	53
350×100	10.2	7.2	560	50
350×125	10.2	7.5	510	52
350×150	10.2	7.8	460	55.2
350×200	10.2	8.4	360	52
350×250	10.2	9	260	51
350×300	10.2	9.6	160	49.5
400×80	10.8	7	700	66
400×100	10.8	7.2	660	65
400×125	10.8	7.5	610	65
400×150	10.8	7.8	560	66.5
400×200	10.8	8.4	460	67
400×250	10.8	9	360	66
400×300	10.8	9.6	260	64
400×350	10.8	10.2	160	62
450×80	11.4	7	800	78.7
450×100	11.4	7.2	760	87.9
450×125	11.4	7.5	710	—
450×150	11.4	7.8	660	89.2
450×200	11.4	8.4	560	88.9
450×250	11.4	9	460	89.2
450×300	11.4	9.6	360	88.1
450×350	11.4	10.2	260	86
450×400	11.4	10.8	160	83.1
500×80	12	7	900	100.2
500×100	12	7.2	860	101
500×125	12	7.5	810	101
500×150	12	7.8	760	102
500×200	12	8.4	660	101
500×250	12	9	560	101
500×300	12	9.6	460	100
500×350	12	10.2	360	98
500×400	12	10.8	260	94
500×450	12	11.4	160	99.5
600×80	13.2	7	1100	146

DN×dn/mm	e1/mm	e2/mm	Lu	weight (Kg)
600×100	13.2	7.2	1060	152
600×125	13.2	7.5	1010	146
600×150	13.2	7.8	960	153
600×200	13.2	8.4	860	154
600×250	13.2	9	760	153
600×300	13.2	9.6	660	152
600×350	13.2	10.2	560	151
600×400	13.2	10.8	460	142
600×450	13.2	11.4	360	149
600×500	13.2	12	260	131
700×80	14.4	7	1320	217
700×100	14.4	7.2	1280	217
700×125	14.4	7.5	1230	217
700×150	14.4	7.8	1180	217
700×200	14.4	8.4	1080	217
700×250	14.4	9	980	217
700×300	14.4	9.6	880	218
700×350	14.4	10.2	780	213
700×400	14.4	10.8	680	207
700×450	14.4	11.4	580	198
700×500	14.4	12	480	194
700×600	14.4	13.2	280	178
800×80	15.6	7	1520	298
800×100	15.6	7.2	1480	298
800×125	15.6	7.5	1430	298
800×150	15.6	7.8	1380	298
800×200	15.6	8.4	1280	298
800×250	15.6	9	1180	298
800×300	15.6	9.6	1080	299
800×400	15.6	10.2	880	287
800×450	15.6	10.8	780	278
800×500	15.6	11.4	680	274
800×600	15.6	12	480	252
800×700	15.6	13.2	280	229
900×80	16.8	7	1720	394
900×100	16.8	7.2	1680	394
900×125	16.8	7.5	1630	394

DN×dn/mm	e1/mm	e2/mm	Lu	weight (Kg)
900×150	16.8	7.8	1580	394
900×200	16.8	8.4	1480	394
900×250	16.8	9	1380	394
900×300	16.8	9.6	1280	395
900×350	16.8	10.2	1180	389
900×400	16.8	10.8	1080	383
900×450	16.8	11.4	980	374
900×500	16.8	12	880	369
900×600	16.8	13.2	680	349
900×700	16.8	14.4	480	318
900×800	16.8	15.6	280	288
1000×80	18	7	1920	503
1000×100	18	7.2	1880	503
1000×125	18	7.5	1830	503
1000×150	18	7.8	1780	503
1000×200	18	8.4	1680	503
1000×250	18	9	1580	503
1000×300	18	9.6	1480	503
1000×350	18	10.2	1380	497
1000×400	18	10.8	1280	490
1000×450	18	11.4	1180	482
1000×500	18	12	1080	476
1000×600	18	13.2	880	456
1000×700	18	14.4	680	442
1000×800	18	15.6	480	392
1000×900	18	16.8	280	354
1100×80	19.2	7	2120	635
1100×100	19.2	7.2	2080	638
1100×125	19.2	7.5	2030	635
1100×150	19.2	7.8	1980	635
1100×200	19.2	8.4	1880	635
1100×250	19.2	9	1780	635
1100×300	19.2	9.6	1680	635
1100×350	19.2	10.2	1580	629
1100×400	19.2	10.8	1480	623
1100×450	19.2	11.4	1380	614
1100×500	19.2	12	1280	608

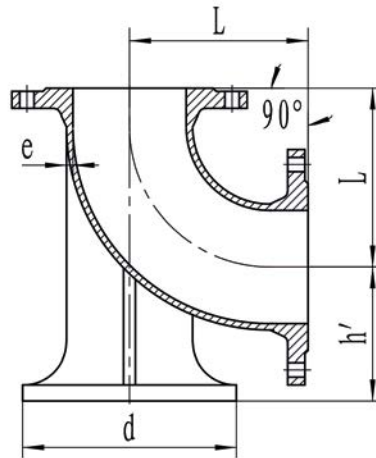
DN×dn/mm	e1/mm	e2/mm	Lu	weight (Kg)
1100×600	19.2	13.2	1080	588
1100×700	19.2	14.4	880	573
1100×800	19.2	15.6	680	548
1100×900	19.2	16.8	480	516
1100×1000	19.2	18	280	472
1200×80	20.4	7	2320	789
1200×100	20.4	7.2	2280	788
1200×125	20.4	7.5	2230	788
1200×150	20.4	7.8	2180	788
1200×200	20.4	8.4	2080	788
1200×250	20.4	9	1980	788
1200×300	20.4	9.6	1880	788
1200×350	20.4	10.2	1780	783
1200×400	20.4	10.8	1680	775
1200×450	20.4	11.4	1580	766
1200×500	20.4	12	1480	761
1200×600	20.4	13.2	1280	741
1200×700	20.4	14.4	1080	725
1200×800	20.4	15.6	880	700
1200×900	20.4	16.8	680	668
1200×1000	20.4	18	480	570
1200×1100	20.4	19.2	280	576
1400×80	22.8	7	1480	854
1400×100	22.8	7.2	1460	854
1400×125	22.8	7.5	1435	856
1400×150	22.8	7.8	1410	857
1400×200	22.8	8.4	1360	859
1400×250	22.8	9	1310	862
1400×300	22.8	9.6	1260	865
1400×350	22.8	10.2	1210	864
1400×400	22.8	10.8	1160	862
1400×450	22.8	11.4	1110	859
1400×500	22.8	12	1060	861
1400×600	22.8	13.2	960	857
1400×700	22.8	14.4	860	864
1400×800	22.8	15.6	760	866
1400×900	22.8	16.8	660	868
1400×1000	22.8	18	560	863
1400×1100	22.8	19.2	460	863
1400×1200	22.8	20.4	360	711
1500×1400	24	22.8	260	1073
1600×1400	25.2	24	360	950



DOUBLE FLANGE BEND 90° (1/4)

Nominal size and weight of double flange bend 90° (1/4)

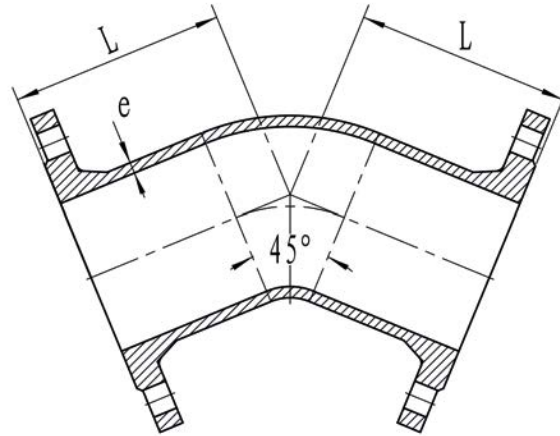
DN/mm	e/mm	L	weight (Kg)			
			PN10	PN16	PN25	PN40
40	7	140	5.2	5.2	5.2	5.2
50	7	150	6.5	6.5	6.5	6.5
60	7	160	7.3	7.3	7.1	7.1
65	7	165	8.2	8.2	8	8
80	7	165	9.6	9.6	9.6	9.8
100	7.2	180	11.9	11.9	12.9	13
125	7.5	200	15.6	15.6	16.9	19.5
150	7.8	220	20	20	22	26.5
200	8.4	260	31	30.5	34.5	45
250	9	350	50	49.5	57	77
300	9.6	400	70	70	81	111
350	10.2	450	94.5	101	119	162
400	10.8	500	122	133	157	225
450	11.4	550	154	168	200	247
500	12	600	190	222	247	314
600	13.2	700	286	341	371	476
700	14.4	800	405	437	507	—
800	15.6	900	560	601	699	—
900	16.8	1000	733	782	904	—
1000	18	1100	952	1040	1196	—
1100	19.2	1200	1222	1296	1462	—
1200	20.4	1300	1525	1640	1840	—
1400	22.8	1350	2199	2165	2469	—
1500	24	1400	2386	2571	—	—
1600	27.6	1500	3515	3750	4106	—



DOUBLE FLANGE DUCKFOOT BEND 90° (1/4)

Nominal size and weight of double flange duckfoot bend 90° (1/4)

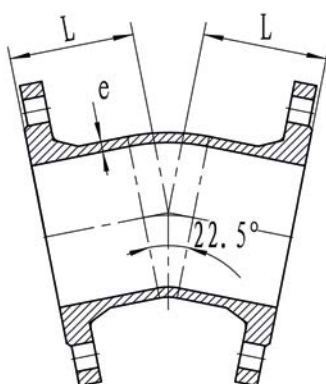
DN/mm	e/mm	L	h'	d	weight (Kg)			
					PN10	PN16	PN25	PN40
40	7	140	95	150	7.8	7.8	7.8	7.8
50	7	150	95	150	9.1	9.1	9.1	9.1
60	7	160	100	160	10.3	10.3	10.1	10.1
65	7	165	100	165	11.5	11.5	11.3	11.3
80	7	165	110	180	14.8	14.8	14.8	14.8
100	7.2	180	125	200	18.2	18.2	19.2	19.2
125	7.5	200	140	225	24.5	24.5	25.7	28.3
150	7.8	220	160	250	31.5	31.5	33.5	37.7
200	8.4	260	190	300	49	48.5	52.7	63.3
250	9	350	225	350	78.5	77.5	85.3	105.5
300	9.6	400	255	400	111	111	122	130
350	10.2	450	290	450	147	153	170	212
400	10.8	500	320	500	192	201	224	291
450	11.4	550	355	550	245	261	292	339
500	12	600	385	600	309	336	359	427
600	13.2	700	450	700	475	522	550	655
700	14.4	800	515	800	689	719	788	—
800	15.6	900	580	900	944	974	1072	—
900	16.8	1000	645	1000	1252	1290	1412	—
1000	18	1100	710	1100	1652	1726	1882	—
1100	19.2	1200	775	1200	2080	2150	2316	—
1200	20.4	1300	840	1300	2599	2709	2909	—



DOUBLE FLANGE BEND 45° (1/8)

Nominal size and weight of double flange bend 45° (1/8)

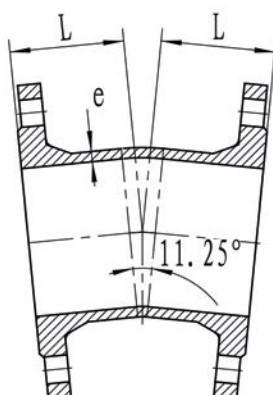
DN/mm	e/mm	L	weight (Kg)			
			PN10	PN16	PN25	PN40
40	7	140	4.5	4.5	4.5	4.5
50	7	150	5.6	5.6	5.6	5.6
60	7	160	6.1	6.1	5.9	5.9
65	7	165	6.9	6.9	6.7	6.7
80	7	130	9.3	9.3	9.3	9.3
100	7.2	140	11.3	11.3	12.4	12.4
125	7.5	150	14.6	14.6	15.9	18.5
150	7.8	160	18.5	18.5	20.5	24.5
200	8.4	180	27.5	27	31	41.5
250	9	350	55	54	62	82
300	9.6	400	78	77	88	118
350	10.2	300	76	83	89	131
400	10.8	325	96	107	129	196
450	11.4	350	117	133	158	205
500	12	375	145	175	198	265
600	13.2	425	212	266	294	399
700	14.4	480	296	326	395	–
800	15.6	530	403	442	540	–
900	16.8	580	519	567	689	–
1000	18	630	668	751	907	–
1100	19.2	695	857	927	1093	–
1200	20.4	750	1050	1178	1378	–
1400	22.8	775	1388	1524	1828	–
1500	24	810	1677	1853	–	–
1600	25.2	845	1915	2119	2475	–



DOUBLE FLANGE BEND 22,5° (1/16)

Nominal size and weight of double flange bend 22,5° (1/16)

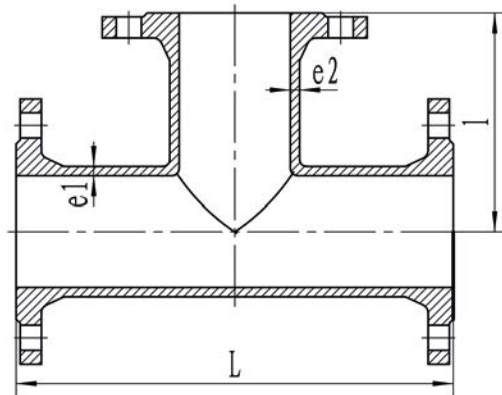
DN/mm	e/mm	L	weight (Kg)			
			PN10	PN16	PN25	PN40
40	7	140	4.5	4.5	4.5	4.5
50	7	150	7.5	7.5	7.5	7.5
60	7	160	6.1	6.1	6.1	6.1
65	7	165	6.9	6.9	6.7	6.7
80	7	130	9.4	9.4	9.4	9.4
100	7.2	140	11.5	11.5	12.5	12.5
125	7.5	150	14.7	14.7	15.9	18.5
150	7.8	160	18.7	18.7	20.7	23.9
200	8.4	180	27.9	27.4	31.6	42.2
250	9	350	55.9	55.2	63	83
300	9.6	400	78.8	77.5	89	120
350	10.2	298	77.3	83.6	100	143
400	10.8	324	96.7	108.4	131	199
450	11.4	349	122	138	169	207
500	12	375	146	176	200	267
600	13.2	426	215	268	297	402
700	14.4	478	299	329	399	—
800	15.6	529	409	477	575	—
900	16.8	581	526	577	699	—
1000	18	632	677	760	916	—
1100	19.2	683	877	947	1113	—
1200	20.4	735	1095	1223	1423	—
1400	22.8	835	1497	1633	1937	—
1500	24	885	1838	2014	—	—
1600	25.2	940	2119	2324	2680	—



DOUBLE FLANGE BEND 11,25° (1/32)

Nominal size and weight of double flange bend 11,25° (1/32)

DN/mm	e/mm	L	weight (Kg)			
			PN10	PN16	PN25	PN40
40	7	140	4.5	4.5	4.5	4.5
50	7	150	7.5	7.5	7.5	7.5
60	7	160	6.1	6.1	6.1	6.1
65	7	165	6.9	6.9	6.9	6.9
80	7	130	9.5	9.5	9.5	9.5
100	7.2	140	11.5	11.5	12.5	12.5
125	7.5	150	14.8	14.8	16	18.6
150	7.8	160	18.6	18.6	20.6	24.8
200	8.4	180	27.9	27.5	31.7	42.3
250	9	350	55.8	55	62.8	83
300	9.6	400	78.8	78	89.2	120.2
350	10.2	298	77.3	83.5	100	143
400	10.8	324	96.8	108	131	199
450	11.4	349	123	139	166	213
500	12	375	147	177	201	268
600	13.2	426	216	269	298	404
700	14.4	478	301	331	400	—
800	15.6	529	412	449	547	—
900	16.8	581	529	577	699	—
1000	18	632	681	764	920	—
1100	19.2	683	882	952	1118	—
1200	20.4	735	1060	1189	1389	—
1400	22.8	835	1506	1612	1916	—
1500	24	885	1849	2025		—
1600	25.2	940	2132	2337	2693	—



ALL-FLANGED TEES

Nominal size and weight of all-flanged tees

DN × dn/mm	e1/mm	e2/mm	L	l	weight (Kg)			
					PN10	PN16	PN25	PN40
40 × 40	7	7	280	140	8.5	8.5	8.5	8.5
50 × 40	7	7	300	145	9.0	9.0	9.8	9.5
50 × 50	7	7	300	150	10.4	10.4	10.4	10.4
60 × 40	7	7	320	150	11.0	11.0	11.0	11.0
60 × 50	7	7	320	155	11.1	11.1	11.9	11.4
60 × 60	7	7	320	160	11.8	11.8	11.5	11.5
65 × 40	7	7	330	150	11.2	11.2	11.9	11.4
65 × 50	7	7	330	160	12.1	12.1	13.0	12.5
65 × 60	7	7	330	165	12.4	12.4	13.3	12.9
65 × 65	7	7	330	165	13.3	13.3	13.0	13.0
80 × 40	7	7	330	155	12.6	12.6	13.6	13.0
80 × 50	7	7	330	160	13.5	13.5	14.6	14.0

DN×dn/mm	e1/mm	e2/mm	L	l	weight (Kg)			
					PN10	PN16	PN25	PN40
80×60	7	7	330	160	13.8	13.7	14.9	14.3
80×65	7	7	330	160	14.1	14.1	15.3	14.7
80×80	7	7	330	165	15.6	15.6	15.6	15.6
100×40	7.2	7	360	170	15.5	15.5	17.6	16.9
100×50	7.2	7	360	170	16.4	16.3	18.6	17.9
100×60	7.2	7	360	170	16.6	16.6	18.9	18.2
100×65	7.2	7	360	175	17.0	17.0	19.4	18.6
100×80	7.2	7	360	175	18.4	18.4	19.5	19.5
100×100	7.2	7.2	360	180	19.4	19.4	21	21
125×40	7.5	7	400	185	20.1	20.1	22.8	24.3
125×50	7.5	7	400	185	21.0	21.0	23.7	25.3
125×60	7.5	7	400	185	21.3	21.3	24.0	25.6
125×65	7.5	7	400	190	21.6	21.6	24.5	26.0
125×80	7.5	7	400	190	23	23	24.5	27
125×100	7.5	7.2	400	195	24	24	26	28.5
125×125	7.5	7.5	400	200	25.5	25.5	27.5	31.5
150×40	7.8	7	440	200	25.6	25.6	29.3	32.0
150×50	7.8	7	440	200	26.5	26.5	30.3	33.0
150×60	7.8	7	440	200	26.8	26.8	30.6	33.3
150×65	7.8	7	440	205	27.1	27.1	31.0	33.4
150×80	7.8	7	440	205	28.5	28.5	31	36
150×100	7.8	7.2	440	210	29.5	29.5	32	36.5
150×125	7.8	7.5	440	215	30.2	30.2	32.8	38.6
150×150	7.8	7.8	440	220	32.5	32.5	36	42
200×40	8.4	7	520	230	39.0	38.5	45.0	53.0
200×50	8.4	7	520	230	39.8	39.4	46.0	54.0
200×60	8.4	7	520	230	40.1	39.7	46.3	54.3
200×65	8.4	7	520	235	40.4	40.0	46.8	54.8
200×80	8.4	7	520	235	42	41.5	46	57
200×100	8.4	7.2	520	240	43	42.5	47.5	58
200×125	8.4	7.5	520	245	42.5	42.0	50.8	60.0
200×150	8.4	7.8	520	250	46	45.5	51	64
200×200	8.4	8.4	520	260	49.5	49	56	71
250×40	9	7	700	245	63.	63	73	90
250×50	9	7	700	250	64.2	63.6	74.3	90.8
250×60	9	7	700	255	64.5	63.9	74.6	91.2

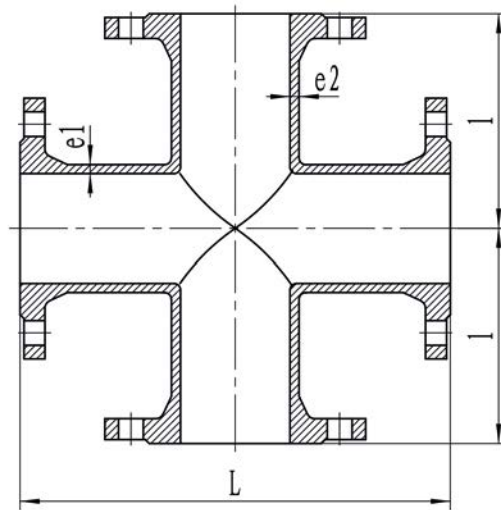
DN×dn/mm	e1/mm	e2/mm	L	l	weight (Kg)			
					PN10	PN16	PN25	PN40
250×65	9	7	700	260	64.8	64.2	75.0	91.7
250×80	9	7	700	265	65.2	64.5	75.9	92.4
250×100	9	7.2	700	275	68	67	75	96
250×125	9	7.5	700	288	67	66.3	79.5	97.3
250×150	9	7.8	700	300	68.2	67.6	82.1	100.6
250×200	9	8.4	700	325	76	75	85	110
250×250	9	9	700	350	82	81	93	123
300×40	9.6	7	800	270	89	88	103	128
300×50	9.6	7	800	275	90	89	104	129
300×60	9.6	7	800	280	90	89	105	130
300×65	9.6	7	800	285	91	90	105	130
300×80	9.6	7	800	290	91	90	106	131
300×100	9.6	7.2	800	300	94	93	105	136
300×125	9.6	7.5	800	315	93	92	110	136
300×150	9.6	7.8	800	325	98	97	109	144
300×200	9.6	8.4	800	350	102	101	114	150
300×250	9.6	9	800	375	101	100	127	161
300×300	9.6	9.6	800	400	116	115	131	178
350×80	10.2	7	850	325	113	119	142	175
350×100	10.2	7.2	850	325	116	122	139	183
350×125	10.2	7.5	850	325	115	121	145	179
350×150	10.2	7.8	850	325	119	125	142	188
350×200	10.2	8.4	850	325	121	128	146	195
350×250	10.2	9	850	325	128	134	154	208
350×300	10.2	9.6	850	425	135	140	162	220
350×350	10.2	10.2	850	425	142	151	176	242
400×80	10.8	7	900	350	140	150	180	236
400×100	10.8	7.2	900	350	143	154	177	246
400×125	10.8	7.5	900	350	142	152	184	240
400×150	10.8	7.8	900	350	146	157	181	253
400×200	10.8	8.4	900	350	148	159	184	259
400×250	10.8	9	900	350	151	161	198	278
400×300	10.8	9.6	900	450	160	184	213	298
400×350	10.8	10.2	900	450	170	183	215	306
400×400	10.8	10.8	900	450	174	191	225	329

DN×dn/mm	e1/mm	e2/mm	L	l	weight (Kg)			
					PN10	PN16	PN25	PN40
450×80	11.4	7	950	375	169	188	220	258
450×100	11.4	7.2	950	375	176	193	225	281
450×125	11.4	7.5	950	375	171	190	227	263
450×150	11.4	7.8	950	375	182	199	231	289
450×200	11.4	8.4	950	375	190	207	240	302
450×250	11.4	9	950	375	199	216	250	317
450×300	11.4	9.6	950	475	210	227	263	335
450×350	11.4	10.2	950	475	219	240	279	357
450×400	11.4	10.8	950	475	231	254	296	387
450×450	11.4	11.4	950	475	243	269	315	399
500×80	12	7	1000	400	207	236	270	319
500×100	12	7.2	1000	400	210	241	265	335
500×125	12	7.5	1000	400	209	238	273	324
500×150	12	7.8	1000	400	214	243	269	341
500×200	12	8.4	1000	400	215	245	271	347
500×250	12	9	1000	400	218	258	280	361
500×300	12	9.6	1000	500	227	255	287	373
500×350	12	10.2	1000	500	239	262	298	390
500×400	12	10.8	1000	500	242	276	311	416
500×450	12	11.4	1000	500	249	298	327	425
500×500	12	12	1000	500	252	297	332	437
600×80	13.2	7	1100	450	296	346	390	469
600×100	13.2	7.2	1100	450	268	333	352	461
600×125	13.2	7.5	1100	450	264	314	339.3	449
600×150	13.2	7.8	1100	450	283	345	370	481
600×200	13.2	8.4	1100	450	305	358	388	502
600×250	13.2	9	1100	450	307	360	392	511
600×300	13.2	9.6	1100	550	317	374	400	525
600×350	13.2	10.2	1100	550	326	380	413	544
600×400	13.2	10.8	1100	550	329	387	427	570
600×450	13.2	11.4	1100	550	338	417	448	585
600×500	13.2	12	1100	550	349	420	464	608
600×600	13.2	13.2	1100	550	355	434	477	640
700×80	14.4	7	518	507	222	251	340	—
700×100	14.4	7.2	540	510	253	295	369	—

DN×dn/mm	e1/mm	e2/mm	L	l	weight (Kg)			
					PN10	PN16	PN25	PN40
700×125	14.4	7.5	568	514	238	266	357	—
700×150	14.4	7.8	595	518	255	296	372	—
700×200	14.4	8.4	650	525	258	298	373	—
700×250	14.4	9	705	533	310	335	412	—
700×300	14.4	9.6	760	540	319	342		—
700×350	14.4	10.2	815	548	340	375	457	—
700×400	14.4	10.8	870	555	343	379	464	—
700×450	14.4	11.4	925	563	429	436	521	—
700×500	14.4	12	980	570	442	481	566	—
700×600	14.4	13.2	1200	585	476	523	612	—
700×700	14.4	14.4	1200	600	477	523	633	—
800×80	15.6	7	558	567	297	332	457	—
800×100	15.6	7.2	580	570	345	383	487	—
800×125	15.6	7.5	608	574	316	351	477	—
800×150	15.6	7.8	635	578	349	387	491	—
800×200	15.6	8.4	690	585	352	390	496	—
800×250	15.6	9	745	593	372	410	517	—
800×300	15.6	9.6	800	600	423	427		—
800×350	15.6	10.2	855	608	443	471	496	—
800×400	15.6	10.8	910	615	441	484	599	—
800×450	15.6	11.4	965	623	519	563	678	—
800×500	15.6	12	1020	630	561	599	715	—
800×600	15.6	13.2	1350	645	613	678	797	—
800×700	15.6	14.4	1350	660	663	711	851	—
800×800	15.6	15.6	1350	675	657	715	870	—
900×80	16.8	7	598	627	371	414	569	—
900×100	16.8	7.2	620	630	428	476	604	—
900×125	16.8	7.5	648	635	392	436	592	—
900×150	16.8	7.8	675	640	432	480	609	—
900×200	16.8	8.4	730	645	436	484	616	—
900×250	16.8	9	785	655	499	533	665	—
900×300	16.8	9.6	840	660	523	569	703	—
900×350	16.8	10.2	895	670	538	588	724	—
900×400	16.8	10.8	950	675	541	594	734	—
900×450	16.8	11.4	1005	685	673	729	869	—
900×500	16.8	12	1060	690	726	784	924	—

DN×dn/mm	e1/mm	e2/mm	L	l	weight (Kg)			
					PN10	PN16	PN25	PN40
900×600	16.8	13.2	1500	705	787	860	1003	—
900×700	16.8	14.4	1500	720	843	901	1065	—
900×800	16.8	15.6	1500	735	860	913	1092	—
900×900	16.8	16.8	1500	750	853	924	1116	—
1000×80	18	7	638	685	469	545	745	—
1000×100	18	7.2	660	690	524	572	738	—
1000×125	18	7.5	688	695	495	570	772	—
1000×150	18	7.8	715	700	534	582	749	—
1000×200	18	8.4	770	705	546	629	797	—
1000×250	18	9	825	715	631	703	873	—
1000×300	18	9.6	880	720	651	739	910	—
1000×350	18	10.2	935	730	660	753	927	—
1000×400	18	10.8	990	735	668	755	933	—
1000×450	18	11.4	1045	745	850	911	1089	—
1000×500	18	12	1100	750	955	1007	1185	—
1000×600	18	13.2	1650	765	1007	1116	1297	—
1000×700	18	14.4	1650	780	1067	1152	1354	—
1000×800	18	15.6	1650	795	1085	1168	1385	—
1000×900	18	16.8	1650	810	1095	1219	1449	—
1000×1000	18	18	1650	825	1105	1229	1478	—
1200×80	19.2	7	635	805	655	771	1039	—
1200×100	19.2	7.2	660	810	996	1082	1298	—
1200×125	19.2	7.5	685	815	690	806	1075	—
1200×150	19.2	7.8	715	820	998	1084	1300	—
1200×200	19.2	8.4	775	825	1000	1086	1304	—
1200×250	19.2	9	830	835	1002	1094	1313	—
1200×300	19.2	9.6	890	840	1004	1106	1312	—
1200×350	19.2	10.2	950	850	1006	1113	1337	—
1200×400	19.2	10.8	1005	855	1008	1122	1349	—
1200×450	19.2	11.4	1065	865	961	1088	1384	—
1200×500	19.2	12	1120	870	1109	1255	1484	—
1200×600	19.2	13.2	1240	885	1101	1256	1487	—
1200×700	19.2	14.4	1355	900	1279	1423	1678	—
1200×800	19.2	15.6	1470	915	1291	1439	1706	—
1200×900	19.2	16.8	1585	930	1427	1662	1941	—

DN×dn/mm	e1/mm	e2/mm	L	l	weight (Kg)			
					PN10	PN16	PN25	PN40
1200×1000	19.2	18	1700	945	1494	1664	1962	–
1200×1100	19.2	19.2	1820	960	1619	1783	2213	–
1200×1200	20.4	7	1935	975	1921	2038	2338	–
1400×80	22.8	7	945	900	1098	1220	1616	–
1400×100	22.8	7.2	970	905	1227	1363	1694	–
1400×125	22.8	7.5	1000	910	1147	1268	1666	–
1400×150	22.8	7.8	1030	915	1173	1295	1694	–
1400×200	22.8	8.4	1085	920	1231	1367	1700	–
1400×250	22.8	9	1145	930	1278	1399	1805	–
1400×300	22.8	9.6	1200	935	1330	1451	1860	–
1400×350	22.8	10.2	1260	945	1384	1508	1923	–
1400×400	22.8	10.8	1320	950	1514	1656	1998	–
1400×450	22.8	11.4	1375	960	1488	1620	2044	–
1400×500	22.8	12	1435	965	1546	1684	2110	–
1400×600	22.8	13.2	1550	980	1555	1818	2164	–
1400×700	22.8	14.4	1665	995	1777	1915	2379	–
1400×800	22.8	15.6	1760	1010	1886	2041	2423	–
1400×900	22.8	16.8	1900	1025	2026	2175	2680	–
1400×1000	22.8	18	2015	1040	2131	2309	2691	–
1400×1100	22.8	19.2	2130	1055	2292	2461	3017	–
1400×1200	22.8	20.4	2245	1070	2567	2767	3205	–
1400×1400	22.8	22.8	2480	1100	2781	2985	3481	–
1500×600	24	13.2	1575	1035	2178	2362	–	–
1500×800	24	15.6	1810	1065	–	–	–	–
1500×1000	24	18	2040	1095	2776	2976	–	–
1600×100	25.2	7.2	1020	1015	1874	2078	2435	–
1600×200	25.2	8.4	1135	1030	1880	2084	2442	–
1600×400	25.2	10.8	1370	1060	2000	2210	2589	–
1600×600	25.2	13.2	1600	1090	2167	2398	2806	–
1600×800	25.2	15.6	1835	1120	2452	2675	3120	–
1600×1000	25.2	18	2065	1150	2740	2986	3462	–
1600×1200	25.2	20.4	2300	1180	3058	3327	3828	–
1600×1400	25.2	22.8	2530	1210	3498	3770	4278	–
1600×1600	25.2	25.2	2760	1240	3886	4192	4648	–

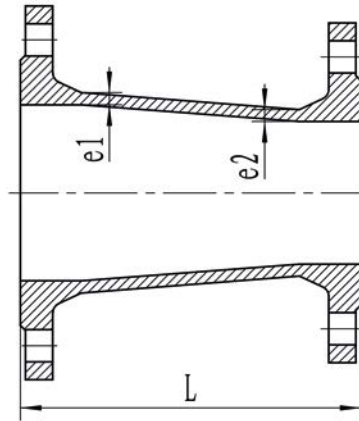


ALL-FLANGED CROSSING

Nominal size and weight of all-flanged crossing

DN × dn/mm	e1/mm	e2/mm	L	l	weight (Kg)			
					PN10	PN16	PN25	PN40
80 × 80	7	7	330	165	20.5	20.5	20.5	21
100 × 80	7.2	7	360	175	23	23	24.2	24
100 × 100	7.2	7.2	360	180	25	25	27.1	27
150 × 80	7.8	7	440	205	33.1	33.1	36.1	41
150 × 100	7.8	7.2	440	210	35.1	35.1	38.1	43
150 × 150	7.8	7.8	440	220	41.1	41.1	46.1	55
200 × 80	8.4	7	520	235	46.5	45.9	50.7	62
200 × 100	8.4	7.2	520	240	48.5	46.9	53.7	65
200 × 150	8.4	7.8	520	250	54.5	53.9	60.7	76
200 × 200	8.4	8.4	520	260	61.5	60.9	70.7	93
250 × 80	9	7	700	270	37.5	37.5	44.5	66
250 × 100	9	7.2	700	275	74.1	72.9	81.1	102
250 × 150	9	7.8	700	300	82.1	80.9	93.1	119
250 × 200	9	8.4	700	325	90.1	88.9	101	133
250 × 250	9	9	700	350	102	101	117	159
300 × 100	9.6	7.2	800	300	100	98.8	112	144
300 × 150	9.6	7.8	800	325	108	107	120	157
300 × 200	9.6	8.4	800	350	116	115	130	173
300 × 250	9.6	9	800	375	130	129	144	198
300 × 300	9.6	9.6	800	400	144	143	164	229
350 × 100	10.2	7.2	850	325	122	128	145	189
350 × 150	10.2	7.8	850	325	128	134	151	199

DN×dn/mm	e1/mm	e2/mm	L	l	weight (Kg)			
					PN10	PN16	PN25	PN40
350×200	10.2	8.4	850	325	132	140	159	214
350×250	10.2	9	850	325	146	151	176	241
350×300	10.2	9.6	850	425	154	160	187	263
350×350	10.2	10.2	850	425	174	186	219	307
400×100	10.8	7.2	900	350	149	160	183	252
400×150	10.8	7.8	900	350	151	164	191	265
400×200	10.8	8.4	900	350	159	170	197	277
400×250	10.8	9	900	350	160	174	225	315
400×300	10.8	9.6	900	450	182	220	236	338
400×350	10.8	10.2	900	450	202	228	249	362
400×400	10.8	10.8	900	450	211	234	259	398
450×100	11.4	7.2	950	375	186	203	235	291
450×150	11.4	7.8	950	375	198	215	248	308
450×200	11.4	8.4	950	375	213	230	265	332
450×250	11.4	9	950	375	231	248	286	363
450×300	11.4	9.6	950	475	253	270	312	400
450×350	11.4	10.2	950	475	272	296	343	443
450×400	11.4	10.8	950	475	296	324	378	503
450×450	11.4	11.4	950	475	320	354	416	528
500×100	12	7.2	1000	400	215	247	272	342
500×150	12	7.8	1000	400	223	251	280	355
500×200	12	8.4	1000	400	225	255	284	365
500×250	12	9	1000	400	231	281	301	392
500×300	12	9.6	1000	500	249	275	316	418
500×350	12	10.2	1000	500	273	290	338	452
500×400	12	10.8	1000	500	279	317	364	503
500×450	12	11.4	1000	500	293	361	396	522
500×500	12	12	1000	500	299	359	406	546
600×100	13.2	7.2	1100	450	242	311	329	438
600×150	13.2	7.8	1100	450	272	333	365	478
600×200	13.2	8.4	1100	450	316	369	401	521
600×250	13.2	9	1100	450	321	373	409	539
600×300	13.2	9.6	1100	550	330	400	420	561
600×350	13.2	10.2	1100	550	358	413	451	604
600×400	13.2	10.8	1100	550	364	427	479	657
600×450	13.2	11.4	1100	550	382	487	521	686
600×500	13.2	12	1100	550	403	494	553	732
600×600	13.2	13.2	1100	550	416	521	579	797



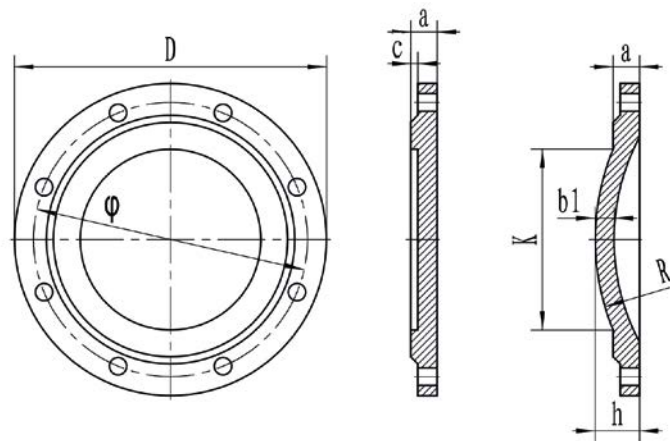
DOUBLE FLANGED TAPER

Nominal size and weight of double flanged taper

DN × dn/mm	e1/mm	e2/mm	L	weight (Kg)			
				PN10	PN16	PN25	PN40
50 × 40	7	7	150	5.2	5.2	5.2	5.2
60 × 40	7	7	200	6.4	6.3	6.3	6.3
60 × 50	7	7	150	5.8	5.8	5.7	5.7
65 × 40	7	7	200	6.7	6.6	6.6	6.6
65 × 50	7	7	200	6.7	6.7	6.6	6.6
65 × 60	7	7	200	7.1	7.1	6.9	6.9
80 × 40	7	7	200	6.3	6.3	6.3	6.3
80 × 50	7	7	200	7.3	7.3	7.3	7.3
80 × 60	7	7	200	7.5	7.5	7.4	7.4
80 × 65	7	7	200	7.9	7.9	7.8	7.8
100 × 50	7.2	7	300	9.4	9.9	9.9	9.9
100 × 80	7.2	7	200	9.3	9.3	9.3	9.8
125 × 100	7.5	7.2	200	11.3	11.3	12.5	13.8
150 × 50	7.8	7	600	10.8	11.8	13.9	13.9
150 × 80	7.8	7	400	16.4	16.4	17.4	19.5
150 × 100	7.8	7	300	16	16	17.5	18.9
150 × 125	7.8	7.5	200	14	14	15.5	18.9
200 × 100	8.4	7.2	600	27.5	27.5	30	35.4
200 × 125	8.4	7.5	300	22	22.6	29.2	29.2
200 × 150	8.4	7.8	300	22.5	22	25	32.4
250 × 150	9	7.8	600	39	39	43.5	55
250 × 200	9	8.4	300	33	33	38	53

DN×dn/mm	e1/mm	e2/mm	L	weight (Kg)			
				PN10	PN16	PN25	PN40
300×100	9.6	7.2	700	50.5	50.5	57	72.5
300×150	9.6	7.8	650	48.5	48.5	55	72.6
300×200	9.6	8.4	600	52	51.5	59	80
300×250	9.6	9	300	41	40	49	75
350×200	10.2	8.4	650	61.5	64	74	102
350×250	10.2	9	600	65.5	67.5	79.2	112
350×300	10.2	9.6	300	49.5	52	66	104
400×200	10.8	8.4	700	73.5	77.5	90.5	131
400×250	10.8	9	650	77	81.5	96	141
400×300	10.8	9.6	600	80.5	85	101	152
400×350	10.8	10.2	300	58	67	86	141
450×250	11.4	9	700	89.5	97	112	151
450×300	11.4	9.6	650	93.5	101	117	161
450×350	11.4	10.2	600	95.6	106	126	176
450×400	11.4	10.8	300	71	83	108	165
500×250	12	9	750	99.4	114	130	176
500×300	12	9.6	700	109	122	138	189
500×350	12	10.2	650	111	127	145	202
500×400	12	10.8	600	110	130	153	223
500×450	12	11.4	300	83	104	126	183
600×300	13.2	9.6	800	145	171	191	262
600×350	13.2	10.2	750	147	174	193	269
600×400	13.2	10.8	700	150	178	201	290
600×450	13.2	11.4	650	151	183	260	342
600×500	13.2	12	600	149	190	216	305
700×400	14.4	10.8	800	196	212	251	–
700×450	14.4	11.4	750	197	211	251	–
700×500	14.4	12	700	200	225	252	–
700×600	14.4	13.2	600	195	236	288	–
800×450	15.6	10.8	850	263	286	347	–
800×500	15.6	11.4	800	256	284	347	–
800×600	15.6	12	700	260	298	340	–
800×700	15.6	13.2	600	250	285	374	–
900×450	16.8	11.4	950	347	380	467	–
900×500	16.8	12	900	338	370	470	–
900×600	16.8	13.2	800	318	362	462	–
900×700	16.8	14.4	700	321	352	446	–

DN×dn/mm	e1/mm	e2/mm	L	weight (Kg)			
				PN10	PN16	PN25	PN40
900×800	16.8	15.6	600	308	352	468	—
1000×500	18	12	1000	452	501	585	—
1000×600	18	13.2	900	422	490	574	—
1000×700	18	14.4	800	398	439	556	—
1000×800	18	15.6	700	399	448	540	—
1000×900	18	16.8	600	373	438	545	—
1100×700	19.2	14.4	900	515	562	696	—
1100×800	19.2	15.6	800	483	532	681	—
1100×900	19.2	16.8	700	476	530	691	—
1100×1000	19.2	18	600	474	543	723	—
1200×700	20.4	14.4	1345	777	777	882	—
1200×800	20.4	15.6	1160	758	765	897	—
1200×900	20.4	16.8	975	726	726	871	—
1200×1000	20.4	18	790	692	692	881	—
1200×1100	20.4	19.2	605	692	655	860	—
1400×800	22.8	15.6	1590	1105	1105	1322	—
1400×900	22.8	16.8	1405	1074	1074	1303	—
1400×1000	22.8	18	1220	1052	1052	1300	—
1400×1100	22.8	19.2	1035	914	1055	1317	—
1400×1200	22.8	20.4	850	947	947	1223	—
1500×900	24	16.8	1620	1317	1317	—	—
1500×1000	24	18	1435	1297	1297	—	—
1500×1100	24	19.2	1250	1250	1250	—	—
1500×1200	24	20.4	1065	1216	1216	—	—
1500×1400	24	22.8	695	1058	1058	—	—
1600×1000	25.2	18	1650	1357	1534	1813	—
1600×1100	25.2	19.2	1465	1547	1502	1796	—
1600×1200	25.2	20.4	1280	1468	1468	1772	—
1600×1400	25.2	22.8	910	1273	1273	1641	—
1600×1500	25.2	24	725	1250	1250	—	—



BLANK FLANGE

Nominal size and weight of blank flange (PN10)

DN/mm	D	a	c	ϕ	K	b1	h	R	weight
40	150	19	3	110	—	—	—	—	2
50	165	19	3	125	—	—	—	—	2.4
60	175	19	3	135	—	—	—	—	2.7
65	185	19	3	145	—	—	—	—	3.1
80	200	19	3	160	—	18	—	—	3.5
100	220	19	3	180	—	18	—	—	4.3
125	250	19	3	210	—	18	—	—	5.6
150	285	19	3	240	—	18	—	—	7.2
200	340	20	3	295	—	18	—	—	11
250	400	22	3	350	—	19	—	—	16.9
300	455	24.5	4	400	—	20.5	—	—	24
350	505	24.5	4	460	325	20.5	69	325	29.5
400	565	24.5	4	515	375	21.5	76	375	36.5
450	615	25.5	4	565	425	21.5	84	425	50
500	670	26.5	4	620	475	22.5	92	475	56
600	780	30	5	725	575	25	108	575	91
700	895	32.5	5	840	675	27.5	124	675	123
800	1015	35	5	950	775	30	140	775	172
900	1115	37.5	5	1050	875	32.5	156	875	224
1000	1230	40	5	1160	975	35	172	975	293
1100	1340	42.5	5	1270	1075	37.5	188	1075	391
1200	1455	45	5	1380	1175	40	204	1175	575
1400	1675	46	5	1590	1375	41	230	1375	739
1500	1785	47.5	5	1700	—	—	—	—	—
1600	1915	49	5	1820	1575	44	260	1575	1239

Nominal size and weight of blank flange (PN16)

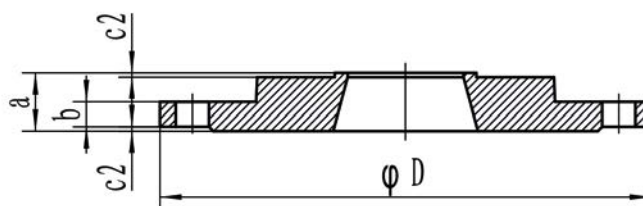
DN/mm	D	a	b	Φ	K	b1	h	R	weight
40	150	19	16	110	–	–	–	–	2
50	165	19	16	125	–	–	–	–	2.4
60	175	19	16	135	–	–	–	–	2.7
65	185	19	16	145	–	–	–	–	3.1
80	200	19	16	160	–	18	–	–	3.5
100	220	19	16	180	–	18	–	–	4.3
125	250	19	16	210	–	18	–	–	5.6
150	285	19	16	240	–	18	–	–	7.2
200	340	20	17	295	–	18	–	–	10.8
250	400	22	19	355	–	19	–	–	16.6
300	455	24.5	20.5	410	–	20.5	–	–	23.5
350	520	26.5	22.5	470	325	22.5	71	325	33.5
400	580	28	24	525	375	24	80	375	44.5
450	640	30	26	585	425	26	88	425	63.5
500	715	31.5	27.5	650	475	27.5	97	475	77
600	840	36	31	770	575	31	114	575	129
700	910	39.5	34.5	840	675	34.5	131	675	156
800	1025	43	38	950	775	38	148	775	218
900	1125	46.5	41.5	1050	875	41.5	165	875	286
1000	1255	50	45	1170	975	45	182	975	387
1100	1355	53.5	48.5	1270	1075	48.5	199	1075	509
1200	1485	57	52	1390	1175	52	216	1175	662
1400	1685	60	55	1590	1375	55	244	1375	994
1500	1820	62.5	57.5	1710	–	–	–	–	–
1600	1930	65	60	1820	1575	60	276	1575	1462

Nominal size and weight of blank flange (PN25)

DN/mm	D	a	c	ϕ	K	b1	h	R	weight (Kg)
40	150	19	3	110	–	–	–	–	2
50	165	19	3	125	–	–	–	–	2.4
60	175	19	3	135	–	–	–	–	2.6
65	185	19	3	145	–	–	–	–	2.9
80	200	19	3	160	–	18	–	–	3.9
100	235	19	3	190	–	18	–	–	5.1
125	270	19	3	220	–	18	–	–	–
150	300	20	3	250	–	18	–	–	8.8
200	360	22	3	310	–	19	–	–	13.3
250	425	24.5	3	370	–	21.5	–	–	21
300	485	27.5	4	430	–	23.5	–	–	30
350	555	30	4	490	325	26	75	325	44.5
400	620	32	4	550	375	28	84	375	59.5
450	670	34.5	4	600	425	30.5	93	425	80.5
500	730	36.5	4	660	475	32.5	102	475	97
600	845	42	5	770	575	37.0	120	575	154
700	960	46.5	5	875	675	41.5	137	675	215
800	1085	51	5	990	775	46.0	156	775	304
900	1185	55.5	5	1090	875	50.5	174	875	397
1000	1320	60	5	1210	975	55.0	192	975	535
1100	1420	64.5	5	1310	1075	59.5	210	1075	670
1200	1530	69	5	1420	1175	64.0	228	1175	843
1400	1755	74	5	1640	1375	69.0	258	1375	1350
1600	1975	81	5	1860	1575	76.0	292	1575	1938

Nominal size and weight of blank flange (PN40)

DN/mm	D	a	c		K	b1	h	R	w (Kg)
40	150	19	3		–	–	–	–	2.4
50	165	19	3		–	–	–	–	2.4
60	175	19	3		–	–	–	–	2.6
65	185	19	3		–	–	–	–	2.9
80	200	19	3		–	18	–	–	3.7
100	235	19	3		–	18	–	–	5.1
125	270	20.5	3		–	–	–	–	–
150	300	26	3		–	23.0	–	–	11.4
200	375	30	3		–	27.0	–	–	20.5
250	450	34.5	3		–	31.5	–	–	34.5
300	515	39.5	4		–	35.5	–	–	51
350	580	44	4		325	40.0	88	325	74
400	660	48	4		375	44.0	100	375	106
450	685	50	4		425	46.0	108	425	118
500	755	52	4		475	48.0	117	475	150
600	890	58	5		575	53.0	136	575	232



REDUCING FLANGES

Nominal size and weight of reducing flanges (PN10)

DN × dn/mm	D	a	b	c1	c2	w (Kg)
200 × 80	340	40	17	3	3	13.3
200 × 100	340	40	17	3	3	13.2
200 × 125	340	40	17	3	3	13.5
300 × 250	505	48	20.5	4	3	32
400 × 250	565	48	20.5	4	3	39
400 × 300	565	49	20.5	4	4	38
700 × 500	895	56	27.5	5	4	102
900 × 700	1115	63	32.5	5	5	165
1000 × 700	1230	63	35	5	5	222
1000 × 800	1230	68	35	5	5	209

Nominal size and weight of reducing flanges (PN16)

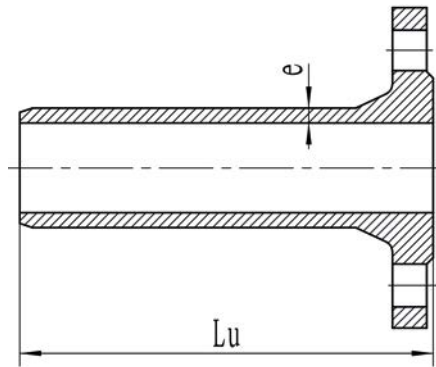
DN × dn/mm	D	a	b	c1	c2	weight (Kg)
200 × 80	340	40	17	3	3	13
200 × 100	340	40	17	3	3	13
200 × 125	340	40	17	3	3	13.3
300 × 250	520	54	22.5	4	3	36.5
400 × 250	580	54	24	4	3	46
400 × 300	580	55	24	4	4	44.5
700 × 500	910	67	35	5	4	134
900 × 700	1125	73	41.5	5	5	200
1000 × 700	1255	73	45	5	5	285
1000 × 800	1255	77	45	5	5	260

Nominal size and weight of reducing flanges (PN25)

DN×dn/mm	D	a	b	c1	c2	weight (Kg)
200×80	360	40	19	3	3	15
200×100	360	47	19	3	3	16.8
200×125	360	53	19	3	3	18.8
300×250	555	60	26	4	3	48.5
400×250	620	60	28	4	3	61
400×300	620	61	28	4	4	60

Nominal size and weight of reducing flanges (PN40)

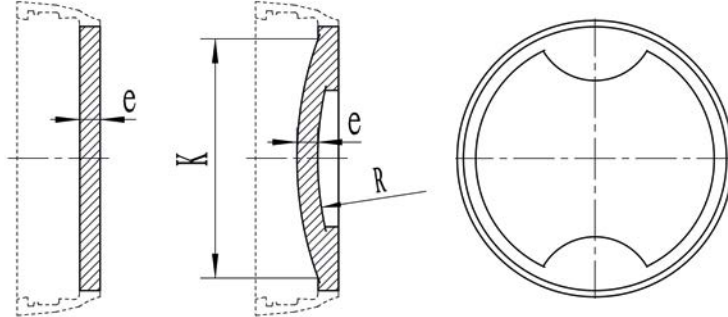
DN×dn/mm	D	a	b	c1	c2	weight (Kg)
200×80	375	40	27	3	3	20.5
200×100	375	47	27	3	3	21.5
200×125	375	53	27	3	3	22.5
300×250	—	—	—	—	—	—
400×250	—	—	—	—	—	—
400×300	—	—	—	—	—	—



FLANGED SPIGOT

Nominal size and weight of flanged spigot

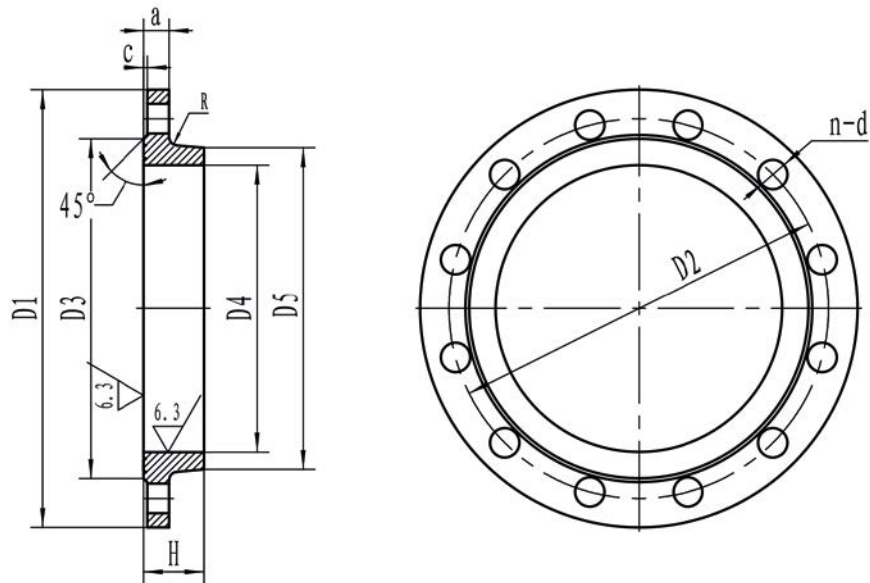
DN/mm	e/mm	Lu	weight (Kg)			
			PN10	PN16	PN25	PN40
40	7	335	4.2	4.2	4.2	4.2
50	7	340	5.2	5.2	5.2	5.2
60	7	345	5.8	5.8	5.8	5.8
65	7	345	6.5	6.5	6.4	6.4
80	7	350	7.8	7.8	7.8	7.8
100	7.2	360	9.6	9.6	10.2	10.2
125	7.5	370	12.4	12.4	13	14.3
150	7.8	380	15.6	15.6	16.6	18.7
200	8.4	400	22.9	22.5	24.5	30
250	9	420	32.3	31.5	35.5	45.5
300	9.6	440	43.3	42.5	47.5	63
350	10.2	460	52	55	64	85
400	10.8	480	64	70	81	115
450	11.4	500	79	88	103	126
500	12	520	94	109	121	155
600	13.2	560	133	159	173	225
700	14.4	600	179	194	228	—
800	15.6	600	226	245	294	—
900	16.8	600	272	295	356	—
1000	18	600	328	369	447	—
1100	19.2	600	394	430	513	—
1200	20.4	600	456	520	620	—
1400	22.8	710	664	732	884	—
1500	24	750	812	900	—	—
1600	25.2	780	922	1024	1202	—



CAPS

Nominal size and weight of caps

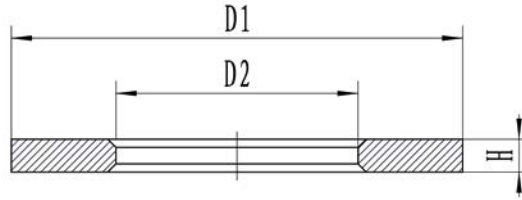
DN/mm	e/mm	K/R	weight (Kg)
80	18	–	7.3
100	18	–	8.5
150	18	–	14.1
200	18	–	19.8
250	19.5	–	27.4
300	23	–	42.8
350	24	315	61.7
400	25	370	76.3
450	26	420	93.7
500	27	460	107
600	29.5	565	132
700	31	665	202
800	33	760	275
900	35	860	353
1000	37	960	454
1100	39	1060	–
1200	41	1160	813
1400	43	1260	1018



WELDED FLANGE

Nominal size and weight of welded flange

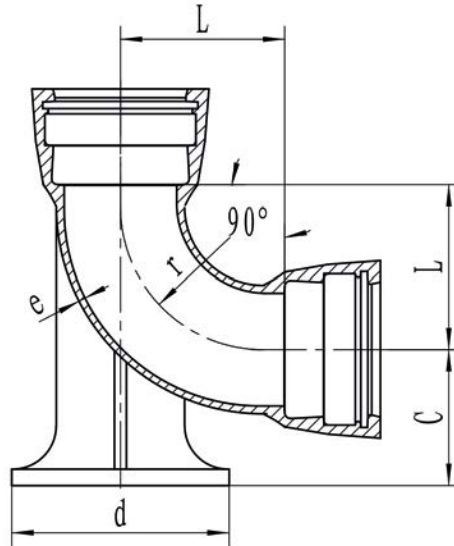
DN/mm	D1	D2	D3	a	c	R	H	D4	D5	n-d	weight (Kg)
80	200	160	132	19	3	5	35	99	120	8-19	3
100	220	180	156	19	3	5	40	119	140	8-19	3.6
150	285	240	211	19	3	5	44	171	192	8-23	5.6
200	340	295	266	20	3	6	47	223	250	12-23	7.9
250	400	355	319	22	3	6	52	275	299	12-28	10.7
300	455	410	370	24.5	4	6	57	327	352	12-28	14.1
350	520	470	429	26.5	4	6	57	379	403	16-28	18.8
400	580	525	480	28	4	6	62	430	456	16-31	24.2
450	640	585	548	30	4	6	68	481	506	20-31	30.5
500	715	650	609	31.5	4	8	70	533	561	20-34	40.5
600	840	770	720	36	5	8	74	636	664	20-37	58.2
700	910	840	794	39.5	5	12	80	739	769	24-37	61.4



PUDDLE FLANGE

Nominal size and weight of puddle flange

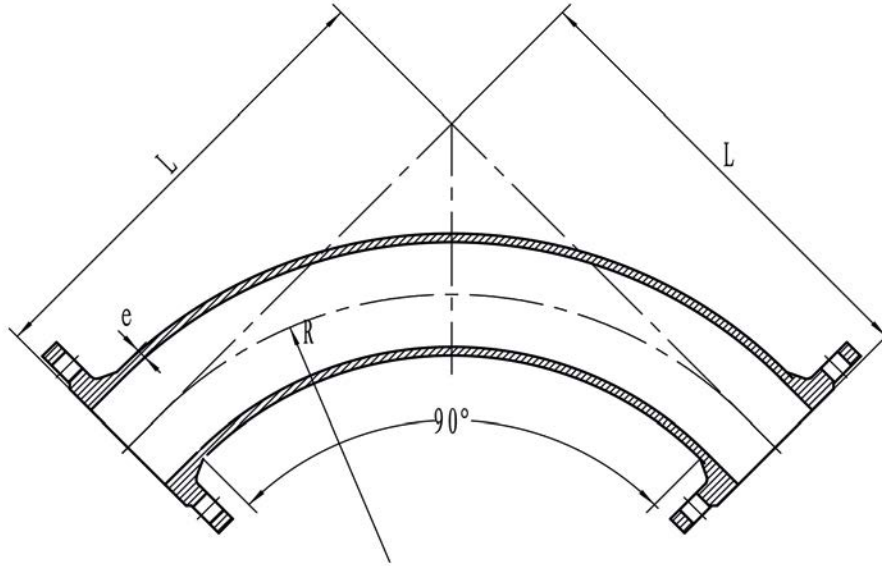
DN/mm	D1	Deviation	D2	Deviation	H	Deviation	Degree of Inner Diameter Groove	weight (Kg)
80	200	0 -2	98	±1	16	0 -2.5	6×45°	2.69
100	220		118		16			3.05
125	250		144		16			3.70
150	285		170		16			4.64
200	340		222		17			6.24
250	400	0 -2	274		19	0 -3	7×45°	8.93
300	455		326		20.5			11.44
350	520		378		22.5		8×45°	18.86
400	580		429		24		9×45°	20.25
450	640		480		26		10×45°	25.80
500	715	0 -6.5	532		27.5	0 -3.5	11×45°	34.75
600	840		635		31		12×45°	51.90
700	910		738		34.5		14×45°	54.15
800	1025		842		38	0 -4	16×45°	71.89
900	1125		945		41.5		17×45°	89.94
1000	1255	0 -7.5	1048		45	0 -4.5	19×45°	118.78
1100	1355		1152		48.5		21×45°	136.67
1200	1485		1255		52		22×45°	181.45
1400	1685		1462		55		24×45°	213.72
1500	1820		1565		57.5		—	—
1600	1930		1668		60		26×45°	313.18



DOUBLE SOCKET DUCKFOOT BEND 90° (1/4)

Nominal size and weight of socket duckfoot bend 90° (1/4)

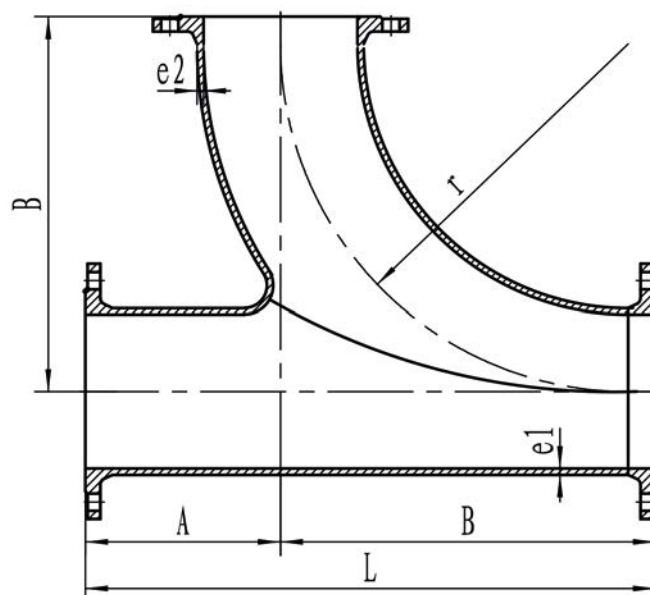
DN/mm	e/mm	L	r	c	d	weight (Kg)
80	7	100	80	110	180	15.1
100	7.2	120	95	125	200	19.8
125	7.5	145	120	140	225	26.9
150	7.8	170	145	160	250	34.4
200	8.4	220	195	190	300	53.4
250	9	270	245	225	350	85
300	9.6	320	290	255	400	117
350	10.2	370	340	290	450	158
400	10.8	420	390	320	500	204
450	11.4	470	435	355	550	273
500	12	520	485	385	600	325
600	13.2	620	580	450	700	485
700	14.4	720	655	515	800	688
800	15.6	820	745	580	900	941
900	16.8	920	855	645	1000	1249
1000	18	1020	945	710	1100	1615
1100	19.2	1120	1065	775	1200	2131
1200	20.4	1220	1155	840	1300	2762



DOUBLE-FLANGED LONG RADIUS BEND 90° (1/4)

Nominal size and weight of double-flanged long radius bend 90° (1/4)

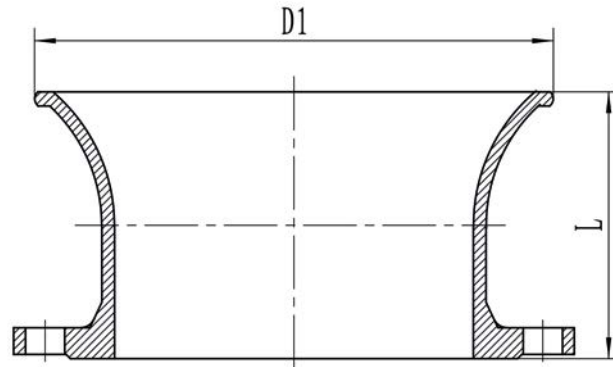
DN/mm	e/mm	L	R	weight (Kg)			
				PN10	PN16	PN25	PN40
80	7	380	330	14.5	14.5	14.5	15
100	7.2	400	340	18	18	19	19
125	7.5	425	—	23.5	23.5	24.1	27
150	7.8	450	385	30.5	30.5	32.5	37
200	8.4	500	430	46.5	46	50	61
250	9	550	475	67	66	73.5	95
300	9.6	600	515	91	90.5	101	133
350	10.2	650	560	117	122	138	182
400	10.8	700	605	149	158	180	249
450	11.4	750	650	184	200	221	277
500	12	800	690	227	254	275	345
600	13.2	900	780	332	379	403	512
700	14.4	1000	—	466	489	562	—
800	15.6	1100	—	632	661	764	—
900	16.8	1200	—	816	854	982	—
1000	18	1300	—	1048	1117	1283	—
1100	19.2	1400	—	1315	1385	1579	—
1200	20.4	1500	—	1627	1737	1952	—



ALL FLANGED RADIUS TEE

Nominal size and weight of all flanged radius tee

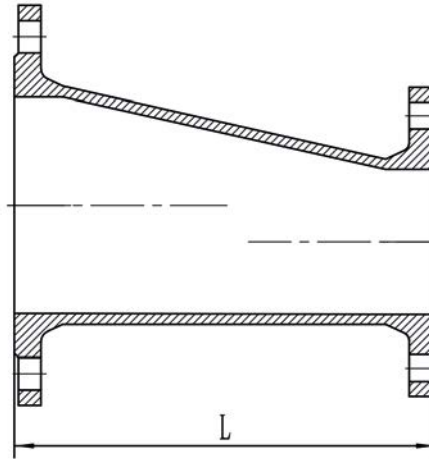
DN×dn/mm	e1/mm	e2/mm	L	A	B	r	weight (Kg)			
							PN10	PN16	PN25	PN40
80×80	8.1	8.1	545	165	380	330	23	23	23	23
100×100	8.4	8.4	580	180	400	340	29.5	29.5	31	31
150×150	9.1	9.1	670	220	450	385	47.9	47.9	50.9	57.2
200×200	9.8	9.8	760	260	500	430	72.2	71.6	77.9	93.8
250×250	10.5	10.5	900	350	550	475	106.6	104.8	116.5	146.8
300×300	11.2	11.2	1000	400	600	515	145.7	144.5	161.3	207.8
350×350	11.9	11.9	1100	450	650	560	194.1	203.4	228.3	291.9
400×400	12.6	12.6	1200	500	700	605	246.3	263.1	297	398.1
450×450	13.3	13.3	1300	550	750	650	306.2	332	378.5	448.4
500×500	14	14	1400	600	800	690	376.3	421.9	457	557.8
600×600	15.4	15.4	1500	700	900	780	544.2	623.7	666.3	823.8



FLANGE BELLMOUTH

Nominal size and weight of flange bellmouth

DN/mm	D1	L	weight (Kg)			
			PN10	PN16	PN25	PN40
80	150	130	9	9	9	9
100	175	135	11	11	11	11
150	230	150	17	17	18	20
200	290	170	24	24	26	32
250	345	185	32	32	36	47
300	405	205	44	44	50	66
350	460	220	72	75	83	105
400	520	240	92	98	109	144
450	575	255	111	120	136	164
500	635	275	138	153	165	200
600	750	310	185	211	224	278
700	865	345	210	225	262	–
800	980	380	225	244	296	–
900	1095	415	260	284	348	–
1000	1210	450	327	369	452	–
1100	1325	485	370	405	502	–
1200	1440	520	457	512	620	–
1400	1670	590	646	702	867	–
1500	1785	625	763	851	–	–
1600	1900	660	906	995	1192	–

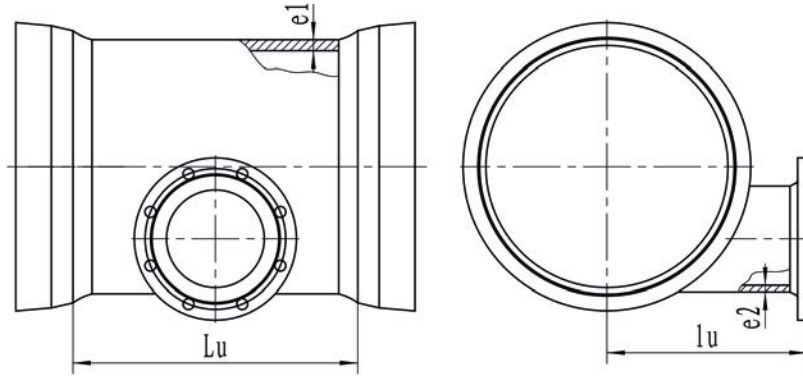


DOUBLE FLANGED FLAT TAPER

Nominal size and weight of double flanged flat taper

DN×dn/mm	e1/mm	e2/mm	L	weight (Kg)			
				PN10	PN16	PN25	PN40
100×80	7.2	7	200	9.5	9.5	9.8	10
150×80	7.8	7	400	15.2	15.2	16.2	18
150×100	7.8	7.2	300	15.5	15.5	17	19
200×100	8.4	7.2	600	29.5	28	30.8	36
200×150	8.4	7.8	300	22	21.5	25	33
250×150	9	7.8	600	43	42.5	46.7	60
250×200	9	8.4	300	30	29.5	35.5	52
300×150	9.6	7.8	650	56	55	62	80
300×200	9.6	8.4	600	58.5	57	65	87
300×250	9.6	9	300	40.5	39.5	49.5	76
350×200	10.2	8.4	650	60.5	63.5	74	102
350×250	10.2	9	600	67	70	82.5	115
350×300	10.2	9.6	300	49	52	66	104
400×200	10.8	8.4	700	74.5	73	86.5	127
400×250	10.8	9	650	77	83	98.5	144
400×300	10.8	9.6	600	82	90	107	158
400×350	10.2	10.2	300	58	67	86	143
450×250	11.4	9	700	82	87	103	142

DN×dn/mm	e1/mm	e2/mm	L	weight (Kg)			
				PN10	PN16	PN25	PN40
450×300	11.4	9.6	650	87	92	110	154
450×350	11.4	10.2	600	96	106	125	175
450×400	11.4	10.8	300	81	85	101	164
500×300	12	9.6	700	126	134	152	203
500×350	12	10.2	650	117	125	150	207
500×400	12	10.8	600	110	130	153	223
500×450	12	11.4	300	83	104	127	190
600×350	13.2	10.2	750	167	188	226	302
600×400	13.2	10.8	700	164	191	229	318
600×450	13.2	11.4	650	167	193	221	303
600×500	13.2	12	600	195	191	216	305
700×400	14.4	10.8	800	196	212	258	—
700×450	14.4	11.4	750	197	217	259	—
700×500	14.4	12	700	200	256	268	—
700×600	14.4	13.2	600	195	236	282	—
800×450	15.6	11.4	900	253	266	347	—
800×500	15.6	12	800	258	284	346	—
800×600	15.6	13.2	700	260	298	363	—
800×700	15.6	14.4	600	263	290	371	—
900×500	16.8	12	1000	338	370	443	—
900×600	16.8	13.2	800	318	360	436	—
900×700	16.8	14.4	700	321	352	444	—
900×800	16.8	15.6	600	308	352	462	—
1000×600	18	13.2	1000	422	490	583	—
1000×700	18	14.4	800	396	442	551	—
1000×800	18	15.6	700	399	448	575	—
1000×900	18	16.8	600	376	458	577	—
1200×700	20.4	14.4	1345	751	777	908	—
1200×800	20.4	15.6	1160	688	758	908	—
1200×900	20.4	16.8	975	852	726	887	—
1200×1000	20.4	18	790	586	692	879	—
1200×1100	20.4	19.2	605	586	655	850	—

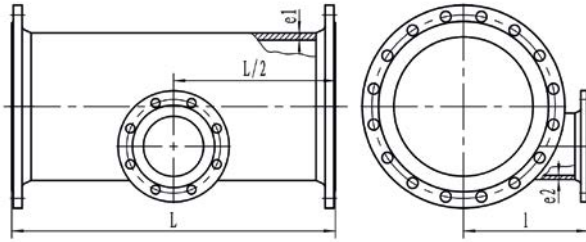


DOUBLE SOCKET LEVEL INVERT TEE WITH FLANGED BRANCH

Nominal size and weight of double socket level invert tee with flanged branch

DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)			
					PN10	PN16	PN25	PN40
200×80	9.8	8.1	175	235	33.2	33.2	33.2	33
200×100	9.8	8.4	200	240	36.5	36.5	37	37
200×150	9.8	9.1	255	250	44	44	45	47
250×80	10.5	8.1	180	265	45.7	45.7	46.3	46
250×100	10.5	8.4	200	270	47.5	47.5	49	49
250×150	10.5	9.1	260	280	62.6	62.6	63.5	66
250×200	10.5	9.8	315	290	65	65	67	73
300×80	11.2	8.1	180	295	57	57	57	57
300×100	11.2	8.4	205	300	59	59	60.5	61
300×150	11.2	9.1	260	310	74	74	75	77
300×200	11.2	9.8	320	320	80	79	82	88
350×80	11.9	8.1	185	325	70.2	70.2	70.2	70
350×100	11.9	8.4	205	330	73	73	73	73
350×150	11.9	9.1	260	340	91.5	91.5	92	94
350×200	11.9	9.8	325	350	96	96	98	104
400×100	12.6	8.4	210	360	89	89	89	89
400×150	12.6	9.1	270	370	101	101	102	104
400×200	12.6	9.8	325	380	115	114	116	122
400×250	12.6	10.5	385	390	134	133	138	149
450×100	13.3	8.4	215	390	114	114	114	114

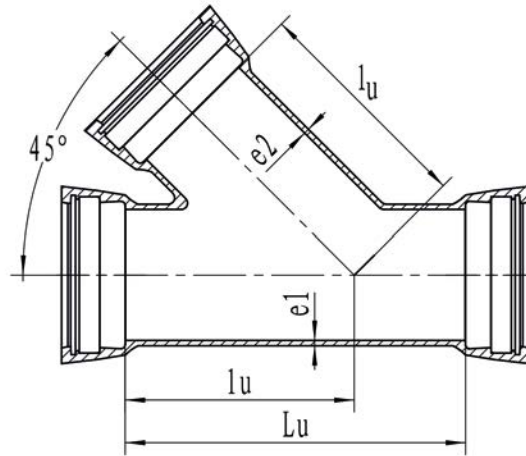
DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)			
					PN10	PN16	PN25	PN40
450×150	13.3	9.1	270	400	130	130	131	133
450×200	13.3	9.8	330	410	142	142	144	150
450×250	13.3	10.5	390	420	155	154	159	170
450×300	13.3	11.2	445	430	174	174	180	196
500×100	14	8.4	215	420	124	124	125	125
500×150	14	9.1	275	430	149	150	151	153
500×200	14	9.8	330	440	158	157	159	165
500×250	14	10.5	390	450	182	181	185	196
500×300	14	11.2	450	460	201	201	206	222
500×350	14	11.9	505	470	214	219	233	255
600×100	15.4	8.4	220	480	156	157	157	157
600×150	15.4	9.1	280	490	199	199	200	202
600×200	15.4	9.8	340	500	205	205	207	213
600×250	15.4	10.5	395	510	239	238	243	254
600×300	15.4	11.2	455	520	257	257	261	277
600×350	15.4	11.9	510	530	283	289	295	317
600×400	15.4	12.6	570	540	294	300	310	345
700×100	16.8	8.4	345	510	261	261	362	362
700×150	16.8	9.1	345	520	265	265	266	268
700×200	16.8	9.8	345	525	269	269	271	277
700×300	16.8	11.2	460	540	324	324	330	346
800×100	18.2	8.4	350	570	328	328	329	329
800×150	18.2	9.1	350	580	335	335	336	338
800×200	18.2	9.8	350	585	336	336	338	344
800×250	18.2	10.5	410	595	379	379	383	394
800×300	18.2	11.2	465	600	401	401	407	423
900×150	19.6	9.1	355	630	409	409	410	412
900×200	19.6	9.8	355	645	416	416	418	424
900×300	19.6	11.2	470	660	491	491	497	513
900×400	19.6	12.6	590	675	537	542	553	588
1000×100	21	8.4	360	690	451	451	451	451
1000×150	21	9.1	360	700	462	462	465	467
1000×200	21	9.8	360	705	514	514	516	522
1000×300	21	11.2	480	720	608	608	614	630
1200×200	23.8	9.8	375	825	751	751	753	759
1200×400	23.8	12.6	605	855	938	942	954	989
1400×200	26.6	9.8	565	920	1308	1308	1308	1314
1400×400	26.6	12.6	800	950	1493	1505	1515	1550
1400×600	26.6	15.4	1030	980	1626	1656	1626	1680



ALL FLANGED LEVEL INVERT TEE

Nominal size and weight of all flanged level invert tee

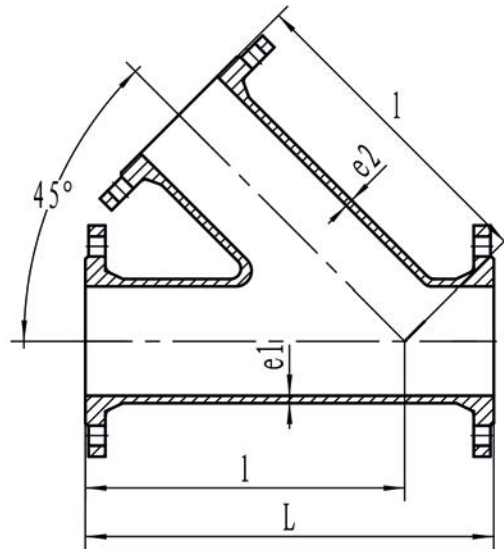
DN×dn/mm	e1/mm	e2/mm	L	l	weight (Kg)			
					PN10	PN16	PN25	PN40
100×80	7.2	7	360	195	19.5	19.5	20	20
150×80	7.8	7	440	220	29.5	29.5	32	36
200×80	8.4	7	520	250	43	42.5	47	58
200×100	8.4	7.2	520	250	44	43.5	48	60
250×80	9	7	700	275	66.8	66	74	95
250×100	9	7.2	700	275	69.3	68.5	77	98
300×80	9.6	7	800	305	92.8	92	104	136
300×100	9.6	7.2	800	305	96.3	95.5	108	140
300×150	9.6	7.8	800	305	99.8	99	112	146
350×80	10.2	7	850	340	115	121	138	182
350×100	10.2	7.2	850	340	117	123	141	185
350×150	10.2	7.8	850	340	122	128	146	193
400×80	10.8	7	900	365	142	153	177	246
400×100	10.8	7.2	900	365	145	156	180	249
400×150	10.8	7.8	900	365	151	162	187	258
400×200	10.8	8.4	900	365	156	167	193	268
450×80	11.4	7	950	380	171	188	212	268
450×100	11.4	7.2	950	380	172	189	213	269
450×150	11.4	7.8	950	380	180	197	222	280
450×200	11.4	8.4	950	380	185	202	228	289
500×80	12	7	1000	400	207	237	262	332
500×100	12	7.2	1000	400	210.6	241	266	336
500×150	12	7.8	1000	400	217.6	248	274	346
500×200	12	8.4	1000	400	224.6	255	282	357
600×80	13.2	7	1100	435	297	350	381	489
600×100	13.2	7.2	1100	435	298	351	382	491
600×150	13.2	7.8	1100	435	307	360	392	503
600×200	13.2	8.4	1100	435	220	245	278	392
700×150	14.4	7.8	600	500	232	267	342	132
700×200	14.4	8.4	650	500	240	276	352	145
800×150	15.6	7.8	670	540	313	360	464	178
800×200	15.6	8.4	690	540	325	371	476	193



ALL SOCKET TEE WITH 45° ANGLE BRANCH

Nominal size and weight of all socket tee with 45° angle branch

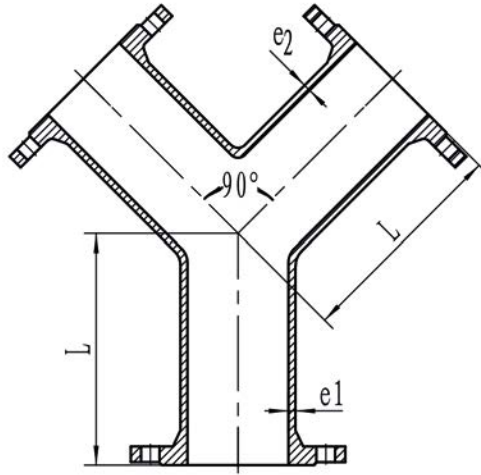
DN×dn/mm	e1/mm	e2/mm	Lu	lu	weight (Kg)
80×80	8.1	8.1	500	375	21
100×100	8.4	8.4	540	405	28
150×150	9.1	9.1	640	480	48
200×200	9.8	9.8	735	560	77
250×250	10.5	10.5	830	640	115
300×300	11.2	11.2	930	715	167
350×350	11.9	11.9	880	790	222
400×400	12.6	12.6	970	870	287
450×450	13.3	13.3	1060	950	359
500×500	14	14	1140	1025	457
600×600	15.4	15.4	1310	1180	652



ALL FLANGED INVERT TEE WITH 45° ANGLE BRANCH

Nominal size and weight of all flanged invert tee with 45° angle branch

DN×dn/mm	e1/mm	e2/mm	L	1	weight (Kg)			
					PN10	PN16	PN25	PN40
80×80	8.1	8.1	500	375	21	21	21	21
100×100	8.4	8.4	540	405	27	27	28.5	28.5
150×150	9.1	9.1	640	480	46.4	46.4	49.4	55.7
200×200	9.8	9.8	735	560	70.7	70.1	76.4	92.3
250×250	10.5	10.5	830	640	105.6	103.8	115.5	145.8
300×300	11.2	11.2	930	715	146.7	145.5	162.3	208.8
350×350	11.9	11.9	880	790	193.8	203.7	229.7	295.5
400×400	12.6	12.6	970	870	254.2	271.9	307.5	411.4
450×450	13.3	13.3	1060	950	323.0	355.6	391.2	475.1
500×500	14	14	1140	1025	407.9	456.6	493.4	598.5
600×600	15.4	15.4	1310	1180	589.5	673.6	719.5	882.6



ALL-FLANGED 'Y' TEES

Nominal size and weight of all-flanged 'Y' tees

DN×dn/mm	e1/mm	e2/mm	L	weight (Kg)			
				PN10	PN16	PN25	PN40
80×80	8.1	8.1	165	15.6	15.6	15.6	15.6
100×100	8.4	8.4	180	19.3	19.3	20.8	20.8
150×150	9.1	9.1	220	31.9	31.9	34.9	41.2
200×200	9.8	9.8	260	48.7	48.1	54.4	70.3
250×250	10.5	10.5	350	81.6	79.8	91.5	121.8
300×300	11.2	11.2	400	114.7	113.5	130.3	176.8
350×350	11.9	11.9	450	156.1	165.4	190.3	253.9
400×400	12.6	12.6	500	202.3	219.1	253	354.1
450×450	13.3	13.3	550	254.2	280	326.5	396.4
500×500	14	14	600	318.3	363.9	399	499.8
600×600	15.4	15.4	700	483.2	562.7	605.3	762.8

WALL THICKNESS

The wall thickness has been calculated as a function of the nominal size DN using the following formula, and the minimum wall thickness is 7mm:

$$e=K (0.5+0.001DN)$$

e — mm

DN — mm

K — 8, 9, 10, 11 or 12.

Where:

e — Nominal wall thickness, mm

DN — Nominal diameter, mm

K — The class of wall thickness, such as 8, 9, 10, 11 or 12.

The class of wall thickness for Ductile Iron Fittings should be mentioned and listed in the contract.

Allowed deviation of wall thickness for fittings is stipulated as following table:

e	Deviation mm
7	-2.3
>7	-(2.3+0.001DN)

DEVIATION

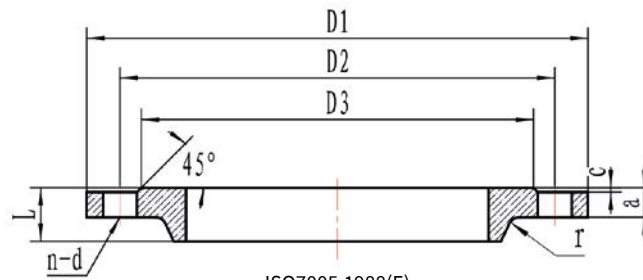
The length of fittings is normal length and its limitation deviation should be stipulated as following table:

Type of Fittings	Limit of Deviation mm
Socket-spigot straight pipe	±30
Socket Joint fittings	±20
Flanged joint fittings	±10

Casting deviation for flange should be stipulated as following:

DN	Deviation allowed for flange thickness	Deviation allowed for Bolt hole's axial lead	Deviation allowed for diameter of bolt holes
40 - 150	±(2+0.05A)	±1	+1 -0
200 - 1500		±1.5	+1.5 -0
1600 - 2600		±2	+2 -0

Note: A stands for flange thickness

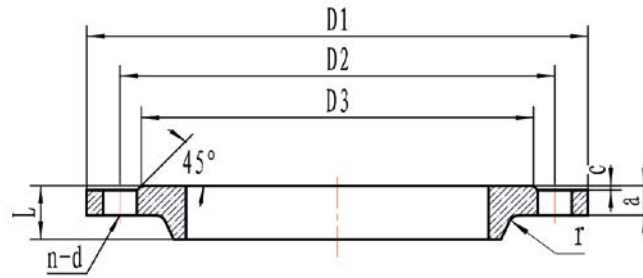


ISO7005:1988(E)

FLANGE

Dimensional tolerance of ISO7005:1988 (E)

Item	Scope	Tolerance	Item	Scope	Tolerance
D3	40~100	+4.5 -4	c	2	+1 -1
	125~300	+5.5 -4.5		3	+1.5 -2
	350~600	+6.5 -5		4	+2 -3
	700~1200	+8.5 -5.5		5	+2.5 -4
	1400~1600	+10 -6		6	+3 -5
b (b=a-c)	≤25	±4	d	<20	+0.5 0
	26~40	±4.5		>22	+1 0
	41~55	±5	Distance for adjacent holes	M10	±0.5
	56~70	±6		M12~M24	±0.75
	>71	±7		M27~M45	±1
D2	M10	±1		M52	±1.5
	M12~M24	±1.5		>M56	±1.75
	M27~M45	±2	Angle for flange level		
	M52	±3			
	>M56	±3.5			2°



FLANGE

Dimensional tolerance of EN1092-2-1997

Item	Scope	Tolerance	Item	Scope	Tolerance
D3	40~100	-4	c	--	1 Minimum 1
	125~300	-4.5	d	≤M33	+1.5 0
	350~600	-5		M36~ M39	+2 0
	700~1200	-5.5		M45~ M50	+2.5 0
	1400~1600	-6		>M52	0
b b=a-c	≤35	+4 -3	Distance for adjacent holes	M10	±1
	36~45	+4.5 -4		M12	±2
	46~60	+5 -4		M14~ M20	±3
	61~75	+6 -5		M24~ M33	±4
	>76	+7 -6		M36~ M52	±5
D2	M10	±1	Angle for flange level	>M52	±6
	M12~M24	±1.5		--	≤2°
	M27~M45	±2			
	M52	±3			
	>M56	±3.5			

Note:1) Tolerance for D2 accord to the standard of ISO7005:1988



Weight table per meter for double flanged pipe

DN	Unit Flange Weight (Kg)				Flange Length (mm)				Unit Weight of Straight Pipe (Kg/m)	Weight (Kg/m)			
	PN10	PN16	PN25	PN40	PN10	PN16	PN25	PN40		PN10	PN16	PN25	PN40
80	2.9	2.9	2.9	2.9	19	19	19	19	14.01	19.3	19.3	19.3	19.3
100	3.3	3.3	3.8	3.8	19	19	19	19	17.54	23.5	23.5	24.5	24.5
125	4	4	4.6	5.9	19	19	19	23.5	22.51	29.7	29.7	30.9	33.3
150	4.9	4.9	5.9	8	19	19	20	26	27.82	36.6	36.6	38.5	42.4
200	6.8	6.6	8.7	14	20	20	22	30	39.46	51	51	55	65
250	9.8	9.2	13.1	23.2	22	22	24.5	34.5	52.45	70	69	76	95
300	12.8	12.4	18	33.5	24.5	24.5	27.5	39.5	66.80	89	88	99	129
350	14.1	17.2	25.5	46.7	24.5	26.5	30	44	82.50	107	113	129	169
400	16.3	21.9	33.2	66.9	24.5	28	32	48	99.32	127	138	159	224
450	18.1	26.7	42.2	65.5	24.5	30	34.5	50	117.48	148	164	194	237
500	21.8	37	48.7	82.3	26.5	31.5	36.5	52	137.22	174	203	225	288
600	30.8	57.3	71.5	124	30	36	42	58	180.50	231	282	308	408
700	40.5	55.6	90.3	-	32.5	39.5	46.5	-	229.14	295	322	388	-
800	54.8	74	123	-	35	43	51	-	283.51	373	407	501	-
900	64.3	88.2	149	-	37.5	46.5	55.5	-	342.92	446	487	603	-
1000	81.4	123	201	-	40	50	60	-	407.72	538	613	761	-
1100	105	141	224	-	42.5	53.5	64.5	-	478.30	648	709	865	-
1200	121	185	285	-	45	57	69	-	553.87	746	861	1047	-
1400	148	216	368	-	46	60	74	-	721.61	951	1067	1351	-
1500	201	280	-	-	-	-	-	-	819.11	1143	1277	-	-
1600	206	308	486	-	49	65	81	-	914.01	1236	1411	1738	-

Weight table per meter for double flanged pipe

DN	Size L (mm)	Unit Flange Weight (Kg)				(mm) Unit Flange Length				Unit Weight of Straight pipe (Kg/m)	Total Weight (Kg)			
		PN10	PN16	PN25	PN40	PN10	PN16	PN25	PN40		PN10	PN16	PN25	PN40
80	100	2.9	2.9	2.9	2.9	19	19	19	19	14.01	6.7	6.7	6.7	6.7
	150	2.9	2.9	2.9	2.9	19	19	19	19	14.01	7.4	7.4	7.4	7.4
	200	2.9	2.9	2.9	2.9	19	19	19	19	14.01	8.1	8.1	8.1	8.1
	250	2.9	2.9	2.9	2.9	19	19	19	19	14.01	8.8	8.8	8.8	8.8
	300	2.9	2.9	2.9	2.9	19	19	19	19	14.01	9.5	9.5	9.5	9.5
	500	2.9	2.9	2.9	2.9	19	19	19	19	14.01	12.3	12.3	12.3	12.3
100	1000	2.9	2.9	2.9	2.9	19	19	19	19	14.01	19.3	19.3	19.3	19.3
	100	3.3	3.3	3.8	3.8	19	19	19	19	17.54	7.7	7.7	8.7	8.7
	150	3.3	3.3	3.8	3.8	19	19	19	19	17.54	8.6	8.6	9.6	9.6
	200	3.3	3.3	3.8	3.8	19	19	19	19	17.54	9.4	9.4	10.4	10.4
	250	3.3	3.3	3.8	3.8	19	19	19	19	17.54	10.3	10.3	11.3	11.3
	300	3.3	3.3	3.8	3.8	19	19	19	19	17.54	11.2	11.2	12.2	12.2
125	500	3.3	3.3	3.8	3.8	19	19	19	19	17.54	14.7	14.7	15.7	15.7
	1000	3.3	3.3	3.8	3.8	19	19	19	19	17.54	23.5	23.5	24.5	24.5
	100	4	4	4.6	5.9	19	19	19	23.5	22.51	9.4	9.4	10.6	13.0
	150	4	4	4.6	5.9	19	19	19	23.5	22.51	10.5	10.5	11.7	14.1
	200	4	4	4.6	5.9	19	19	19	23.5	22.51	11.6	11.6	12.8	15.2
	250	4	4	4.6	5.9	19	19	19	23.5	22.51	12.8	12.8	14.0	16.4
300	300	4	4	4.6	5.9	19	19	19	23.5	22.51	13.9	13.9	15.1	17.5
	500	4	4	4.6	5.9	19	19	19	23.5	22.51	18.4	18.4	19.6	22.0

	1000	4	4	4	4.6	5.9	19	19	19	19	23.5	22.51	29.7	29.7	30.9	33.3
150	100	4.9	4.9	4.9	5.9	8	19	19	19	20	26	27.82	11.5	11.5	13.5	17.3
	150	4.9	4.9	4.9	5.9	8	19	19	19	20	26	27.82	12.9	12.9	14.9	18.7
	200	4.9	4.9	4.9	5.9	8	19	19	19	20	26	27.82	14.3	14.3	16.3	20.1
	250	4.9	4.9	4.9	5.9	8	19	19	19	20	26	27.82	15.7	15.7	17.6	21.5
	300	4.9	4.9	4.9	5.9	8	19	19	19	20	26	27.82	17.1	17.1	19.0	22.9
	500	4.9	4.9	4.9	5.9	8	19	19	19	20	26	27.82	22.7	22.7	24.6	28.5
200	1000	4.9	4.9	4.9	5.9	8	19	19	19	20	26	27.82	36.6	36.6	38.5	42.4
	100	6.8	6.6	6.6	8.7	14	20	20	20	22	30	39.46	16.0	15.6	19.6	29.6
	150	6.8	6.6	6.6	8.7	14	20	20	20	22	30	39.46	17.9	17.5	21.6	31.6
	200	6.8	6.6	6.6	8.7	14	20	20	20	22	30	39.46	19.9	19.5	23.6	33.5
	250	6.8	6.6	6.6	8.7	14	20	20	20	22	30	39.46	21.9	21.5	25.5	35.5
	300	6.8	6.6	6.6	8.7	14	20	20	20	22	30	39.46	23.9	23.5	27.5	37.5
250	500	6.8	6.6	6.6	8.7	14	20	20	20	22	30	39.46	31.8	31.4	35.4	45.4
	1000	6.8	6.6	6.6	8.7	14	20	20	20	22	30	39.46	51.5	51.1	55.1	65.1
	100	9.8	9.2	9.2	13.1	23.2	22	22	22	24.5	34.5	52.45	22.5	21.3	28.9	48.0
	150	9.8	9.2	9.2	13.1	23.2	22	22	22	24.5	34.5	52.45	25.2	24.0	31.5	50.6
	200	9.8	9.2	9.2	13.1	23.2	22	22	22	24.5	34.5	52.45	27.8	26.6	34.1	53.3
	250	9.8	9.2	9.2	13.1	23.2	22	22	22	24.5	34.5	52.45	30.4	29.2	36.7	55.9
300	300	9.8	9.2	9.2	13.1	23.2	22	22	22	24.5	34.5	52.45	33.0	31.8	39.4	58.5
	500	9.8	9.2	9.2	13.1	23.2	22	22	22	24.5	34.5	52.45	43.5	42.3	49.9	69.0
	1000	9.8	9.2	9.2	13.1	23.2	22	22	22	24.5	34.5	52.45	69.7	68.5	76.1	95.2
	100	12.8	12.4	12.4	18	33.5	24.5	24.5	24.5	27.5	39.5	66.80	29.0	28.2	39.0	68.4
	150	12.8	12.4	12.4	18	33.5	24.5	24.5	24.5	27.5	39.5	66.80	32.3	31.5	42.3	71.7
	200	12.8	12.4	12.4	18	33.5	24.5	24.5	24.5	27.5	39.5	66.80	35.7	34.9	45.7	75.1
	250	12.8	12.4	12.4	18	33.5	24.5	24.5	24.5	27.5	39.5	66.80	39.0	38.2	49.0	78.4



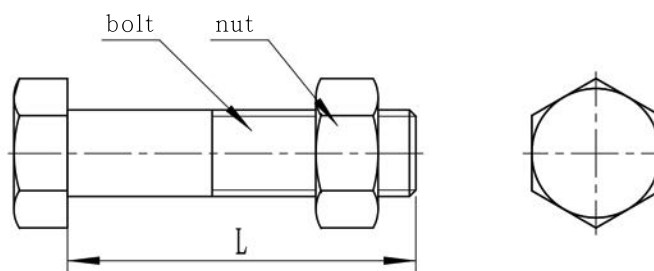
	300	12.8	12.4	18	33.5	24.5	24.5	27.5	39.5	66.80	42.4	41.6	52.4	81.8
	500	12.8	12.4	18	33.5	24.5	24.5	27.5	39.5	66.80	55.7	54.9	65.7	95.1
	1000	12.8	12.4	18	33.5	24.5	24.5	27.5	39.5	66.80	89.1	88.3	99.1	128.5
350	100	14.1	17.2	25.5	46.7	26.5	24.5	30	44	82.50	32.4	38.3	54.3	94.4
	150	14.1	17.2	25.5	46.7	26.5	24.5	30	44	82.50	36.5	42.4	58.4	98.5
	200	14.1	17.2	25.5	46.7	26.5	24.5	30	44	82.50	40.7	46.5	62.6	102.6
	250	14.1	17.2	25.5	46.7	26.5	24.5	30	44	82.50	44.8	50.7	66.7	106.8
	300	14.1	17.2	25.5	46.7	26.5	24.5	30	44	82.50	48.9	54.8	70.8	110.9
	500	14.1	17.2	25.5	46.7	26.5	24.5	30	44	82.50	65.4	71.3	87.3	127.4
	1000	14.1	17.2	25.5	46.7	26.5	24.5	30	44	82.50	106.7	112.5	128.6	168.6
	100	16.3	21.9	33.2	66.9	28	24.5	32	48	99.32	37.7	48.2	70.0	134.2
	150	16.3	21.9	33.2	66.9	28	24.5	32	48	99.32	42.6	53.1	74.9	139.2
	200	16.3	21.9	33.2	66.9	28	24.5	32	48	99.32	47.6	58.1	79.9	144.1
400	250	16.3	21.9	33.2	66.9	28	24.5	32	48	99.32	52.6	63.1	84.9	149.1
	300	16.3	21.9	33.2	66.9	28	24.5	32	48	99.32	57.5	68.0	89.8	154.1
	500	16.3	21.9	33.2	66.9	28	24.5	32	48	99.32	77.4	87.9	109.7	173.9
	1000	16.3	21.9	33.2	66.9	28	24.5	32	48	99.32	127.1	137.6	159.4	223.6
	100	18.1	26.7	42.2	65.5	30	24.5	34.5	50	117.48	42.2	58.1	88.0	131.0
	150	18.1	26.7	42.2	65.5	30	24.5	34.5	50	117.48	48.1	64.0	93.9	136.9
450	200	18.1	26.7	42.2	65.5	30	24.5	34.5	50	117.48	53.9	69.8	99.8	142.7
	250	18.1	26.7	42.2	65.5	30	24.5	34.5	50	117.48	59.8	75.7	105.7	148.6
	300	18.1	26.7	42.2	65.5	30	24.5	34.5	50	117.48	65.7	81.6	111.5	154.5
	500	18.1	26.7	42.2	65.5	30	24.5	34.5	50	117.48	89.2	105.1	135.0	178.0
	1000	18.1	26.7	42.2	65.5	30	24.5	34.5	50	117.48	147.9	163.8	193.8	236.7
	100	21.8	37	48.7	82.3	31.5	26.5	36.5	52	137.22	50.0	79.1	101.1	164.1
500	150	21.8	37	48.7	82.3	31.5	26.5	36.5	52	137.22	56.9	85.9	108.0	170.9



	200	21.8	37	48.7	82.3	26.5	31.5	36.5	52	137.22	63.8	92.8	114.8	177.8
	250	21.8	37	48.7	82.3	26.5	31.5	36.5	52	137.22	70.6	99.7	121.7	184.6
	300	21.8	37	48.7	82.3	26.5	31.5	36.5	52	137.22	77.5	106.5	128.6	191.5
	500	21.8	37	48.7	82.3	26.5	31.5	36.5	52	137.22	104.9	134.0	156.0	218.9
	1000	21.8	37	48.7	82.3	26.5	31.5	36.5	52	137.22	173.6	202.6	224.6	287.6
600	100	30.8	57.3	71.5	124	30	36	42	58	180.50	68.8	119.7	145.9	245.1
	150	30.8	57.3	71.5	124	30	36	42	58	180.50	77.8	128.7	154.9	254.1
	200	30.8	57.3	71.5	124	30	36	42	58	180.50	86.9	137.7	163.9	263.2
	250	30.8	57.3	71.5	124	30	36	42	58	180.50	95.9	146.7	173.0	272.2
	300	30.8	57.3	71.5	124	30	36	42	58	180.50	104.9	155.8	182.0	281.2
	500	30.8	57.3	71.5	124	30	36	42	58	180.50	141.0	191.9	218.1	317.3
	1000	30.8	57.3	71.5	124	30	36	42	58	180.50	231.3	282.1	308.3	407.6
700	100	40.5	55.6	90.3	-	32.5	39.5	46.5	-	229.14	89	116	182	-
	150	40.5	55.6	90.3	-	32.5	39.5	46.5	-	229.14	100	127	194	-
	200	40.5	55.6	90.3	-	32.5	39.5	46.5	-	229.14	112	139	205	-
	250	40.5	55.6	90.3	-	32.5	39.5	46.5	-	229.14	123	150	217	-
	300	40.5	55.6	90.3	-	32.5	39.5	46.5	-	229.14	135	162	228	-
	500	40.5	55.6	90.3	-	32.5	39.5	46.5	-	229.14	181	208	274	-
	1000	40.5	55.6	90.3	-	32.5	39.5	46.5	-	229.14	295	322	388	-
800	100	54.8	74	123	-	35	43	51	-	283.51	118	152	245	-
	150	54.8	74	123	-	35	43	51	-	283.51	132	166	260	-
	200	54.8	74	123	-	35	43	51	-	283.51	146	180	274	-
	250	54.8	74	123	-	35	43	51	-	283.51	161	194	288	-
	300	54.8	74	123	-	35	43	51	-	283.51	175	209	302	-
	500	54.8	74	123	-	35	43	51	-	283.51	232	265	359	-
	1000	54.8	74	123	-	35	43	51	-	283.51	373	407	501	-

900	100	64.3	88.2	149	-	37.5	46.5	55.5	-	342.92	137	179	294	-
	150	64.3	88.2	149	-	37.5	46.5	55.5	-	342.92	154	196	311	-
	200	64.3	88.2	149	-	37.5	46.5	55.5	-	342.92	171	213	329	-
	250	64.3	88.2	149	-	37.5	46.5	55.5	-	342.92	189	230	346	-
	300	64.3	88.2	149	-	37.5	46.5	55.5	-	342.92	206	247	363	-
	500	64.3	88.2	149	-	37.5	46.5	55.5	-	342.92	274	316	431	-
	1000	64.3	88.2	149	-	37.5	46.5	55.5	-	342.92	446	487	603	-
1000	100	81.4	123	201	-	40	50	60	-	407.72	171	246	394	-
	150	81.4	123	201	-	40	50	60	-	407.72	191	266	414	-
	200	81.4	123	201	-	40	50	60	-	407.72	212	287	435	-
	250	81.4	123	201	-	40	50	60	-	407.72	232	307	455	-
	300	81.4	123	201	-	40	50	60	-	407.72	252	328	475	-
	500	81.4	123	201	-	40	50	60	-	407.72	334	409	557	-
	1000	81.4	123	201	-	40	50	60	-	407.72	538	613	761	-
1100	100	105	141	224	-	42.5	53.5	64.5	-	478.30	217	279	434	-
	150	105	141	224	-	42.5	53.5	64.5	-	478.30	241	303	458	-
	200	105	141	224	-	42.5	53.5	64.5	-	478.30	265	326	482	-
	250	105	141	224	-	42.5	53.5	64.5	-	478.30	289	350	506	-
	300	105	141	224	-	42.5	53.5	64.5	-	478.30	313	374	530	-
	500	105	141	224	-	42.5	53.5	64.5	-	478.30	408	470	625	-
	1000	105	141	224	-	42.5	53.5	64.5	-	478.30	648	709	865	-
1200	100	121	185	285	-	45	57	69	-	553.87	248	362	549	-
	150	121	185	285	-	45	57	69	-	553.87	275	390	577	-
	200	121	185	285	-	45	57	69	-	553.87	303	418	604	-
	250	121	185	285	-	45	57	69	-	553.87	331	445	632	-
	300	121	185	285	-	45	57	69	-	553.87	358	473	660	-

	500	121	185	285	-	45	57	69	-	553.87	469	584	770	-
	1000	121	185	285	-	45	57	69	-	553.87	746	861	1047	-
	100	148	216	368	-	46	60	74	-	721.61	302	418	701	-
	150	148	216	368	-	46	60	74	-	721.61	338	454	737	-
	200	148	216	368	-	46	60	74	-	721.61	374	490	774	-
	250	148	216	368	-	46	60	74	-	721.61	410	526	810	-
	300	148	216	368	-	46	60	74	-	721.61	446	562	846	-
	500	148	216	368	-	46	60	74	-	721.61	590	706	990	-
	1000	148	216	368	-	46	60	74	-	721.61	951	1067	1351	-
	100	201	280	-	-	47.5	62.5	-	-	819.11	406	540	-	-
	150	201	280	-	-	47.5	62.5	-	-	819.11	447	580	-	-
	200	201	280	-	-	47.5	62.5	-	-	819.11	488	621	-	-
	250	201	280	-	-	47.5	62.5	-	-	819.11	529	662	-	-
	300	201	280	-	-	47.5	62.5	-	-	819.11	570	703	-	-
	500	201	280	-	-	47.5	62.5	-	-	819.11	734	867	-	-
	1000	201	280	-	-	47.5	62.5	-	-	819.11	1143	1277	-	-
	100	206	308	486	-	49	65	81	-	914.01	414	589	915	-
	150	206	308	486	-	49	65	81	-	914.01	460	634	961	-
	200	206	308	486	-	49	65	81	-	914.01	505	680	1007	-
	250	206	308	486	-	49	65	81	-	914.01	551	726	1052	-
	300	206	308	486	-	49	65	81	-	914.01	597	771	1098	-
	500	206	308	486	-	49	65	81	-	914.01	779	954	1281	-
	1000	206	308	486	-	49	65	81	-	914.01	1236	1411	1738	-



BOLTS AND NUTS

Matched number and size of bolts and nuts

DN/mm	PN10		PN16		PN25		PN40	
	Number	Size	Number	Size	Number	Size	Number	Size
80	8	M16×65	8	M16×65	8	M16×70	8	M16×70
100	8	M16×65	8	M16×65	8	M20×70	8	M20×85
150	8	M20×70	8	M20×70	8	M24×80	8	M24×90
200	8	M20×70	12	M20×70	12	M24×85	12	M27×100
250	12	M20×75	12	M24×85	12	M27×100	12	M30×120
300	12	M20×80	12	M24×85	16	M27×100	16	M30×130
350	16	M20×80	16	M24×90	16	M30×110	16	M33×140
400	16	M24×85	16	M27×100	16	M33×120	16	M36×150
450	20	M24×85	20	M27×100	20	M33×120	20	M36×160
500	20	M24×90	20	M30×110	20	M33×130	20	M39×170
600	20	M27×100	20	M33×120	20	M36×140	20	M45×180
700	24	M27×110	24	M33×130	24	M39×160		
800	24	M30×110	24	M36×140	24	M45×180		
900	28	M30×120	28	M36×140	28	M45×180		
1000	28	M33×130	28	M39×160	28	M52×200		
1100	32	M33×130	32	M39×160	32	M52×200		
1200	32	M36×140	32	M45×180	32	M52×210		
1400	36	M39×150	36	M45×180	36	M52×230		
1600	40	M45×160	40	M52×200	40	M56×240		

C ISO4016

C ISO 4043

ISO4633

C ISO709

Reference Standards:

Hexagon bolt Product of Class C ISO4016

Hexagon nut Product of Class C ISO4043

Rubber seal ring Seal ring for pipelines of drinking water and sewerage ISO4633

Flat washer Standard series. Product of Class C