



**INTERNATIONAL CO.  
FOR METALS MELTING**



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INTERNATIONAL CO.  
FOR METALS MELTING



# A GLIMPSE OF THE COMPANY

The International Company for Metal Smelting is a specialized company in the manufacture of all supplies for drinking water and sanitation networks, as it has more than 20 years of experience in this field.

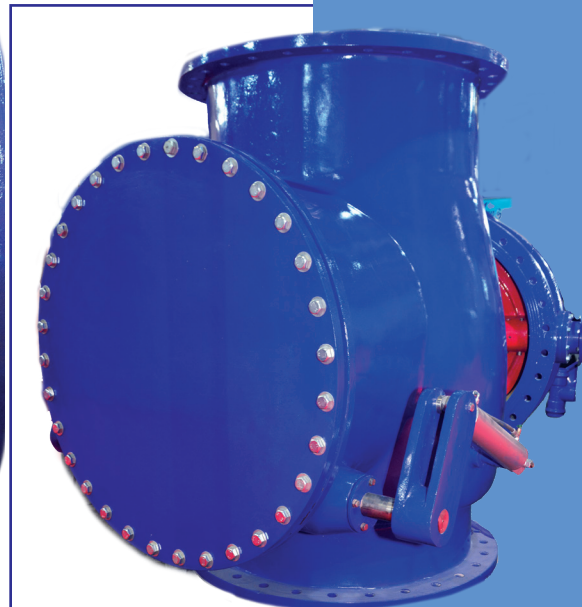
The International Company for Metal Melting is considered one of the leading companies in the field of metal casting, especially castings of soft and gray cast iron, in the Arab Republic of Egypt.

The company produces all pieces by casting method, with diameters ranging from 80 mm to 2200 mm, and the valves starting from 65 mm to 1800 mm, according to international standards ISO 2531 and Egyptian specifications 1300/2008.

During the past years, the International Company for Metal Smelting has supplied its products with the highest levels of quality in accordance with the standard specifications of the Egyptian market.

Cast iron castings range from 0.5 kg to 14 tons, where melting is done in electric induction furnaces. The company also produces gray cast iron that is heat and corrosion resistant.







## Wall Thickness

The minimum wall thickness for fittings,  $e_{min}$ , shall be not less than 4.7 mm and shall be determined using the following equation:

$$e_{min} = (PFA \times SF \times DE) / (20 Rm + (PFA \times SF))$$

where,

$e_{min}$  is the minimum pipe wall thickness, in millimeters;

PFA is the allowable operating pressure, in bar;

SF is the safety factor for PFA (= 3);

DE is the nominal pipe external diameter, in millimeters;

Rm is the minimum tensile strength of ductile iron, in megapascals (Rm = 420 MPa).

The nominal thickness  $e_{nom}$  shall be calculated using the following equation:

$$(e_{nom} = e_{min} + (2.3 + 0.001 DN))$$

The results of the nominal & minimum wall thickness were obtained in the following table:

DN	65	80	100	125	150	200	250	300	350	400	450	500	600	700
$e_{nom}$	7	7	7.2	7.5	7.8	8.4	9	9.6	10.2	10.8	11.4	12	13.2	14.4
e	4.7	4.7	4.8	5.1	5.4	5.9	6.5	7	7.6	8.1	8.7	9.2	10.3	11.4

DN	800	900	1000	1100	1200	1400	1500	1600	1800	2000	2200	2400	2600
$e_{nom}$	15.6	16.8	18	19.2	20.8	22.8	24	25.2	27.5	30	32.4	34.8	37.2
e	12.5	13.6	14.7	15.8	17.3	19.1	20.2	21.3	23.4	25.7	27.9	30.1	32.3

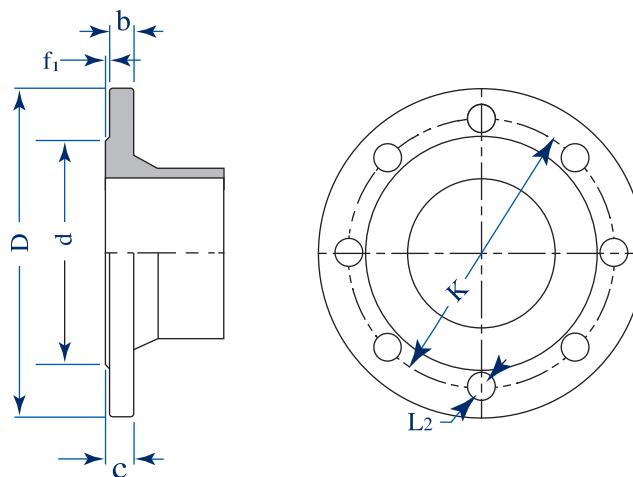
**Note:** The mentioned wall thicknesses are almost equivalent to K-12 Series in previous version of ISO2531



## Connection Types

### Flanged End PN10

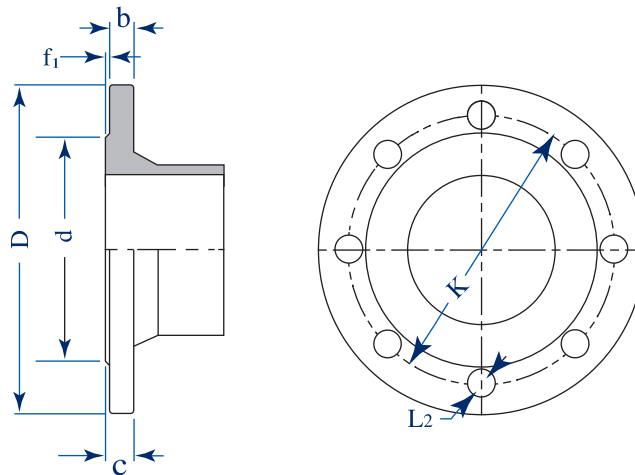
In accordance with ISO7005-2:1988 & EN1092-2:1997, IR produces Flanged Ends Fittings & Pipes with the following dimensions.



DN	D	d	C	b	f1	K	Bolt Holes		Bolt	
							NO	L2	Diameter	Length
65	185	118	19	16	3	145	4	19	M16	65
80	200	132	19	16	3	160	8	19	M16	65
100	220	156	19	16	3	180	8	19	M16	65
125	250	184	19	16	3	210	8	19	M16	70
150	285	211	19	16	3	240	8	23	M20	70
200	340	266	20	17	3	295	8	23	M20	80
250	400	319	22	19	3	350	12	23	M20	85
300	455	370	24.5	20.5	4	400	12	23	M20	85
350	505	429	24.5	20.5	4	460	16	23	M20	85
400	565	480	24.5	20.5	4	515	16	28	M24	100
450	615	527	25.5	21.5	4	565	20	28	M24	100
500	670	582	26.5	22.5	4	620	20	28	M24	110
600	780	682	30	25	5	725	20	31	M27	120
700	895	794	32.5	27.5	5	840	24	31	M27	130
800	1015	901	35	30	5	950	24	34	M30	140
900	1115	1001	37.5	32.5	5	1050	28	34	M30	140
1000	1230	1112	40	35	5	1160	28	37	M33	160
1100	1340	1215	42.5	37.5	5	1270	32	37	M33	160
1200	1455	1328	45	40	5	1380	32	40	M36	160
1400	1675	1530	46	41	5	1590	36	43	M39	180
1500	1785	1640	47.5	42.5	5	1700	36	43	M39	180
1600	1915	1750	49	44	5	1820	40	49	M45	200
1800	2115	1950	52	47	5	2020	44	49	M45	200
2000	2325	2150	56	50	5	2230	48	49	M45	280
2200	2550	2370	59	53	6	2440	52	56	M52	300
2400	2750	2570	62	56	6	2650	56	56	M52	320
2600	2960	2780	65	59	6	2850	60	56	M52	340

## Connection Types

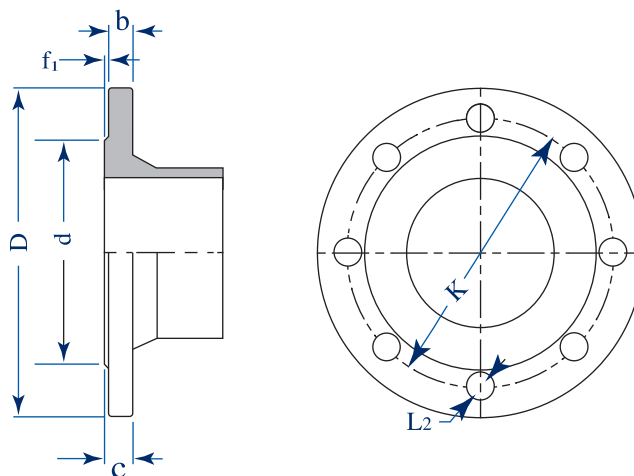
### Flanged End PN16



DN	D	d	C	b	f1	K	Bolt Holes		Bolt	
							NO	L2	Diameter	Length
65	185	118	19	16	3	145	4	19	M16	65
80	200	132	19	16	3	160	8	19	M16	65
100	220	156	19	16	3	180	8	19	M16	65
125	250	184	19	16	3	210	8	19	M16	70
150	285	211	19	16	3	240	8	23	M20	70
200	340	266	20	17	3	295	12	23	M20	80
250	400	319	22	19	3	355	12	28	M24	85
300	455	370	24.5	20.5	4	410	12	28	M24	85
350	520	429	26.5	22.5	4	470	16	28	M24	85
400	580	480	28	24	4	525	16	31	M27	100
450	640	544	30	26	4	585	20	31	M27	100
500	715	609	31.5	27.5	4	650	20	34	M30	110
600	840	720	36	31	5	770	20	37	M33	120
700	910	794	39.5	34.5	5	840	24	37	M33	130
800	1025	901	43	38	5	950	24	40	M36	140
900	1125	1001	46.5	41.5	5	1050	28	40	M36	140
1000	1255	1112	50	45	5	1170	28	43	M39	160
1100	1355	1215	53.5	48.5	5	1270	32	43	M39	160
1200	1485	1328	57	52	5	1390	32	49	M45	160
1400	1685	1530	60	55	5	1590	36	49	M45	180
1500	1820	1640	62.5	57.5	5	1710	36	56	M52	180
1600	1930	1750	65	60	5	1820	40	56	M52	200
1800	2130	1950	70	65	5	2020	44	56	M52	200
2000	2345	2150	75	70	5	2230	48	62	M56	280
2200	2555	2370	80	74	6	2440	52	62	M56	300
2400	2765	2570	86	80	6	2650	56	62	M56	320
2500	2870	-	86	-	-	2715	60	62	M56	320
2600	2965	2780	91	85	6	2850	60	62	M56	340

## Connection Types

### Flanged End PN 25



DN	D	d	C	b	f1	K	Bolt Holes		Bolt	
							NO	L2	Diame-ter	Length
65	185	118	19	16	3	145	8	19	M16	65
80	200	132	19	16	3	160	8	19	M16	65
100	235	156	19	16	3	190	8	23	M20	65
125	270	184	19	16	3	220	8	28	M24	65
150	300	211	20	17	3	250	8	28	M24	70
200	360	274	22	19	3	310	12	28	M24	80
250	425	330	24.5	21.5	3	370	12	31	M27	90
300	485	389	27.5	23.5	4	430	16	31	M27	
350	555	448	30	26	4	490	16	34	M30	
400	620	503	32	28	4	550	16	37	M33	
450	670	548	34.5	30.5	4	600	20	37	M33	
500	730	609	36.5	32.5	4	660	20	37	M33	
600	845	720	42	37	5	770	20	40	M36	
700	960	820	46.5	41.5	5	875	24	43	M39	
800	1085	928	51	46	5	990	24	49	M45	
900	1185	1028	55.5	50.5	5	1090	28	49	M45	
1000	1320	1140	60	55	5	1210	28	56	M52	
1200	1530	1350	69	64	5	1420	32	56	M52	
1400	1755	1560	74	69	5	1640	36	62	M56	
1600	1975	1780	81	76	5	1860	40	62	M56	
1800	2195	1985	88	83	5	2070	44	70	M64	
2000	2425	2210	95	90	5	2300	48	70	M64	

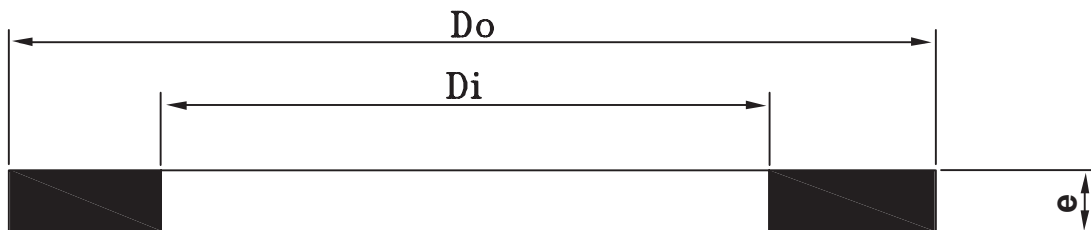




## Connection Types

### 1 Flanged End

#### Flat Gasket Dimensions

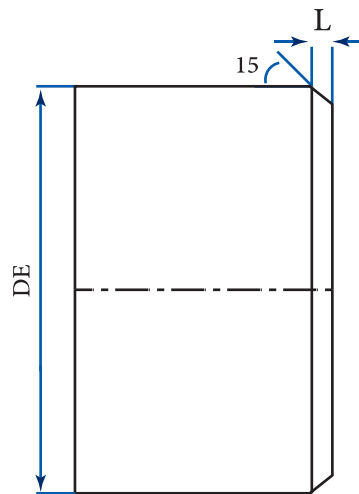


DN	Di	Do	e
65	70	118	3
80	85	133	3
100	105	155	3
125	130	184	3
150	155	210	3
200	205	265	3
250	255	320	3
300	305	365	3
350	355	430	4
400	410	480	4
450	460	544	4
500	510	609	4
600	610	720	4
700	710	790	5

DN	Di	Do	e
800	810	900	5
900	910	1000	5
1000	1010	1110	5
1100	1110	1215	5
1200	1210	1330	5
1400	1410	1530	5
1500	1510	1640	5
1600	1610	1750	5
1800	1810	1950	5
2000	2010	2150	5
2200	2210	2370	6
2400	2410	2570	6
2500	2510	-----	6
2600	2610	2780	6

## Connection Types

### 2 Ductile Iron Spigot End



DN	External Diameter DE	Tolerance Spigot External Diameter	Max. Permissible ovality	L	
				Min.	Max.
65	82	+1 / -2.7	0.82	10	14
80	98	+1 / -2.7	0.98	10	14
100	118	+1 / -2.8	1.18	10	14
125	144	+1 / -2.8	1.44	10	14
150	170	+1 / -2.8	1.7	10	14
200	222	+1 / -3	2.22	10	14
250	274	+1 / -3	2.74	10	14
300	326	+1 / -3.3	3.26	10	14
350	378	+1 / -3.4	3.78	10	14
400	429	+1 / -3.5	4.29	12	16
450	480	+1 / -3.6	4.8	12	16
500	532	+1 / -3.8	5.32	14	18
600	635	+1 / -4	6.35	14	18
700	738	+1 / -4.2	14.76	16	20
800	842	+1 / -4.5	16.84	16	20
900	945	+1 / -4.8	18.9	18	22
1000	1048	+1 / -5	20.96	20	24
1100	1152	+1 / -5.2	23.04	22	26
1200	1255	+1 / -5.5	25.1	24	28
1400	1462	+1 / -6	29.24	28	32
1500	1565	+1 / -6	31.3	30	34
1600	1668	+1 / -6.5	33.36	32	36
1800	1875	+1 / -7	37.5	34	38
2000	2082	+1 / -7.5	41.64	36	40
2200	2288	+1 / -7.5	45.76	38	42
2400	2495	+1 / -7.5	49.9	40	44
2600	2702	+1 / -7.5	54.04	42	46



## Permissible deviation for the lengths of fittings

### Permissible deviations for fittings' lengths

As given in the international standards ISO 2531:2009 & EN545:2010, the permissible deviation for the length of fittings is shown in the following table:

Permissible deviation on length of fittings Dimensions in millimeters		
Dimensions in millimeters	DN	Deviation
Flanged Sockets	300 to 1200	±25
	1400 to 2600	±35
Flanged Spigots	100 to 1200	±25
	1400 to 2600	±35
Collars, Reducers	100 to 1200	±25
	1400 to 2600	±35
Tees	80 to 1200	+50/-25
	1400 to 2600	+75/-35
Bends 90°	80 to 2600	±(15+0.03 X DN)
Bends 45°	80 to 2600	±(15+0.025 X DN)
Bends 11¼° and 22½°	80 to 1200	±(15+0.02 X DN)
	1400 to 2600	±(15+0.025 X DN)

### Tolerances for lengths:

As per given in the international standards ISO2531:2009 & EN545:2010 the tolerances for the lengths of pipes & fittings are given in the following table

Tolerance on length Dimensions in millimeters	
Type of Casting	Tolerance
Socket & spigot pipes	-30 / +70
Fittings for socketed joints	±20
Pipes & fittings for flanged joints	±10*

\*By agreement between manufacturer & purchaser, smaller tolerances are possible, but not less than ± 3 mm for DN ≤ 600 and ± 4 mm for DN ≥ 600 as specified in ISO 2531 & EN 545

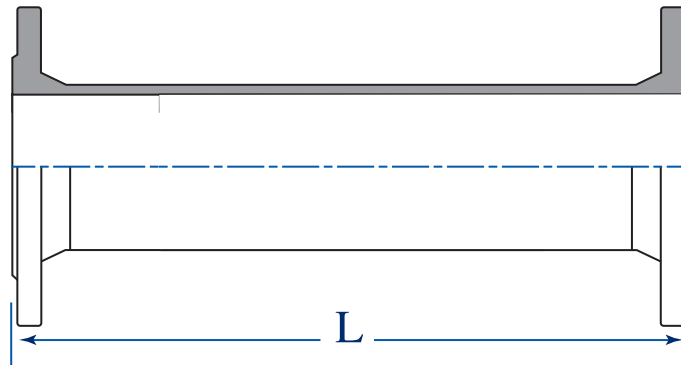
# Flanged Fittings





# Flanged Fittings

## Double Flanged Pipe

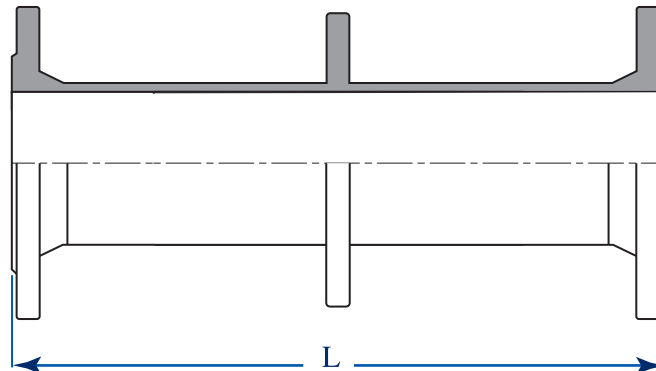


DN	PN10 DF Pipe Mass (Kg) for L					
	500	1000	1500	2000	2500	3000
80	14	X	X	X	X	X
100	17	27	X	X	X	X
150	26	42	X	X	X	X
200	37	60	100	X	X	X
250	50	81	113	X	X	X
300	65	104	143	X	X	X
350	77	125	174	222	X	X
400	91	149	208	266	X	X
450	110	178	247	316	X	X
500	125	204	284	364	444	524
600	168	273	379	484	590	695
700	216	349	483	616	750	883
800	276	442	608	774	940	1106
900	330	530	730	930	1130	1330
1000	402	641	881	1120	1360	1599
1100	506	786	1066	1346	1626	1906
1200	567	891	1216	1540	1865	2189
1400	719	1141	1564	1986	2409	2831
1500	881	1357	1834	2310	2787	3263
1600	946	1480	2014	2548	3082	3616
1800	1130	1787	2445	3102	3760	4417
2000	1352	2146	2940	3734	4528	5322
2200	1634	2575	3517	4458	5340	6341
2400	1901	3005	4110	5214	6319	7423
2500	2027	3217	4409	5600	6791	7981
2600	2152	3429	4707	5984	7262	8539

DN	PN16 DF Pipe Mass (Kg) for L					
	500	1000	1500	2000	2500	3000
14	X	X	X	X	X	X
17	27	X	X	X	X	X
26	42	X	X	X	X	X
37	60	X	X	X	X	X
50	81	X	X	X	X	X
65	104	X	X	X	X	X
83	131	180	228	X	X	X
102	160	218	276	X	X	X
125	194	263	332	X	X	X
155	235	316	396	477	557	X
220	326	432	538	644	750	X
245	380	515	650	785	920	X
314	480	646	812	978	1144	X
377	578	779	980	1181	1382	X
484	724	964	1204	1444	1684	X
576	856	1136	1416	1696	1976	X
696	1019	1343	1666	1990	2313	X
854	1278	1702	2126	2550	2974	X
1057	1533	2010	2486	2963	3439	X
1150	1684	2218	2752	3286	3820	X
1382	2039	2697	3354	4012	4669	X
1658	2451	3245	4038	4832	5625	X
1967	2909	3852	4794	5737	6679	X
2306	3409	4513	5616	6720	7823	X
2464	3655	4546	6036	7227	8418	X
2622	3900	5178	6456	7734	9012	X

# Flanged Fittings

## Double Flanged Pipe with puddle



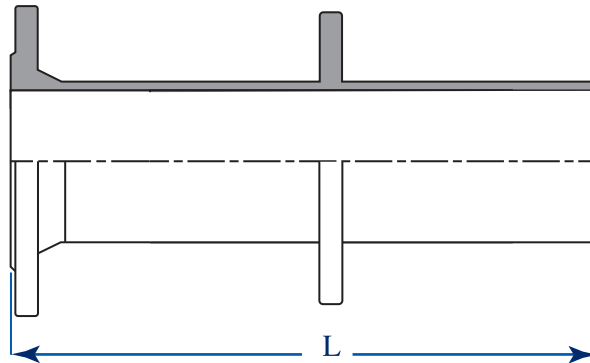
DN	PN10 Double flanged pipe with Puddle Mass (Kg) for L					
	500	1000	1500	2000	2500	3000
80	17	X	X	X	X	X
100	20	30	X	X	X	X
150	31	47	X	X	X	X
200	44	67	X	X	X	X
250	59	90	X	X	X	X
300	78	117	X	X	X	X
350	91	139	188	236	X	X
400	107	165	224	282	X	X
450	130	198	267	336	X	X
500	147	226	306	386	466	546
600	199	304	410	515	621	726
700	257	390	524	657	791	924
800	331	497	663	829	995	1161
900	395	595	795	995	1195	1395
1000	483	722	962	1201	1441	1680
1100	619	899	1179	1459	1739	2019
1200	688	1012	1337	1661	1986	2310
1400	867	1289	1712	2134	2557	2979
1500	1083	1559	2036	2512	2989	3465
1600	1152	1686	2220	2754	3288	3822
1800	1366	2023	2681	3338	3996	4653
2000	1631	2425	3219	4013	4807	5601
2200	1980	2921	3863	4804	5686	6687
2400	2299	3403	4508	5612	6717	7821
2500	2445	3635	4827	6018	7209	8399
2600	2589	3866	5144	6421	7699	8976

PN16 Double flanged pipe with Puddle Mass (Kg) for L						
500	1000	1500	2000	2500	3000	
17	X	X	X	X	X	X
20	30	X	X	X	X	X
31	47	110	X	X	X	X
44	67	X	X	X	X	X
59	90	X	X	X	X	X
78	117	X	X	X	X	X
100	148	197	245	X	X	X
124	182	240	298	X	X	X
153	222	291	360	X	X	X
192	272	353	433	514	594	X
277	383	489	595	701	807	X
300	435	570	705	840	975	X
388	554	720	886	1052	1218	X
465	666	867	1068	1269	1470	X
606	846	1086	1326	1566	1806	X
724	1004	1284	1564	1844	2124	X
882	1205	1529	1852	2176	2499	X
1069	1493	1917	2341	2765	3189	X
1347	1823	2300	2776	3253	3729	X
1458	1992	2526	3060	3594	4128	X
1744	2401	3059	3716	4374	5031	X
2090	2883	3677	4470	5264	6057	X
2479	3421	4364	5306	6249	7191	X
2907	4010	5114	6217	7321	8424	X
3101	4292	5183	6673	7864	9055	X
3294	4572	5850	7128	8406	9684	X



# Flanged Fittings

## Flanged Spigot Pipe with Puddle

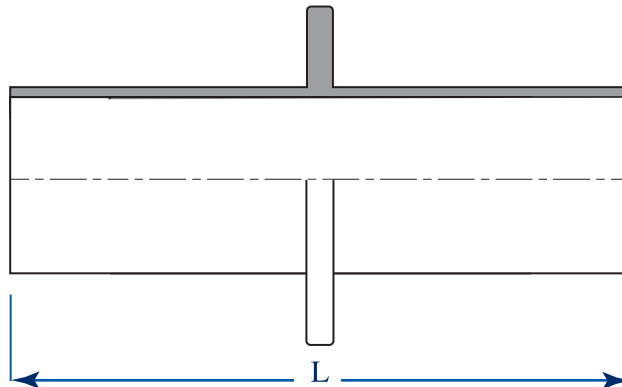


DN	PN10 Flanged Spigot Pipe with Puddle Mass (Kg) for L					
	500	1000	1500	2000	2500	3000
80	14	X	X	X	X	X
100	17	27	X	X	X	X
150	26	42	X	X	X	X
200	37	60	X	X	X	X
250	50	81	113	X	X	X
300	65	104	143	182	X	X
350	77	125	174	222	X	X
400	91	149	208	266	X	X
450	110	178	247	316	X	X
500	125	204	284	364	444	524
600	168	273	379	484	590	695
700	216	349	483	616	750	883
800	276	442	608	774	940	1106
900	330	530	730	930	1130	1330
1000	402	641	881	1120	1360	1599
1100	506	786	1066	1346	1626	1906
1200	567	891	1216	1540	1865	2189
1400	719	1141	1564	1986	2409	2831
1500	881	1357	1834	2310	2787	3263
1600	946	1480	2014	2548	3082	3616
1800	1130	1787	2445	3102	3760	4417
2000	1352	2146	2940	3734	4528	5322
2200	1634	2575	3517	4458	5340	6341
2400	1901	3005	4110	5214	6319	7423
2500	2027	3217	4409	5600	6791	7981
2600	2152	3429	4707	5984	7262	8539

PN16 Flanged Spigot Pipe with Puddle Mass (Kg) for L						
500	1000	1500	2000	2500	3000	
14	X	X	X	X	X	X
17	27	X	X	X	X	X
26	42	X	X	X	X	X
37	60	X	X	X	X	X
50	81	113	X	X	X	X
65	104	143	182	X	X	X
83	131	180	228	X	X	X
102	160	218	276	X	X	X
125	194	263	332	X	X	X
155	235	316	396	477	557	X
220	326	432	538	644	750	X
245	380	515	650	785	920	X
314	480	646	812	978	1144	X
377	578	779	980	1181	1382	X
484	724	964	1204	1444	1684	X
576	856	1136	1416	1696	1976	X
696	1019	1343	1666	1990	2313	X
854	1278	1702	2126	2550	2974	X
1057	1533	2010	2486	2963	3439	X
1150	1684	2218	2752	3286	3820	X
1382	2039	2697	3354	4012	4669	X
1658	2451	3245	4038	4832	5625	X
1967	2909	3852	4794	5737	6679	X
2306	3409	4513	5616	6720	7823	X
2464	3655	4546	6036	7227	8418	X
2622	3900	5178	6456	7734	9012	X

# Flanged Fittings

## Double Spigot Pipe with puddle



DN	PN10 Double spigot pipe with Puddle Mass (Kg) for L					
	500	1000	1500	2000	2500	3000
80	11	X	X	X	X	X
100	14	24	X	X	X	X
150	21	37	X	X	X	X
200	30	53	X	X	X	X
250	41	72	104	X	X	X
300	52	91	130	169	X	X
350	63	111	160	208	X	X
400	75	133	192	250	X	X
450	90	158	227	296	X	X
500	103	182	262	342	422	502
600	137	242	348	453	559	664
700	175	308	442	575	709	842
800	221	387	553	719	885	1051
900	265	465	665	865	1065	1265
1000	321	560	800	1039	1279	1518
1100	393	673	953	1233	1513	1793
1200	446	770	1095	1419	1744	2068
1400	571	993	1416	1838	2261	2683
1500	679	1155	1632	2108	2585	3061
1600	740	1274	1808	2342	2876	3410
1800	894	1551	2209	2866	3524	4181
2000	1073	1867	2661	3455	4249	5043
2200	1288	2229	3171	4112	4994	5995
2400	1503	2607	3712	4816	5921	7025
2500	1609	2799	3991	5182	6373	7563
2600	1715	2992	4270	5547	6825	8102

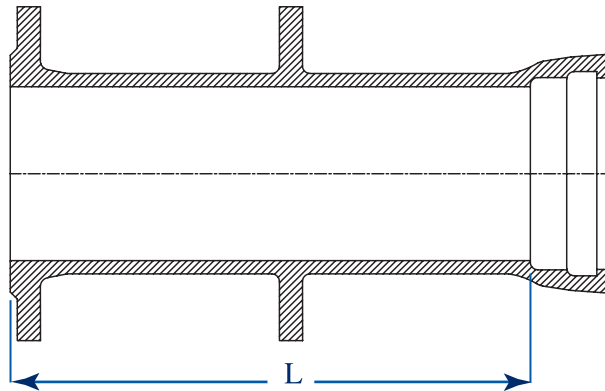
PN16 spigot flanged pipe with Puddle Mass (Kg) for L						
500	1000	1500	2000	2500	3000	
11	X	X	X	X	X	X
14	24	X	X	X	X	X
21	37	X	X	X	X	X
30	53	X	X	X	X	X
41	72	104	X	X	X	X
52	91	131	170	X	X	X
66	114	163	211	X	X	X
80	138	196	254	X	X	X
97	166	235	304	X	X	X
118	198	279	359	440	520	
163	269	375	481	587	693	
190	325	460	595	730	865	
240	406	572	738	904	1070	
289	490	691	892	1093	1294	
362	602	842	1082	1322	1562	
428	708	988	1268	1548	1828	
510	833	1157	1480	1804	2127	
639	1063	1487	1911	2335	2759	
767	1243	1720	2196	2673	3149	
842	1376	1910	2444	2978	3512	
1020	1677	2335	2992	3650	4307	
1226	2019	2813	3606	4400	5193	
1455	2397	3340	4282	5225	6167	
1705	2808	3912	5015	6119	7222	
1827	3018	3909	5399	6590	7781	
1950	3228	4506	5784	7062	8340	





# Flanged Fittings

## Flanged Socket Pipe with Puddle

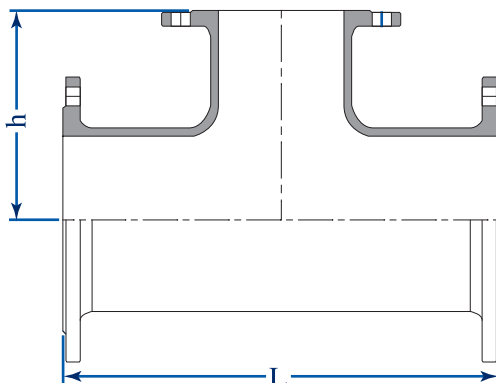


DN	PN10 Flanged Socket Pipe with Puddle Mass(Kg) for L					
	500	1000	1500	2000	2500	3000
80	17	X	X	X	X	X
100	21	31	X	X	X	X
150	33	49	X	X	X	X
200	47	70	X	X	X	X
250	64	95	127	X	X	X
300	83	122	161	200	X	X
350	100	148	197	245	X	X
400	120	178	237	295	X	X
450	146	214	283	352	X	X
500	168	247	327	407	487	567
600	227	332	438	543	649	754
700	296	429	563	696	830	963
800	378	544	710	876	1042	1208
900	460	660	860	1060	1260	1460
1000	563	802	1042	1281	1521	1760
1100	711	991	1271	1551	1831	2111
1200	805	1129	1454	1778	2103	2427
1400	999	1421	1844	2266	2689	3111
1500	1359	1835	2312	2788	3265	3741
1600	1430	1964	2498	3032	3566	4100
1800	1620	2277	2935	3592	4250	4907
2000	1978	2772	3566	4360	5154	5948
2200	2418	3359	4301	5242	6124	7125
2400	2867	3971	5076	6180	7285	8389
2500	2027	3217	4409	5600	6791	7981
2600	3326	4603	5881	7158	8436	9713

PN16 Flanged Socket Pipe with Puddle Mass(Kg) for L						
500	1000	1500	2000	2500	3000	
17	X	X	X	X	X	X
21	31	X	X	X	X	X
33	49	X	X	X	X	X
47	70	X	X	X	X	X
64	95	127	X	X	X	X
83	122	161	200	X	X	X
106	154	203	251	X	X	X
131	189	247	305	X	X	X
161	230	299	368	X	X	X
198	278	359	439	520	600	X
279	385	491	597	703	809	X
325	460	595	730	865	1000	X
416	582	748	914	1080	1246	X
507	708	909	1110	1311	1512	X
645	885	1125	1365	1605	1845	X
781	1061	1341	1621	1901	2181	X
934	1257	1581	1904	2228	2551	X
1134	1558	1982	2406	2830	3254	X
1535	2011	2488	2964	3441	3917	X
1634	2168	2702	3236	3770	4304	X
1872	2529	3187	3844	4502	5159	X
2284	3077	3871	4664	5458	6251	X
2751	3693	4636	5578	6521	7463	X
3272	4375	5479	6582	7686	8789	X
2464	3655	4546	6036	7227	8418	X
3796	5074	6352	7630	8908	10186	X

# Flanged Fittings

## All Flanged Tee



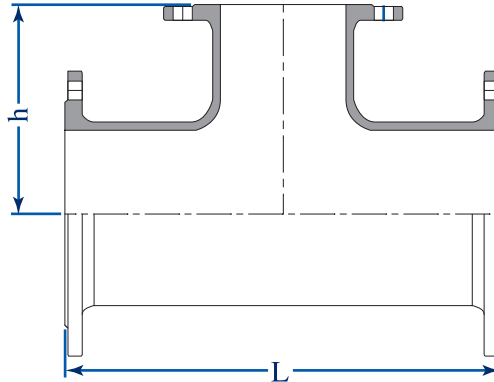
Size		Dimensions		Mass		
DN	dn	L	H	PN10	PN16	PN25
80	80	330	165	15.6	15.6	15.6
100	80	360	175	18.4	18.4	19.5
	100	360	180	19.4	19.4	21
125	80	400	190	23	23	24.5
	100	400	195	24	24	26
	125	400	200	25.5	25.5	27.5
150	80	440	205	28.5	28.5	31
	100	440	210	29.5	29.5	32
	150	440	220	32.5	32.5	36
200	80	520	235	42	42	46
	100	520	240	43	43	47.5
	150	520	250	46	46	51
	200	520	260	49	49	56
250	80	700	270	62	66	74
	100	700	275	63	67	75
	150	700	325	73.5	78	81
	200	700	325	76	80	85
	250	700	350	82	86	93
300	80	800	300	93	97	104
	100	800	300	94	98	105
	150	800	320	99	104	110
	200	800	350	102	106	114
	250	800	375	114	120	129
	300	800	400	116	122	131
	350	800	425	122	128	139
350	80	850	325	114	120	137
	100	850	325	116	122	139
	150	850	325	120	126	143
	200	850	325	121	128	146
	250	850	325	138	143	164
	300	850	425	140	145	166
	350	850	425	142	151	176

Size		Dimensions		Mass		
DN	dn	L	H	PN10	PN16	PN25
400	80	900	350	141	153	175
	100	900	350	143	154	177
	150	900	350	149	158	181
	200	900	350	152	161	184
	250	900	450	166	175	202
	300	900	450	168	177	204
	350	900	450	172	189	223
	400	900	450	174	191	225
450	100	950	375	177	193	215
	150	950	375	180	196	219
	200	950	375	183	199	222
	250	950	475	197	213	240
	300	950	475	199	215	242
	350	950	475	207	227	260
	400	950	475	210	230	263
	450	950	475	216	240	272
500	100	1000	400	210	241	265
	150	1000	400	218	245	267
	200	1000	400	222	249	271
	250	1000	500	234	261	288
	300	1000	500	237	264	291
	350	1000	500	239	273	308
	400	1000	500	242	276	311
	450	1000	500	249	294	329
	500	1000	500	252	297	332
	550	1000	500	252	297	332
600	100	1100	450	305	358	388
	150	1100	450	305	358	388
	200	1100	450	305	358	388
	250	1100	550	325	372	401
	300	1100	550	328	375	404
	350	1100	550	337	384	424
	400	1100	550	337	384	424



# Flanged Fittings

## All Flanged Tee

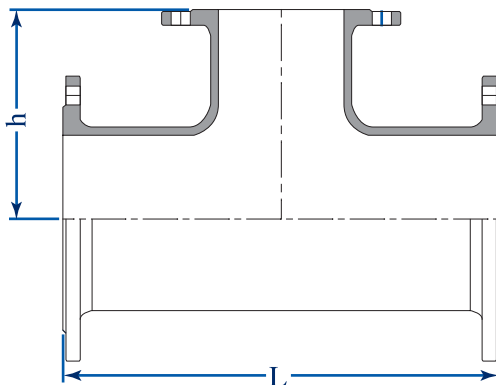


Size		Dimensions		Mass		
DN	dn	L	H	PN10	PN16	PN25
600	400	1100	550	340	387	427
	450	1100	550	349	428	471
	500	1100	550	352	431	474
	600	1100	550	355	434	477
700	100	650	525	258	298	-
	150	650	555	315	338	-
	200	650	525	258	298	-
	250	870	555	315	338	-
	300	870	555	319	342	-
	350	870	555	340	375	-
	400	870	555	343	379	-
	450	1200	600	470	517	-
	500	1200	600	473	520	-
	600	1200	600	476	523	-
800	100	690	585	352	390	-
	150	690	615	410	440	-
	200	690	585	352	390	-
	250	910	615	410	440	-
	300	910	615	413	443	-
	350	910	615	438	481	-
	400	910	615	441	484	-
	450	1350	645	607	671	-
	500	1350	645	610	675	-
	600	1350	645	613	678	-
	700	1350	675	654	714	-
	800	1350	675	657	715	-
900	100	730	645	436	484	-
	150	730	675	514	572	-
	200	730	645	436	484	-
	250	950	675	514	572	-

Size		Dimensions		Mass		
DN	dn	L	H	PN10	PN16	PN25
900	300	950	675	524	580	-
	350	950	675	535	588	-
	400	950	675	541	594	-
	450	1500	705	770	846	-
	500	1500	705	780	853	-
	600	1500	705	787	860	-
	700	1500	750	854	910	-
	800	1500	750	860	913	-
	900	1500	750	873	926	-
1000	100	770	705	546	629	-
	150	770	705	546	629	-
	200	770	705	546	629	-
	250	990	735	640	725	-
	300	990	735	650	735	-
	350	990	735	660	745	-
	400	990	735	668	755	-
	450	1650	765	940	1021	-
	500	1650	765	979	1097	-
	600	1650	765	1007	1116	-
	700	1650	825	1034	1142	-
	800	1650	825	1085	1168	-
1100	900	1650	825	1095	1205	-
	1000	1650	825	1105	1229	-
	400	980	795	839	913	-
	600	1210	825	990	1083	-
	800	1470	855	1160	1245	-
1200	1000	1800	885	1345	1450	-
	1100	1800	900	1450	1555	-
	100	850	810	-	-	-
	150	850	810	-	-	-
200	850	830	920	-	-	

# Flanged Fittings

## All Flanged Tee



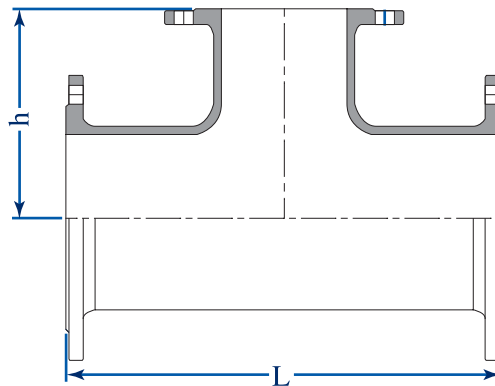
Size		Dimensions		Mass		
DN	dn	L	H	PN10	PN16	PN25
1200	250	850	830	-	-	-
	300	850	845	-	-	-
	350	850	845	-	-	-
	400	850	860	940	-	-
	450	850	860	-	-	-
	500	850	870	-	-	-
	600	1240	885	1101	1256	-
	700	1470	915	1196	1348	-
	800	1470	915	1291	1439	-
	900	1950	945	1393	1552	-
	1000	1950	945	1494	1664	-
1200	1950	945	1806	1970	-	
1400	100	950	910	-	-	-
	150	950	910	-	-	-
	200	950	925	-	-	-
	250	950	925	-	-	-
	300	950	940	-	-	-
	350	950	940	-	-	-
	400	950	955	-	-	-
	450	950	955	-	-	-
	500	950	970	-	-	-
	600	1550	980	1555	1818	-
	700	1760	1010	1721	1930	-
	800	1760	1010	1886	2041	-
	900	1760	1040	2010	2175	-
	1000	2015	1040	2131	2309	-
1200	2015	1040	2262	2431	-	
1400	2015	1040	2545	2715	-	
1500	100	1100	965	-	-	-
	150	1100	965	-	-	-
	200	1100	980	-	-	-

Size		Dimensions		Mass		
DN	dn	L	H	PN10	PN16	PN25
1500	250	1100	980	-	-	-
	300	1100	995	-	-	-
	350	1100	995	-	-	-
	400	1100	1010	-	-	-
	450	1100	1010	-	-	-
	500	1100	1020	-	-	-
	600	1575	1035	1762	1951	-
	700	2040	1095	1882	2072	-
	800	2040	1095	2002	2193	-
	900	2040	1095	2133	2335	-
	1000	2040	1095	2263	2474	-
	1200	2040	1095	2552	2782	-
	1400	2040	1095	2851	3084	-
1500	2040	1095	3021	3284	-	
1600	100	1250	1020	-	-	-
	150	1250	1020	-	-	-
	200	1250	1035	-	-	-
	250	1250	1035	-	-	-
	300	1250	1040	-	-	-
	350	1250	1040	-	-	-
	400	1250	1065	-	-	-
	450	1250	1065	-	-	-
	500	1250	1075	-	-	-
	600	1600	1090	2167	2398	-
	700	1835	1120	2355	2537	-
	800	1835	1120	2542	2675	-
	900	2065	1150	2641	2831	-
	1000	2065	1150	2740	2986	-
	1200	2300	1180	3058	3327	-
1400	2300	1180	3208	3444	-	
1500	2300	1180	3388	3649	-	



# Flanged Fittings

## All Flanged Tee

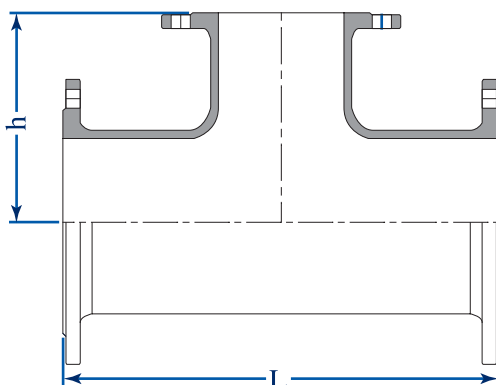


Size		Dimensions		Mass		
DN	dn	L	H	PN10	PN16	PN25
1600	1600	2300	1180	3568	3854	-
1800	100	1300	1130	-	-	-
	150	1300	1130	-	-	-
	200	1300	1145	-	-	-
	250	1300	1145	-	-	-
	300	1300	1160	-	-	-
	350	1300	1160	-	-	-
	400	1300	1175	-	-	-
	450	1300	1175	-	-	-
	500	1300	1185	-	-	-
	600	1655	1200	2694	2972	-
2000	700	1885	1230	2860	3136	-
	800	1885	1230	3023	3299	-
	900	2120	1260	3200	3485	-
	1000	2120	1260	3375	3669	-
	1200	2350	1290	3740	4056	-
	1400	2350	1290	3910	4190	-
	1500	2350	1290	4120	4416	-
	1600	2350	1290	4328	4641	-
	1800	2350	1290	4750	5086	-
	2000	100	1500	1240	-	-
150		1500	1240	-	-	-
200		1500	1255	-	-	-
250		1500	1255	-	-	-
300		1500	1270	-	-	-
350		1500	1270	-	-	-
400		1500	1285	-	-	-
450		1500	1285	-	-	-
500		1500	1295	-	-	-
600		1705	1310	3309	3642	-
700	2170	1370	3407	3720	-	

Size		Dimensions		Mass		
DN	dn	L	H	PN10	PN16	PN25
2000	800	2170	1370	3505	3796	-
	900	2170	1370	3810	4128	-
	1000	2170	1370	4112	4459	-
	1200	2635	1430	4313	4644	-
	1400	2635	1430	4966	5340	-
	1500	2635	1430	5085	5455	-
	1600	3000	1520	5202	5567	-
	1800	3000	1520	5668	6055	-
	2000	3000	1520	6185	6599	-
	2200	100	1560	1350	-	-
150		1560	1350	-	-	-
200		1560	1375	-	-	-
250		1560	1375	-	-	-
300		1560	1380	-	-	-
350		1560	1380	-	-	-
400		1560	1395	-	-	-
450		1560	1395	-	-	-
500		1560	1405	-	-	-
600		1560	1420	3675	4034	-
700		2220	1510	3988	4344	-
800		2220	1510	4298	4654	-
900		2220	1510	4526	4891	-
1000		2220	1510	4753	5128	-
1200		2220	1510	5026	5413	-
1400		2880	1600	5709	6106	-
1500		2880	1600	5973	6385	-
1600		2880	1600	6234	6664	-
1800		2880	1600	6474	6934	-
2000		3020	1600	7316	7795	-
2200	3020	1600	7954	8464	-	
2400	100	1620	1490	-	-	-

# Flanged Fittings

## All Flanged Tee



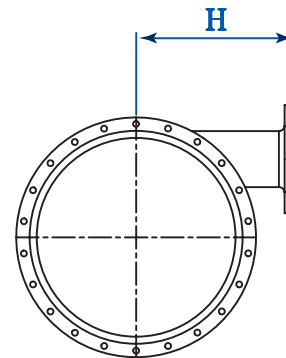
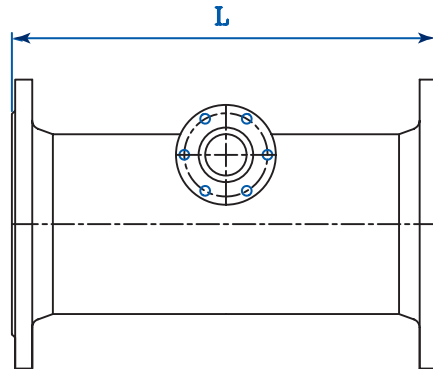
Size		Dimensions		Mass		
DN	dn	L	H	PN10	PN16	PN25
2400	150	1620	1490	-	-	-
	200	1620	1500	-	-	-
	250	1620	1500	-	-	-
	300	1620	1510	-	-	-
	350	1620	1510	-	-	-
	400	1620	1520	-	-	-
	450	1620	1520	-	-	-
	500	1620	1530	-	-	-
	600	1620	1530	4418	4849	-
	700	2280	1620	4810	5260	-
	800	2280	1620	5200	5671	-
	900	2280	1620	5462	5941	-
	1000	2280	1620	5721	6211	-
	1200	2280	1620	5963	6432	-
	1400	2940	1710	6804	7317	-
	1600	2940	1710	7392	7937	-
1800	2940	1710	7614	8145	-	
2000	3040	1620	8591	9185	-	
2200	3040	1695	9275	9901	-	
2400	3040	1570	10031	10715	-	
2500	100	1620	1490	-	-	-
	150	1620	1490	-	-	-
	200	1620	1500	-	-	-
	250	1620	1500	-	-	-
	300	1620	1510	-	-	-
	350	1620	1510	-	-	-
	400	1620	1520	-	-	-
	450	1620	1520	-	-	-
	500	1620	1530	-	-	-
	600	1620	1530	-	-	-
	700	2280	1545	-	-	-

Size		Dimensions		Mass		
DN	dn	L	H	PN10	PN16	PN25
2500	800	2280	1560	-	-	-
	900	2280	1575	-	-	-
	1000	2280	1590	-	-	-
	1200	2280	1620	-	-	-
	1400	2940	1650	-	-	-
	1500	2940	1665	-	-	-
	1600	2940	1680	-	-	-
	1800	2940	1710	-	-	-
	2000	3060	1620	-	-	-
	2200	3060	1695	-	-	-
	2400	3060	1570	-	-	-
2600	100	1680	1685	-	-	-
	150	1680	1585	-	-	-
	200	1680	1600	-	-	-
	250	1680	1600	-	-	-
	300	1680	1615	-	-	-
	350	1680	1615	-	-	-
	400	1680	1630	-	-	-
	450	1680	1630	-	-	-
	500	1680	1640	-	-	-
	600	1680	1640	5214	5711	-
	700	2560	1760	5645	6155	-
	800	2560	1760	6076	6596	-
	900	2560	1760	6375	6905	-
	1000	2560	1760	6673	7213	-
	1200	2560	1760	7289	7850	-
	1400	2560	1760	7585	8123	-
	1500	2560	1760	8075	8641	-
	1600	2560	1760	8564	9159	-
1800	2560	1760	9213	9831	-	



# Flanged Fittings

## All Flanged Level Invert Tee

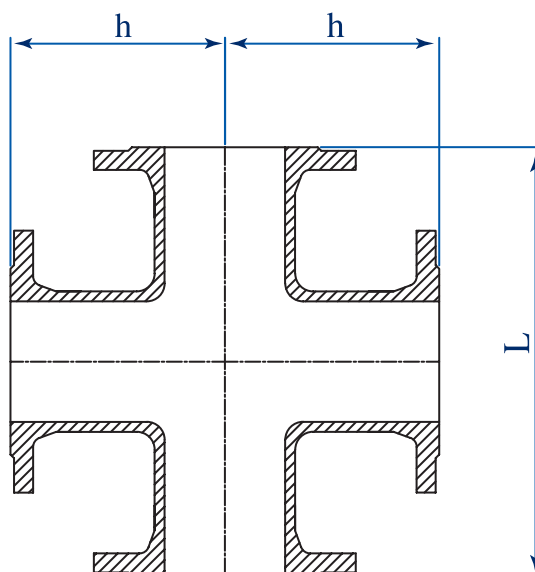


Size		Dimensions		Mass		
DN	dn	L	H	PN10	PN16	PN25
100	80	360	195	19.5	19.5	21
150	80	440	220	29.5	29.5	32
200	80	520	250	42.5	42.5	47
	100	520	250	43.5	43.5	48
250	80	700	275	66	71	76
	100	700	275	68	73	79
	150	700	275	-	-	-
300	80	800	305	92	97	104
	100	800	305	95.5	99	105
	150	800	305	99	104	110
350	80	850	340	121	127	144
	100	850	340	123	129	146
	150	850	340	128	134	151
	200	950	340	-	-	-
400	80	900	365	153	165	187
	100	900	365	156	167	190
	150	900	365	162	171	194
	200	900	365	167	176	199
450	80	950	380	188	204	226
	100	950	380	189	205	227
	150	950	380	197	213	236
	200	950	380	202	202	241
500	80	1000	400	237	268	292
	100	1000	400	241	272	296
	150	1000	400	248	275	297
	200	1000	400	255	282	304
600	80	1100	435	350	403	433
	100	1100	435	351	404	434
	150	1100	450	360	413	443
	200	1100	450	370	423	453
700	100	650	500	-	-	-
	150	650	500	262	302	-

Size		Dimensions		Mass		
DN	dn	L	H	PN10	PN16	PN25
700	200	650	500	268	308	-
800	100	690	540	-	-	-
	150	690	540	379	417	-
	200	690	540	388	426	-
900	100	730	580	-	-	-
	150	730	580	481	529	-
	200	730	580	483	531	-
1000	150	770	630	625	708	-
	200	770	630	627	710	-
	250	990	735	-	-	-
	300	990	735	-	-	-
1200	350	990	735	-	-	-
	100	850	700	-	-	-
	150	850	700	910	1039	-
	200	850	700	945	1074	-
	250	850	750	-	-	-
1400	300	850	750	-	-	-
	400	850	780	-	-	-
	150	1000	800	-	-	-
	200	1000	800	-	-	-
	250	1000	800	-	-	-
1500	300	1000	800	-	-	-
	150	1100	900	-	-	-
	200	1100	900	-	-	-
	250	1100	900	-	-	-
1600	300	1100	900	-	-	-
	200	1250	950	-	-	-
	250	1250	950	-	-	-
	300	1250	950	-	-	-
	350	1250	950	-	-	-
1600	400	1250	950	-	-	-
	500	1250	1000	-	-	-

# Flanged Fittings

## All Flanged Cross



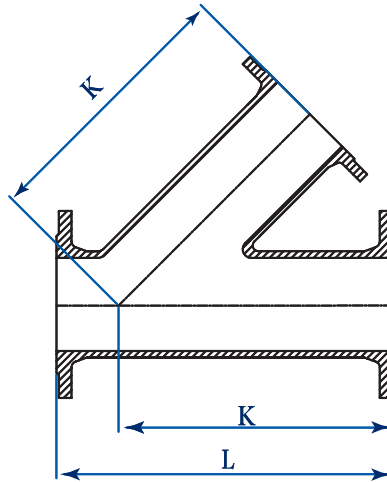
Size		Dimensions		Mass	
DN	dn	L	h	PN10	PN16
80	80	330	165	23.1	23.1
100	100	360	180	27.1	27.1
150	150	440	220	46.6	46.6
200	200	520	260	68.7	68.7
250	250	700	350	119.5	119.5
300	300	800	400	196	196
350	350	850	425	193	199
400	400	900	450	252	257
450	450	950	475	-	-
500	500	1000	500	386	431
600	600	1100	550	530	547
700	700	1200	600	658	680
800	800	1350	675	-	-
900	900	1500	750	-	-
1000	1000	1650	825	-	-
1100	1100	1780	890	-	-
1200	1200	1950	975	-	-
1400	1400	2015	1020	-	-
1600	1600	2300	1150	5000	-





# Flanged Fittings

## All Flanged 45° Angle Branch

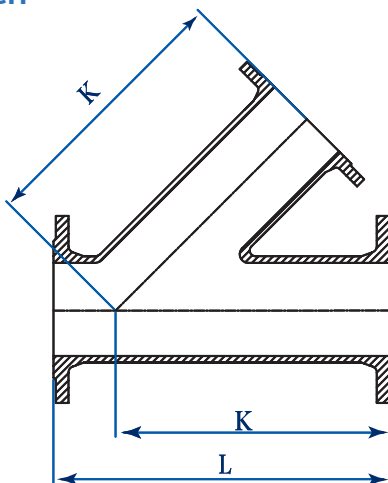


Size		Dimensions	
DN	dn	k	L
80	80	375	500
100	80	390	540
	100	405	540
150	80	480	640
	100	480	640
	150	480	640
200	80	535	735
	100	535	735
	150	560	735
	200	560	735
250	80	585	825
	100	610	825
	150	635	825
	200	635	825
	250	635	825
300	80	610	800
	100	610	800
	150	660	800
	200	685	925
	250	710	925
	300	710	925
350	100	635	850
	150	660	850
	200	710	850
	250	740	1000
	300	790	1000
	350	790	1000
400	100	710	900
	150	740	900

Size		Dimensions	
DN	dn	k	L
400	200	760	900
	250	820	1100
	300	870	1100
	350	870	1100
450	400	870	1100
	100	710	950
	150	760	950
	200	790	950
	250	820	950
	300	900	1200
500	350	950	1200
	400	950	1200
	450	950	1200
	150	765	1000
	200	810	1000
	250	840	1000
600	300	865	1275
	350	950	1275
	400	1025	1275
	450	1025	1275
	500	1025	1275
	150	840	1100
	200	890	1100
	250	915	1100
600	300	965	1250
	350	1000	1250
	400	1035	1250
	450	1070	1500
	500	1180	1500

# Flanged Fittings

## All Flanged 45° Angle Branch



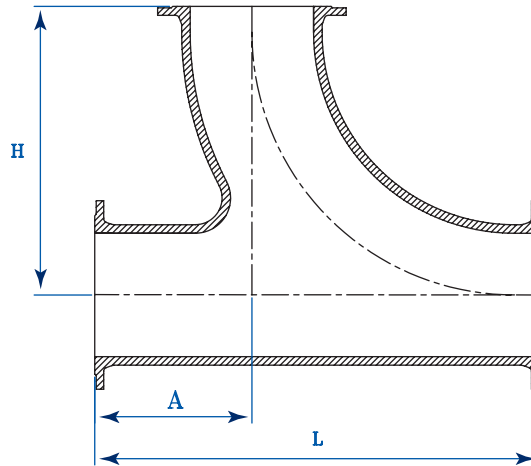
Size		Dimensions	
DN	dn	k	L
600	600	1180	1500
700	200	1015	1200
	250	1040	1200
	300	1090	1400
	350	1125	1400
	400	1160	1400
	450	1195	1500
	500	1240	1500
	600	1370	1725
	700	1370	1725
800	250	1150	1350
	300	1170	1350
	350	1205	1500
	400	1240	1500
	450	1270	1500
	500	1305	1700
	600	1370	1700
	700	1450	2000
	800	1520	2000
900	300	1245	1500
	350	1280	1500
	400	1315	1500
	450	1350	1775

Size		Dimensions	
DN	dn	k	L
900	500	1390	1775
	600	1475	1775
	700	1540	2000
	800	1610	2000
	900	1680	2130
1000	350	1380	1650
	400	1415	1650
	450	1425	1650
	500	1510	2000
	600	1575	2000
	700	1640	2000
	800	1700	2500
	900	1975	2500
	1000	1980	2500
	1200	450	1700
500		1750	2000
600		1855	2300
700		1920	2300
800		1990	2500
900		2050	2500
1000		2280	3000
1200		2280	3000



# Flanged Fittings

## All Flanged Radial Tee

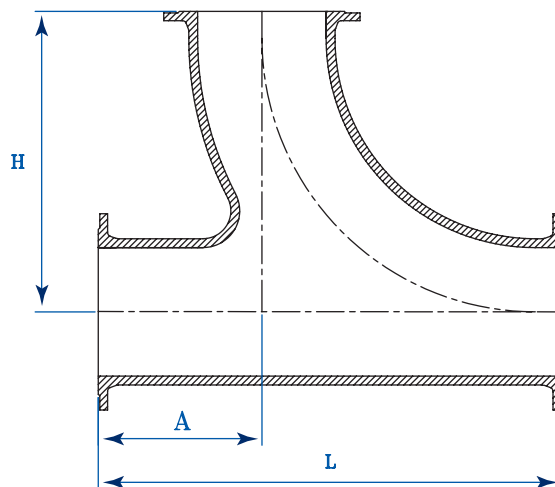


Size		Dimensions		
DN	dn	A	L	H
80	80	165	500	380
100	80	180	540	390
	100	180	540	400
150	80	220	640	415
	100	220	640	425
	150	220	640	450
200	80	220	735	440
	100	220	735	450
	150	260	735	475
	200	260	735	500
250	80	220	825	465
	100	220	825	475
	150	300	825	500
	200	300	825	525
	250	350	825	550
300	80	220	800	490
	100	300	800	500
	150	300	800	525
	200	400	925	550
	250	400	925	575
	300	400	925	600
	350	400	925	600
350	100	300	850	525
	150	300	850	550
	200	400	850	575
	250	400	1000	600
	300	400	1000	625
	350	450	1000	650
400	100	300	900	550
	150	300	900	575

Size		Dimensions		
DN	dn	A	L	H
400	200	400	900	600
	250	400	1100	625
	300	450	1100	650
	350	450	1100	675
	400	500	1100	700
450	100	300	950	575
	150	300	950	600
	200	400	950	625
	250	450	950	650
	300	450	1200	675
	350	450	1200	700
	400	550	1200	725
	450	550	1200	750
500	150	300	1000	625
	200	400	1000	650
	250	450	1000	675
	300	450	1275	700
	350	450	1275	725
	400	550	1275	750
	450	550	1275	775
	500	600	1275	800
600	150	330	1100	675
	200	400	1100	700
	250	450	1100	725
	300	450	1250	750
	350	450	1250	775
	400	550	1250	800
	450	600	1500	825
	500	600	1500	850

# Flanged Fittings

## All Flanged Radial Tee

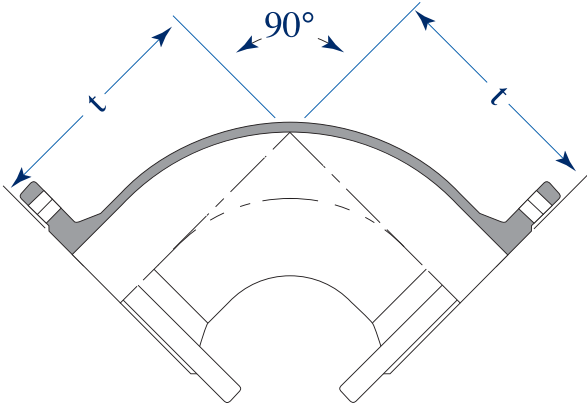


Size		Dimensions		
DN	dn	A	L	H
600	600	700	1500	900
700	200	400	1200	750
	250	450	1200	775
	300	450	1400	800
	350	450	1400	825
	400	550	1400	850
	450	600	1500	875
	500	600	1500	900
	600	700	1725	950
	700	800	1725	1000
800	250	450	1350	825
	300	450	1350	850
	350	450	1500	875
	400	550	1500	900
	450	600	1500	925
	500	600	1700	950
	600	700	1700	1000
	700	800	2000	1050
900	300	450	1500	900
	350	450	1500	925
	400	500	1500	950
	450	600	1775	975

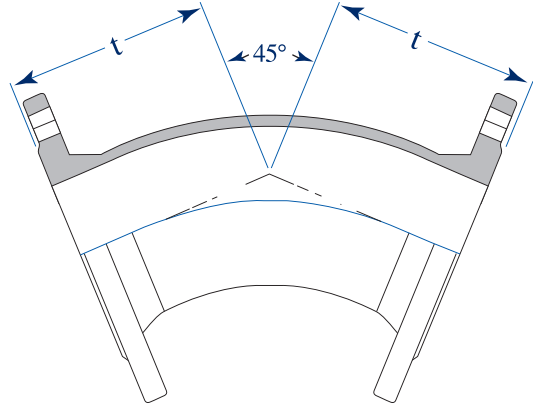
Size		Dimensions		
DN	dn	A	L	H
900	500	600	1775	1000
	600	700	1775	1050
	700	800	2000	1100
	800	900	2000	1150
	900	1000	2130	1200
1000	350	450	1650	975
	400	550	1650	1000
	450	600	1650	1025
	500	600	2000	1050
	600	700	2000	1100
	700	800	2000	1150
	800	900	2500	1200
1200	450	600	2000	1125
	500	600	2000	1150
	600	700	2300	1200
	700	800	2300	1250
	800	900	2500	1300
	900	1000	2500	1350
	1000	1100	3000	1400
1200	1300	3000	1500	

# Flanged Fittings

## Flanged Bend 90°



## Flanged Bend 45°

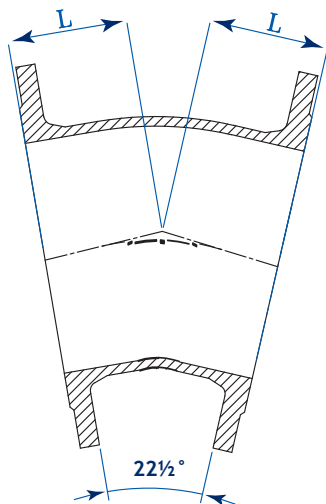


DN	T	Mass		
		PN10	PN16	PN25
80	165	9.6	9.6	9.6
100	180	11.9	11.9	12.9
150	220	20	20	22
200	260	31	31	34
250	350	50	50	57
300	400	70	70	81
350	450	90	96	113
400	500	116	127	149
450	550	147	163	184
500	600	181	211	235
600	700	272	325	353
700	800	386	416	-
800	900	533	572	-
900	1 000	698	745	-
1000	1 100	907	990	-
1100	1200	1164	1234	-
1200	1300	1452	1562	-
1400	1350	1948	2062	-
1500	1400	2273	2449	-
1600	1411	2663	2841	-
1800	1500	3348	3572	-
2000	1600	-	-	-
2200	1650	-	-	-

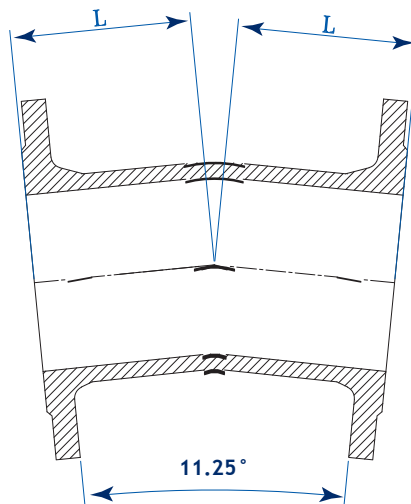
DN	T	Mass		
		PN10	PN16	PN25
80	130	9.3	9.3	9.3
100	140	11.3	11.3	12.4
150	160	18.5	18.5	20.5
200	180	27.5	27.5	31
250	350	55	55	62
300	400	76	78	88
350	300	78	83	89
400	325	96	107	129
450	350	120	135	157
500	375	145	175	198
600	425	212	266	294
700	480	296	326	-
800	530	403	442	-
900	580	519	567	-
1000	630	668	751	-
1100	695	857	927	-
1200	750	1050	1178	-
1400	775	1388	1524	-
1500	810	1677	1853	-
1600	845	1915	2119	-
1800	910	2465	2717	-
2000	980	3149	3455	-
2200	880	3446	3804	-

# Flanged Fittings

## Flanged Bend 22½°



## Flanged Bend 11¼°

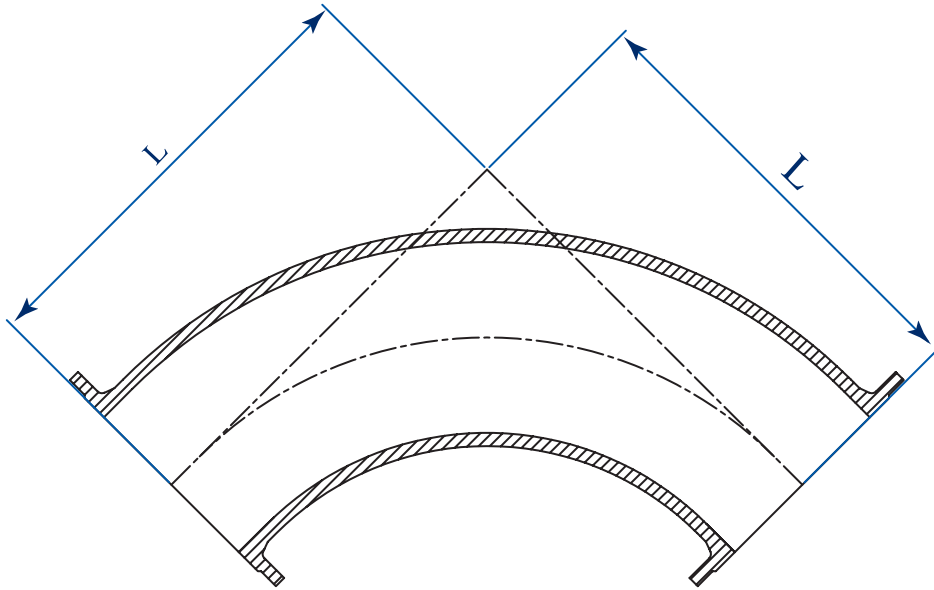


DN	T	Mass		
		PN10	PN16	PN25
80	105	9.4	9.4	9.4
100	110	11.5	11.5	12.5
150	109	18.7	18.7	19.4
200	131	27.9	27.9	31.6
250	190	56	56	62.8
300	210	76	79	89
350	210	79	84	99.9
400	239	97	109	131
450	349	122	138	160
500	375	146	177	200
600	426	216	268	297
700	478	300	330	-
800	529	409	447	-
900	581	526	577	-
1000	632	677	760	-
1100	683	877	947	-
1200	735	1054	1183	-
1400	835	1498	1632	-
1500	886	1838	2014	-
1600	940	2120	2324	-
1800	480	1549	1801	-
2000	520	1967	2273	-
2200	560	2485	2819	-

DN	T	Mass		
		PN10	PN16	PN25
80	113	9.5	9.5	9.5
100	115	11.5	11.5	12.5
150	113	18.7	18.7	20.6
200	132	27.9	27.9	31.6
250	165	55.9	55.9	63.3
300	175	77.8	78	89.5
350	191	79.3	83.6	100.4
400	205	97.2	108.4	131
450	349	123	139	160
500	375	147	177.6	200.8
600	426	216	270	299
700	478	301	332	-
800	529	412	449	-
900	581	529	577	-
1000	632	681	764	-
1100	683	882	952	-
1200	735	1060	1189	-
1400	835	1507	1612	-
1500	885	1849	2025	-
1600	940	2132	2337	-
1800	345	1251	1279	-
2000	375	1580	1886	-
2200	405	1996	2330	-



# LONG BEND



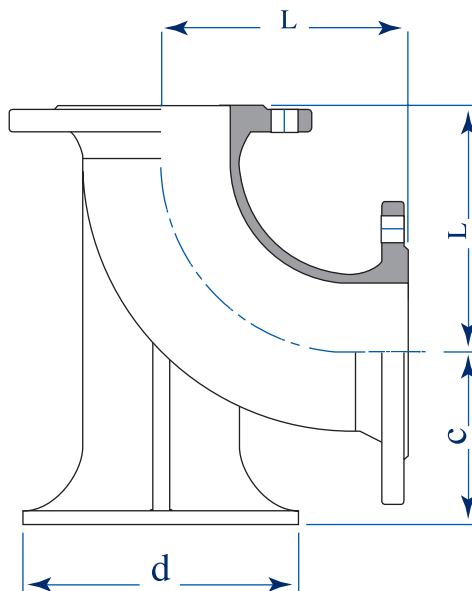
<b>DN</b>	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200
<b>L</b>	380	400	425	450	500	550	600	650	700	750	800	900	1000	1100	1200	1300	1400	1500



**INTERNATIONAL CO.  
FOR METALS MELTING**

## Flanged Fittings

### 90° Flanged Duck Foot Bend



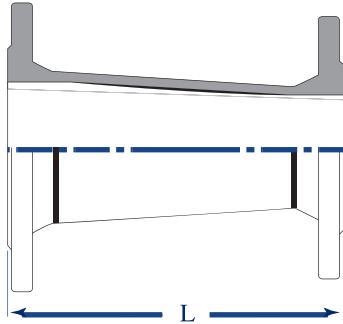
DN	Dimensions			Mass		
	L	C	d	PN10	PN16	PN25
80	165	110	180	14.1	14.1	14.1
100	180	125	200	17.8	17.8	18.8
150	220	160	250	30	30	32
200	260	190	300	46	46.5	50.5
250	350	225	350	75	75	82
300	400	255	400	105	106	116
350	450	290	450	139	145	162
400	500	320	500	178	189	212
450	550	355	550	245	261	283
500	600	385	600	283	313	337
600	700	450	700	428	481	509
700	800	515	800	684	708	-
800	900	580	900	944	974	-
900	1000	625	1000	1252	1290	-
1000	1100	710	1100	1629	1698	-
1100	1200	840	1300	2080	2150	-
1200	1300	840	1300	2599	2709	-
1400	1350	970	1500	-	-	-
1500	1400	1055	1550	-	-	-
1600	1411	1110	1750	-	-	-
1800	1500	1240	1900	-	-	-
2000	1600	-	-	-	-	-
2200	1650	-	-	-	-	-



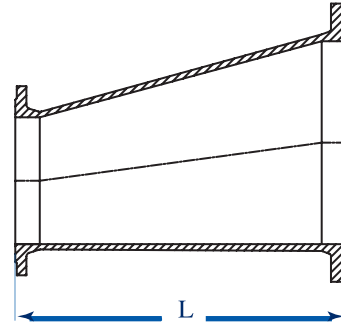


# Flanged Fittings

## Flanged Concentric Reducer



## Flanged Eccentric Reducer

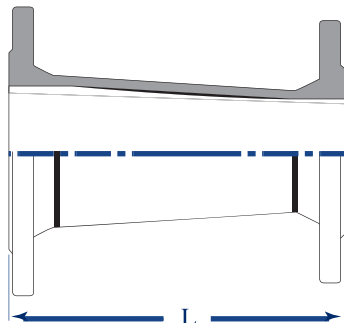


Size		L	Mass		
DN	dn		PN10	PN16	PN25
80	65	200	9	9	9.5
100	80	200	9.3	9.3	9.8
125	100	200	11.3	11.3	12.5
150	80	200	16.4	16.4	17.4
	100	200	15.3	15.3	16.8
	125	200	14	14	15.5
200	65	600	-	-	-
	80	600	-	-	-
	100	600	27.5	27.5	30
	125	300	-	-	-
	150	300	22	21.5	25
250	150	600	39	39	43.5
	200	300	30	30	35.5
300	100	700	-	-	-
	125	650	-	-	-
	150	650	48.5	48.5	55
	200	600	52	52	59
	250	300	40.5	40.5	49
350	200	650	61.5	64	74
	250	600	65.5	67.5	79
	300	300	49.5	52.5	66
400	200	700	73.5	77.5	90.5
	250	650	77	81.5	96
	300	600	80.5	85	101
	350	300	58	67	86
450	250	700	89.5	97	112
	300	650	93.5	101	117
	350	600	95.6	106	126

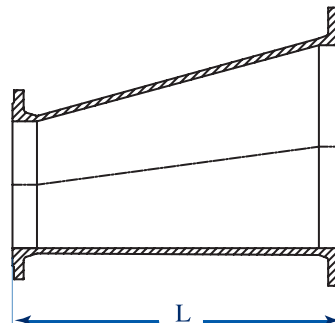
Size		L	Mass		
DN	dn		PN10	PN16	PN25
450	400	300	70.5	83	105
500	250	700	-	-	-
	300	700	109	122	138
	350	650	111	127	145
	400	600	110	130	153
600	450	300	83	104	126
	300	800	190	-	-
	350	750	147	174	193
	400	700	150	178	201
	450	650	151	183	206
700	500	600	149	190	216
	350	900	-	-	-
	400	800	196	212	-
	450	750	197	217	-
800	500	700	200	255	-
	600	600	195	236	-
	400	1000	-	-	-
	450	900	263	286	-
	500	800	256	284	-
900	600	700	260	298	-
	700	600	250	285	-
	450	1100	-	-	-
	500	1000	338	370	-
1000	600	800	318	360	-
	700	700	321	352	-
	800	600	308	352	-
1000	500	1200	-	-	-
	600	1000	422	490	-

# Flanged Fittings

## Flanged Concentric Reducer



## Flanged Eccentric Reducer



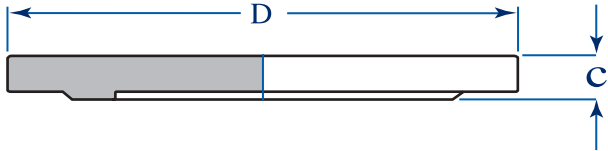
Size		L	Mass		
DN	dn		PN10	PN16	PN25
1000	700	800	396	442	-
	800	700	399	448	-
	900	600	373	438	-
1200	600	1450	-	-	-
	700	1345	711	777	-
	800	1160	688	758	-
	900	975	652	726	-
	1000	790	586	692	-
1400	800	1590	1034	1105	-
	900	1405	998	1074	-
	1000	1220	961	1052	-
	1200	850	814	947	-
1500	900	1620	1211	1317	-
	1000	1435	1174	1297	-
	1200	1065	1074	1216	-
	1400	695	914	1058	-
1600	1000	1650	1424	1547	-
	1200	1280	1324	1468	-
	1400	910	1103	1273	-
	1500	725	1073	1250	-
	1800	1710	1858	2024	-
1800	1400	1340	1701	1870	-
	1500	1155	1610	1810	-
	1600	970	1436	1664	-
	2000	2140	2512	2705	-
2000	1400	1770	2358	2553	-

Size		L	Mass		
DN	dn		PN10	PN16	PN25
2000	1500	1585	2268	2494	-
	1600	1400	2176	2404	-
	1800	1030	1800	2079	-
2200	1400	2200	3168	3385	-
	1500	2015	3070	3328	-
	1600	1830	2980	3240	-
	1800	1460	2712	2994	-
	2000	1090	2250	2570	-
	2400	2445	4006	4322	-
2400	1600	2260	3919	4238	-
	1800	1890	3557	3997	-
	2000	1520	3338	3704	-
	2200	1150	2765	3034	-
	2500	1200	-	-	-
2500	1400	-	-	-	-
	1500	-	-	-	-
	1600	-	-	-	-
	1800	-	-	-	-
	2000	-	-	-	-
	2200	-	-	-	-
2600	1600	2690	4934	5286	-
	1800	2320	4682	5047	-
	2000	1950	4364	4755	-
	2200	1580	3996	4419	-
	2400	1210	3311	3748	-



# Flanged Fittings

## Blank Flange



## Blank Flange with one, two or three branches from (DN1400-up to DN2600)



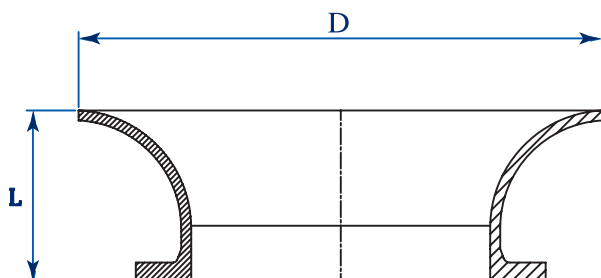
DN	Mass		
	PN10	PN16	PN25
100	4.3	4.3	4.8
150	7.2	7.2	8.3
200	11	11	13.3
250	16.9	16.9	21
300	24	24	30
350	29.5	33.5	43.5
400	36.5	44.5	58
450	-	-	-
500	56	77	94
600	85	121	144
700	123	156	-
800	172	218	-
900	224	286	-
1000	293	387	-
1200	575	662	-
1400	739	994	-
1500	-	-	-
1600	1239	1409	-
1800	1717	1858	-
2000	-	-	-
2200	-	-	-
2400	-	-	-
2500	-	-	-
2600	-	-	-

DN	Branch	h
1400	80	200
	100	200
	150	200
1500	80	200
	100	200
	150	200
1600	100	200
	150	200
	200	200
1800	100	200
	150	200
	200	200
2000	100	200
	150	200
	200	200
2400	100	200
	150	200
	200	200
2500	100	200
	150	200
	200	200
2600	100	200
	150	200
	200	200

Note: Dimensions a, b, c & Do are the same as flanges' dimensions

## Flanged Fittings

### Flanged Bell Mouth



DN	Dimensions		Mass		
	D	L	PN10	PN16	PN25
80	150	130	5.2	5.2	5.2
100	175	135	6.2	6.2	6.7
150	230	150	10.1	10.1	11.1
200	290	170	15	15	16.8
250	345	183	21	21	24.5
300	405	205	28	28.5	33.5
350	460	220	35	38.5	46
400	520	240	45	49.5	60.5
450	575	255	54	62	73
500	635	275	67	80	91
600	750	310	96	120	132
700	865	345	135	146	-
800	980	380	182	197	-
900	1095	415	231	250	-
1000	1210	450	297	331	-
1100	1325	485	370	405	-
1200	1440	520	457	512	-
1400	1670	590	646	702	-
1500	1785	625	763	851	-
1600	1900	660	906	995	-
1800	2130	730	1185	1297	-
2000	2360	800	1530	1668	-
2200	2590	870	1964	2135	-
2400	2820	940	2485	2713	-
2600	3050	1010	2989	3242	-

### Flanged Spigot

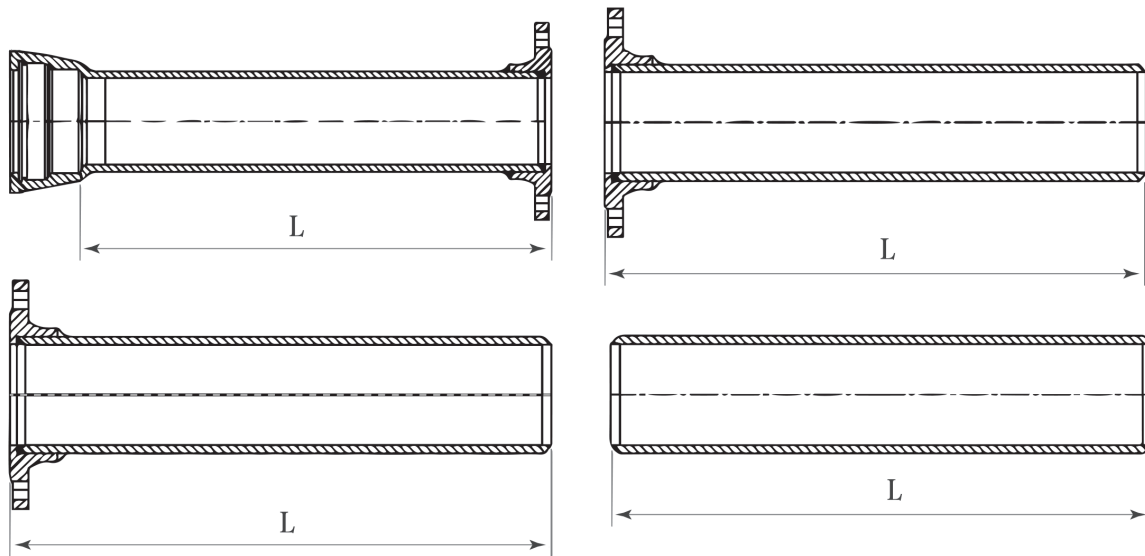


DN	L	Mass	
		PN10	PN16
80	350	7.8	7.8
100	360	9.6	9.6
150	380	15.6	15.6
200	400	22.5	22.5
250	420	32	32
300	440	43	43
350	460	52	55
400	480	64	70
450	500	77	86
500	520	94	109
600	560	133	159
700	600	179	194
800	600	226	245
900	600	272	295
1000	600	328	369
1100	600	394	430
1200	600	456	520
1400	710	664	732
1500	750	812	900
1600	780	922	1024
1800	850	1196	1322
2000	920	1523	1687
2200	990	1948	2115
2400	1 060	2409	2611
2600	1 130	2918	3153

## Fabricated Pipes

Diameter (DN)	100	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200
Minimum Length L (mm)	100	100	130	150	175	200	200	200	250	250	300	300	350	400	400
Maximum Length L (mm)	5800	5800	5800	5800	5800	5800	5800	5800	5800	5800	5800	5800	5800	5800	5800

Dimensions of flanges are given in pages 11, 12 & 13.



### Pipes with Puddle Flanges:

#### Puddle Flange Function

Problems keep on occurring when connecting pipes during construction work. Pipes laid in the ground must be introduced into concrete walls. In many cases, the presence of groundwater must be taken into account in these procedures.

Standing water penetrates on the outer side of the pipes right into the building, requiring costly elimination of the leaks.

Usage of puddle flanges may prevent the seepage of groundwater through the concrete walls.

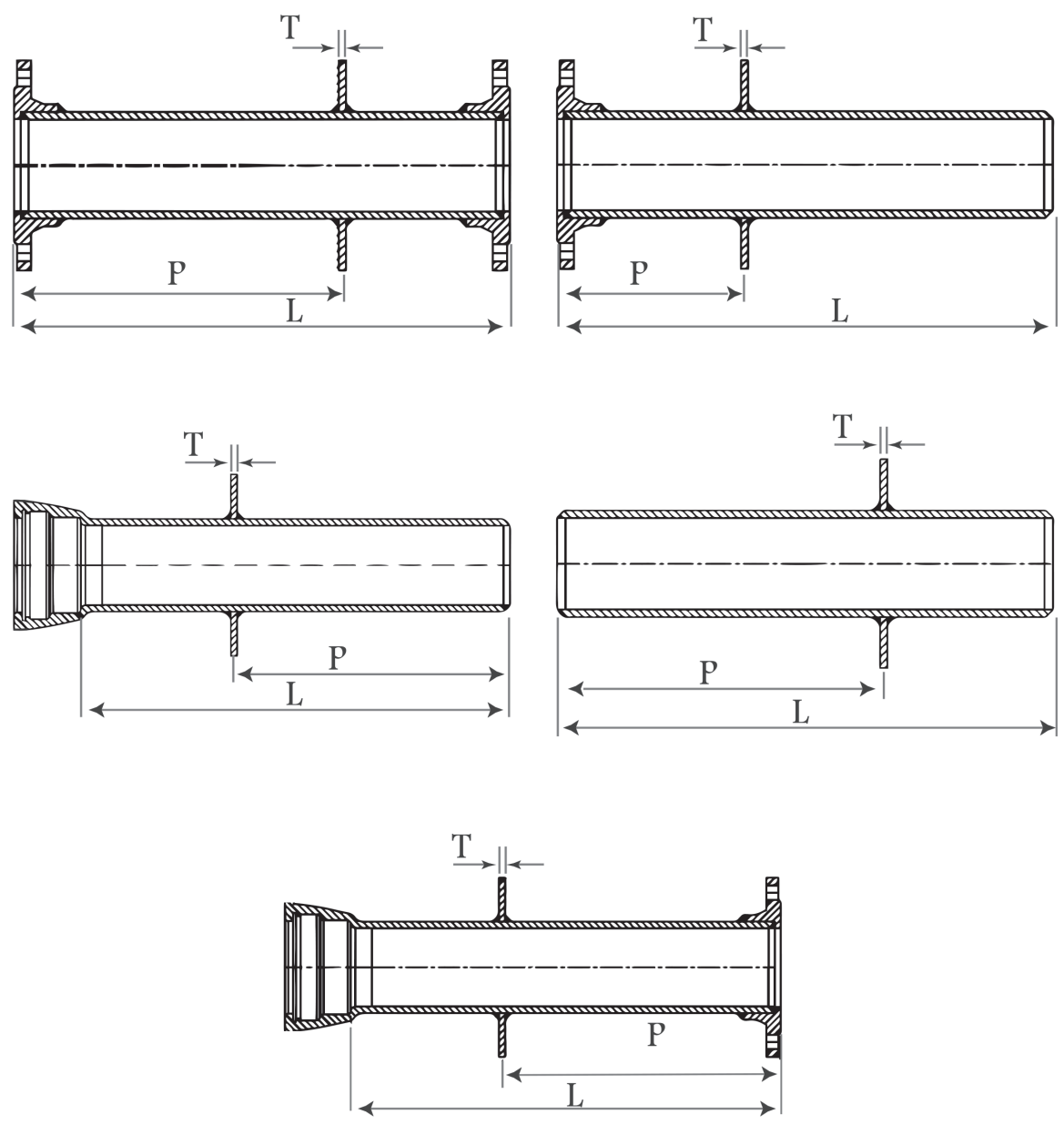
### Puddle Flanges Dimensions

DN	80 - 300	400 - 800	900-1200
Thickness- T	10	15	20
External Diameter	Same as the external diameter of the main flange according to the related PN designation		

## Fabricated Pipes

### Location of the Puddle Flange:

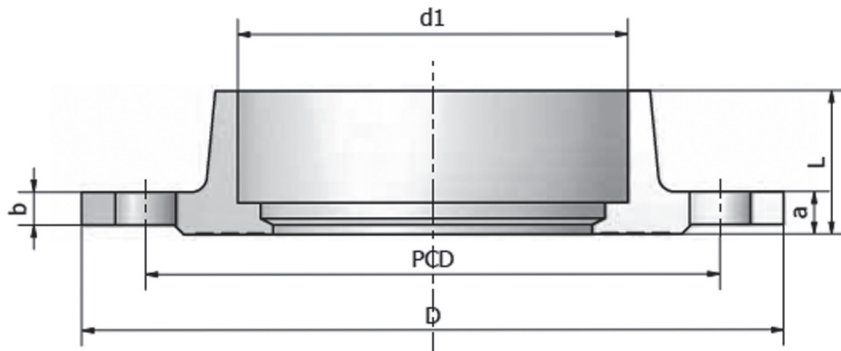
Puddle flange can be located at any position as per the request of the customer, dimension "P" shall be defined in the order / specifications



## Fabricated Pipes

### PN10 Neck Flanges

### MASSES, DIMENSIONS AND DRILLING DETAILS

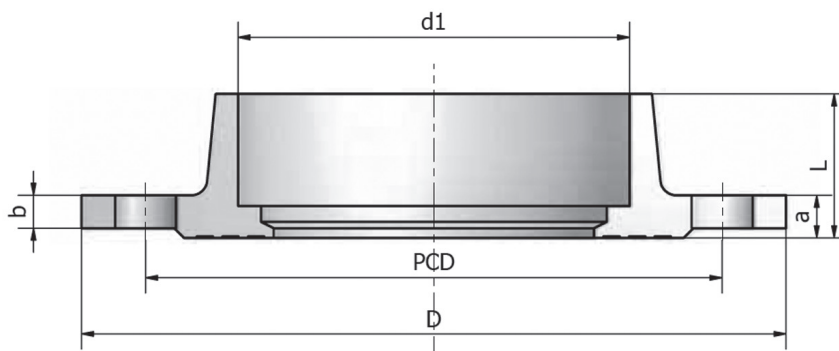


DN	D	d1	g	a	b	L	Bolt Holes Details			Bolt Sizes		Mass (Kg)
							PCD	NO	Dia	Diam.	Length	
80	200	98	132	19	16	43	160	8	19	M16	65	3
100	220	118	156	19	16	45	180	8	19	M16	65	4
150	285	170	211	19	16	50	240	8	23	M20	70	6.1
200	340	222	266	20	17	55	295	8	23	M20	80	8.5
250	400	274	319	22	19	60	350	12	23	M20	80	11.8
300	455	326	370	24.5	20.5	65	400	12	23	M20	80	15.6
350	505	378	429	24.5	20.5	70	460	16	23	M20	85	17.6
400	565	429	480	24.5	20.5	75	515	16	28	M24	85	20.5
450	615	380	527	25.5	21.5	80	565	20	28	M24	90	26
500	670	532	582	26.5	22.5	85	620	20	28	M24	100	27.6
600	780	635	682	30	25	95	725	20	31	M27	110	38.4
700	895	738	794	32.5	27.5	105	840	24	31	M27	110	50.2
800	1015	842	901	35	30	115	950	24	34	M30	120	66.7
900	1115	945	1001	37.5	32.5	125	1050	28	34	M30	130	78.7
1000	1230	1048	1112	40	35	135	1160	28	37	M33	130	98.6
1100	1340	1152	1215	42.5	37.5	145	1270	32	37	M33	140	125
1200	1455	1255	1328	45	40	155	1380	32	40	M36	140	144.2
1400	1675	1462	1530	46	41	165	1590	36	43	M39	160	178.2
1500	1785	1565	1640	47.5	42.5	175	1700	36	43	M39	150	220
1600	1915	1668	1750	49	44	185	1820	40	49	M45	160	244.7
1800	2115	1875	1950	52	47	195	2020	44	49	M45	160	283.5

## Fabricated Pipes

### PN16 Neck Flanges

### MASSES, DIMENSIONS AND DRILLING DETAILS



DN	D	d1	g	a	b	L	Bolt Holes Details			Bolt Sizes		Mass (Kg)
							PCD	NO	Dia	Diam.	Length	
80	200	98	132	19	16	43	160	8	19	M16	65	3
100	220	118	156	19	16	45	180	8	19	M16	65	4
150	285	170	211	19	16	50	240	8	23	M20	70	6.1
200	340	222	266	20	17	55	295	12	23	M20	70	8.3
250	400	274	319	22	19	60	355	12	28	M24	85	11.4
300	455	326	370	24.5	20.5	65	410	12	28	M24	85	15.2
350	520	378	429	26.5	22.5	70	470	16	28	M24	85	20.7
400	580	429	480	28	24	75	525	16	31	M27	100	26.1
450	640	380	544	30	26	80	585	20	31	M27	100	35
500	715	532	609	31.5	27.5	85	650	20	34	M30	110	42.8
600	840	635	720	36	31	95	770	20	37	M33	120	64.9
700	910	738	794	39.5	34.5	105	840	24	37	M33	130	65.3
800	1025	842	901	43	38	115	950	24	40	M36	140	85.9
900	1125	945	1001	46.5	41.5	125	1050	28	40	M36	140	102.6
1000	1255	1048	1112	50	45	135	1170	28	43	M39	160	140.1
1100	1355	1152	1215	43.5	48.5	145	1270	32	43	M39	160	180
1200	1485	1255	1328	57	52	155	1390	32	49	M45	160	208.5
1400	1685	1462	1530	60	55	165	1590	36	49	M45	180	246.3
1500	1820	1565	1640	62.5	57.5	175	1710	36	56	M52	180	261
1600	1930	1668	1750	65	60	185	1820	40	56	M52	200	346.7
1800	2130	1875	1950	70	65	195	2020	44	56	M52	200	409.4





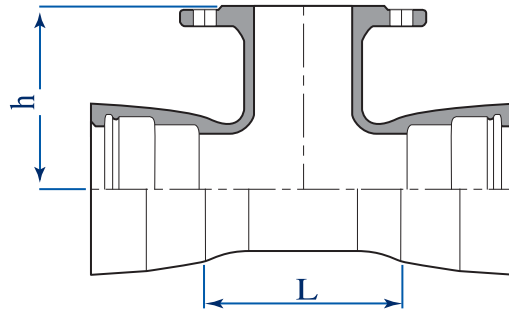
# Socket Fittings





# Socket Fittings

## Double Socket Tee with Flanged Branch

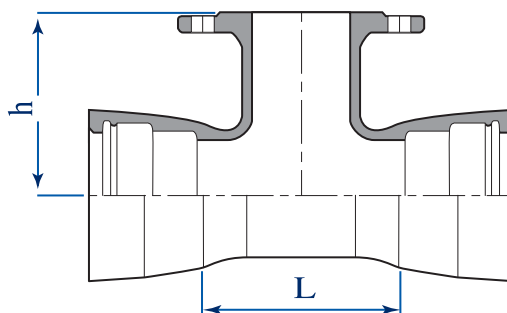


Size		Dimensions		Mass KG	
DN	dn	L	h	PN10	PN16
80	80	170	165	13.5	13.5
100	80	170	175	15.8	15.8
	100	190	180	17.2	17.2
150	80	170	205	23	23
	100	195	210	24.5	24.5
	150	255	220	29.5	29.5
200	80	175	235	31.5	31.5
	100	200	240	33.5	33.5
	150	255	250	39	39
	200	315	260	45.6	46
250	80	180	265	37.5	-
	100	200	270	43.5	44
	150	260	280	50	-
	200	315	290	57	57
	250	375	300	65	66
300	80	180	295	50	-
	100	205	300	55	55
	150	260	310	66	-
	200	320	320	71	71
	250	435	330	-	-
	300	435	340	89	91
350	80	205	330	59.5	-
	100	205	330	68	68
	150	325	350	79	-
	200	325	350	86	86
	250	440	360	90	-
	300	440	370	95	-
	350	495	380	117	120
400	80	185	355	75	-
	100	210	360	83	83
	150	270	370	97.5	-
	200	325	380	103	103
	250	440	390	110	-
	300	440	400	120	-

Size		Dimensions		Mass KG	
DN	dn	L	h	PN10	PN16
400	350	560	410	-	-
	400	560	420	150	156
450	100	215	390	90	-
	150	270	400	115	-
	200	330	410	121	-
	250	390	420	-	-
	300	445	430	150	-
	350	560	440	170	-
	400	560	450	-	-
	450	620	460	-	-
500	100	215	420	116	116
	150	330	440	137	-
	200	330	440	142	142
	250	450	450	155	-
	300	450	450	-	-
	350	450	460	160	-
	400	565	480	199	205
	450	680	490	-	-
	500	680	500	232	247
	600	100	350	500	-
150		350	500	-	-
200		340	500	189	189
250		455	510	-	-
300		455	520	190	200
350		570	530	210	220
400		570	540	258	263
450		800	560	-	-
500		800	570	-	-
600		800	580	340	366
700	100	345	525	-	-
	150	345	525	-	-
	200	345	525	300	310
	250	575	530	-	-
	300	575	540	-	-

# Socket Fittings

## Double Socket Tee with Flanged Branch



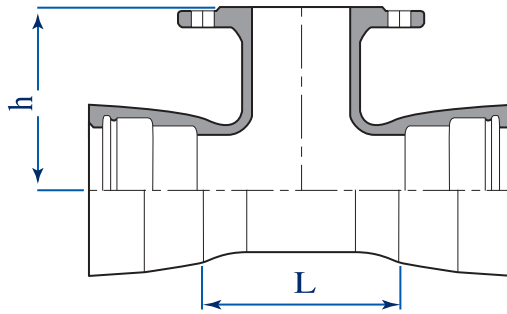
Size		Dimensions		Mass KG	
DN	dn	L	h	PN10	PN16
700	350	575	550	-	-
	400	575	555	320	325
	450	810	565	-	-
	500	810	575	-	-
	600	810	585	460	-
	700	925	600	460	475
800	200	350	585	306	310
	250	580	590	-	-
	300	580	600	-	-
	350	580	610	-	-
	400	580	615	398	403
	450	1045	625	-	-
	500	1045	635	-	-
	600	1 045	645	579	605
900	200	355	645	379	379
	250	590	650	400	420
	300	590	660	450	470
	350	590	670	-	-
	400	590	675	490	495
	450	1170	690	-	-
	500	1170	700	-	-
	600	1170	705	748	774
	700	1170	720	-	-
	800	1170	735	-	-
1000	200	360	705	462	462
	250	595	720	-	-
	300	595	725	-	-
	350	595	730	-	-
	400	595	735	591	596
	450	1290	745	-	-
	500	1290	755	-	-

Size		Dimensions		Mass KG	
DN	dn	L	h	PN10	PN16
1000	600	1290	765	947	973
	700	1290	780	-	-
	800	1290	800	-	-
	900	1290	815	-	-
	1000	1290	825	1044	1086
	600	1290	765	947	973
	700	1290	780	-	-
	800	1290	800	-	-
	900	1290	815	-	-
	1000	1290	825	1044	1086
1200	600	840	885	1000	1027
	700	1070	910	-	-
	800	1070	915	1190	1210
	900	1300	935	-	-
	1000	1300	945	1406	1448
	1200	1535	975	-	-
	600	1030	980	1478	1505
	700	1260	1000	-	-
1400	800	1260	1010	1709	1728
	900	1495	1030	-	-
	1000	1495	1040	1955	1996
	1200	1850	1070	-	-
	1400	1850	1100	-	-
	600	1035	1035	1622	1645
	700	1270	1050	-	-
	800	1270	1065	1887	1901
1500	900	1270	1085	-	-
	1000	1 500	1095	2157	2192
	1200	1500	1125	-	-
	1400	1950	1155	-	-
	1500	1950	1170	-	-
	600	1040	1 090	1908	1934
	700	1275	1110	-	-
	800	1275	1120	2480	2522



# Socket Fittings

## Double Socket Tee with Flanged Branch

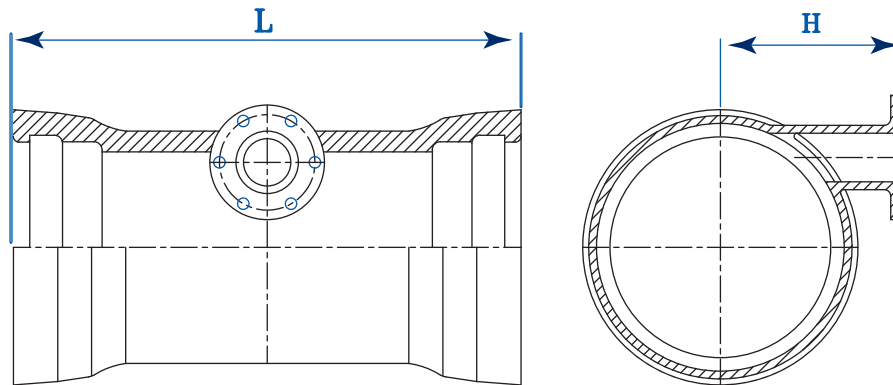


Size		Dimensions		Mass KG	
DN	dn	L	h	PN10	PN16
1600	900	1275	1130	-	-
	1000	1505	1150	2799	2863
	1200	1740	1180	-	-
	1400	1740	1210	-	-
	1500	2200	1230	-	-
	1600	2200	1240	-	-
1800	600	1055	1200	X	X
	700	1285	1220	X	X
	800	1285	1230	X	X
	900	1520	1250	X	X
	1000	1520	1260	X	X
	1200	1750	1290	X	X
	1400	1980	1320	X	X
	1500	1980	1330	X	X
	1600	2215	1350	X	X
	1800	2215	1380	X	X
2000	600	1065	1310	X	X
	700	1300	1330	X	X
	800	1300	1340	X	X
	900	1300	1350	X	X
	1000	1530	1370	X	X
	1200	1530	1400	X	X
	1400	1995	1430	X	X
	1500	1995	1450	X	X
	1600	2500	1460	X	X
	1800	2500	1490	X	X
2200	600	1080	1420	X	X
	700	1350	1430	X	X
	800	1350	1450	X	X
	900	1350	1460	X	X
	1000	1350	1480	X	X
	1200	1775	1510	X	X

Size		Dimensions		Mass KG	
DN	dn	L	h	PN10	PN16
2200	1400	1775	1540	X	X
	1500	1900	1560	X	X
	1600	1900	1570	X	X
	1800	2470	1600	X	X
	2000	2700	1630	X	X
	2200	2700	1660	X	X
2400	600	1090	1530	X	X
	700	1350	1545	X	X
	800	1350	1560	X	X
	900	1350	1575	X	X
	1000	1350	1590	X	X
	1200	1785	1620	X	X
	1400	1900	1650	X	X
	1500	1900	1656	X	X
	1600	1900	1680	X	X
	1800	2480	1710	X	X
	2000	2480	1740	X	X
	2200	2800	1770	X	X
	2400	2800	1800	X	X
	2600	600	1100	1640	X
700		1350	1660	X	X
800		1350	1670	X	X
900		1350	1685	X	X
1000		1500	1700	X	X
1200		1500	1730	X	X
1400		2030	1750	X	X
1500		2030	1770	X	X
1600		2030	1790	X	X
1800		2495	1820	X	X
2000		2725	1850	X	X
2200		3000	1880	X	X
2400		3000	1910	X	X

# Socket Fittings

## Double Socket Level Invert Tee with Flanged Branch



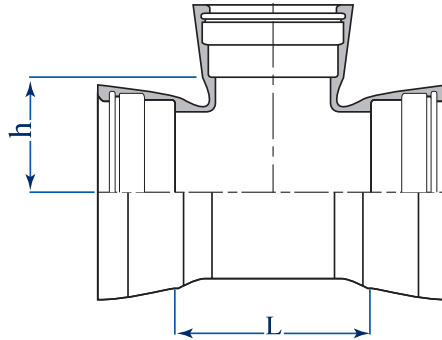
Size		Dimensions		Mass KG	
DN	dn	L	h	PN10	PN16
100	80	190	195		
150	80	195	220	35	35
200	80	200	250	40	40
	100	200	250	-	-
250	80	200	275	50	50
	100	200	275	52	52
300	80	205	305	62	62
	100	205	305	64	64
	150	260	305	70	-
350	80	205	340	-	-
	100	205	340	83	83
	150	325	340	-	-
400	80	210	365	-	-
	100	210	365	98	98
	150	325	365	-	-
	200	325	365	-	-
450	80	215	380	-	-
	100	215	380	115	115
	150	330	380	-	-
	200	330	380	-	-

Size		Dimensions		Mass KG	
DN	dn	L	h	PN10	PN16
500	80	215	400	-	-
	100	215	400	134	134
	150	330	400	145	-
	200	330	400	-	-
600	80	340	435	-	-
	100	340	435	173	173
	150	340	450	-	-
700	200	340	450	-	-
	150	345	500	-	-
800	200	345	500	300	300
	150	350	540	-	-
900	200	350	540	370	370
	150	355	580	-	-
1000	200	355	580	475	475
	150	360	630	-	-
1200	200	360	630	570	570
	200	445	750	840	840
1400	200	460	850	-	-
1500	200	465	900	-	-
1600	400	700	950	-	-



# Socket Fittings

## All Socket Tee

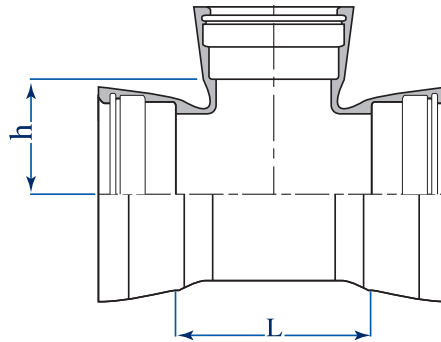


Size		Dimensions		Mass
DN	dn	L	h	KG
80	80	170	85	12.8
100	80	170	95	14.8
	100	190	95	16.1
150	80	170	120	21.5
	100	195	120	23.5
	150	255	125	28
200	80	175	145	30
	100	200	145	32
	150	255	150	37
	200	315	155	43
250	80	180	170	-
	100	200	170	59
	150	260	175	-
	200	315	180	72
	250	375	190	81
300	100	205	195	67.5
	150	260	200	-
	200	320	205	79.5
	250	375	210	-
	300	435	220	116
350	80	325	260	-
	100	325	260	81
	150	325	270	98
	200	325	270	-
	250	495	280	-
	300	495	285	-
	350	495	290	142
400	80	325	280	-
	100	325	285	131
	150	325	295	-
	200	325	295	145
	250	560	300	--
	300	560	310	-
	350	560	315	-

Size		Dimensions		Mass
DN	dn	L	h	KG
400	400	560	320	165
450	80	330	310	-
	100	330	315	-
	150	330	320	-
	200	330	325	-
	250	445	330	-
	300	445	335	-
	350	445	340	-
	400	620	345	-
500	450	620	350	-
	80	330	335	-
	100	330	340	221
	150	330	345	-
	200	330	345	188
	250	450	350	-
	300	450	360	201
	350	680	365	-
	400	680	370	-
	450	680	375	-
600	500	680	380	335
	80	340	385	-
	100	340	390	-
	150	340	395	248
	200	340	395	328
	250	570	400	-
	300	570	405	-
	350	570	410	-
	400	570	420	-
	450	800	425	-
	500	800	430	-
	600	800	440	474
700	200	345	450	309
	250	575	455	-
	300	575	460	-

# Socket Fittings

## All Socket Tee



Size		Dimensions		Mass
DN	dn	L	h	KG
700	350	575	465	-
	400	575	470	403
	450	810	480	-
	500	810	485	-
	600	810	490	-
	700	925	500	580
800	80	350	485	-
	100	350	485	-
	150	350	490	-
	200	350	495	332
	250	500	500	-
	300	500	510	-
	350	500	515	-
	400	500	520	382
	450	815	525	-
	500	815	530	-
	600	815	540	493
	700	1045	550	-
800	1045	565	747	
900	80	355	540	-
	100	355	540	-
	150	355	545	-
	200	355	545	826
	250	590	550	-
	300	590	555	-
	350	590	560	-
	400	590	570	464
	450	820	580	-
	500	820	585	-
	600	820	590	592
	700	1170	600	-
800	1170	615	-	
900	900	1170	625	943

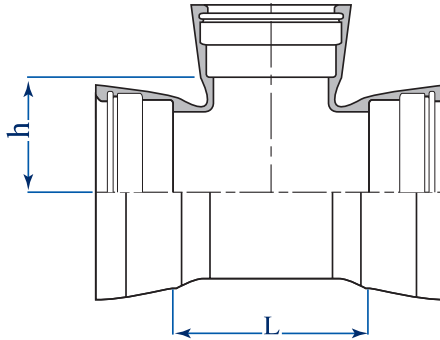
Size		Dimensions		Mass	
DN	dn	L	h	KG	
1000	80	360	590	-	
	100	360	590	-	
	150	360	595	-	
	200	360	595	1051	
	250	595	600	-	
	300	595	610	-	
	350	595	615	-	
	400	595	620	940	
	450	825	625	-	
	500	825	630	-	
	600	825	640	1009	
	700	1290	650	-	
1200	800	1290	665	-	
	900	1290	675	-	
	1000	1290	685	1644	
	400	605	720	978	
	500	840	730	-	
	600	840	740	1139	
	700	840	750	-	
	800	1070	765	-	
	900	1070	775	-	
	1000	1500	785	-	
	1200	1500	805	1900	
	1400	400	800	820	-
500		1030	830	-	
600		1030	840	-	
700		1030	850	-	
800		1300	865	-	
900		1300	875	-	
1000		1300	885	-	
1200		1850	905	-	
1400		1850	930	-	
1500		400	805	850	-





# Socket Fittings

## All Socket Tee

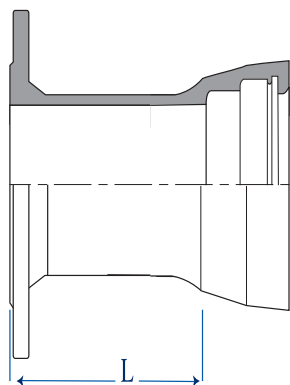


Size		Dimensions		Mass
DN	dn	L	h	KG
1500	500	1035	870	-
	600	1035	890	-
	700	1035	900	-
	800	1350	915	-
	900	1350	925	-
	1000	1350	935	-
	1200	1900	955	-
	1400	1900	980	-
	1500	1900	990	-
1600	400	810	910	-
	500	1040	925	-
	600	1040	940	-
	700	1040	955	-
	800	1390	965	-
	900	1390	975	-
	1000	1390	985	-
	1200	1900	1010	-
	1400	1900	1030	-
	1600	1900	1050	-
1800	700	1055	1040	-
	800	1400	1065	-
	900	1400	1075	-
	1000	1400	1085	-
	1200	1900	1110	-
	1400	1900	1130	-
	1500	1900	1140	-
	1600	2215	1150	-
	1800	2445	1175	-
2000	600	1065	1140	-
	800	1300	1165	-

Size		Dimensions		Mass
DN	dn	L	h	KG
2000	1000	1530	1185	-
	1200	1760	1210	-
	1400	1995	1230	-
	1500	1195	1240	-
	1600	2225	1250	-
	1800	2460	1275	-
	2000	2690	1295	-
	2200	800	1310	1265
1000		1540	1285	-
1200		1775	1310	-
1400		2005	1330	-
1500		2005	1340	-
1600		2240	1350	-
1800		2470	1375	-
2000		2700	1395	-
2200		2935	1415	-
2400		800	1320	1365
	1000	1555	1385	-
	1200	1785	1410	-
	1400	2020	1430	-
	1500	2020	1440	-
	1600	2250	1450	-
	1800	2480	1475	-
	2000	2715	1495	-
	2200	2945	1515	-
	2400	3180	1540	-
2600	800	1335	1465	-
	1000	1565	1485	-
	1200	1800	1510	-

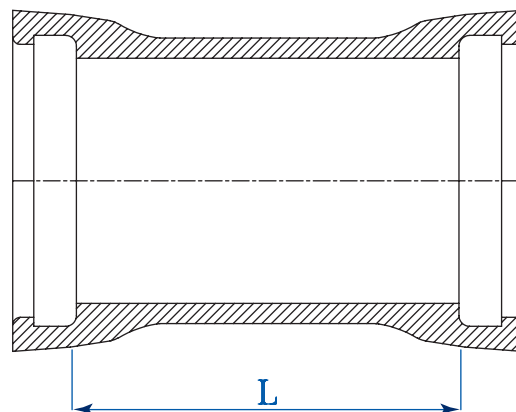
# Socket Fittings

## Flanged Socket



Size		Mass KG	
DN	L	PN10	PN16
80	130	7.4	7.4
100	130	9	9
125	135	-	-
150	135	14.2	14.2
200	140	20.5	20.5
250	145	28	28
300	150	37	37
350	155	45	48
400	160	55	60
450	165	70.5	78
500	170	78	93
600	180	108	135
700	190	144	159
800	200	189	208
900	210	235	258
1000	220	293	324
1200	240	456	521
1400	310	654	723
1500	330	778	857
1600	330	887	989
1800	350	X	X
2000	370	X	X
2200	390	X	X
2400	410	X	X
2600	480	X	X

## Double Socket Collar

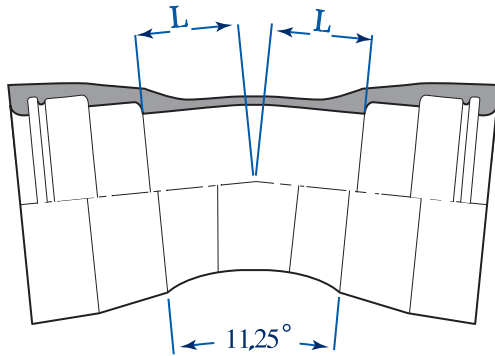


Size		Mass
DN	L	KG
80	160	7.9
100	160	9.9
125	165	-
150	165	15.9
200	170	23
250	175	31.5
300	180	41
350	185	52
400	190	64
450	195	88
500	200	93
600	210	129
700	220	172
800	230	223
900	240	282
1000	250	349
1200	270	560
1400	340	816
1500	350	974
1600	360	1094
1800	380	X
2000	400	X
2200	420	X
2400	440	X
2600	460	X

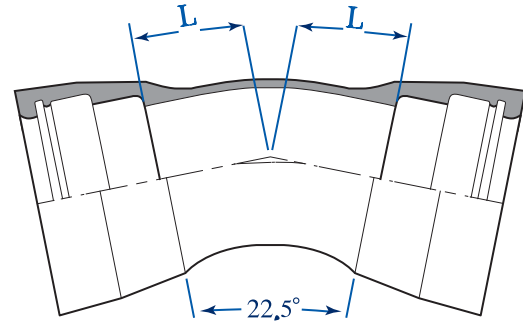


# Socket Fittings

Double Socket Bend 11¼°



Double Socket Bend 22½°

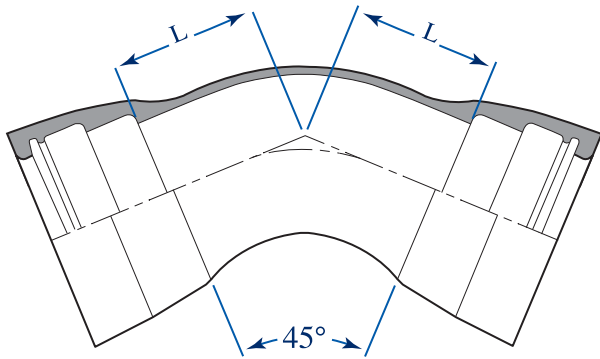


Size		Mass
DN	L	KG
80	30	7.1
100	30	8.9
150	35	14.8
200	40	22
250	50	30.5
300	55	40.5
350	60	52
400	65	65
450	70	83.5
500	75	96
600	85	134
700	95	181
800	110	239
900	120	305
1000	130	381
1200	150	568
1400	130	747
1500	140	-
1600	140	1007
1800	155	X
2000	165	X
2200	190	X
2400	205	X
2600	215	X
2600	460	X

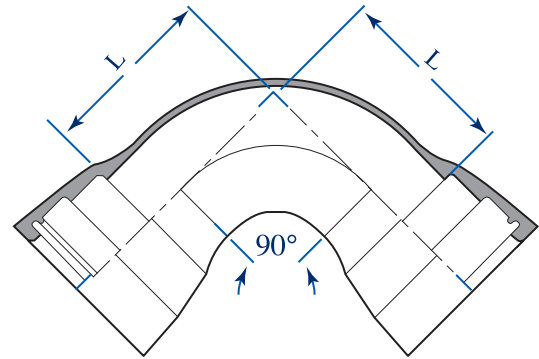
Size		Mass
DN	L	KG
80	40	7.3
100	40	9.3
150	55	15.9
200	65	24
250	75	33.5
300	85	44.5
350	95	58
400	110	74
450	120	95
500	130	111
600	150	157
700	175	217
800	195	287
900	220	373
1000	240	470
1200	285	716
1400	260	933
1500	270	-
1600	280	1259
1800	305	X
2000	330	X
2200	355	X
2400	380	X
2600	400	X
2600	460	X

# Socket Fittings

Double Socket Bend 45°



Double Socket Bend 90°

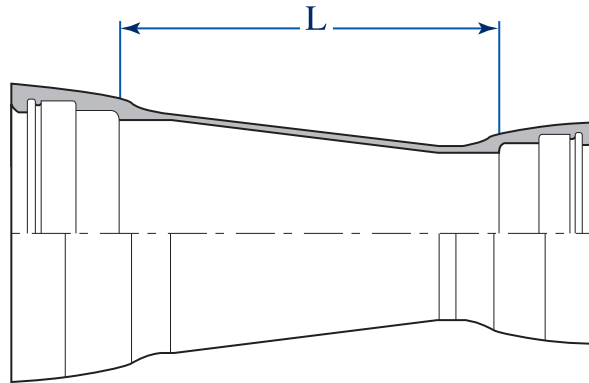


Size		Mass
DN	L	KG
80	55	7.7
100	65	10
150	85	17.4
200	110	27
250	130	38.5
300	150	53
350	175	70
400	195	89
450	220	117
500	240	139
600	285	202
700	330	282
800	370	378
900	415	496
1000	460	635
1200	550	986
1400	515	1273
1500	540	-
1600	565	1740
1800	610	X
2000	660	X
2200	710	X
2400	755	X
2600	805	X

Size		Mass
DN	L	KG
80	100	8.6
100	120	11.4
150	170	20.5
200	220	33
250	270	48.5
300	320	68
350	370	97.5
400	420	124
450	470	156
500	520	193
600	620	280
700	720	455
800	820	605
900	920	813
1000	1020	1045
1200	1220	1663
1400	1220	2220
1500	1270	-
1600	1290	3050
1800	1320	X
2000	1360	X
2200	1400	X
2400	1445	X
2600	1485	X

# Socket Fittings

## Double Socket Reducer

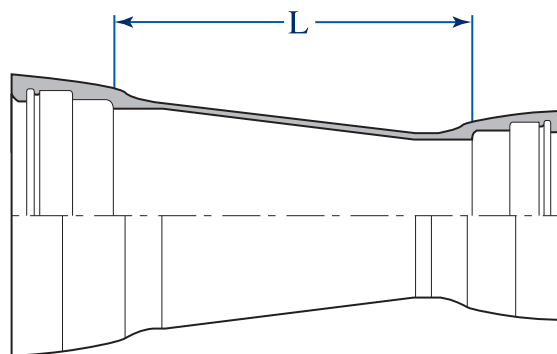


Size			Mass
DN	dn	L	KG
80	65	80	-
100	65	90	-
	80	90	8.5
150	80	190	13.5
	100	150	13.8
200	100	250	20.5
	150	150	21
	150	250	29
	200	150	29
300	150	350	39.5
	200	250	39.5
	250	150	38.5
350	200	360	52
	250	260	50
	300	160	49.5
400	200	460	61.5
	250	360	66
	300	260	64
	350	160	-
450	250	460	-
	300	360	75
	350	260	-

Size			Mass
DN	dn	L	KG
450	400	160	66
500	300	460	96.9
	350	360	-
	400	260	94
600	450	160	80.5
	350	560	-
	400	460	142
	450	360	-
700	500	260	131
	400	680	226
	450	580	-
	500	480	194
800	600	280	178
	450	770	-
	500	670	288
900	600	480	252
	700	280	229
	500	840	388
	600	640	341
900	700	480	318
	800	280	288

# Socket Fittings

## Double Socket Reducer



Size			Mass
DN	dn	L	KG
1000	600	840	446
	700	680	427
	800	480	392
	900	280	354
1200	700	1020	699
	800	870	648
	900	670	630
	1000	480	570
1400	800	760	877
	900	660	906
	1000	560	1015
	1200	360	711
1500	900	760	-
	1000	660	-
	1200	460	-
	1400	260	742
1600	1000	760	1427
	1200	560	1355
	1400	360	951
	1500	260	-
1800	1200	760	X
	1400	560	X

Size			Mass
DN	dn	L	KG
1800	1500	460	X
	1600	360	X
2000	1200	960	X
	1400	760	X
	1500	660	X
	1600	560	X
2200	1800	360	X
	1400	960	X
	1500	860	X
	1600	760	X
	1800	560	X
2400	2000	360	X
	1500	1060	X
	1600	960	X
	1800	760	X
	2000	560	X
2600	2200	360	X
	1600	1160	X
	1800	960	X
	2000	760	X
	2200	560	X
2600	2400	360	X



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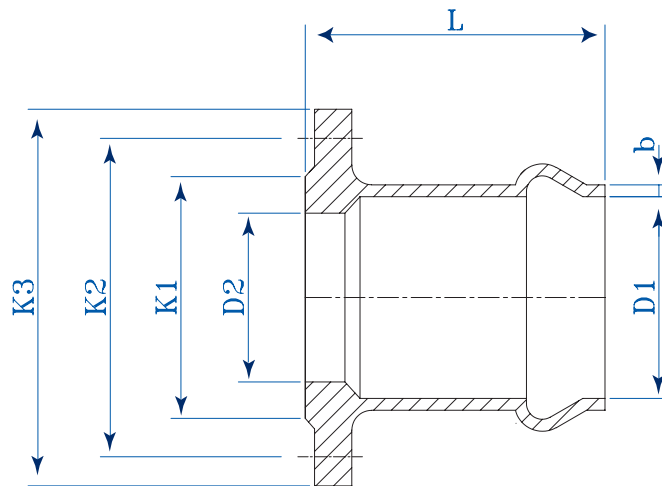
# Fittings ( PVC )







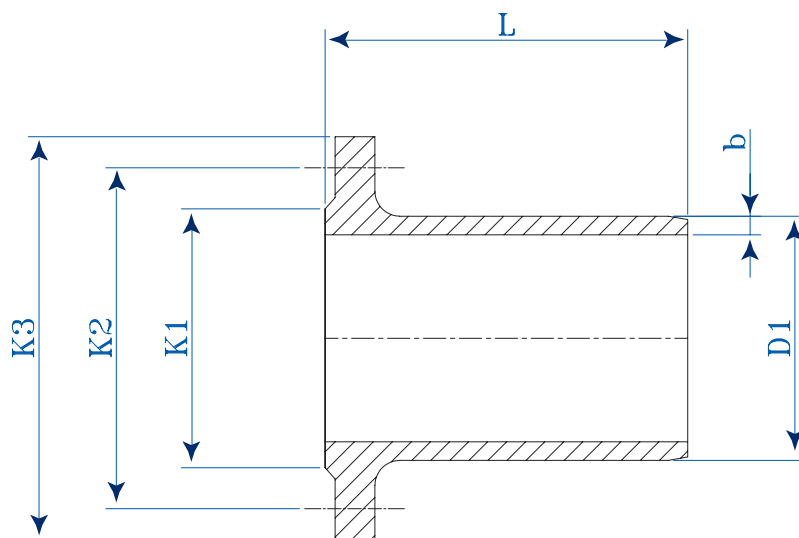
## FATENG SOKET ( PVC )



### FATENG SOKET ( PVC )

D.N	D1	D2	L	L1	K1	K2	K3	Holes		b	Kg
						10/16	10/16	PN10	PN16		
63	65.5	50	120	100	100	135	175	4	4	8	4
75	77.3	65	120	100	115	135	185	4	4	8	4.5
90	92.3	80	120	100	135	160	200	4		6	6
110	112.6	100	125	105	150	180	220	8	8	9	7
125	128	115	164	141	180	210	250	8	8	9.5	10
140	143	125	145	110	185	210	250	8	8	10	10.5
160	136.5	150	145	120	205	240	285	8	8	10	13
200	203.5	195	184	160	263	295	340	8	12	11	19
225	228.5	200	190	140	270	295	340	8	12	11	20
250	253.5	235	210	175	315	350/355	395/405	12	12	12	31
280	283.5	250	225	195	315	350/355	395/405	12	12	12	32
315	318.5	300	242	210	355	400/410	445/460	12	12	15	43
355	358.5	300	265	225	360	400/410	445/460	12	12	16	56
355	358.5	330	265	225	415	460/470	505/520	16	16	16	60
400	404	360	260	220	460	515/525	565/580	16	16	18	70
450	454	400	290	250	470	515/525	565/580	16	16	18	77
500	504	455	315	275	350	565/585	615/640	20	20	20	91
560	564	505	315	315	582/609	650/650	670/715	20	20	---	125
630	635	570	320	320	682/720	770/770	780/840	20	20	---	165
800	805	750	330	330	901/901	950/950	1015/1025	24	24	---	250
1000	1005	950	335	335	1112/1112	1160/1170	1230/1255	28	28	---	325

## FLANGED SPIOGOT ( PVC )

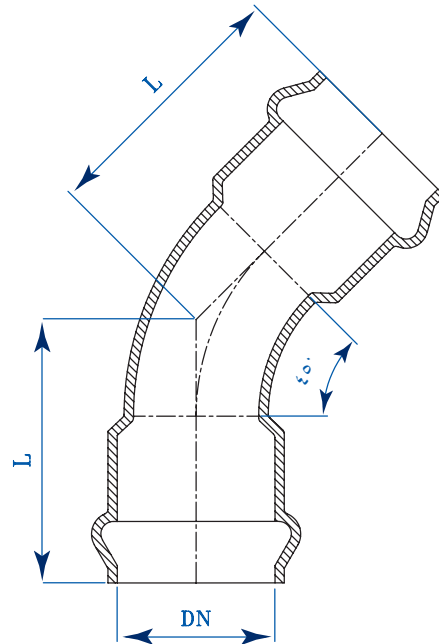
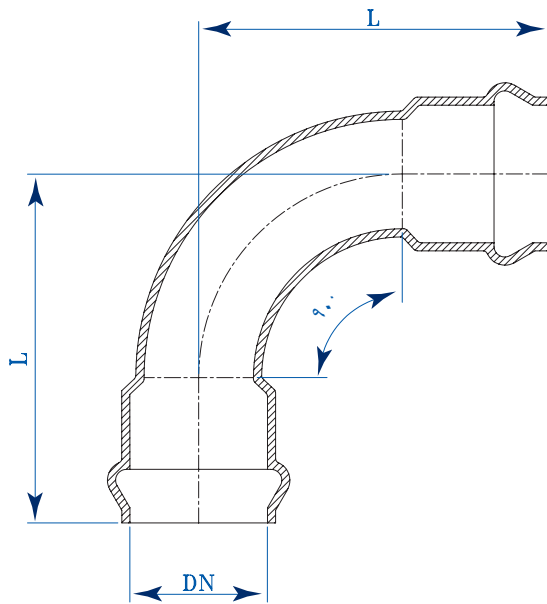


## FLANGED SPIOGOT ( PVC )

D.N	D1	L	L1	K1	K2	K3	Holes		b	Kg
					10/16	10/16	PN10	PN16		
63	63	115	95	95	125	175	4	4	8	4
75	75	135	115	115	145	185	4	4	8	4.5
90	90	140	120	135	160	200	4	8	9	6
110	110	158	130	150	180	220	8	8	9	8
125	125	160	135	180	210	250	8	8	9.5	10
140	140	172	150	185	210	250	8	8	10	10.5
160	160	180	160	205	240	285	8	8	10	13
200	200	185	145	260	295	340	8	12	11	21
225	225	227	200	270	295	340	8	12	11	21
250	250	180	150	310	350/355	395/405	12	12	12	31
280	280	185	150	315	350/355	395/405	12	12	12	32
315	310	235	205	355	400/410	445/460	12	12	15	37
355	355	270	240	365	400/415	445/460	12	12	16	58
355	355	270	240	415	460/470	505/520	16	16	16	62
400	400	290	255	476	515/525	565/580	16	16	18	76
450	450	305	265	480	515/525	565/580	16	16	18	92
500	500	325	276	525	565/585	615/640	20	20	20	122



## DOUBLE SOCKET BEND ( PVC )



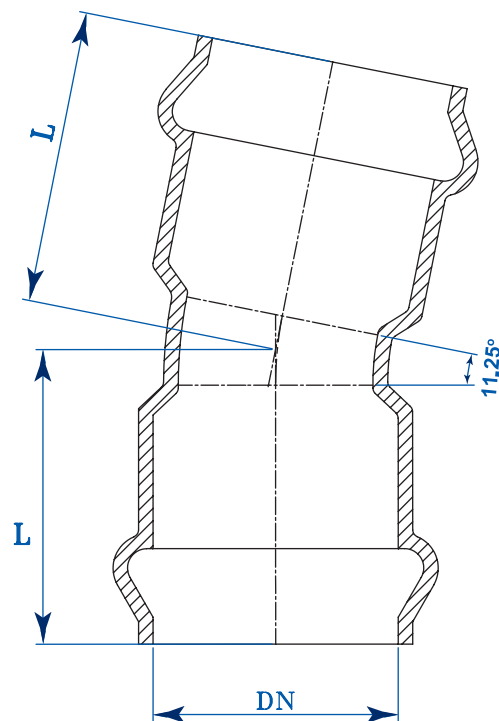
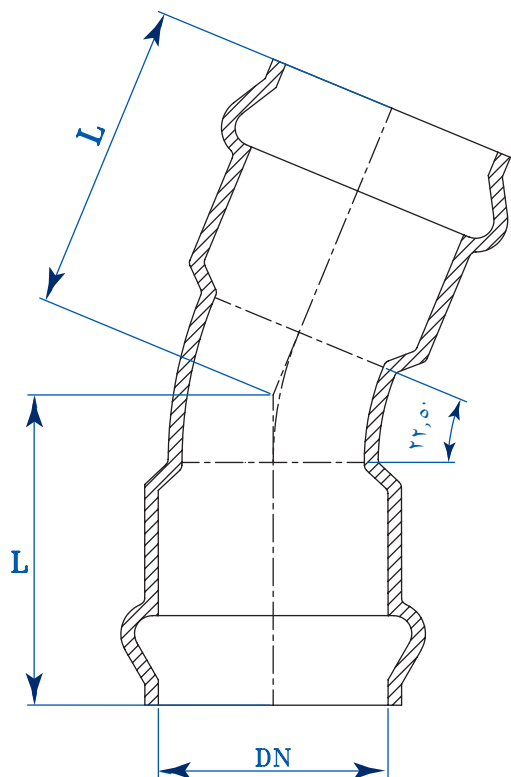
### DOUBLE SOCKET 90° BEND ( PVC )

D.N	L	Weight
63	152	3
75	173	4.5
90	200	5.7
110	228	9.2
125	258	11.5
140	264	15.5
160	299	21
200	365	31.5
225	386	39
250	454	52
280	458	68
315	519	92.5
355	577	110
400	634	180
500	749	245
630		
700		
800		

### DOUBLE SOCKET 45° BEND ( PVC )

D.N	L	Weight
63	102	2.8
75	113	4
90	120.5	5.5
110	128	7.5
125	133.5	10.3
140	139.5	13
160	149.5	17
200	165.7	26
225	186	36
250	204	43
280	208	49.5
315	219	70.5
355	227	88
400	234	120
500	244	165
630		
700		
800		

## DOUBLE SOCKET BEND ( PVC )



DOUBLE SOCKET 22.5° BEND ( PVC )

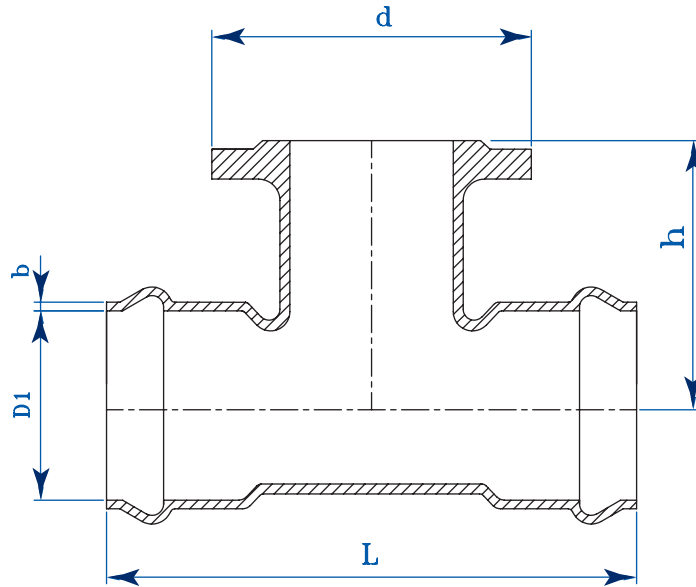
D.N	R	L	Weight
63	50	102	2.5
75	60	113	3.3
90	80	120.5	4.8
110	100	128	6.5
125	125	133.5	8.8
140	125	139.5	11
160	150	149.5	15
200	200	165.7	23
225	200	186	35
250	250	204	36
280	250	208	45.5
315	300	219	59.5

DOUBLE SOCKET 11.25° BEND ( PVC )

D.N	R	L	Weight
63	50	102	2.7
75	60	113	3.7
90	80	120.5	5
110	100	128	7.1
125	125	133.5	9.2
140	125	139.5	11.5
160	150	149.5	16
200	200	165.7	24.5
225	200	186	32
250	250	204	39.5
280	250	208	43
315	300	219	63.1



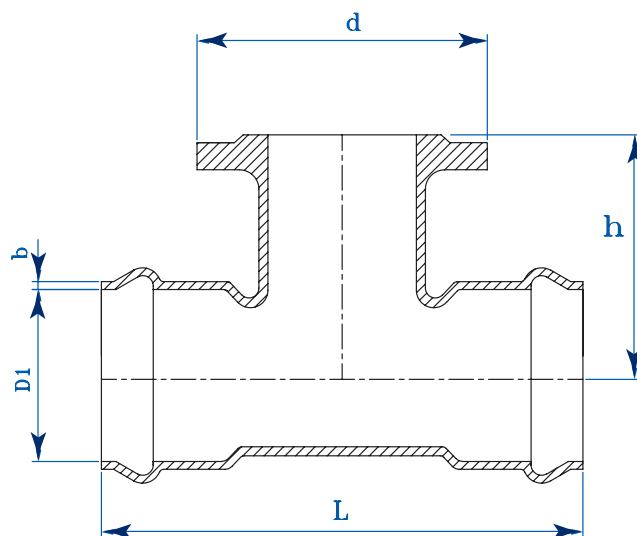
## DOUBLE SOCKET AND FLANGED TEE ( PVC )



### DOUBLE SOCKET TEE( PVC )

D.N	D1	L	h	b	d	Holes		Kg
						PN10	PN16	
63*50/60	65.3	280	140	8	175	4	4	8
75*50/60	77.3	295	151	8	175	4	4	8.5
90*50/60	92.3	292	160	9	175	4	4	9
90*80	92.3	328	165	9	200	4	8	12
110*50/60	112.5	326	172	9	175	4	4	13
110*80	112.5	330	172	9	200	4	8	14
110*100	112.5	355	175	9	220	8	8	16
125*50/60	128	440	233	9.5	175	4	4	18
125*80	128	440	233	9.5	200	4	8	18
125*100	128	440	233	9.5	220	8	8	20
125*125	128	440	235	9.5	250	8	8	22
140*50/60	143.3	350	190	10	175	4	4	17
140*80	143.3	360	200	10	200	4	8	17
140*100	143.3	370	200	10	220	8	8	18
140*125	143.3	428	202	10	250	8	8	22
160*50/60	163.5	376	200	10	175	4	4	20
160*80	163.5	376	200	10	200	4	8	21
160*100	163.5	376	202	10	202	8	8	22
160*125	163.5	473	206	10	250	8	8	26
160*150	203.5	473	208	10	285	8	8	30
200*50/60	203.5	480	220	11	175	4	4	29
200*80	203.5	480	220	11	200	4	8	30
200*100	203.5	480	230	11	220	8	8	32
200*125	203.5	480	240	11	250	8	8	33
200*150	228.5	350	270	11	285	8	8	35
200*200	228.5	350	270	11	340	8	12	50

## DOUBLE SOCKET AND FLANGED TEE ( PVC )

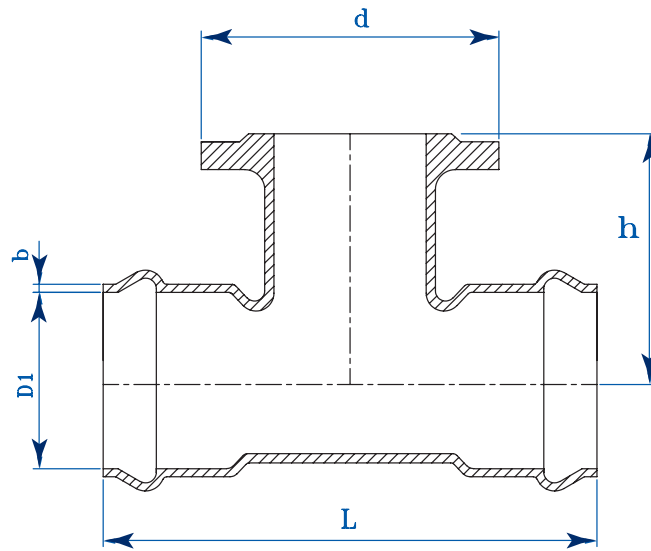


### DOUBLE SOCKET TEE( PVC )

D.N	D1	L	h	b	d	Holes		Kg
						PN10	PN16	
225*50/60	228.5	490	230	11	175	4	4	36
225*80	228,5	490	230	11	200	4	8	36
225*100	228.5	490	240	11	220	8	8	39
225*125	228.5	490	260	11	250	8	8	41
225*150	228.5	490	270	11	285	8	8	43
225*200	228.5	530	400	11	340	8	12	55
250*50/60	253,5	535	230	12	175	4	4	50
250*80	253.5	535	230	12	200	4	8	50
250*100	254	535	230	12	220	8	8	50
250*125	254	535	240	12	250	8	8	54
250*150	254	535	240	12	285	8	8	54
250*200	254	655	250	12	340	8	12	75
250*250	254	655	250	12	395/405	12	12	78
280*80	284	542	240	12	220	4	8	52
280*100	284	542	240	12	220	8	8	58
280*125	284	542	240	12	250	8	8	62
280*150	284	542	240	12	285	8	8	66
280*200	284	710	270	12	340	8	12	75
280*250	284	710	270	12	395/405	12	12	77
315*80	319	490	250	9	200	4	8	55
315*100	319	490	250	9	220	8	8	57



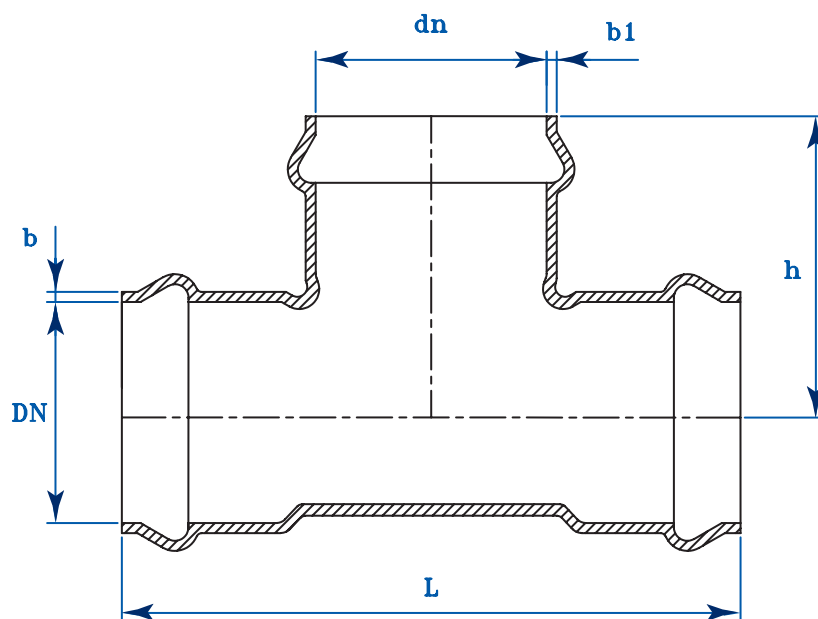
## DOUBLE SOCKET AND FLANGED TEE ( PVC )



### DOUBLE SOCKET TEE( PVC )

D.N	D1	L	h	b	d	Holes		Kg
						PN10	PN16	
315*125	319	490	250	9.5	250	8	8	61
315*150	319	490	250	10	285	8	8	62
315*200	319	600	270	11	340	8	12	110
315*250	319	600	270	12	295/405	12	12	110
315*300	359	600	280	9	445/480	12	12	110
355*100	359	600	310	9.5	220	8	8	75
355*125	359	600	310	10	250	8	8	76
355*150	359	600	310	11	285	8	8	77
355*200	359	840	340	12	340	8	12	105
355*250	359	840	340	14	395/405	12	12	115
355*300	404	840	350	9	400/460	12	12	122
400*100	404	710	310	9.5	220	8	8	100
400*125	404	710	310	10	250	8	8	102
400*150	404	710	310	11	285	8	8	105
400*200	404	880	340	12	340	8	12	118
400*250	405	880	340	12	395/405	12	12	125
400*300	405	880	350	14	445/460	12	12	135
400*350	405	880	350	14	505/520	16	16	140
500*100	404	710	400	9	220	8	8	150
500*125	404	710	400	9.5	250	8	8	154
500*150	404	710	400	10	285	8	8	158

# ALL SOCKET TEE SPECIFICATIONS



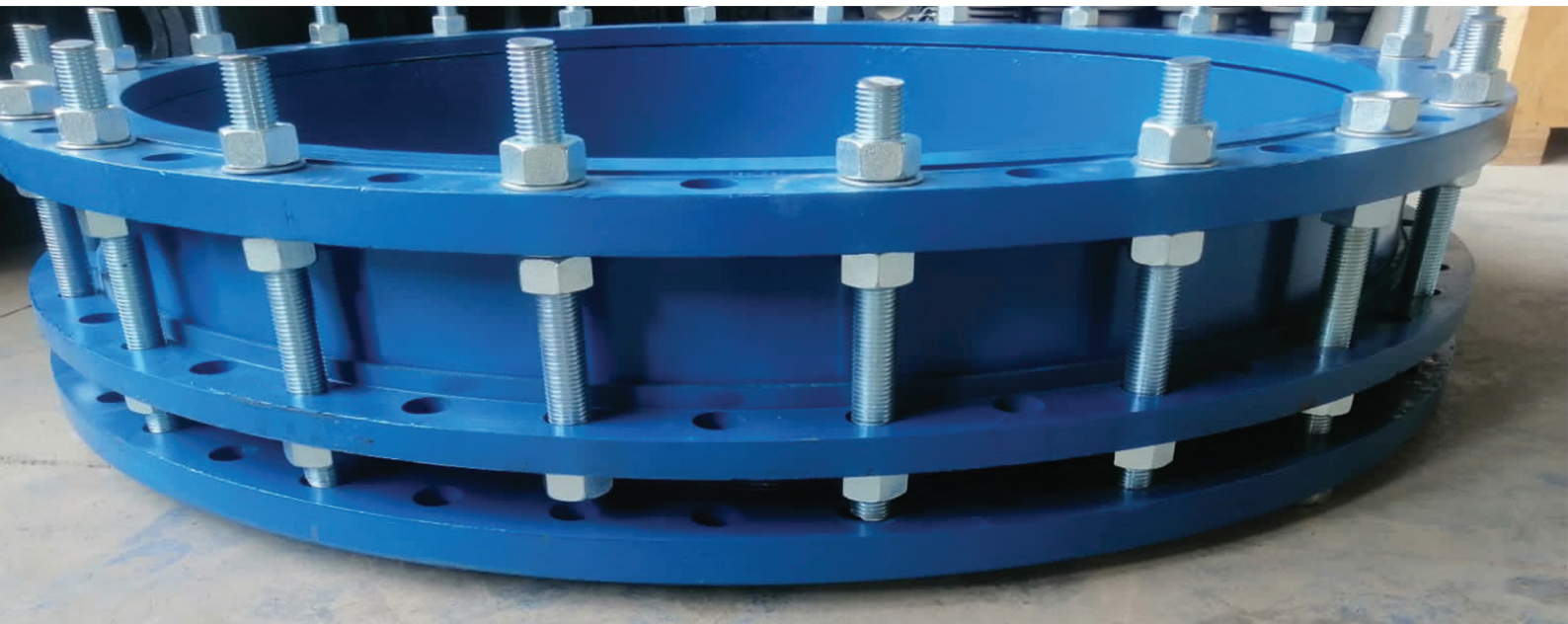
## ALL SOCKET TEE ( PVC )

DN*dn	L	h	b	b1	kg
63*63	280	137	8	8	4.8
75*63	295	147	8	8	6
75*75	295	149	8	8	6
90*63	302	149	9	8	7.8
90*75	302	149	9	8	8.2
90*90	328	164	9	9	8.8
110*63	326	158	9	8	10
110*75	326	158	9	8	11
110*90	352	173	9	9	11
110*110	372	186	9	9	12.5
125*63	440	180	9.5	8	15
125*75	440	180	9.5	8	15
125*90	440	190	9.5	9	16
125*110	440	200	9.5	9	17
125*125	440	220	9.5	9.5	18
140*63	350	171	10	8	13
140*75	350	171	10	8	14
140*90	378	186	10	9	15
140*110	398	199	10	9	17
140*125	428	210	10	9.5	18

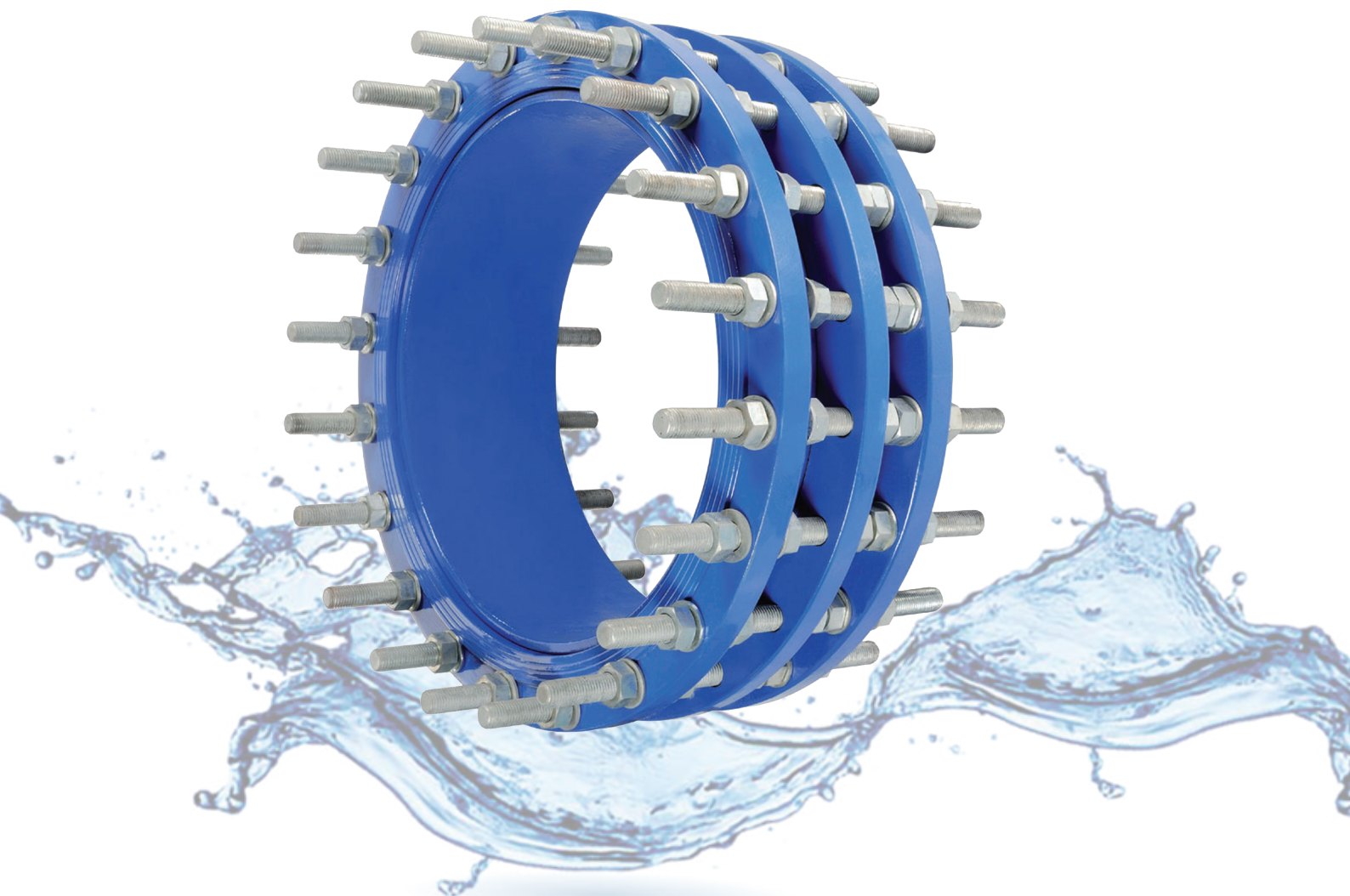
DN*dn	L	h	b	b1	kg
140*140	428	213	10	10	18.5
160*63	376	180	10	8	20
160*75	376	180	10	8	21
160*90	402	195	10	9	21
160*110	422	208	10	9	22
160*125	473	235	10	9	24
160*140	473	235	10	9	24
160*160	473	235	10	9	25
200*63-75	480	210	11	9	29
200*90	480	220	11	9	30
200*110	480	235	11	9	31
200*125	480	240	11	9	32
200*140	480	250	11	9	32
200*160	530	260	11	9	34
200*200	530	265	11	9	35
225*63-75	490	225	11	9	33
225*90-110	490	230	11	9	34
225*125	490	260	11	9	35
225*140	490	260	11	9	36
225*160	540	380	11	9	40

DN*dn	L	h	b	b1	kg
225*200	540	380	11	11	46
225*225	540	380	11	11	47
250*63-110	535	230	12	9	45
250*125-160	535	230	12	10	47
250*200-225	655	240	12	12	66
280*63-110	542	240	12	9	50
280*125-160	542	240	12	10	60
280*200-280	710	260	12	12	78
315*110-160	595	250	14	10	68
315*200-225	745	270	14	11	88
315*250-315	745	270	14	14	105
335*110-160	600	310	14	10	75
355*200-250	840	340	14	12	92
355*280-355	840	350	14	14	108
400*110-160	710	310	16	10	100
400*200-280	880	340	16	12	110
400*315-400	880	340	16	16	150
500*111-160	710	340	18	10	150





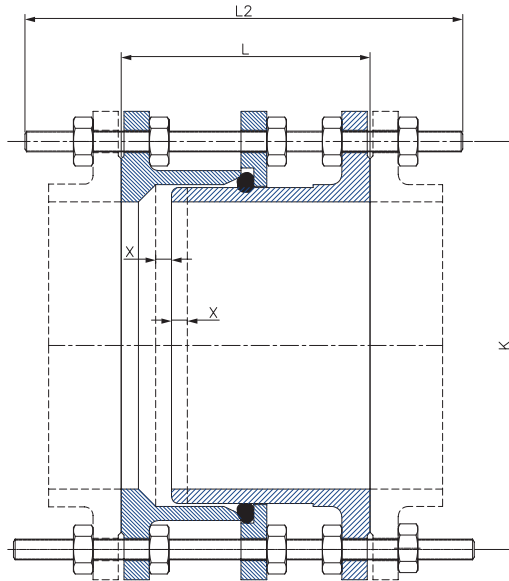
# DISMANTLING JOINT





# DISMANTLING JOINT

Disassembly and installation link

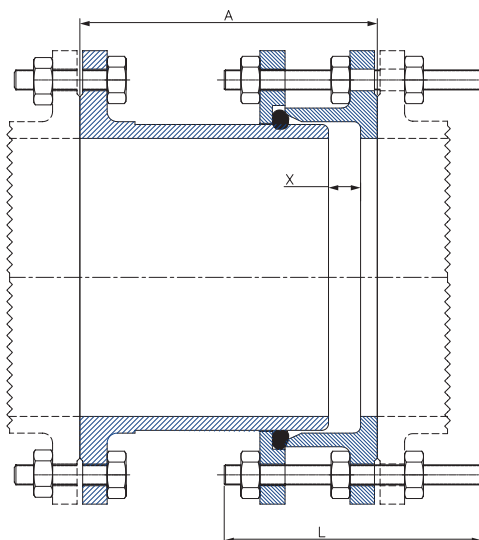


DN	Nominal Length (A)	Min. Length	Max Length	Adjustment (X)		Tie Bar PN 10			Tie Bar PN 16		
				Min	Max	No.	Dia	Length	No.	Dia	Length
80	185	165	205	2	42	4	M16	170	4	M16	170
100	185	165	205	2	42	4	M16	170	4	M16	170
125	188	168	208	2	42	4	M16	180	4	M16	180
150	188	168	208	2	42	4	M20	180	4	M20	180
200	188	168	208	2	42	4	M20	205	4	M20	205
250	188	168	208	2	42	4	M20	225	4	M24	225
300	188	168	208	2	42	4	M20	225	4	M24	225
350	302	277	327	5	55	4	M24	230	4	M24	230
400	302	277	327	5	55	4	M24	230	4	M27	250
450	302	277	327	5	55	5	M24	240	5	M27	250
500	302	277	327	5	55	5	M24	250	5	M30	265
600	302	277	327	5	55	5	M27	265	5	M33	290
700	302	277	327	5	55	6	M27	270	6	M33	290
800	302	277	327	5	55	6	M30	280	6	M36	300
900	302	277	327	5	55	7	M30	290	7	M36	300
1000	302	277	327	5	55	7	M33	310	7	M39	330
1200	320	290	350	5	65	8	M36	330	8	M45	330
1400	320	290	350	5	65	9	M39	365	9	M45	370
1500	320	290	350	5	65	9	M39	370	9	M52	370
1600	462	412	512	5	105	10	M45	430	10	M52	465
1800	462	412	512	5	105	11	M45	430	11	M52	465
2000	462	412	512	5	105	12	M45	500	12	M56	610
2200	462	412	512	5	105	13	M52	520	13	M56	635
2400	462	412	512	5	105	14	M52	530	14	M56	670
2600	462	412	512	5	105	15	M52	550	15	M56	700

- Could be modified the dimensions without any liability on the factory

# DISMANTLING JOINT

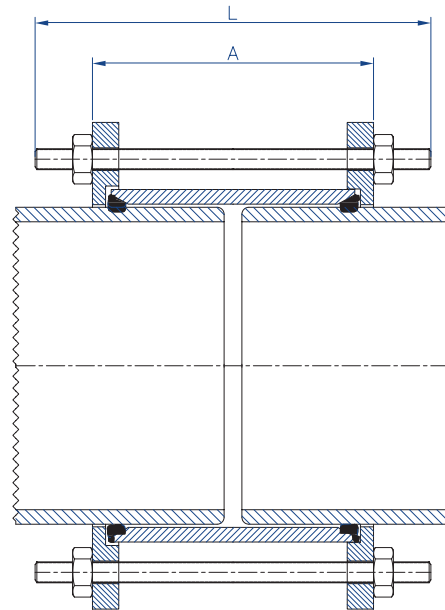
Disassembly and installation link



DN	Nominal Length (A)	Min. Length	Max Length	Adjustment (X)		Tie Bar PN 10			Tie Bar PN 16		
				Min	Max	No.	Dia	Length	No.	Dia	Length
80	185	165	205	2	42	4	M16	170	4	M16	170
100	185	165	205	2	42	4	M16	170	4	M16	170
125	188	168	208	2	42	4	M16	180	4	M16	180
150	188	168	208	2	42	4	M20	180	4	M20	180
200	188	168	208	2	42	4	M20	205	4	M20	205
250	188	168	208	2	42	4	M20	225	4	M24	225
300	188	168	208	2	42	4	M20	225	4	M24	225
350	302	277	327	5	55	4	M24	230	4	M24	230
400	302	277	327	5	55	4	M24	230	4	M27	250
450	302	277	327	5	55	5	M24	240	5	M27	250
500	302	277	327	5	55	5	M24	250	5	M30	265
600	302	277	327	5	55	5	M27	265	5	M33	290
700	302	277	327	5	55	6	M27	270	6	M33	290
800	302	277	327	5	55	6	M30	280	6	M36	300
900	302	277	327	5	55	7	M30	290	7	M36	300
1000	302	277	327	5	55	7	M33	310	7	M39	330
1200	320	290	350	5	65	8	M36	330	8	M45	330
1400	320	290	350	5	65	9	M39	365	9	M45	370
1500	320	290	350	5	65	9	M39	370	9	M52	370
1600	462	412	512	5	105	10	M45	430	10	M52	465
1800	462	412	512	5	105	11	M45	430	11	M52	465
2000	462	412	512	5	105	12	M45	500	12	M56	610
2200	462	412	512	5	105	13	M52	520	13	M56	635
2400	462	412	512	5	105	14	M52	530	14	M56	670
2600	462	412	512	5	105	15	M52	550	15	M56	700

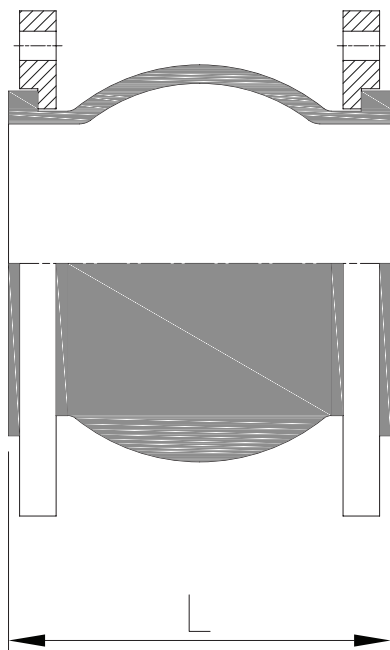


## Ds Tee With Flanged Branch



DN	SPIGOT Outside Diameter	A	No.	Studs Details	
				Din.	Length
80	98	70	4	M12	110
100	118	70	4	M12	110
125	140	75	4	M12	110
150	170	75	4	M12	110
200	222	75	4	M12	110
250	274	90	6	M12	140
300	326	90	6	M12	140
350	378	100	8	M12	140
400	429	100	8	M12	140
450	480	100	10	M12	140
500	532	100	10	M12	140
600	635	100	10	M12	140
700	738	100	12	M12	140
800	842	100	12	M12	140
900	945	100	12	M16	140
1000	1048	105	14	M16	160
1200	1255	115	14	M16	160
1400	1462	127	16	M16	160
1500	1565	127	18	M16	160
1600	1668	190	20	M16	230
1800	1875	190	22	M16	230
2000	2082	190	24	M16	230
2200	2288	225	26	M16	265
2400	2495	225	28	M16	265
2600	2702	225	30	M16	265

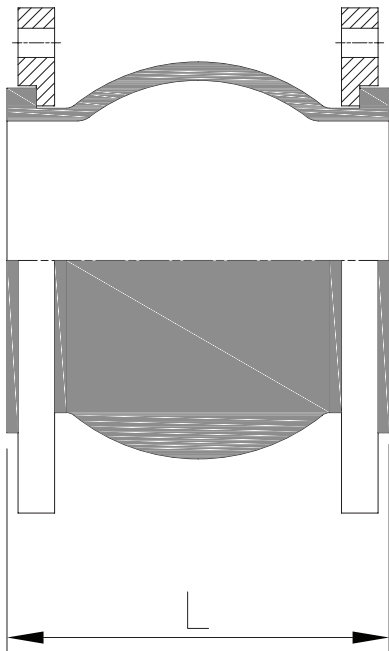
## Expansion Rubber Joint



Size mm(in.)	L mm	Axial mm	(-*)	Axial (+*) mm	Lateral (Y)mm	Angular (a)	Max.pressure barg(PSLG) UP TO 80 C.	vacuum mm Hg (in.Hg)
32(1 1/4")	95	8		4	8	15	16(225)	660(26)
40(1 1/2")	95	8		4	8	15	16(225)	660(26)
50(2")	105	8		5	8	15	16(225)	660(26)
65(2 1/2")	115	12		6	10	15	16(225)	660(26)
80(3")	130	12		6	10	15	16(225)	660(26)
100 (4")	135	18		10	12	15	16(225)	660(26)
125 (5")	170	18		10	12	15	16(225)	660(26)
150 (6")	180	18		10	12	15	16(225)	660(26)
200 (8")	205	25		14	22	15	16(225)	660(26)
250 (10")	240	25		14	22	15	16(225)	660(26)
300 (12")	260	25		14	22	15	16(225)	660(26)
350 (14")	265	25		16	22	15	10(150)	660(26)
400 (16")	265	25		16	22	15	7(100)	660(26)
450 (18")	265	25		16	22	15	7(100)	660(26)
500 (20")	265	25		16	22	15	7(100)	660(26)



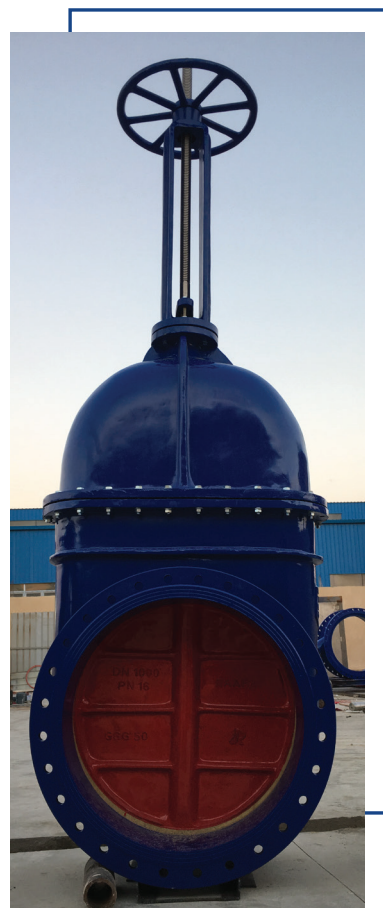
## Expasion Rubber Joint



Size mm(in.)	L mm	Axial mm	Axial (-*) mm	Axial (+*) mm	Later al (Y)mm	Angular (a)	Max.pressure barg(PSLG) UP TO 80 C.	vacuum mm Hg (in.Hg)
600 (24")	265	25	16	16	22	15	7(100)	660(26)
700 (28")	265	25	16	16	22	15	7(100)	660(26)
800 (32")	265	25	16	16	22	12	7(100)	660(26)
900 (36")	265	25	16	16	22	10	7(100)	660(26)
1000 (40")	265	25	16	16	22	10	7(100)	660(26)
1200 (48")	265	25	16	16	22	8	7(100)	660(26)
1400	300	25	16	16	22	8	7(100)	660(26)
1500	300	25	16	16	22	8	7(100)	660(26)
1600	300	25	16	16	22	8	7(100)	660(26)
1800	300	25	16	16	22	8	7(100)	660(26)
2000	300	25	16	16	22	8	7(100)	660(26)



INTERNATIONAL CO.  
FOR METALS MELTING



# Valves

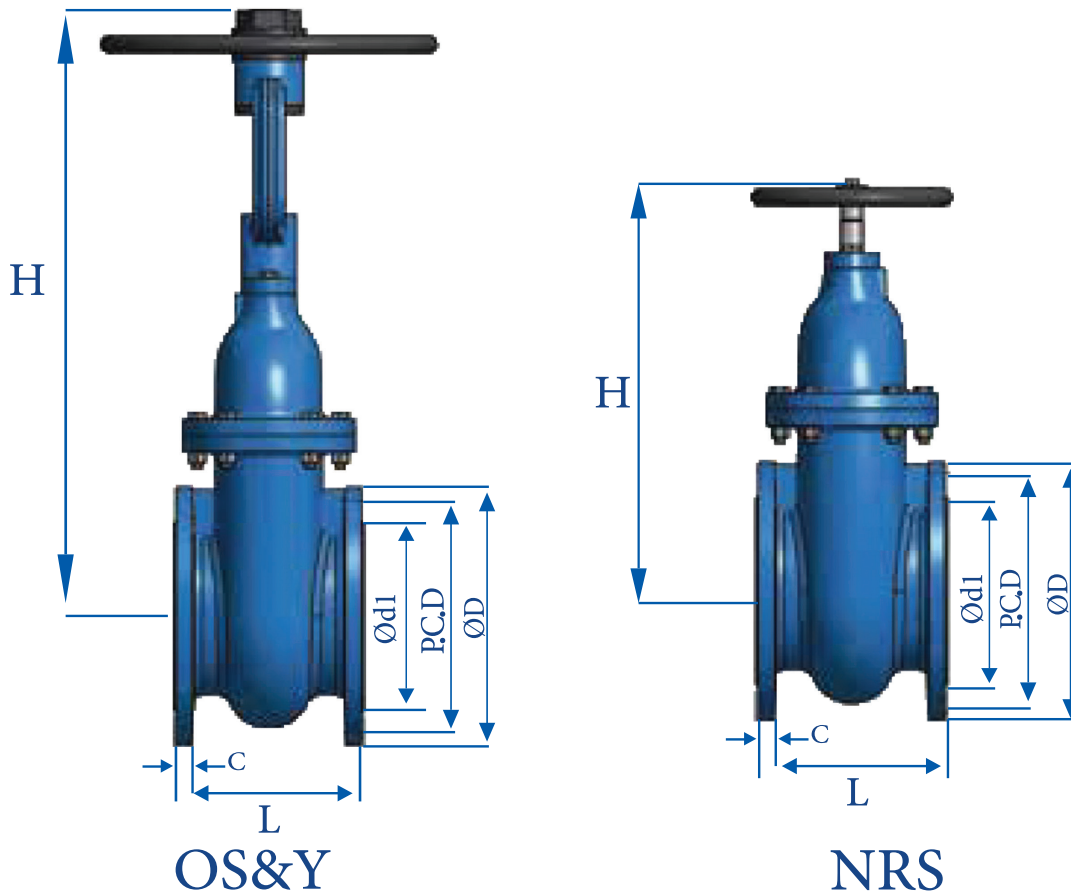






# GATE VALVE DIMENSIONS

## METAL SEATED GATE VALVE SERIES 3100



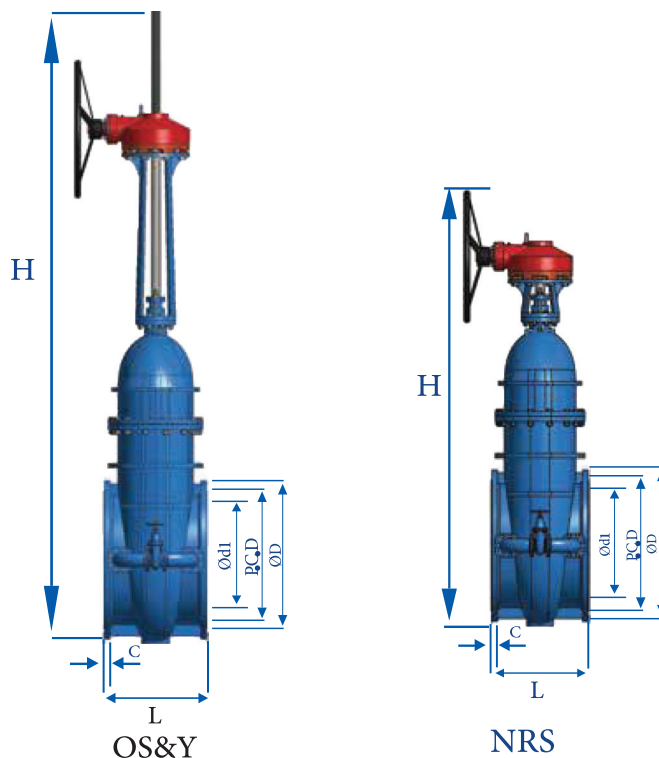
SERIES 3100 NRS and OS&Y

Dimensions in mm

DN	L	Maximum Height		Flanges & Drilling Details of PN10						Flanges & Drilling Details of PN16					
		H (NRS)	H (Open) (OS&Y)	D	d1	C	Bolt hole details			D	d1	C	Bolt hole details		
							p.c.d	Ø	no.				p.c.d	Ø	no.
80	180	310	520	200	132	19	160	19	8	200	132	19	160	19	8
100	190	350	650	220	156	19	180	19	8	220	156	19	180	19	8
150	210	460	850	285	211	19	240	23	8	285	211	19	240	23	8
200	230	510	960	340	266	20	295	23	8	340	266	20	295	23	12
250	250	650	1000	400	319	22	350	23	12	400	319	22	355	28	12
300	270	715	1115	455	370	24.5	400	23	12	455	370	24.5	410	28	12
350	290	1400	1950	520	429	26.5	460	23	16	520	429	26.5	470	28	16
400	310	1500	2100	580	480	28	515	28	16	580	480	28	525	31	16
450	330	1600	2500	640	527	30	565	28	20	640	544	30	585	31	20
500	350	1800	2600	715	582	31.5	620	28	20	715	609	31.5	650	34	20
600	390	2000	3000	840	682	36	725	31	20	840	720	36	770	37	20

# \*\*GATE VALVE DIMENSIONS

## \*\* GATE VALVE SERIES 3300



### SERIES 3300 NRS and OS&Y

Dimensions in mm

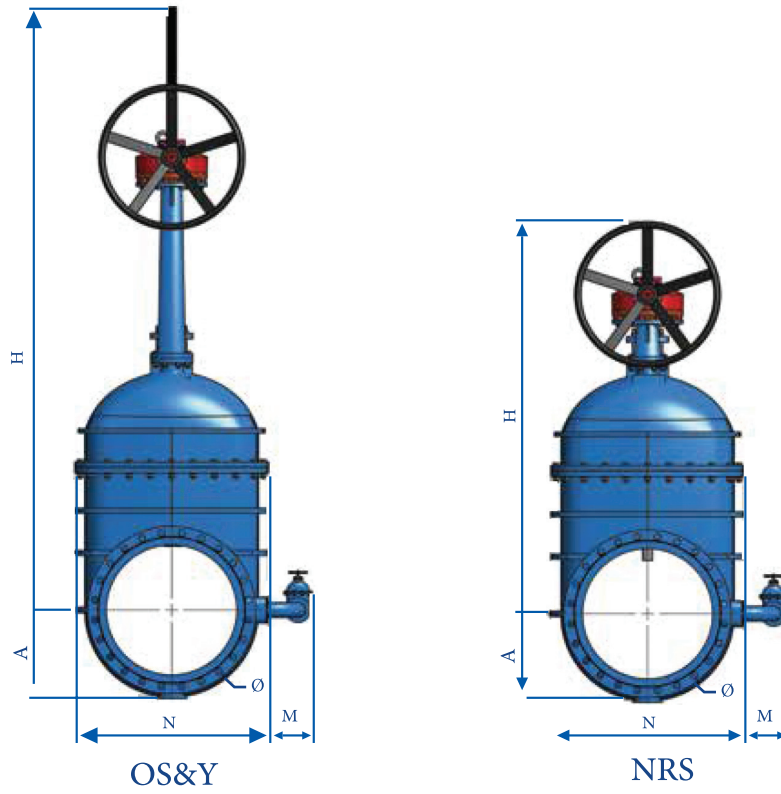
DN	L	Maximum Height		Approx (weigh Kg)		Flanges & Drilling Details of PN10						Flanges & Drilling Details of PN16					
		H (NRS)	H (Open) (OS&Y)	(NRS)	(OS&Y)	D	d1	C	Bolt hole details			D	d1	C	Bolt hole details		
									p.c.d	Ø	no.				p.c.d	Ø	no.
80	203	345	550	35	40	200	132	19	160	19	8	200	132	19	160	19	8
100	229	360	660	43	47	220	156	19	180	19	8	220	156	19	180	19	8
150	267	460	840	46	85	285	211	19	240	23	8	285	211	19	240	23	8
200	292	700	1200	112	120	340	266	20	295	23	8	340	266	20	295	23	12
250	330	800	1320	194	185	400	319	22	350	23	12	400	319	22	355	28	12
300	356	850	1450	253	275	455	370	24.5	400	23	12	455	370	24.5	410	28	12
350	381	1350	1900	308	320	520	429	26.5	460	23	16	520	429	26.5	470	28	16
400	406	1500	2000	364	485	580	480	28	515	28	16	580	480	28	525	31	16
450	432	1650	2300	508	600	640	527	30	565	28	20	640	544	30	585	31	20
500	457	1750	2400	652	740	715	582	31.5	620	28	20	715	609	31.5	650	34	20
600	508	2000	3200	1052	1125	840	682	36	725	31	20	840	720	36	770	37	20
700	610	2200	3500	1321	1460	910	794	39.5	840	31	24	910	794	39.5	840	37	24
800	660	2500	4200	1841	1920	1025	901	43	950	34	24	1025	901	43	950	40	24
900	711	3000	4500	2100	2250	1125	1001	46.5	1050	34	28	1125	1001	46.5	1050	40	28
1000	811	3100	4600	3100	3250	1230	1112	40	1160	37	28	1255	1112	50	1170	43	28
1200	915	3500	5500	5810	6200	1455	1328	45	1380	40	32	1485	1328	57	1390	49	32
1400	1450	4200	6300	9000	9450	1675	1530	46	1590	43	36	1685	1530	60	1590	49	36
1500	1100	4500	6800	11000	11570	1785	1640	47.5	1700	43	36	1820	1640	62.5	1710	56	36

Raafat Reserves the right to change the above dimensions without any prior notice



# GATE VALVE DIMENSIONS

## GATE VALVE SERIES 4300



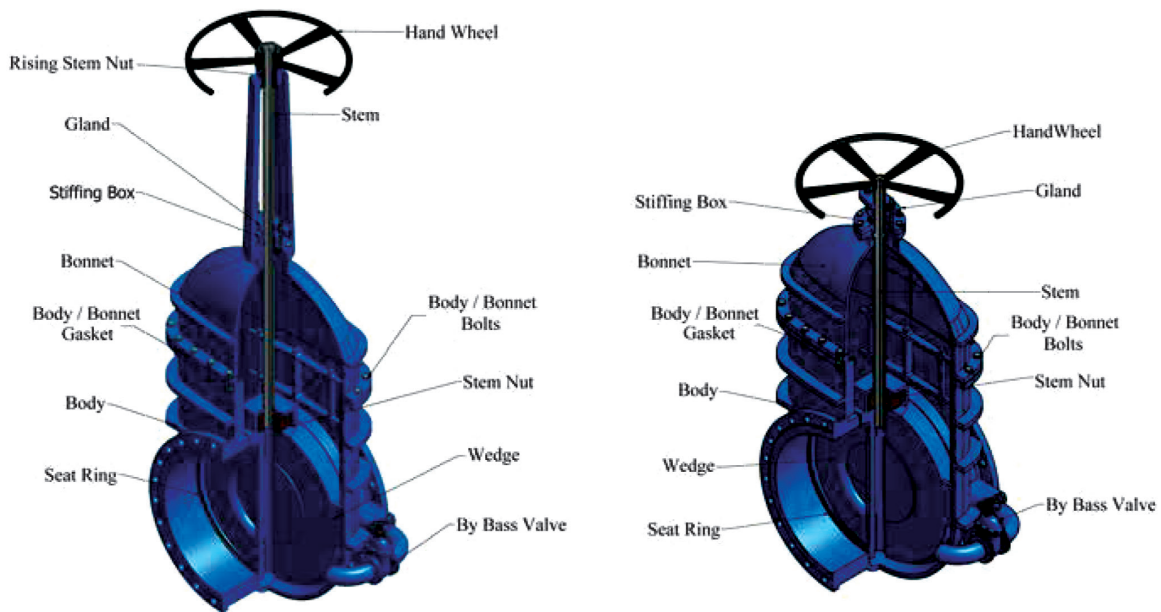
### SERIES 4300 NRS and OS&Y

Dimensions in mm

DN	L	Maximum Height		Flanges & Drilling Details of PN10						Flanges & Drilling Details of PN16					
		H (NRS)	H (Open) (OS&Y)	D	d1	C	Bolt hole details			D	d1	C	Bolt hole details		
							p.c.d	Ø	no.				p.c.d	Ø	no.
400	600	1500	2100	580	480	28	515	28	16	580	480	28	525	31	16
450	650	1600	2500	640	527	30	565	28	20	640	544	30	585	31	20
500	700	1800	2600	715	582	31.5	620	28	20	715	609	31.5	650	34	20
600	800	2000	3000	840	682	36	725	31	20	840	720	36	770	37	20
700	900	2100	3500	910	794	39.5	840	31	24	910	794	39.5	840	37	24
800	1000	2400	4100	1025	901	43	950	34	24	1025	901	43	950	40	24
900	1100	3000	4500	1125	1001	46.5	1050	34	28	1125	1001	46.5	1050	40	28
1000	1200	3100	4600	1255	1112	50	1160	37	28	1255	1112	50	1170	43	28
1100	1200	3100	4600	1355	1215	53.5	1270	37	32	1355	1215	53.5	1270	43	32
1200	1400	3500	5600	1485	1328	57	1380	40	32	1485	1328	57	1390	49	32
1400	1450	4200	6650	1685	1530	60	1590	43	36	1685	1530	60	1590	49	36
1500	1500	4500	7000	1820	1640	62.5	1700	43	36	1820	1640	62.5	1710	56	36
1600	1500	4500	7000	1930	1750	65	1820	49	40	1930	1750	65	1820	56	40
1800	1600	5200	8500	2130	1950	70	2020	49	44	2130	1950	70	2020	56	44

Raafat Reserves the right to change the above dimensions without any prior notice

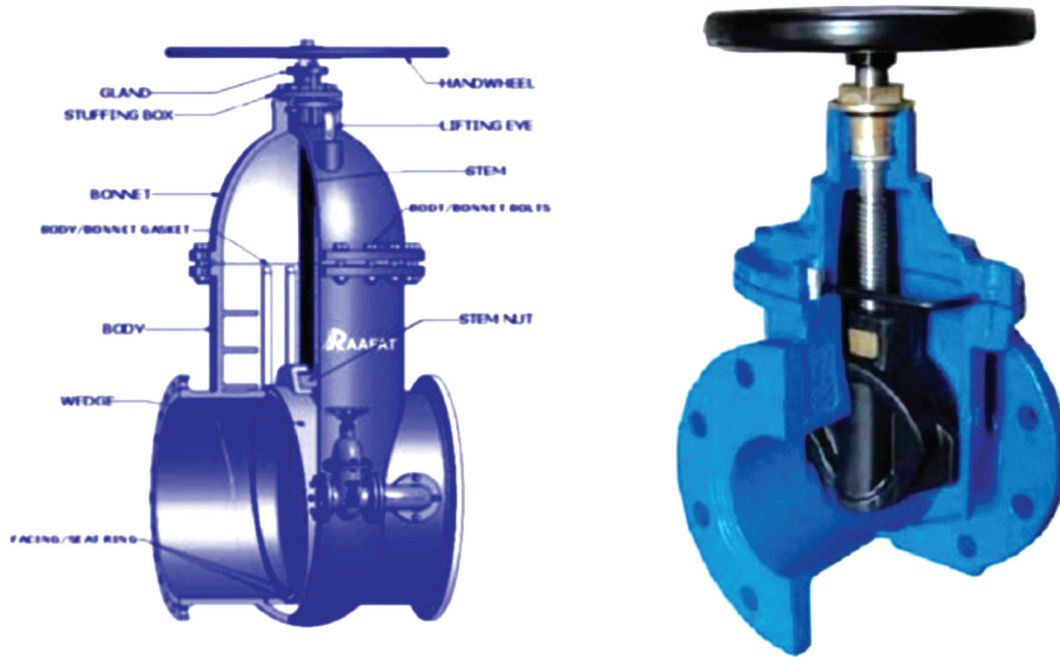
# GATE VALVE MATERIAL SELECTION



Part Name	Material	Standard	Remark
Body, Bonnet, Wedge, Stuffing box and Yoke	Ductile Iron A	ISO 1083 grade 500-7	Equivalent to DIN 1693 (GGG 50), EN GJS-500-7 and ASTM A536-80 GRADE 70-50-05
	Ductile Iron B	ISO 1083 grade 400-15	Equivalent to GGG 40, EN GJS-400-15 and BS2789:1985 GRADE 400/7
	Ductile Iron C	BS2789:1985 GRADE 400/12	ASTM536-80 GRADE60-40-18
Body and Wedge Seat Rings	High Tensile Bronze		BS2874CZ116
	Commercial Brass		
Stem	Martensitic Stainless Steel	X20CR13	BS420S37, ASTM276-1967GRADE420
	Austenitic Stainless Steel	S.S 304 or S.S 316	BS304S15, ASTM276-1967GRADE304
Stem Nut	High Tensile Bronze		BS2874CZ116
Body Bonnet Bolts & Nuts	Galvanized Steel	Grade 4.6 and 8.8	BS970-1955EN3D
	Austenitic Stainless Steel	S.S 304 and S.S 316	BS304S15, ASTM276-1967GRADE304
Hand Wheel	Ductile Iron A	ISO 1083 grade 500-7	Equivalent to DIN 1693 (GGG 50), EN GJS-500-7 and ASTM A536-80 GRADE 70-50-05
	Fabricated Steel	St 37	BS970-1955EN3D
Body Bonnet Sealing	EPDM		
Packing	PTFE		



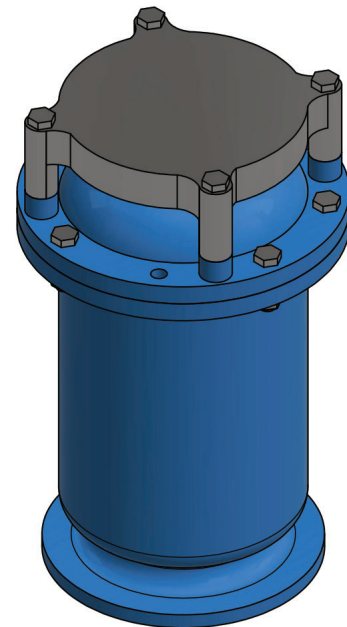
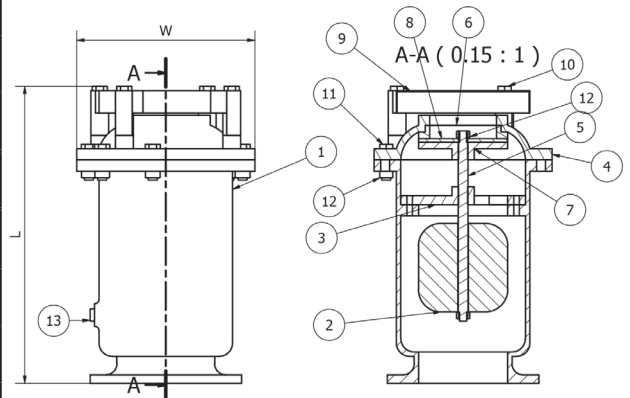
## GATE VALVE MATERIAL SELECTION



Part Name	Material	Material Number	Remark
Body, Bonnet, Wedge, Stuffing box and Yoke	Ductile Iron A	ISO 1083 grade 500-7	Equivalent to DIN 1693 (GGG 50), EN GJS-500-7 and ASTM A536-80 GRADE 70-50-05
	Ductile Iron B	ISO 1083 grade 400-15	Equivalent to GGG 40, EN GJS-400-15 and BS2789:1985 GRADE 400/7
	Ductile Iron C	BS2789 Grade 400/12	ASTM536-80 GRADE60-40-18
Body and Wedge Seat Rings	Leaded Gun Metal	LG2	BS2874CZ116
	High tensile Bronze		
	Commercial Brass	S.S 304 or S.S 316	BS304S15, ASTM276-1967GRADE304
Stem	Austenitic Stainless Steel	X20CR13	3S420S37,ASTM276-1967GRADE410
	Martensitic Stainless Steel	S.S 304 or S.S 316	BS304S15, ASTM276-1967GRADE304
Stem Nut	Leaded Gun Metal	LG2	BS1400:1961LG2-C,ASTMB143-1961G 1A
Body Bonnet Bolts & Nuts	High Tensile Bronze		BS2874CZ116
	Galvanized Steel	Grade 4.6 and 8.8	BS970-1955EN3D
Hand Wheel	Austenitic Stainless Steel	S.S 304 and S.S 316	BS304S15, ASTM276-1967GRADE304
	Ductile Iron A	ISO 1083 grade 500-7	Equivalent to DIN 1693 (GGG 50), EN GJS-500-7 and ASTM A536-80 GRADE 70-50-05
Body Bonnet Sealing Packing	Fabricated Steel	St 37	BS970-1955EN3D
	EPDM		
	PTFE		

## AIR VALVE FOR SANITATION

NO.	Description	Material
1	BODY	STEEL37/D.C.I GGG 50
2	SEALING PLATE	ST.ST.
3	SEALING DOOR	ST.ST.
4	HOUSING	STEEL37/D.C.I GGG 50
5	STEM GAUGE	BRASS
6	COVER	STEEL37/D.C.I GGG 50
7	FLOAT	STANLESS STEEL
8	SEAL	NBR
9	SEAL	NBR
10	SEAL	NBR
11	STEM	STANLESS STEEL
12	CLEANING VALVES	BRASS
13	VENT VALVE	BRASS
14	SPLITE FLANGE	ST.ST.
15	SEAL	NBR
16	BOLTS & NUTS	ST-STEEL 304
17	PRESSURE GAUGE	ST-STEEL 304
18	STRAINER	ST-STEEL 304
19	COATING	EPOXY 131 & 151
20	ELBOW	GALVANIZE STEEL

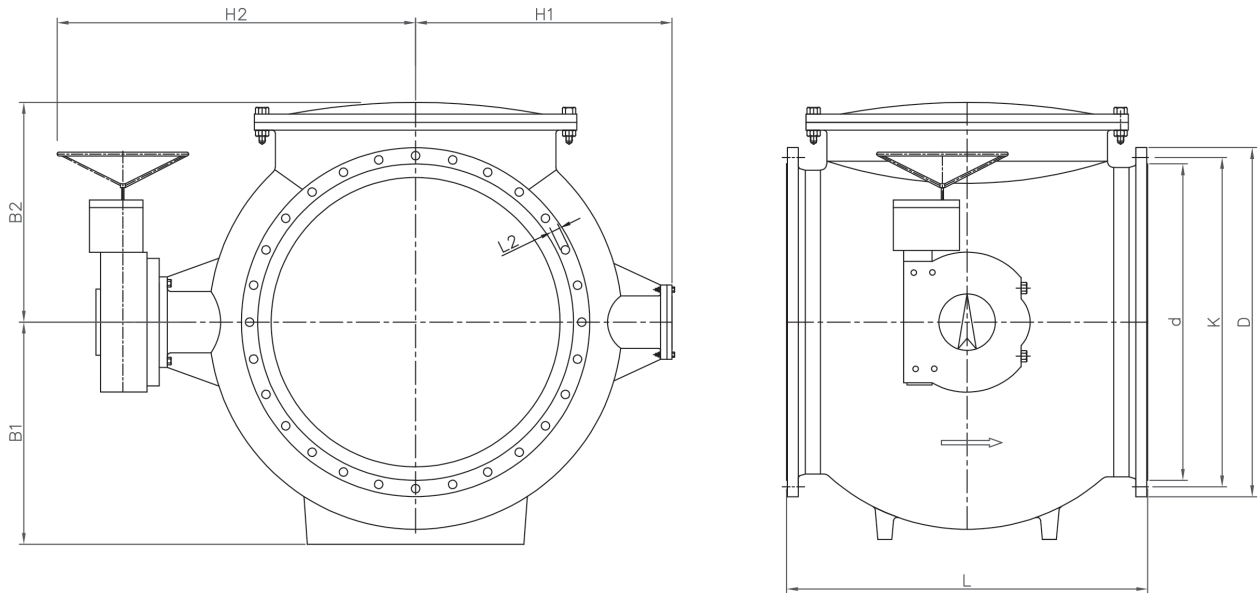


### WORKING PRESSURE 10 - BAR.

ND	L	H
50	100	300
80	150	400
100	200	600
150	250	650
200	300	750



# DIMENSION TABLE FOR PN10 and PN16 ECCENTRIC PLUG VALVES WITH GEARBOX



**MAIN VALVE DIMENSIONS**

DN	L	H1	H2	B1	B2
250	450	230	230	450	290
300	500	270	270	500	340
350	550	370	520	300	290
400	600	425	620	320	330
450	650	450	670	360	390
500	700	500	800	400	460
600	800	610	950	550	645
700	900	675	1020	635	740
800	1000	765	1120	710	830
900	1100	850	1210	780	870
1000	1200	935	1300	865	1015
1200	1400	1050	1400	950	950
1400	1700	1200	1500	1150	1150
1600	2000	1520	2260	1245	1245
1800	2200	1620	2326	1385	1440

**PN10 BAR FLANGES**

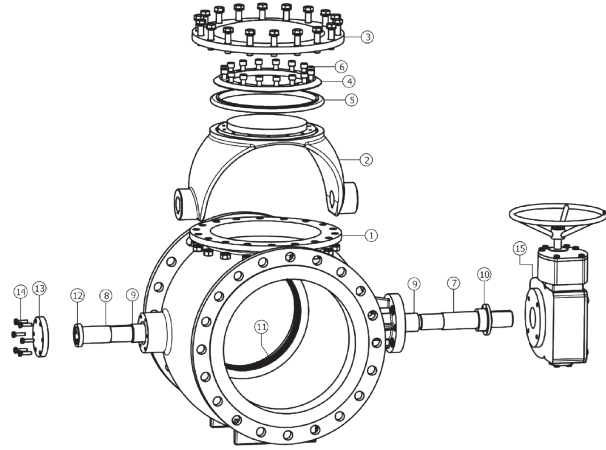
D	d	c	K	N	L2	BOLTS
400	319	22	350	12	23	M20
455	370	24.5	400	12	23	M20
505	429	24.5	460	16	23	M20
565	480	24.5	515	16	28	M24
615	527	25.5	565	20	28	M24
670	582	26.5	620	20	28	M24
780	682	30	725	20	31	M27
895	794	32.5	840	24	31	M27
1015	901	35	950	24	34	M30
1115	1001	37.5	1050	28	34	M30
1230	1112	40	1160	28	37	M33
1455	1328	45	1380	32	40	M36
1675	1530	46	1590	36	43	M39
1915	1750	49	1820	40	49	M45
2115	1950	52	2020	44	49	M45

**PN16 BAR FLANGES**

D	d	c	K	N	L2	BOLTS
400	319	22	355	12	28	M24
455	370	24.5	410	12	28	M24
520	429	25.5	470	16	28	M24
580	480	28	525	16	31	M27
640	548	30	585	20	31	M27
715	609	31.5	650	20	34	M30
840	720	36	770	20	37	M33
910	794	39.5	840	24	37	M33
1025	901	43	950	24	40	M36
1125	1001	46.5	1050	28	40	M36
1255	1112	50	1170	28	43	M39
1485	1328	57	1390	32	49	M45
1685	1530	60	1590	36	49	M45
1930	1750	65	1820	40	56	M52
2130	1950	70	2020	44	56	M52

# 7800 ECCENTRIC PLUG VALVE

## MATERIAL STANDARDS



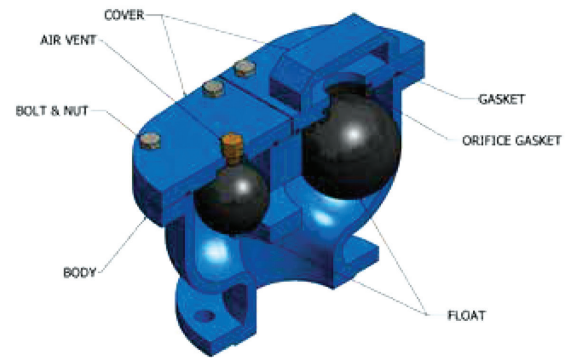
ITEM NO	ITEM DESCRIPTION	MATERIAL		STANDARD
		STANDARD	OPTION	
1	Body	Ductile Iron EN-GJS-500/7	Ductile Iron EN-GJS-400/12	EN1563
2	Plug	Ductile Iron EN-GJS-500/7	Ductile Iron EN-GJS-400/12	EN1563
3	Cover	Ductile Iron EN-GJS-500/7	Ductile Iron EN-GJS-400/12	EN1563
4	Retainer	Ductile Iron EN-GJS-500/7	Ductile Iron EN-GJS-400/12	EN1563
5	Plug Seal	NBR	EPDM	
6	Retainer Bolts	SS304	SSt316	EN10088
7	Driving Shaft	X20Cr13(AIS  420)	SSt316	EN10088
8	Stub Shaft	X20Cr13(AIS  420)	SSt316	EN10088
9	Bearing	Self-Lubricating PTFE/SS		
10	Gland	Ductile Iron EN-GJS-500/7	Ductile Iron EN-GJS-400/12	EN1563
11	Body Saet	SS316		EN10088
12	Thrust Bad	Copper		EN1982
13	Bottom Cover	Ductile Iron EN-GJS-500/7	Ductile Iron EN-GJS-400/12	EN1563
14	Cover Bolts	Galvanized Steel	SS316	EN10088
15	Gearbox	Ductile Iron EN-GJS-500/7	Ductile Iron EN-GJS-400/12	EN1563



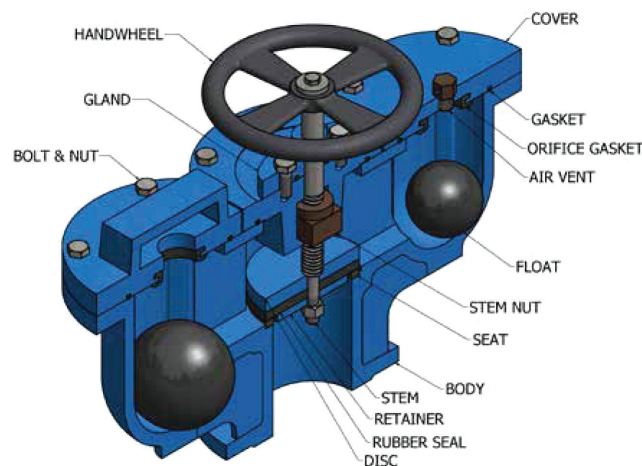
## MATERIAL SELECTION

### Series 6200

Description	Material	Material Standard
Body	Ductile Iron GGG50	Equivalent to DIN 1693
Cover	Ductile Iron GGG50	Equivalent to DIN 1693
Air vent	Bronze	
Orifice gasket	EPDM Rubber	BS EN 681
Orifice float	EPDM or ABS	EPDM( BS EN 681 ) ABS (ISO 2580)
Gasket	EPDM Rubber	BS EN 681
Bolt & nut	Galvanized steel	Grade 4.6 and 8.8



Other material available upon request

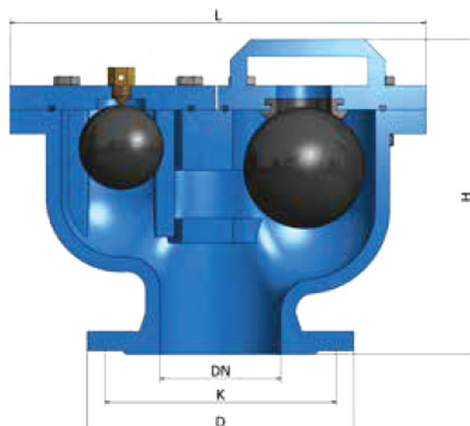


### Series 6300

Description	Material	Material Standard
Body	Ductile Iron GGG50	Equivalent to DIN 1693
Gate	Ductile Iron GGG50	Equivalent to DIN 1693
Stem	Stainless Steel	ASTM GRADE 304
Small orifice Float (Ball)	EPDM or ABS	EPDM (BS EN 681) ABS (ISO 2580)
Gland	Ductile Iron GGG50	Equivalent to DIN 1693
Small Orifice plate	Ductile Iron GGG50	Equivalent to DIN 1693
Bolt & Nuts	Galvanized steel	Grade 4.6 and 8.8
Gasket	EPDM Rubber	BS EN 681
Stuffing Box	EPDM Rubber	BS EN 681
Large Orifice plate	Ductile Iron GGG50	Equivalent to DIN 1693
Large Orifice Float (Ball)	EPDM or ABS	EPDM (BS EN 681) ABS (ISO 2580)
O-Ring	EPDM	BS EN 681

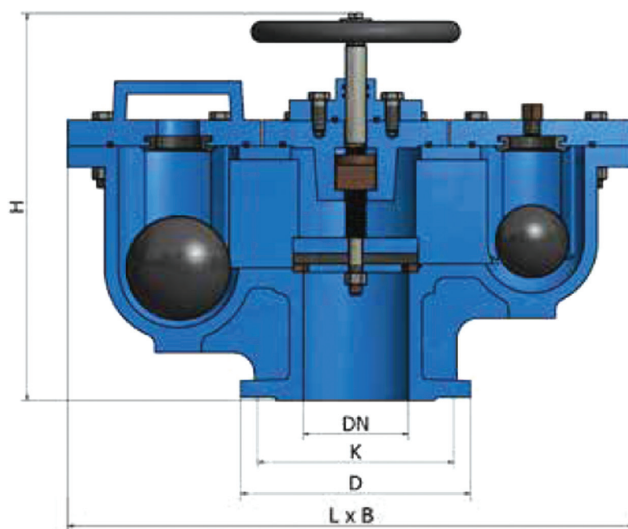
## AIR VALVE DOUBLE BALL

### SERIES 6200



DN	H	L	D	K	n		Mass (Kg)
					PN10	PN16	
80	270	310	200	160	8	8	25
100	280	335	220	180	8	8	35
150	345	395	285	240	8	8	55
200	445	550	340	295	8	12	100
250	510	680	400	375	12	12	132

### SERIES 6300

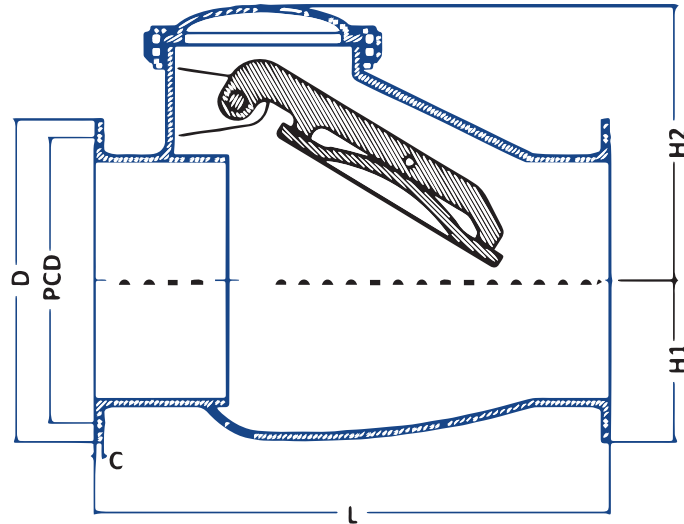


DN	H	L	B	D	K	n		l	a	c	D1	d	Mass (Kg)
						PN10	PN16						
50	305	390	170	165	125	4	4	19	14	29	180	35	37
80	395	600	250	200	160	8	8	19	17	34	225	56	45
100	455	700	280	220	180	8	8	19	19	38	280	80	60
150	560	930	400	285	240	8	8	23	24	42	360	110	105
200	692	1100	500	340	295	8	12	23	24	42	360	165	165



# Swing Check Valve

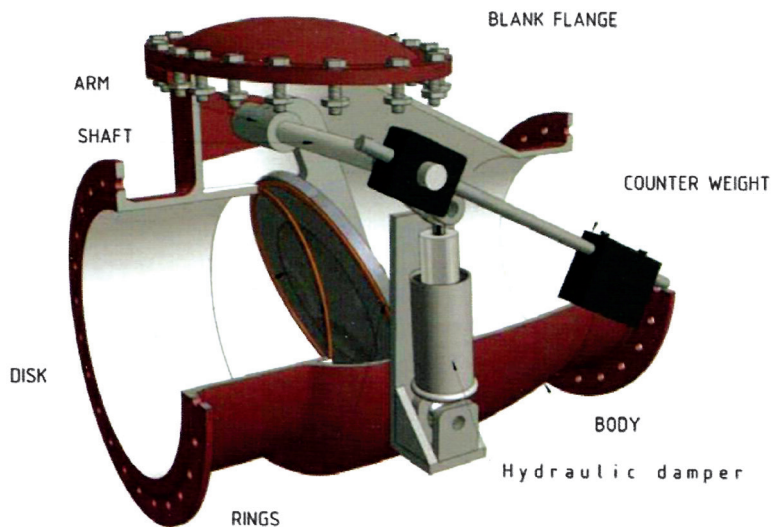
## Valve Dimension Table SERIES 5300



Dimensions in mm

Size DN Mm	Face to face L mm	Valve Height			PN10 Flange Rating					PN16 Flange Rating				
		H mm	H1 mm	Approx. weight kg	D mm	C mm	Bolt PCD	Holes NO	Details Φ	D mm	C mm	Bolt PCD	Holes NO	Details Φ
100	300	170	120	40	220	19	180	8	19	220	19	180	8	19
150	400	220	150	70	285	19	240	8	23	285	19	240	8	23
200	500	310	175	134	340	20	295	8	23	340	20	295	12	23
250	600	340	205	173	400	22	350	12	23	400	22	355	12	28
300	700	370	205	221	455	24.5	400	12	23	455	24.5	410	12	28
350	800	435	265	365	505	24.5	460	16	23	520	26.5	470	16	28
400	900	495	295	460	565	24.5	515	16	28	580	28	525	16	31
450	1000	588	313	550	615	25.5	565	20	28	640	30	585	20	31
500	1100	680	365	765	670	26.5	620	20	28	710	31.5	650	20	34
600	1300	735	435	970	780	30	725	20	31	840	36	770	20	37
700	1500	870	465	1450	895	32.5	840	24	31	910	39.5	840	24	37
800	1700	950	525	2370	1015	35	950	24	34	1025	43	950	24	40
900	1900	1045	625	3330	1115	37.5	1050	28	34	1125	46.5	1050	28	40
1000	2100	1225	720	3770	1230	40	1160	28	37	1255	50	1170	28	43
1200	2500	1400	750	4520	1455	45	1380	32	40	1485	57	1390	32	49
1400	2900	1300	1020	8500	1675	46	1590	36	43	1685	60	1590	36	49

## MATERIAL SELECTION



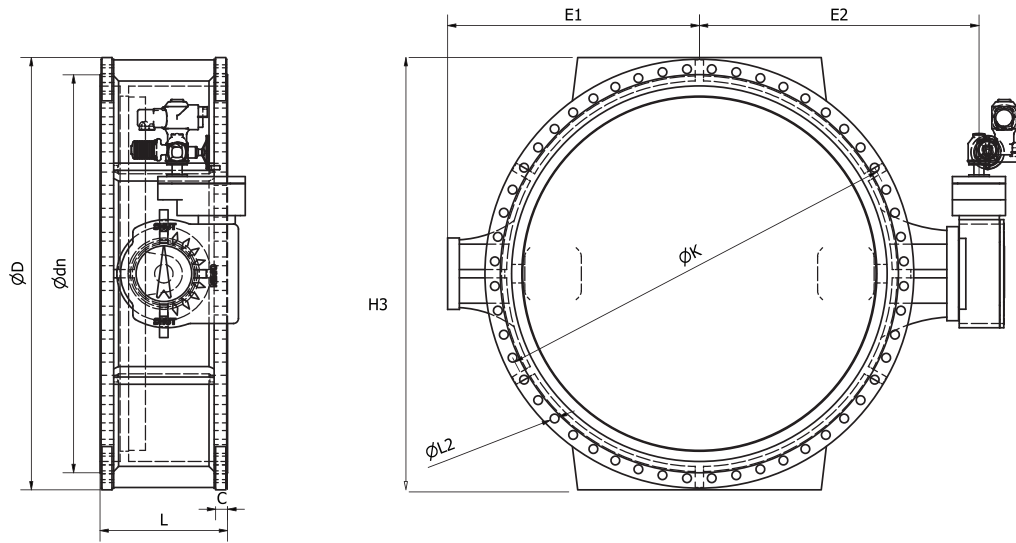
### MATERIAL SELECTION AND SPECIFICATION

Part Name	Material	Material Number	Remark
Body, Disc, Cover, and Arm	Ductile Iron A	ISO1083 grade 7-500	Equivalent to DIN 1693 (GGG50), EN GJS500-7, and ASTM A 80-536 GRADE70-50-05
	Ductile Iron B	ISO1083 grade15 -400	Equivalent to GGG40, EN GJS -400-15 and BS2789: 1985 GRADE 420/12
Body and Wedge Seat Rings	Ductile Iron A	ISO1083 grade 7-500	Equivalent to DIN 1693 (GGG50), EN GJS500-7, and ASTM A 80-536 GRADE70-50-05
	High Tensile Bronze		
	Naval Brass	C46400	ASTM B - 21
	Austenitic Stainless Steel	SS304 and SS316	BS304S15,ASTM276-1967GRADE304
Shaft	Stainless Steel	SS304 and SS316	BS304S15,ASTM276-1967GRADE304
Body/Cover Bolts and Nuts	Galvanized Steel	Grade 4.6 and 8.8	BS970-1955EN3D

Other Materials available upon request



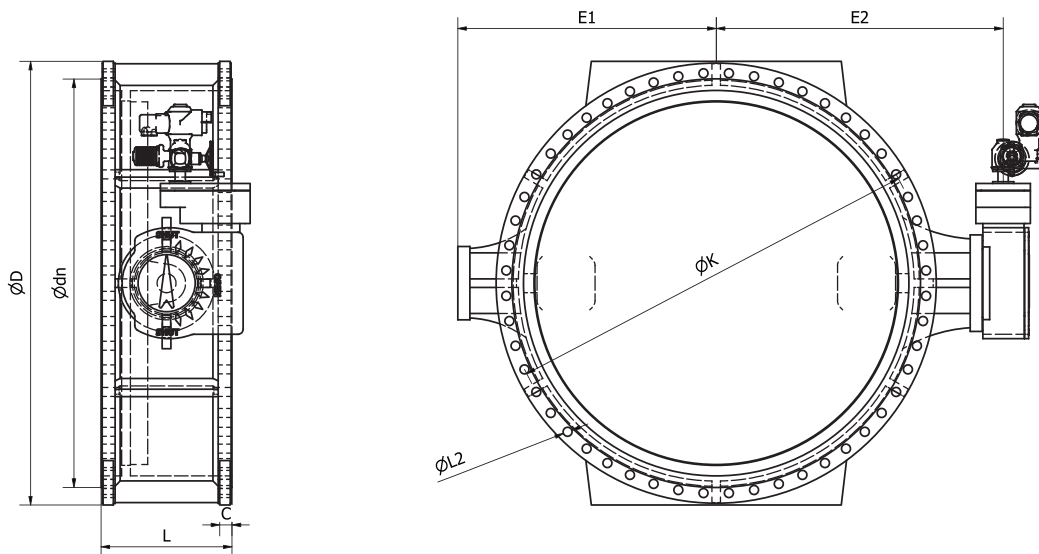
## SHORT BUTTERFLY VALVE DIMENSIONS



Dimensions in mm

DN	L	E1	E2	H3	PN10						PN16					
					D	d1	c	K	L2	NO	D	dn	c	K	L2	NO
300	178	352	227	480	455	370	24.5	400	23	12	455	370	24.5	410	28	12
350	190	332	260	545	505	429	24.5	460	23	16	520	429	26.5	470	28	16
400	216	424	315	605	565	480	24.5	515	28	16	580	480	28	525	31	16
450	222	465	318	665	615	527	25.5	565	28	20	640	544	30	585	31	20
500	229	502	380	740	670	582	26.5	620	28	20	715	609	31.5	650	34	20
600	267	559	430	865	780	682	30	725	31	20	840	720	36	770	37	20
700	292	628	510	935	895	794	32.5	840	31	24	910	794	39.5	840	37	24
800	318	701	575	1050	1015	901	35	950	34	24	1025	901	43	950	40	24
900	330	800	635	1150	1115	1001	37.5	1050	34	28	1125	1001	46.5	1050	40	28
1000	410	840	695	1280	1230	1112	40	1160	37	28	1255	1112	50	1170	43	28
1200	470	1005	810	1510	1455	1328	45	1380	40	32	1485	1328	57	1390	49	32
1400	530	1097	955	1710	1675	1530	46	1590	43	36	1685	1530	60	1590	49	36
1500	530	1182	1030	1845	1785	1640	47.5	1700	43	36	1820	1640	62.5	1710	56	36
1600	600	1263	1130	1955	1915	1750	49	1820	49	40	1930	1750	65	1820	56	40
1800	670	1415	1250	2130	2115	1950	52	2020	49	44	2130	1950	70	2020	56	44
2000	760	1547	1385	2345	2325	2150	55	2230	49	48	2345	2150	75	2230	62	48
2200	860	1647	1485	2555	2550	2370	59	2440	56	52	2555	2370	80	2440	62	52
2400	860	1865	1630	2795	2750	2570	62	2650	56	56	2765	2570	86	2650	62	56
2600	860	1965	1730	2965	2960	2780	65	2850	56	60	2965	2780	91	2850	62	60

## LONG BUTTERFLY VALVE DIMENSIONS



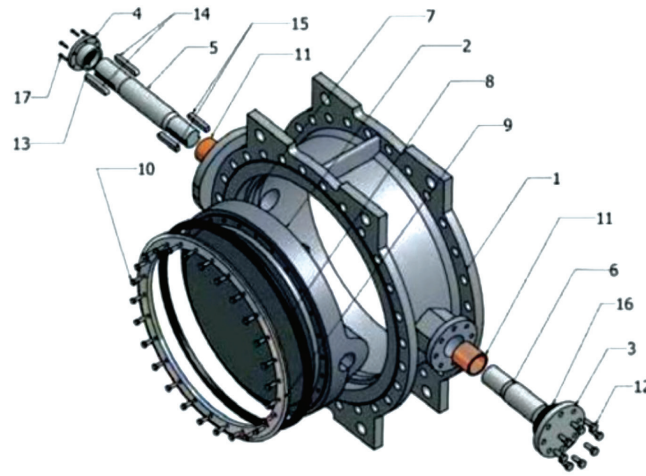
Dimensions in mm

Nominal diameter DN	Length L	Width		Dimensions and drilling of flanges for PN10				Dimensions and drilling of flanges for PN16			
		e1	e2	Φ D	Φ K	NO OF HOLES	Φ L2	Φ D	Φ K	NO OF HOLES	Φ L2
200	230	210	173	340	295	8	23	340	295	12	23
250	250	231	201	400	350	12	23	400	355	12	28
300	270	273	235	455	400	12	23	455	410	12	28
350	290	313	260	505	460	16	23	520	470	16	28
400	310	345	303	565	515	16	28	580	525	16	31
500	350	415	372	670	620	20	28	715	650	20	34
600	390	465	425	780	725	20	31	840	770	20	37
700	430	505	480	895	840	24	31	910	840	24	37
800	470	575	520	1015	950	24	34	1025	950	24	40
900	510	660	600	1115	1050	28	34	1125	1050	28	40
1000	550	800	700	1230	1160	28	37	1255	1170	28	43
1100	590	840	755	1340	1270	28	37	1355	1270	28	43
1200	630	900	800	1455	1380	32	40	1485	1390	32	49
1300	670	985	880	1575	1500	32	40	1585	1490	32	49
1400	710	1045	940	1675	1590	36	43	1685	1590	36	49
1500	750	1110	1005	1785	1710	36	43	1820	1725	36	49
1600	790	1180	1065	1915	1820	40	49	1930	1820	40	56

Body, disk. ductile cast iron grade 50.  
 Main gasket NPR - EPDM  
 Shafts. Stainless steel  
 Bearing. Bronze  
 Retaining ring. Brass

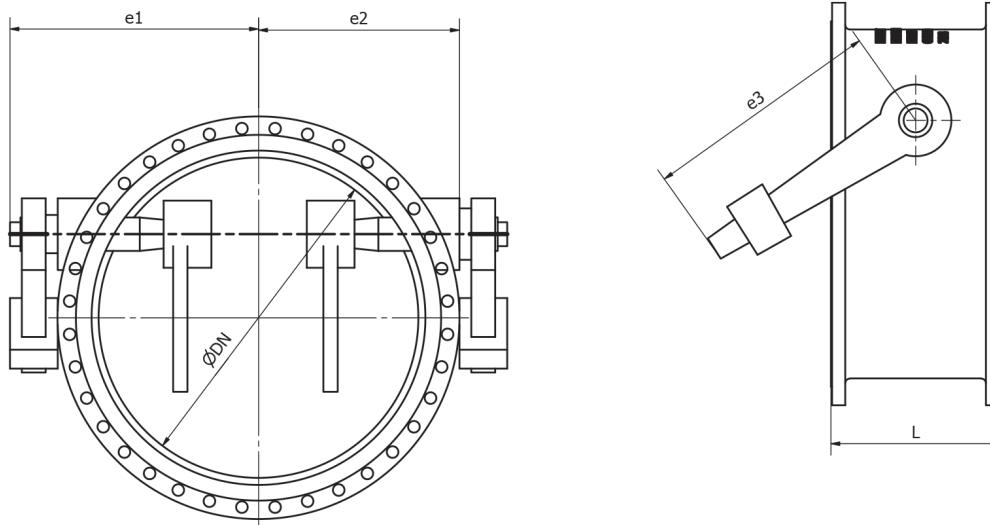


## MATERIAL SELECTION TABLE



No	Part Name	Material	Material Number	Remark
1	Body	Ductile Iron A	ISO1083 grade 500-7	Equivalent to DIN1693 (GGG50), EN GJS-500-7, and ASTM a536-80GRADE 70-50-05
2	Disc	Ductile Iron B	ISO1083 grade 400-12	Equivalent to GGG40 EN GJS-400-15 ,and BS2789:1985 GRADE 400/7
3	Bottom Cover	Ductile Iron C	BS2789 Grade 400-12	ASTM536-80GRADE 60-40-18
4	Gland	Ductile Iron A	GGG50	
5	Front Shaft	Austenitic Stainless Steel	SS 304	BS304S15,ASTM276-1967 GRADE304
6	Rear Shaf		SS 316	BS316S15,ASTM276-1967 GRADE316
7	Body Seat	Stainless Steel	S.S304,SS309,SS316	
		High tensile Bronze	BS2874cz116	
8	Disc Seat	EPDM		
9	Retainer	Ductile Iron A	ISO1083 grade 500-7	
10	Retainer Bolts	Stainless Steel 304		
11	CopperBearing	Bronze		
12	Bottom Cover Bolt	Galvanized Steel	Grade 8.8	
13	Sealing Gland	EPDM		
14	Gearbox Keys	Steel		
15	Disc Key	Steel		
16	Gasket	EPDM		
17	Gland bolts	Galvanized Steel	Grade 8.8	

## Part List, Materials and Dimensions of Check Valves, Tilting Disk:



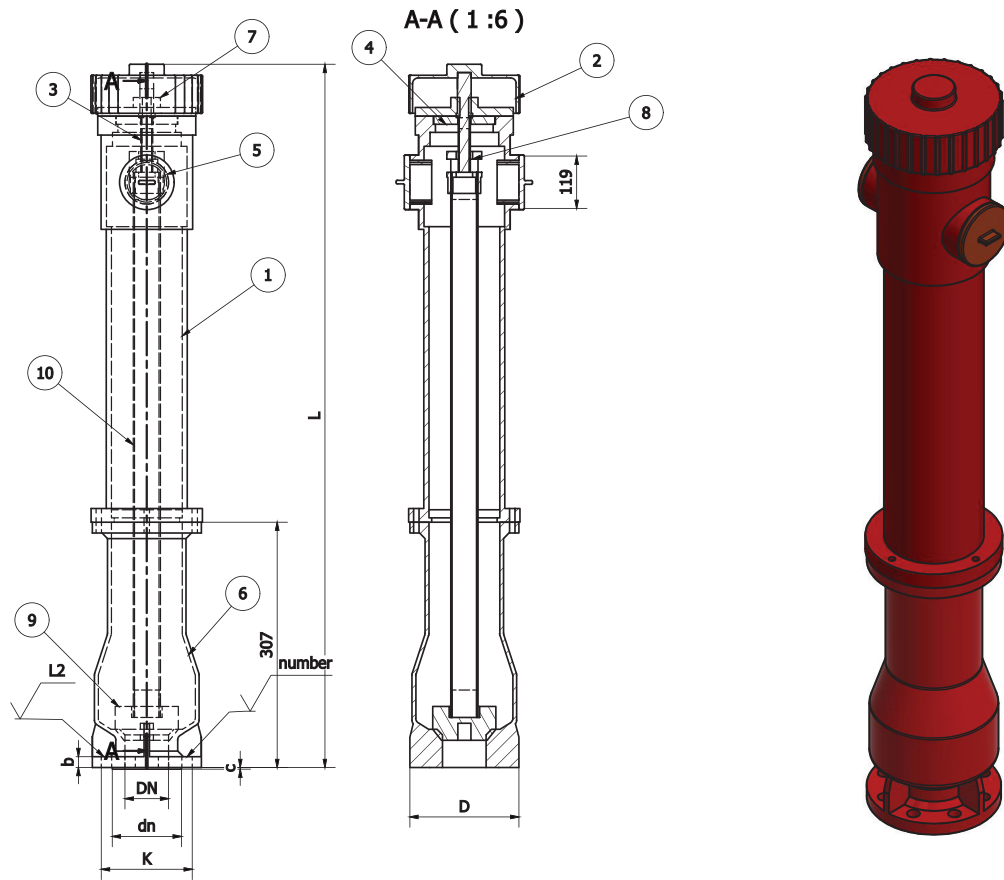
Dimensions in mm

Nominal diameter DN	Length L	Short L	e1	e2	e3	Weight		
						PN 10	PN 16	PN 25
200	230	152	250	200	250	60	60	70
250	250	165	295	240	250	75	85	90
300	270	178	360	280	300	110	110	130
350	290	190	400	310	300	120	125	135
400	310	216	440	350	300	140	150	180
450	330	222	460	370	400	160	165	180
500	350	229	480	380	400	200	230	245
600	390	267	550	450	500	290	340	365
700	430	292	620	550	600	430	460	560
800	470	318	700	600	700	620	625	700
900	510	330	850	650	700	760	810	900
1000	550	410	920	700	800	910	1000	1110
1200	630	470	990	750	900	1115	1345	1390
1400	710	530	1050	840	1000	2200	2400	2700
1600	790	600	1250	1000	1100	3000	3400	3800
1800	870	670	1400	1150	1200	3850	4250	4620
2000	950	760	1550	1250	1300	4850	5520	5930





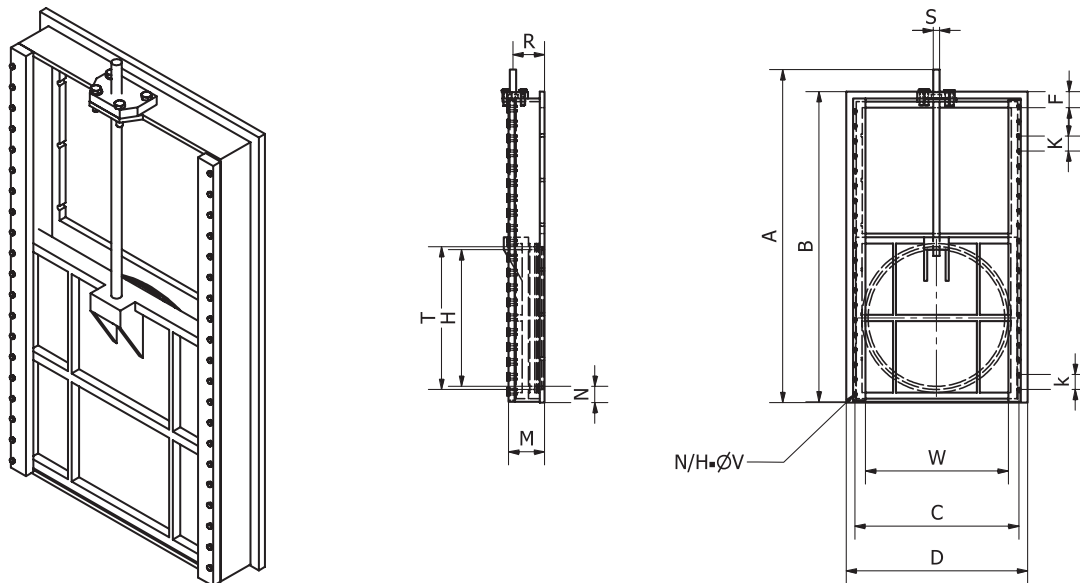
# Fire Hydrants



DN	L	D	dn	c	b	k	number	L2
80	1007	200	132	3	16	160	8	19
100	1007	220	156	3	16	180	8	19

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	body	DUCTILE IRON
2	1	cap	DUCTILE IRON
3	1	spendle	BRASS
4	1	gat	DUCTILE IRON
5	2	cap	DUCTILE IRON
6	1	body	DUCTILE IRON
7	1	blage	DUCTILE IRON
8	1	nut	BRASS
9	1	gate	EBDM
10	1	pipe	ST
11	5	ISO 4017 - M10 X60	Hexagon head screws
12	5	ISO 4034 - M10	Hexagon nuts - Product grade C

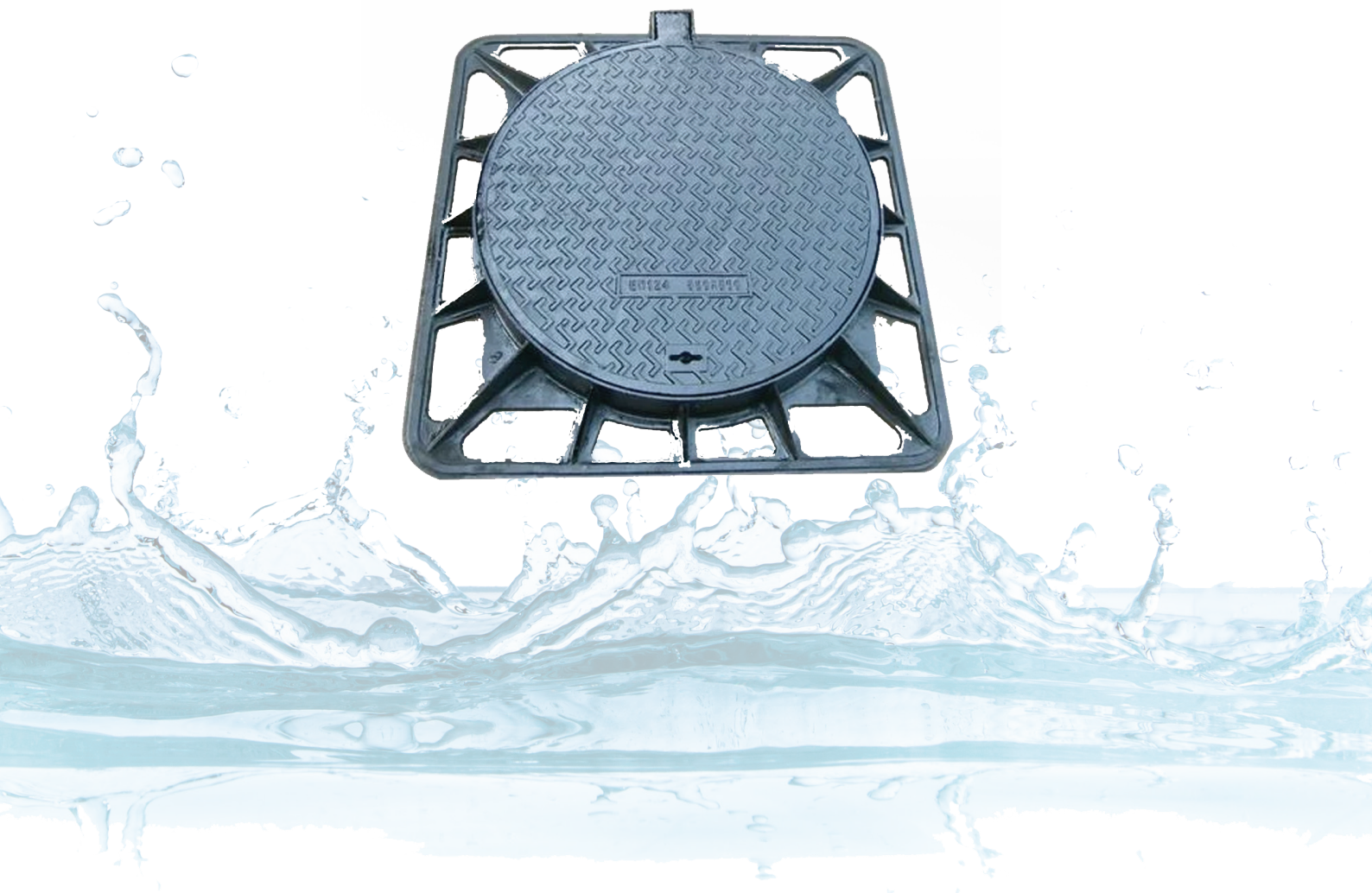
# PENSTOCK DIMENSIONS



SIZE		A	B	C	D	E	F	K	N/H	M	N	P	R	S	V	*T	*U	kg
W	H																	
250	250	765	645	375	405	68	68	255 * 2	3	109	60	320	73	22	16	272	42	100
300	300	920	800	435	475	70	70	220 * 3	4	123	65	320	89	25	16	322	44	135
350	350	1020	900	490	520	98	98	235 * 3	4	140	66	320	92	25	19	374	44	155
400	400	1140	1020	545	585	98	98	275 * 3	4	139	82	320	104	28	19	424	45	186
450	450	1225	1105	590	625	103	103	300 * 3	4	143	68	320	110	28	19	474	45	240
500	500	1360	1235	650	695	98	98	260 * 4	5	144	66	320	105	32	19	524	47	330
600	600	1587	1462	775	825	81	81	325 * 4	5	165	81	400	127	35	24	626	49	445
700	700	1805	1680	870	915	128	128	285 * 5	6	170	97	400	130	35	24	726	52	515
800	800	2007	1872	990	1044	124	124	325 * 5	6	186	90	400	137	38	24	828	54	605
900	900	2211	2076	1090	1145	163	163	350 * 5	6	185	87	400	137	38	24	928	57	1020
1000	1000	2425	2290	1185	1245	170	170	390 * 5	6	240	102	500	181	41	24	1030	59	1190
1100	1100	2640	2505	1305	1362	173	173	360 * 6	7	230	107	500	179	41	24	1130	61	1300
1200	1200	2880	2720	1400	1468	160	160	400 * 6	7	255	108	500	198	45	24	1230	63	1450
1300	1300	2921	2761	1490	1540	156	156	350 * 7	8	265	107	500	206	45	28	1332	65	1780
1400	1400	3280	3120	1605	1690	160	160	350 * 8	9	280	103	500	216	50	28	1432	67	2100
1500	1500	3480	3320	1730	1800	180	180	370 * 8	9	295	108	500	230	50	28	1534	69	2500
1600	1600	3716	3556	1810	1855	158	158	360 * 9	10	310	112	500	245	55	28	1634	71	2950
1700	1700	3916	3756	1910	1971	178	178	340 * 10	11	320	112	500	245	55	28	1736	73	3300
1800	1800	4116	3956	2015	2076	178	178	360 * 10	11	320	112	500	247	55	28	1836	75	3700
1900	1900	4326	4166	2120	2180	158	158	350 * 11	12	320	112	500	257	55	31	1938	77	4100
2000	2000	4526	4366	2220	2280	148	148	370 * 11	12	320	112	500	257	55	31	2038	79	4500



# Ductile Iron Manhole Cover





غطاء قطر داخلي ٦٠ سم بمفصلة مربع أو مئمن حمل ٤٠ طن من الزهر المرن



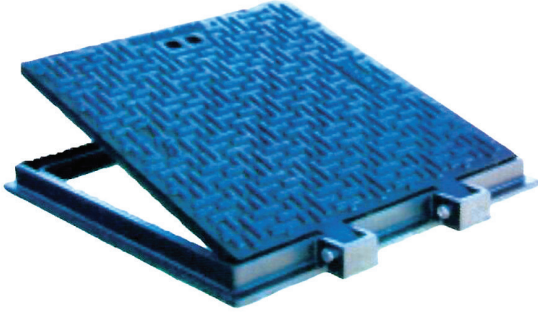
غطاء بمفصلة وقفل قطر داخلي ٦٦ سم حمل إختبار ٤٠ طن من الزهر المرن



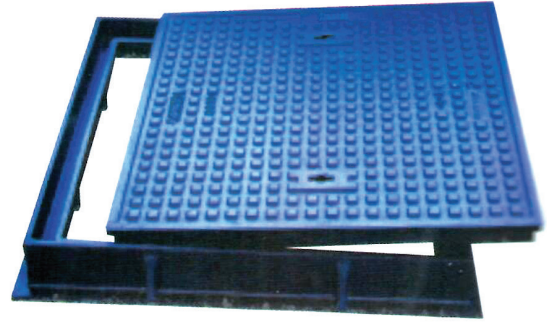
غطاء ٢٨٥ كيلو نموذج الهيئة قطر داخلي ٦٠ سم من الزهر الرمادي

غطاء قطر داخلي ٦٠ سم حمل إختبار ٤٠ طن من الزهر الرمادي





غطاء مربع بمفصلة مقاس داخلي  
( ٤٠×٤٠ ) أو ( ٥٠×٥٠ ) أو ( ٦٠×٦٠ ) سم  
حمل أختبار ( ٤٠ , ٢٥ , ١٢,٥ , ١,٥ ) طن  
من الزهر المرن



غطاء مربع ( ٦٠×٦٠ ) داخلي سنجل  
حمل أختبار ٢٥ أو ٤٠ طن

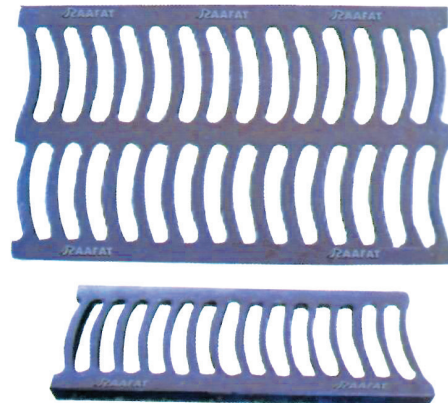


غطاء مفرد مقاس ( ٦٠×٦٠ ) سم  
من الزهر الرمادي



غطاء مجوز وزن  
٨٠ - ٩٠ - ١٠٠ - ١٢٥ كم

جريليات صرف مياه  
مقاس ٦ أو ٨ أو ١٠ أو ١٢ بوصة  
حمل أختبار ( ٤٠ , ٢٥ , ١٢,٥ , ١,٥ ) طن



## أغطية صرف مياه أمطار



غطاء مطر ٣ قطع (٦٠×٦٠) سم  
من الزهر الرمادي



غطاء مطر (٦٠×٤٠) سم من الزهر  
الرمادي حمل أختبار (٢٥ أو ٤٠) طن



غطاء مطر  
(٤٠×٤٠) أو (٥٠×٥٠) أو (٦٠×٦٠) سم  
حمل أختبار (٢٥ , ٤٠) طن  
من الزهر المرن



درج سلم طول ٢٨ سم أو ٣٠ سم أو  
٣٣ سم من الزهر الرمادي



درج سلم طول ٣٨ سم وزن ٧,٢٥  
كيلو من الزهر الرمادي



غطاء شارع ( لاجارد ) كبير



غطاء شارع ( لاجارد ) صغير



درج سلم بعصب  
طول ٢٥ سم X عرض ٢٨ سم  
من الزهر الرمادي

## المشروعات

تتشرف الشركة الدولييه لصهر المعادن بأن تتقدم لسيادتكم بسابقه اعمالنا فى بعض المشاريع التى تشرفنا بالعمل بهما على سبيل المثال وليس الحصر لبعض الشركات والمشاريع :

- عملية 240 قرية محرومة وادي النطرون بالبحيرة
- عملية محطة مياه صرف صحي بمدينة ديروط
- عملية ساحل سليم والبداري
- عملية سفاجا والقصر
- مشروع شبكات وتحسين ضغوط الهرم
- مشروع البنية التحتية لجبل الجلالة
- مشروع المطورين بالعاشر من رمضان
- مشروع مرافق توشكى
- محطة غرب أسيوط
- مشروع أعمال البنية التحتية لمساحة 750 فدان لفيستا وطريق بن زايد
- الأسبقية الأولى لأعمال البنية التحتية مجارة 3 / R3 بالعاصمة الإدارية الجديدة
- خط ال1200 بالكاتدرائية -العاصمة الإدارية الجديدة
- مشروع إيني بيتك بمدينة 6 أكتوبر
- مشروع صرف صحي سمالوط
- مشروع صرف صحي البلينا
- مشروع شبكات مياه السنطة
- مشروع محطة مياه آجا بالدقهلية
- مشروع صرف صحي الهايكستب
- مشروع مرافق أسيوط الجديدة
- مشروع مرافق رأس الادبية بالسويس
- مشروع إيني بيتك الشروق - بدر - العبور
- مشروع محطات رفع ميت فارس بدمياط
- مشروع محطة صرف صحي الحوامدية
- مشروع مرافق 840 فدان بالمنيا
- مشروع صرف صحي مغاغة المنيا
- مشروع شبكة مياه العريش
- مشروع صرف صحي طنان
- مشروع شبكات ري 15 مايو
- جرين هيلز - غرب مدينة نصر
- مرافق اسيوط الجديدة



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- مشروع محطة مياه تلا والشهداء بالمنوفية
- مشروع إيني بيتك بالمنيا الجديدة
- مشروع إيني بيتك بأسوان الجديدة
- مشروع إيني بيتك 6 أكتوبر
- مشروع صرف صحي لخدمة منطقة مسجد القويرى بالعجمي بيطاش
- مشروع إيني بيتك الأمن الغذائي بني سويف
- مشروع 2000 قطعة بالتوسعات الشمالية 6 أكتوبر
- مشروع صرف صحي قرى القصر والقافلة بأبو حمص وزاوية نعيم
- مشروع صرف صحي الضهرية
- مشروع صرف صحي قرى جواد حسني
- مشروع توسعات محطة الصرف الصحي بمرسى مطروح
- مشروع المعالجة الميكانيكية والصرف الصحى بالعاشر من رمضان
- مشروع منشأة القناطر
- مشروع مرافق الحى السكنى الثالث والرابع بمدينة قنا الجديدة
- الصرف الصحى - منطقه مرغم الصناعيه - الاسكندرية
- صرف صحى مغاغه المنيا حياه كريمه
- مشروع مدينتي
- مشروع الرحاب
- محطة رفع شبكات دشنا
- محطات صرف صحي المنيا سمالوط 1200مم
- محطة سمنود بالغربية - 1200مم
- محطات مياه سبك الالحد بالمنوفية
- محطة معالجة الأشراف البحرية
- محطة المعالجة الثلاثية 6 أكتوبر
- مشروع المطورين برج العرب
- مشروع المطورين 6 أكتوبر
- مشروع الاسكان القومي 6 أكتوبر
- محطة تنفية مياه ابو النمرس
- مشروع خطوط التغذية لمناطق امتداد القاهرة الجديدة
- محطة مياه بني احمد الشرقية



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- شبكات مياه الباجور – المنوفية
- شبكات مياه الرحمانية – البحيرة
- صرف صحى قرى دنوهيا وتوابعها - بالشرقية
- شبكات مياه كفر الدوار ذكى افندى – البحيرة
- صرف صحى قرى عمروس – المنوفية
- صرف صحى خط السيب النهائى بديروط – أسيوط
- محطة رفع صرف صحى ادكو الفرعية – البحيرة
- محطة صرف صحى المرحلة الثالثة بمدينة مرسى مطروح
- محطة صرف صحى زاوية محلة احمد – محافظة البحيرة
- قرى محافظه الشرقيه – صياه كريمه
- شركة القاهرة العامة للمقاولات
- عملية بنهاى -مركز الزقازيق بالشرقية
- عملية الشبانان مركز الزقازيق بالشرقية
- عملية مياه ابو كبير – الشرقية
- عملية خط مياه البكارشه – الشرقية
- خط طرد صرف صحى مدينة منشأة ابو عمر مركز الحسنية – الشرقية
- مشروع معالجة شطا – دمياط قطر 900 مم
- مشروع المنشأة واولاد حمزة قطر 800 مم
- غرف محابس بالغرذقة قطر 1200 مم
- مشروع خط مياه 2200 مم بنى سويف – المنيا
- مشروع محطه اللاهون
- مشروع تنميه جنوب الوادى
- R7 INVESTMENT AREA
- R07 NEW CAPITAL
- INFRASTRUCTURE WORKS ZONE ( J ) SOUTH VAALLEY DEVELOPMENT PROJECT –TOSHKAREGION
- صرف صحى البكارشه
- معالجه صرف صحى الحامولى



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## شهادة سجل صناعي

رقم السجل: 1218042701009900 (2011)

تاريخ الإصدار: 13/07/2021

اسم المنشأة الصناعية: رافت قطب شفيق محمد

اسم الشركة: رافت قطب شفيق محمد

السمة التجارية: الدولية لصهر المعادن الكيان القانوني: فردى

عنوان المنشأة الصناعية: قطعة رقم (62) - المنطقة الصناعية الثانية - مدينة بدر - محافظة القاهرة

م	إسم المنتج	كود المنتج	الطاقة الإنتاجية الإسمية السنوية	
			الوحدة	الكمية
1	مواسير صرف صحي من زهر من 2-6 بوصة	7303000011	طن	500.00 (خمسمائة)
2	لوازم مواسير زهر لشبكات المياه والصرف	7307990020	طن	500.00 (خمسمائة)
3	مسبوكات صحية من زهر مختلف الانواع	7324900020	طن	250.00 (مائتان و خمسون)
4	غطاء بلاعات وغرف تفتيش زهر	7325100011	طن	500.00 (خمسمائة)
5	مسبوكات من نحاس متنوعة	7407290091	طن	250.00 (مائتان و خمسون)
6	مسبوكات زهر متنوعة	7201500020	طن	1,000.00 (ألف)
7	مواسير ضغط عالي من الزهر المرن من 100 مم الي 1000 مم	7303000200	طن	1,000.00 (ألف)
8	جربليات مسبوكة لصرف الامطار	7308901251	طن	500.00 (خمسمائة)
9	محبس مسبوك لشبكات المياه والصرف	8481809000	طن	1,000.00 (ألف)

الهيئة العامة للتنمية الصناعية

١٠ ١٢٨  
٢٠٢١

اعتماد



تاريخ الطباعة: 26/12/2021

صفحة 1 من 2

1723

حورت هذه الشهادة وفقاً لأحكام القانون رقم ٢٤ لسنة ١٩٧٧، ولائحته التنفيذية وتعديلاتها والقرارات المنظمة له، ووفقاً للبيانات والمستندات المقدمة من المنشأة المذكورة ويرتبط سريان هذا السجل باستمرار صحة المستندات الصادرة عنه، ولا تخول هذه الشهادة لصاحبها أي حقوق تتعلق بملكية المنشأة.



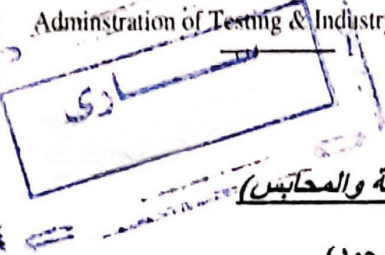
- توريد قطع خاصة لغرف المحابس ماخذ ( 15 ) بشمال سيناء
- عقد رقم 528 توريد محابس زهر مرن بالأوشاش أقطار 4 ، 6 - شركة مياه الشرب بالاسكندرية
- عقد 283 لتوريد قطع خاصة زهر مرن - شركة مياه الشرب بالأسكندرية
- اعمال الإللال والتجديد والتوسعات لمحطتى مياه الزقازيق والعباسة ورفع الزراعة - شركة مياه الشرب بالشرقية
- مشروع عداية 1600 فدان من ترعة المنصورة
- مشروع الصرف الصحي المتكامل لقرية كفر حكيم
- مشروع الصرف الصحي لقرى البرجاية بني احمد الشرقية صفط الخمار قرية شوشة مركز سمالوط المنيا
- مشروع شبكات مياه الشرب والصرف الصحي لمشروع ابني بيتك القطعة 418 فدان منطقة الفيوم الواحات 6 أكتوبر
- مشروع تنفيذ مرافق طرق فرمة مياه صرف لمنطقة 800 فدان بالتوسعات الشمالية 6 أكتوبر
- مشروع شبكات مياه الشرب والصرف الصحي لخدمة العزب التابعة لدائرة قسم ثاني شبرا الخيمة عدد 7عزب
- مشروع الصرف الصحي رقم (2) وخط الطرد بمدينة بني سويف الجديدة
- مشروع خطوط المياه وشبكة الصرف الصحي لمنطقة المطورين الحرة (أ-ب-ج ) والمنطقة الصناعية الخامسة بمدينة برج العرب
- محطة صرف صحى العياط
- محطة صرف صحى العين السخنة
- خطوط المياه المرشحة المغذية إلى العاصمة الإدارية الجديدة والكيان العسكرى مشروع مرافق التسعين الشمالى
- مشروع البنية الأساسية R3 العاصمة الإدارية
- تنفيذ مرافق ( طرق - مياه - صرف - رى ) دار مصر -أكتوبر
- تنفيذ أعمال مرافق (طرق - مياه - صرف - رى ) بيت الوطن -أكتوبر
- انفاق وشبكات البنية الأساسية - بالعاصمة الإدارية
- مشروع النهر الاخضر العاصمة الإدارية
- انشاء وتنفيذ خطى المياه قطر 1500 مم كفر داوود الى محطة التنقية بمدينة السادات
- منطقة الصنفرة أوسيم -الجيزة
- تجمع قروى قصاصين الأزهار وتوابعها - مركز أولاد صقر - شرقية
- صرف صحى منطقة الساحل القبلى الرملة - بنها
- محطة رافع منطقة الصناعات الثقيلة - السادات
- توزيع توشكا



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**الهيئة القومية**  
لمياه الشرب والصرف الصحي  
إدارة الاختبارات والرقابة على الصناعة



**شهادة اعتماد منشأة إنتاجية**  
**(منتجات الزهر الرمادي والمرن قطع مخصوصة والمحابس)**

اسم المنشأة : الشركة الدولية لصهر المعادن (رأفت قطب شفيق محمد)  
عنوان الإدارة : ١١ ش محسن رشدي المنطقة الثامنة خلف السراج مول مدينة نصر- القاهرة  
عنوان المصنع : المنطقة الصناعية الثانية مدينة بدر قطعة ٦٢  
السجل التجاري: ٥١١٦٩ مكتب سجل تجارى : القاهرة محافظة : القاهرة  
بض رقم تسجيل ضريبي : ٢٣٨-٧٢٥-٢٠٠ مأمورية: مصر الجديدة محافظة: القاهرة  
سجل صناعي رقم : ١٢١٨٠٤٢٧٠١٠٠٩٩٠٠ سنة الإصدار : ٢٠١١ نوعية الصناعة : هندسية  
رخصة : (دائمة) ٣٣٢٠١٨١١١٢٠٠٠٠٢ (مدينة) بدر محافظة : هيئة المجتمعات العمرانية  
موافقة شئون البيئة : خطاب رقم القيد: ٦١٦٦-التاريخ ٢٠١٠/١٠/٤ الجهة : جهاز شئون البيئة

أهم المنتجات المعتمدة لدى الهيئة :-

- ١- مسبوكات القطع الخاصة من الزهر الرمادي والمرن
  - ٢- مسبوكات المحابس السكنية من الزهر الرمادي والمرن
  - ٣- مسبوكات الأغشية بأنواعها وحنفيات الحريق من الزهر الرمادي والمرن
  - ٤- مسبوكات محابس عدم الرجوع من الزهر المرن و الرمادي
  - ٥- مسبوكات محابس هواء من الزهر المرن و الرمادي
  - ٦- مسبوكات محابس الفراشة من الزهر المرن و الرمادي
  - ٧- مسبوكات بوابات زهر مرن ورمادي
  - ٨- مسبوكات برايز نحاس
  - ٩- مسبوكات درج سلم زهر رمادي ومرن وزن ٧.٢٥ ك
- الهيئة لن تصدر أي شهادات اختبار لأي توريدات الا التوريدات التي يتم معاينة مراحل تصنيعها وتجميعها قبل التوريد
- طبقا للمواصفات القياسية المصرية والعالمية
- يتم الالتزام بتعليمات الإدارة والموضحة خلفه وفي حالة مخالفتها يعتبر الاعتماد لاغى
- شهادة الاعتماد الصادرة من الإدارة لا تستخدم كبديل لشهادات اختبار الهيئة عند التنفيذ لأوامر التوريد المختلفة

المشرف العام  
محمد الزين  
مهندس  
"محمود عبد الحميد المرين"

مهندس  
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