

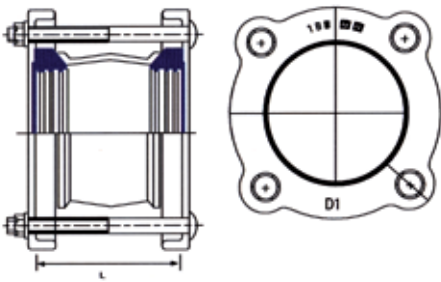
## 10.5 Repair and Maintenance Pieces

### 10.5.1 Couplings

Designed to join pipes of various outside diameters with the same or different nominal bore, such as steel pipes, ductile iron pipes, UPVC pipes, cast iron pipes, asbestos cement pipes and other rigid pipe materials.

The ability of couplings to join dissimilar pipe materials is a bonus feature in both repair or permanent situations.

#### UNIVERSAL COUPLING



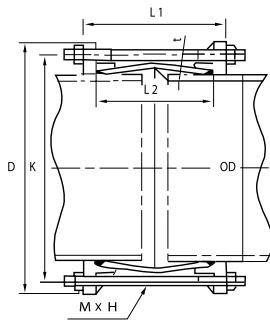
#### Material Specification

PIPE	① Ductile Iron	BS 2789 Grade 420/12
GLAND	② Ductile Iron	BS 2789 Grade 420/12
BARREL	③ Steel	BS 2789 Grade 420/12
SEALING RUBBER	④ EPDM	BS 2494 -Type W
STUD	⑤ Stainless Steel Bolts, Nuts & Washers	
COATING	Fusion Bonded Epoxy	250µm Thickness
TORQUE	M12 Bolts (55 - 65 Nm)	M16 Bolt (95 -105 Nm)

Size	OD Range	L mm	Bolts	No.
DN 80	088 - 103	102	M12 x 102	4
DN 100	108 - 128	102	M12 x 102	4
DN 125	132 - 146	102	M12 x 110	4
DN 150	158 - 181	102	M12 x 165	4
DN 175	192 - 209	102	M12 x 165	4
DN 200	218 - 235	102	M12 x 165	6
DN 225	250 - 267	102	M12 x 165	6
DN 250	262 - 289	102	M12 x 165	6
DN 300	315 - 332	102	M12 x 165	6
DN 300	322 - 339	102	M12 x 165	6
DN 300	340 - 360	102	M12 x 165	6
DN 350	351 - 368	152	M16 x 240	8
DN 350	374 - 391	152	M16 x 240	8
DN 400	400 - 429	152	M16 x 240	8
DN 400	404 - 429	152	M16 x 240	8

Size	OD Range	L mm	Bolts	No.
DN 400	425 - 442	152	M16 x 240	8
DN 450	455 - 472	152	M16 x 240	10
DN 450	476 - 493	152	M16 x 240	10
DN 500	500 - 532	152	M16 x 240	10
DN 500	527 - 544	152	M16 x 240	10
DN 500	555 - 572	152	M16 x 240	10
DN 500	566 - 583	152	M16 x 240	10
DN 500	582 - 599	152	M16 x 240	10
DN 600	600 - 630	152	M16 x 240	12
DN 600	630 - 647	152	M16 x 240	12
DN 600	645 - 679	152	M16 x 240	12
DN 600	662 - 679	152	M16 x 240	12
DN 600	675 - 692	152	M16 x 240	12

## FLEXIBLE COUPLING



### Material Specification

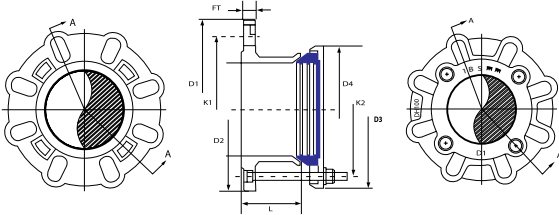
PPE	① Ductile Iron	BS 2789 Grade 420/12
GLAND	② Ductile Iron	BS 2789 Grade 420/12
BARREL	③ Ductile Iron	BS 2789 Grade 420/12
SEALING RUBBER	④ EPDM	BS 2494 -Type W
STUD	⑤ Stainless Steel Bolts Nuts & Washers	
COATING	Fusion Bonded Epoxy	250µm Thickness
TORQUE	M12 Bolts (55 - 65 Nm)	M16 Bolt (95 -105 Nm)

DN	D	K	OD	L1	L2	t	M	N
80	180	152	98 +2.1 -2.6	178	102	7.0	12	4
100	202	174	118 +2.2 -3.0	178	102	7.5	12	4
150	257	230	170 +2.3 -3.0	178	102	8.0	12	6
200	310	282	222 +2.4 -3.5	178	102	8.5	12	6
250	363	336	274 +2.5 -3.5	178	102	9.0	12	6
300	390	360	326 +2.6 -3.5	178	102	10.0	12	6
350	484	450	378 +2.7 -3.5	262	152	10.5	16	8
400	540	505	429 +2.8 -4.0	262	152	11.0	16	8
450	588	554	480 +2.9 -4.0	262	152	11.5	16	10
500	652	612	532 +3.0 -4.0	262	152	12.0	16	10
600	751	715	635 +3.2 -4.0	262	152	13.5	16	12
700	860	820	738 +3.4 -4.5	262	152	14.5	16	12
800	965	925	842 +1.0 -4.5	262	152	16.0	16	14
900	1065	1026	945 +1.0 -5.0	278	178	17.0	16	16
1000	1180	1140	1048 +1.0 -5.0	278	178	18.0	16	16
1100	1287	1245	1152 +1.0 -6.0	290	178	19.5	16	20
1200	1400	1353	1255 +1.0 -6.0	290	178	20.5	16	22
1400	1622	1570	1462 +1.0 -7.0	290	178	23.0	16	24
1500	1728	1675	1565 +1.0 -7.0	290	178	24.0	16	26
1600	1833	1780	1668 +1.0 -7.0	290	178	25.5	16	28
1800	2060	2000	1875 +1.0 -7.0	437	254	28.0	16	32
2000	2258	2200	2082 +1.0 -8.0	437	254	30.0	16	36

## 10.5.2 Flange Adaptors

### UNIVERSAL FLANGE ADAPTOR

Covering a similar range to the straight coupling, flange adaptors are manufactured to join plain ended pipe to flanged valves, fittings, flow meters and pipes. Flange drillings are available to all international standards or to customer specifications.

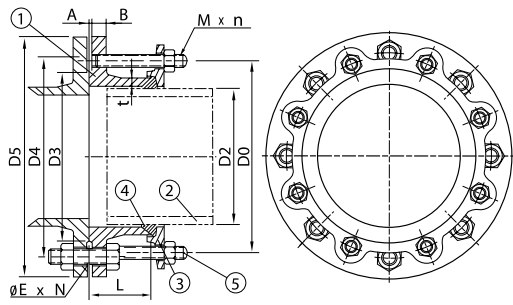


#### Material Specification

BODY & GLAND	Ductile Iron, GGG50
SEALING RUBBER	EPDM to BS2494
STUD BOLT	Stainless Steel Bolts, Nuts & Washers
COATING	Fusion Bonded Epoxy, 250 Microns
STUD TORQUE	M12 (50 - 55); M16 (95 - 105) M20 (145 - 150)

DN	D2	L	PN10						PN16					
			K1	FT	FL BOLT	N	M x n	K1	FT	FL BOLT	N	M x n		
80	088 - 103	73	160	16	8	Φ19.0	4	M12 x 102	160	16	8	Φ19.0	4	M12 x 102
100	108 - 128	76	180	16	8	Φ19.0	4	M12 x 110	180	16	8	Φ19.0	4	M12 x 110
125	132 - 146	76	210	16	8	Φ19.0	4	M12 x 110	210	16	8	Φ19.0	4	M12 x 110
150	158 - 181	76	240	16	8	Φ23.0	4	M12 x 110	240	16	8	Φ23.0	4	M12 x 110
175	192 - 209	76	270	17	8	Φ23.0	4	M12 x 110	270	17	8	Φ23.0	4	M12 x 110
200	218 - 235	76	295	17	8	Φ23.0	4	M12 x 110	295	17	12	Φ23.0	6	M12 x 110
225	250 - 267	76	325	20	8	Φ23.0	6	M12 x 120	325	20	12	Φ23.0	6	M12 x 120
250	262 - 289	90	350	22	12	Φ23.0	6	M12 x 120	355	22	12	Φ28.0	6	M12 x 120
300	315 - 332	90	400	22	12	Φ23.0	6	M12 x 120	410	22	12	Φ28.0	6	M12 x 120
300	322 - 339	90	400	22	12	Φ23.0	6	M12 x 120	410	22	12	Φ28.0	6	M12 x 120
300	340 - 360	90	400	22	12	Φ23.0	6	M12 x 120	410	22	12	Φ28.0	6	M12 x 120
350	351 - 368	108	460	25	16	Φ23.0	8	M16 x 146	470	25	16	Φ28.0	8	M16 x 146
350	374 - 391	108	460	25	16	Φ23.0	8	M16 x 146	470	25	16	Φ28.0	8	M16 x 146
400	400 - 429	108	515	25	16	Φ28.0	8	M16 x 146	525	25	16	Φ31.0	8	M16 x 146
400	404 - 429	108	515	25	16	Φ28.0	8	M16 x 146	525	25	16	Φ31.0	8	M16 x 146
400	425 - 442	108	515	25	16	Φ28.0	8	M16 x 146	525	25	16	Φ31.0	8	M16 x 146
450	455 - 472	108	565	25	20	Φ28.0	10	M16 x 146	585	25	20	Φ31.0	10	M16 x 146
450	476 - 493	108	565	25	20	Φ28.0	10	M16 x 146	585	25	20	Φ31.0	10	M16 x 146
500	500 - 532	114	620	26	20	Φ28.0	10	M16 x 152	650	26	20	Φ34.0	10	M16 x 152
500	527 - 544	114	620	26	20	Φ28.0	10	M16 x 152	650	26	20	Φ34.0	10	M16 x 152
500	555 - 572	114	620	26	20	Φ28.0	10	M16 x 152	650	26	20	Φ34.0	10	M16 x 152
500	566 - 583	114	620	26	20	Φ28.0	10	M16 x 152	650	26	20	Φ34.0	10	M16 x 152
500	582 - 599	114	620	26	20	Φ28.0	10	M16 x 152	650	26	20	Φ34.0	10	M16 x 152
600	600 - 630	114	725	26	20	Φ31.0	10	M16 x 152	770	26	20	Φ37.0	10	M16 x 152
600	630 - 647	114	725	26	20	Φ31.0	10	M16 x 152	770	26	20	Φ37.0	10	M16 x 152
600	645 - 679	114	725	26	20	Φ31.0	10	M16 x 152	770	26	20	Φ37.0	10	M16 x 152
600	662 - 679	114	725	26	20	Φ31.0	10	M16 x 152	770	26	20	Φ37.0	10	M16 x 152
600	675 - 692	114	725	26	20	Φ31.0	10	M16 x 152	770	26	20	Φ37.0	10	M16 x 152

## FLANGE ADAPTOR – DCI PIPE

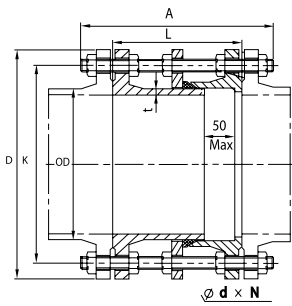


### Material Specification

BODY & GLAND	Ductile Iron, GGG50
SEALING RUBBER	EPDM to BS 2494
STUD BOLT	Stainless Steel Bolts, Nuts & Washers
COATING	Fusion Bonded Epoxy, 250 Microns
STUD TORQUE	M12 (50 - 55); M16 (95 - 105) M20 (145 - 150)

DN	D2	L	PN10							PN16							PN25						
			D5	D4	B	D0	E	N	M x n	D5	D4	B	D0	E	N	M x n	D5	D4	B	D0	E	N	M x n
80	98	73	200	160	12.0	160	19.0	8	M12 x 102	200	160	12.0	160	19.0	8	M12 x 102	200	160	19.0	160	19.0	8	M16 x 102
100	118	76	220	180	12.0	180	19.0	8	M12 x 110	220	180	12.0	180	19.0	8	M12 x 110	235	190	19.0	190	23.0	8	M16 x 110
150	170	76	285	240	16.0	240	23.0	8	M12 x 110	285	240	16.0	240	23.0	8	M12 x 110	300	250	19.0	250	28.0	8	M16 x 110
200	222	76	340	295	16.0	295	23.0	8	M12 x 110	340	295	16.0	295	23.0	12	M12 x 110	360	310	20.0	310	28.0	12	M16 x 110
250	274	90	400	350	19.0	350	23.0	12	M12 x 120	400	355	19.0	355	28.0	12	M12 x 120	425	370	22.0	370	31.0	12	M16 x 120
300	326	90	455	400	19.0	400	23.0	12	M12 x 120	455	410	19.0	410	28.0	12	M12 x 120	485	430	22.0	430	31.0	16	M16 x 120
350	378	108	505	460	23.0	460	23.0	16	M16 x 146	520	470	23.0	470	28.0	16	M16 x 146	555	490	25.0	490	34.0	16	M20 x 146
400	429	108	565	515	23.0	515	28.0	16	M16 x 146	580	525	23.0	525	31.0	16	M16 x 146	620	550	25.0	550	37.0	16	M20 x 146
450	480	108	615	565	24.0	565	28.0	20	M16 x 146	640	585	24.0	585	31.0	20	M16 x 146	670	600	25.0	600	37.0	20	M20 x 146
500	532	114	670	620	25.0	620	28.0	20	M16 x 152	715	650	25.0	650	34.0	20	M16 x 152	730	660	25.0	660	37.0	20	M20 x 152
600	635	114	780	725	25.0	725	31.0	20	M16 x 152	840	770	25.0	770	37.0	20	M16 x 152	845	770	25.0	770	40.0	20	M20 x 152
700	738	114	895	840	25.0	840	31.0	24	M16 x 152	910	840	25.0	840	37.0	24	M16 x 152	960	875	25.0	875	43.0	24	M20 x 152
800	842	114	1015	950	25.0	950	34.0	24	M16 x 152	1025	950	25.0	950	40.0	24	M16 x 152	1085	990	25.0	990	49.0	24	M20 x 152
900	945	114	1115	1050	25.0	1050	34.0	28	M16 x 152	1125	1050	25.0	1050	40.0	28	M16 x 152	1185	1090	25.0	1090	49.0	28	M20 x 152
1000	1048	114	1230	1160	27.0	1160	37.0	28	M16 x 152	1255	1170	27.0	1170	43.0	28	M16 x 152	1320	1210	38.0	1210	56.0	28	M20 x 152
1100	1125	127	1340	1270	38.0	1270	37.0	32	M16 x 165	1355	1270	38.0	1270	43.0	32	M16 x 165	1420	1310	38.0	1310	56.0	32	M20 x 165
1200	1255	127	1455	1380	38.0	1380	40.0	32	M16 x 165	1485	1390	38.0	1390	49.0	32	M16 x 165	1530	1420	38.0	1420	56.0	32	M20 x 165
1400	1462	127	1675	1590	38.0	1590	43.0	36	M16 x 165	1685	1590	38.0	1590	49.0	36	M16 x 165	1755	1640	38.0	1640	62.0	36	M20 x 165
1500	1565	127	1758	1700	40.0	1700	43.0	36	M16 x 165	1820	1710	40.0	1710	56.0	36	M16 x 165							
1600	1668	190	1915	1820	60.0	1820	49.0	40	M16 x 235	1930	1820	60.0	1820	56.0	40	M16 x 165							
1800	1875	190	2115	2020	60.0	2020	49.0	44	M16 x 235	2130	2020	60.0	2020	56.0	44	M16 x 235							
2000	2082	190	2325	2230	60.0	2230	49.0	48	M16 x 235	2345	2230	60.0	2230	62.0	48	M16 x 235							

### 10.5.3 Dismantling Joints



A double flange composite fitting, featuring a telescopic action between a flanged spigot and a flange adaptor, specially designed to provide longitudinal adjustment in flanged pipe systems. Dismantling joints also provide a simple

method for the installation and removal of flanged valves, pumps, flow meters and flanged pipework.

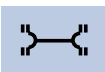
**Material Specification**

BODY & GLAND	Ductile Iron
SEALING RUBBER	EPDM, BS 2494
STUD BOLT	Stainless Steel Bolts, Nuts & Washers
COATING	Fusion Bonded Epoxy, 250 Microns

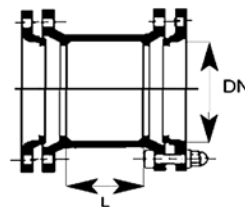
DN	OD	L	A	PN10				PN16				PN25			
				D	K	d	STUDxNOS	D	K	d	STUDxNOS	D	K	d	STUDxNOS
80	98	200	284	200	160	19.0	M16x8	200	160	19.0	M16x8	200	160	19.0	M16x8
100	118	200	284	220	180	19.0	M16x8	220	180	19.0	M16x8	235	190	23.0	M20x8
150	170	200	290	285	240	23.0	M20x8	285	240	23.0	M20x8	300	250	28.0	M24x8
200	222	220	312	340	295	23.0	M20x8	340	240	23.0	M20x12	360	310	28.0	M24x12
250	274	230	332	400	350	23.0	M20x12	400	355	28.0	M24x12	425	370	31.0	M27x12
300	326	260	367	455	400	23.0	M20x12	455	410	28.0	M24x12	485	430	31.0	M27x16
350	378	260	371	505	460	23.0	M20x16	520	470	28.0	M24x16	555	490	34.0	M30x16
400	429	270	390	565	515	28.0	M24x16	580	525	31.0	M27x16	620	550	37.0	M33x16
450	480	270	394	615	565	28.0	M24x20	640	585	31.0	M27x20	670	600	37.0	M33x20
500	532	280	411	670	620	28.0	M24x20	715	650	34.0	M30x20	730	660	37.0	M33x20
600	635	300	444	780	725	31.0	M27x20	840	770	37.0	M33x20	845	770	40.0	M36x20
700	738	300	451	895	840	31.0	M27x24	910	840	37.0	M33x24	960	875	43.0	M39x24
800	842	320	484	1015	950	34.0	M30x24	1025	950	40.0	M36x24	1085	990	49.0	M45x24
900	945	320	491	1115	1050	34.0	M30x28	1125	1050	40.0	M36x28	1185	1090	49.0	M45x28
1000	1048	340	522	1230	1160	37.0	M33x28	1255	1170	43.0	M39x28	1320	1210	56.0	M52x28
1100	1125	350	539	1340	1270	37.0	M33x32	1355	1270	43.0	M39x32	1420	1310	56.0	M52x32
1200	1255	370	576	1455	1380	40.0	M36x32	1458	1390	49.0	M45x32	1530	1420	56.0	M56x32
1400	1462	380	592	1675	1590	43.0	M39x36	1685	1590	49.0	M45x36	1755	1640	62.0	M56x36
1500	1565	410	639	1785	1700	43.0	M39x36	1820	1710	56.0	M52x36	-	-	-	-
1600	1668	410	644	1915	1820	49.0	M45x40	1930	1820	56.0	M52x40	-	-	-	-
1800	1875	440	684	2115	2020	49.0	M45x44	2130	2020	56.0	M52x44	-	-	-	-
2000	2082	460	720	2325	2230	49.0	M45x48	2345	2230	62.0	M56x48	-	-	-	-
2100	2164	480	790	2430	2335	49.0	M45x52	2450	2335	62.0	M56x52	-	-	-	-
2200	2288	500	820	2550	2440	56.0	M52x52	2555	2440	62.0	M56x52	-	-	-	-

### 10.5.4 Collars

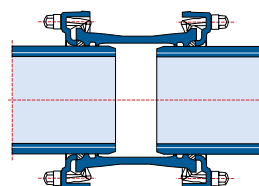
**COLLARS (EXPRESS AND/OR M.J. TYPE JOINT)**



Nominal Diameter DN	L mm	L1 mm	Mass kg	Nominal Diameter DN	L mm	L1 mm	Mass kg
80	158	328	8.8	900	240	-	282.0
100	160	334	10.8	1000	250	-	349.0
150	165	351	16.7	1100	260	-	465.8
200	170	368	23.5	1200	270	-	560.0
250	175	351	31.5	1400	340	-	816.0
300	180	360	40.5	1500	350	-	829.0
350	185	405	55.0	1600	360	-	1094.0
400	190	410	67.0	1800	380	-	1427.0
500	200	440	100.0	2000	400	-	1818.0
600	210	450	131.0	2200	420	-	2272.0
700	220	500	183.0	2400	440	-	2794.0
800	230	510	226.0	2600	460	-	3390.0



Collars ≥ DN 700 mm



Collars ≤ DN 600 mm