

BORTEK®

FLEXIBLE COUPLINGS



www.bortek.com



ISO 9001
BUREAU VERITAS
Certification



BORFLEX[®]

PIPE JOINT AND REPAIR CLAMP

BORFLEX - FLEX ø 26,9 - 4000

Pipe joint for all pipe materials
max. PN 40
ø 26,9 mm bis ø4000 mm



BORFLEX - REP ø 26,9 - 4000

Repair clamp for all pipe materials
max. PN 40
ø 26,9 mm bis ø4000 mm



BORFLEX - GRIP ø 26,9 - 609,6

Coupling for all metal and HDPE-pipes
max. PN 40
ø 26,9 mm bis ø609.6 mm



BORFLEX PLAST - COMBI GRIP ø 40 - 609.6

Coupling for Plastic to Plastic and Plastic to Metal
max. PN 40
ø 40,0 mm bis ø609.6 mm



BORFLEX - EASY 20 ø 88 - 530

Repair clamp for all pipe materials
max. PN 16
ø 88,0 mm bis ø530 mm



BORCLAMP ø 88 - 530

Repair clamp for all pipe materials
max. PN 16
ø 88,0 mm bis ø530 mm



BORSTEP ø 88 - 4000

Step coupling for different pipe diameter
max. PN 16
ø 88,0 mm bis ø4000 mm



BORLINE ø 80 - 600

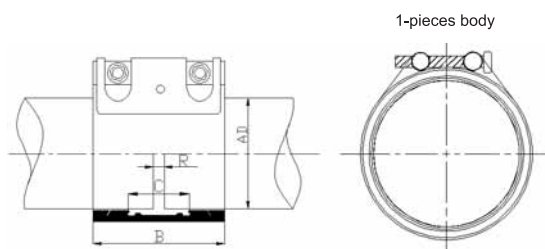
Pipe adapter for all pipes
max. PN 16
ø 80,0 mm bis ø609.6 mm



TABLE OF CONTENTS

PIPE JOINTS AND REPAIR CLAMPS

1. BORFLEX - FLEX	ø 26,9 - 4000	1
1.1. BORFLEX – FLEX – S ø 26,9 - 180 1.2. BORFLEX – FLEX – M ø 200 - 900 1.3. BORFLEX – FLEX – L ø 924 - 4000		
2. BORFLEX - REP	ø 26,9 - 4000	4
1.1. BORFLEX – REP – S ø 26,9 - 180 1.2. BORFLEX – REP – M ø 200 - 900 1.3. BORFLEX – REP – L ø 924 - 4000		
3. BORFLEX - GRIP	ø 26,9 - 609,6	7
4. BORFLEX – PLAST & COMBIGRIP	ø 40 - 250	8
4.1. PLAST GRIP ø 40 - 250 4.2. COMBI GRIP ø 40 - 250		
5. BORFLEX - BR	ø 76,1 - 4000	9
6. BORSTEP	ø 88 - 4000	10
7. BORLINE	ø 80 - 600	13
8. BORCLAMP	ø 88 - 530	12
9. BORFLEX EASY 20	ø 88 - 530	13
10. BORFLEX - PVC CLAMP	ø 63 - 315	14
11. BORINLINE	ø 600 - 6000	15
11.1. INLINE 11.2. INFINIT		
12. MONDEO - CHECK VALVE	ø 1 / 4”- 4”	16
13. SAVA - RUBBER PIPE PLUGS	ø 15 - 3000	17

BORFLEX - FLEX - S
 Ø 26.9 - 180 mm


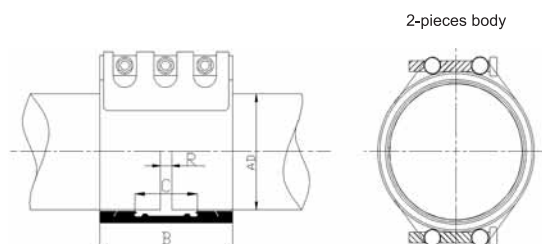
up to 40 bar available

Pipe	Clamping range	Nominal pressure	Dimension		Distance between pipe ends		Locking parts		
			B	C	R _{max}		thread	torque rate	allen head
AD mm	Min-Max mm	PN bar	mm	mm	without Strip	with Strip	M	Nm	mm
26.9	26 - 28	20	56	20	5	5	2xM6	7.5	4
30.0	29 - 31	20	56	20	5	5	2xM6	7.5	4
33.7	33 - 35	20	56	20	5	5	2xM6	7.5	4
38.0	38 - 39	20	76	36	5	10	2xM8	7.5	6
42.4	42 - 43	20	76	36	5	10	2xM8	7.5	6
44.5	44 - 46	20	76	36	5	10	2xM8	7.5	6
48.3	47 - 50	20	76	36	5	10	2xM8	7.5	6
55.0	54 - 57	20	76	36	8	15	2xM8	7.5	6
57.0	56 - 59	20	76	36	8	15	2xM8	7.5	6
60.3	59 - 62	20	76	36	8	15	2xM8	7.5	6
70.0	69 - 72	20	105	54	10	28	2xM8	7.5	6
76.1	76 - 79	20	105	54	10	28	2xM8	7.5	6
85.0	84 - 87	20	105	54	10	28	2xM8	7.5	6
88.9	88 - 91	20	105	54	10	28	2xM8	7.5	6
101.6	101 - 104	20	105	54	10	28	2xM8	7.5	6
104.0	104 - 107	20	105	54	10	28	2xM8	7.5	6
108.0	108 - 111	20	105	54	10	28	2xM8	7.5	6
114.3	113 - 117	20	105	54	10	28	2xM8	7.5	6
127.0	125 - 129	16	120	67	10	30	2xM10	10	8
133.0	132 - 136	16	120	67	10	30	2xM10	10	8
139.7	138 - 143	16	120	67	10	30	2xM10	10	8
154.0	152 - 157	16	120	67	10	30	2xM10	10	8
159.0	157 - 162	16	120	67	10	30	2xM10	10	8
168.3	167 - 172	16	120	67	10	30	2xM10	10	8
180.0	178 - 182	16	120	67	10	30	2xM10	10	8

Components / Materials		W 2	W 5	DIN 86128
• Casing		• AISI 304	• AISI 316	
• Screws		• steel galvanized / Dacromet - 500	• AISI 316	
• Bolts		• steel galvanized / Dacromet - 500	• AISI 316	
• Strip insert (option)		• AISI 304	• AISI 316	
• Sealing sleeve EPDM		• Temp.: -20°C up to +120°C Medium: water, waste water, air, solids and chem. products.	• Temp.: -20°C up to +120°C Medium: water, waste water, air, solids and chem. products.	
• Sealing sleeve NBR		• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	

Remarks:

- Admissible maximum axial movement of the pipes 10 mm
- Steel strip inserts required when gap between pipe ends is excessive, in presence of swelling, vacuum/depression (suction line), or external pressure.
- Steel strip inserts are available, under separate order, at additional cost.


BORFLEX - FLEX - M
 Ø 200 - 900 mm

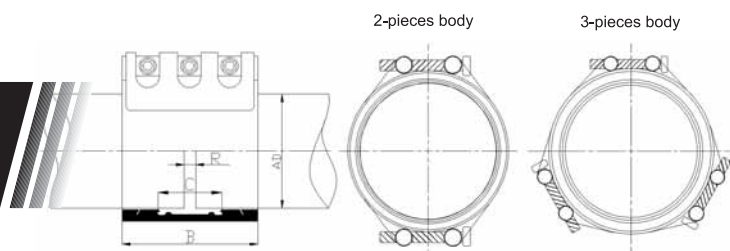
up to 40 bar available

Pipe	Clamping range	Nominal pressure	Dimension		Distance between pipe ends R _{max.}		Locking bolts		
AD mm	Min-Max mm	PN bar	B mm	C mm	without Strip mm	with Strip mm	thread M	torque rate Nm	allen head mm
200	197 - 203	16	210	107	15	40	6XM12	15	10
219,1	216 - 222	16	210	107	15	40	6XM12	15	10
234	231 - 237	16	210	107	15	40	6XM12	15	10
250	247 - 253	16	210	107	15	40	6XM12	15	10
273	270 - 276	16	210	107	15	40	6XM12	20	10
288	285 - 291	16	210	107	15	40	6XM12	20	10
323,9	321 - 327	16	210	107	15	40	6XM12	20	10
355,6	352 - 358	16	210	107	15	40	6XM12	20	10
378	375 - 381	16	210	107	15	40	6XM12	20	10
406,4	403 - 409	16	210	107	15	40	6XM16	40	14
429	426 - 432	16	210	107	15	40	6XM16	40	14
456	453 - 459	16	210	107	15	40	6XM16	40	14
508	505 - 511	16	210	107	15	40	6XM16	40	14
530	527 - 533	16	210	107	15	40	6XM16	40	14
568	565 - 571	16	210	107	20	60	6XM16	50	14
609,6	606 - 612	16	210	107	20	60	6XM16	60	14
617	614 - 620	16	210	107	20	60	6XM16	60	14
635	632 - 638	16	210	107	20	60	6XM16	60	14
676	673 - 679	16	210	107	20	60	6XM16	60	14
711,2	708 - 714	16	210	107	20	60	6XM16	60	14
719	716 - 722	16	210	107	20	60	6XM16	60	14
738	735 - 741	16	210	107	20	60	6XM16	60	14
760	757 - 763	16	210	107	20	60	6XM16	60	14
808	805 - 811	16	210	107	20	60	6XM16	60	14
813	810 - 816	16	210	107	20	60	6XM16	60	14
820	817 - 823	16	210	107	20	60	6XM16	70	14
842	839 - 845	16	210	107	20	60	6XM16	70	14
864	861 - 867	16	210	107	20	60	6XM16	80	14
914	911 - 917	16	210	107	20	60	6XM16	80	14

Components / Materials	W 1	W 2	W 5
			DIN 86128
• Casing	• AISI 1024 galv.	• AISI 304	• AISI 316
• Screws	• steel galvanized / Dacromet - 500	• steel galvanized / Dacromet - 500	• AISI 316
• Bolts	• steel galvanized / Dacromet - 500	• steel galvanized / Dacromet - 500	• AISI 316
• Strip insert (option)	• AISI 1024 galv.	• AISI 304	• AISI 316
• Sealing sleeve EPDM	• Temp.: -20°C up to +120°C Medium: water,waste water,air,solids / chem. products.	• Temp.: -20°C up to +120°C Medium: water,waste water,air,solids / chem. products.	• Temp.: -20°C up to +120°C Medium: water,waste water,air,solids / chem. products.
• Sealing sleeve NBR	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.

Remarks:

- Admissible maximum axial movement of the pipes 15 mm
- Steel strip inserts required when gap between pipe ends is excessive, in presence of swelling, vacuum/depression (suction line), or external pressure.
- Steel strip inserts are available, under separate order, at additional cost.

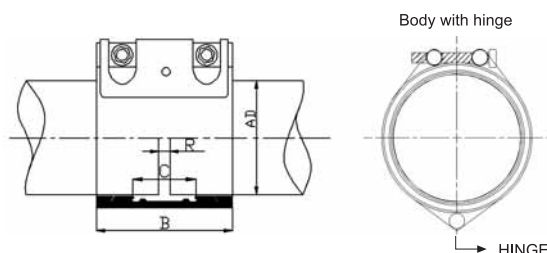
BORFLEX - FLEX - L
 Ø 924 - 4000 mm


up to 25 bar available

Pipe	Clamping range	Nominal pressure	Dimension		Distance between pipe ends R _{max}		Locking bolts		
AD mm	Min-Max mm	PN bar	B mm	C mm	without Strip mm	with Strip mm	thread M	torque rate Nm	allen head mm
924	919 - 929	16	210	118	20	60	6XM16	80	14
1016	1011 - 1021	16	210	118	20	60	6XM20	80	17
1026	1021 - 1031	16	210	118	20	60	6XM20	80	17
1048	1043 - 1053	16	210	118	20	60	6XM20	80	17
1220	1215 - 1225	10	210	118	20	60	6XM20	100	17
1229	1224 - 1234	10	210	118	20	60	6XM20	100	17
1331	1326 - 1336	10	210	118	20	60	6XM20	100	17
1420	1415 - 1425	10	210	118	20	60	6XM20	100	17
1434	1429 - 1439	10	210	118	20	60	6XM20	100	17
1535	1530 - 1540	10	210	118	20	60	6XM20	100	17
1620	1615 - 1625	10	210	118	20	60	6XM20	120	17
1637	1632 - 1642	10	210	118	20	60	6XM20	120	17
1820*	1815 - 1825	10	210	118	20	60	9XM20	120	17
1841*	1836 - 1846	10	210	118	20	60	9XM20	120	17
2020*	2015 - 2025	10	210	118	20	60	9XM20	140	17
2046*	2041 - 2051	10	210	118	20	60	9XM20	140	17
2220*	2215 - 2225	6	210	118	20	60	9XM20	150	17
2420*	2415 - 2425	6	210	118	20	60	9XM20	160	17
2453*	2448 - 2458	6	210	118	20	60	9XM20	160	17
2500*	2495 - 2505	4	210	118	20	60	9XM20	160	17
2600*	2595 - 2605	4	210	118	20	60	9XM20	160	17
2800*	2795 - 2805	4	210	118	20	60	9XM20	160	17
3000*	2995 - 3005	2	210	118	20	60	9XM20	160	17
3400*	3395 - 3405	2	210	118	20	60	9XM20	160	17
3500*	3495 - 3505	2	210	118	20	60	9XM20	160	17
3600*	3595 - 3605	2	210	118	20	60	9XM20	160	17
3800*	3795 - 3805	2	210	118	20	60	9XM20	160	17
4000*	3995 - 4005	2	210	118	20	60	9XM20	160	17

Components / Materials	W 1	W 2	W 5
• Casing	• AISI 1024 galv.	• AISI 304	• AISI 316
• Screws	• steel galvanized / Dacromet - 500	• steel galvanized / Dacromet - 500	• AISI 316
• Bolts	• steel galvanized / Dacromet - 500	• steel galvanized / Dacromet - 500	• AISI 316
• Strip insert (option)	• AISI 1024 galv.	• AISI 304	• AISI 316
• Sealing sleeve EPDM	• Temp.: -20°C up to +120°C Medium: water,waste water,air,solids / chem. products.	• Temp.: -20°C up to +120°C Medium: water,waste water,air,solids / chem. products.	• Temp.: -20°C up to +120°C Medium: water,waste water,air,solids / chem. products.
• Sealing sleeve NBR	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.

Remarks: - Admissible maximum axial movement of the pipes 15 mm
 - Steel strip inserts required when gap between pipe ends is excessive, in presence of swelling, vacuum/depression (suction line), or external pressure.
 - Steel strip inserts are available, under separate order, at additional cost.
 * Dimesions for 3-pieces body (recommended from Ø 1800mm)


BORFLEX - REP - S
 Ø 26.9 - 180 mm

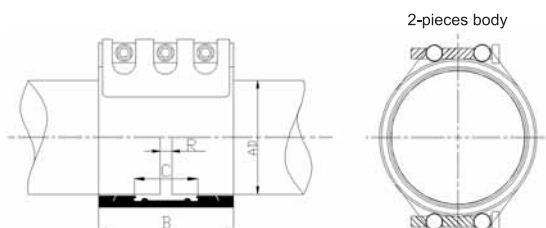
up to 25 bar available

Pipe	Clamping range	Nominal pressure	Dimension		Distance between pipe ends R _{max}		Locking bolts		
AD mm	Min-Max mm	PN bar	B mm	C mm	without Strip mm	with Strip mm	thread M	torque rate Nm	allen head mm
26.9	25 - 28	20	56	20	5	5	2xM8	7.5	6
30.0	29 - 31	20	56	20	5	5	2xM8	7.5	6
33.7	32 - 34	20	56	20	5	5	2xM8	7.5	6
38.0	36 - 40	20	76	36	5	10	2xM10	7.5	8
42.4	40 - 43	20	76	36	5	10	2xM10	7.5	8
44.5	42 - 46	20	76	36	5	10	2xM10	7.5	8
48.3	46 - 50	20	76	36	5	10	2xM10	7.5	8
55.0	53 - 57	20	76	36	8	15	2xM10	7.5	8
57.0	55 - 59	20	76	36	8	15	2xM10	7.5	8
60.3	58 - 62	20	76	36	8	15	2xM10	7.5	8
70.0	68 - 72	20	105	54	10	28	2xM10	7.5	8
76.1	82 - 87	20	105	54	10	28	2xM10	7.5	8
85.0	74 - 78	20	105	54	10	28	2xM10	7.5	8
88.9	87.5 - 91	20	105	54	10	28	2xM10	7.5	8
101.6	100 - 104	20	105	54	10	28	2xM10	7.5	8
104.0	102 - 106	20	105	54	10	28	2xM10	7.5	8
108.0	106 - 110	20	105	54	10	28	2xM10	7.5	8
114.3	112 - 116	20	105	54	10	28	2xM10	7.5	8
127.0	125 - 129	16	120	67	10	30	2xM12	10	10
133.0	131 - 135	16	120	67	10	30	2xM12	10	10
139.7	138 - 142	16	120	67	10	30	2xM12	10	10
154.0	152 - 156	16	120	67	10	30	2xM12	10	10
159.0	157 - 161	16	120	67	10	30	2xM12	10	10
168.3	166 - 172	16	120	67	10	30	2xM12	10	10
180.0	178 - 182	16	120	67	10	30	2xM12	10	10

Components / Materials	W 2	W 5	DIN 86128
• Casing	• AISI 304	• AISI 316	
• Screws	• steel galvanized / Dacromet - 500	• AISI 316	
• Bolts	• steel galvanized / Dacromet - 500	• AISI 316	
• Strip insert (option)	• AISI 304	• AISI 316	
• Sealing sleeve EPDM	• Temp.: -20°C up to +120°C Medium: water, waste water, air, solids and chem. products.	• Temp.: -20°C up to +120°C Medium: water, waste water, air, solids and chem. products.	
• Sealing sleeve NBR	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	

Remarks:

- Admissible maximum axial movement of the pipes 10 mm
- Steel strip inserts required when gap between pipe ends is excessive, in presence of swelling, vacuum/depression (suction line), or external pressure.
- Steel strip inserts are available, under separate order, at additional cost.

BORFLEX - REP - M
 Ø 200 - 900 mm


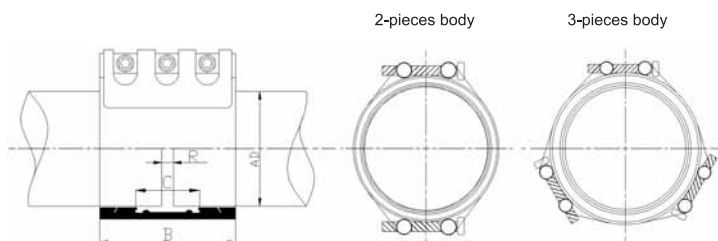
up to 25 bar available

Pipe	Clamping range	Nominal pressure	Dimension		Distance between pipe ends		Locking bolts		
			B	C	R _{max.}		thread	torque rate	allen head
AD mm	Min-Max mm	PN bar	mm	mm	mm	mm	M	Nm	mm
200	197 - 203	16	210	107	15	40	6XM12	15	10
219,1	216 - 222	16	210	107	15	40	6XM12	15	10
234	231 - 237	16	210	107	15	40	6XM12	15	10
250	247 - 253	16	210	107	15	40	6XM12	15	10
273	270 - 276	16	210	107	15	40	6XM12	20	10
288	285 - 291	16	210	107	15	40	6XM12	20	10
323,9	321 - 327	16	210	107	15	40	6XM12	20	10
355,6	352 - 358	16	210	107	15	40	6XM12	20	10
378	375 - 381	16	210	107	15	40	6XM12	20	10
406,4	403 - 409	16	210	107	15	40	6XM16	40	14
429	426 - 432	16	210	107	15	40	6XM16	40	14
456	453 - 459	16	210	107	15	40	6XM16	40	14
508	505 - 511	16	210	107	15	40	6XM16	40	14
530	527 - 533	16	210	107	15	40	6XM16	40	14
568	565 - 571	16	210	107	20	60	6XM16	50	14
609,6	606 - 612	16	210	107	20	60	6XM16	60	14
617	614 - 620	16	210	107	20	60	6XM16	60	14
635	632 - 638	16	210	107	20	60	6XM16	60	14
676	673 - 679	16	210	107	20	60	6XM16	60	14
711,2	708 - 714	16	210	107	20	60	6XM16	60	14
719	716 - 722	16	210	107	20	60	6XM16	60	14
738	735 - 741	16	210	107	20	60	6XM16	60	14
760	757 - 763	16	210	107	20	60	6XM16	60	14
808	805 - 811	16	210	107	20	60	6XM16	60	14
813	810 - 816	16	210	107	20	60	6XM16	60	14
820	817 - 823	16	210	107	20	60	6XM16	70	14
842	839 - 845	16	210	107	20	60	6XM16	70	14
864	861 - 867	16	210	107	20	60	6XM16	80	14
914	911 - 917	16	210	107	20	60	6XM16	80	14

Components / Materials	W 1	W 2	W 5	DIN 86128
• Casing	• AISI 1024 galv.	• AISI 304	• AISI 316	
• Screws	• steel galvanized / Dacromet - 500	• steel galvanized / Dacromet - 500	• AISI 316	
• Bolts	• steel galvanized / Dacromet - 500	• steel galvanized / Dacromet - 500	• AISI 316	
• Strip insert (option)	• AISI 1024 galv.	• AISI 304	• AISI 316	
• Sealing sleeve EPDM	• Temp.: -20°C up to +120°C Medium: water,waste water,air,solids / chem. products.	• Temp.: -20°C up to +120°C Medium: water,waste water,air,solids / chem. products.	• Temp.: -20°C up to +120°C Medium: water,waste water,air,solids / chem. products.	
• Sealing sleeve NBR	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	

Remarks:

- Admissible maximum axial movement of the pipes 10 mm
- Steel strip inserts required when gap between pipe ends is excessive, in presence of swelling, vacuum/depression (suction line), or external pressure.
- Steel strip inserts are available, under separate order, at additional cost.

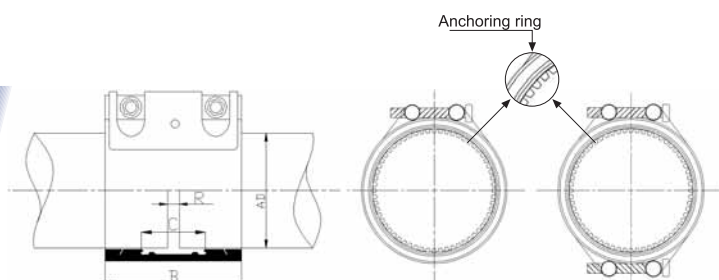

BORFLEX - REP - L
 Ø 924 - 4000 mm

up to 25 bar available

Pipe	Clamping range	Nominal pressure	Dimension		Distance between pipe ends		Locking bolts		
			B	C	R _{max}				
AD mm	Min-Max mm	PN bar	mm	mm	without Strip mm	with Strip mm	thread M	torque rate Nm	allen head mm
924	919 - 929	16	210	118	20	60	6XM16	80	14
945	940 - 950	16	210	118	20	60	6XM20	80	17
972	967 - 977	16	210	118	20	60	6XM20	80	17
1016	1011 - 1021	16	210	118	20	60	6XM20	80	17
1026	1021 - 1031	16	210	118	20	60	6XM20	80	17
1048	1043 - 1053	16	210	118	20	60	6XM20	80	17
1080	1075 - 1085	10	210	118	20	60	6XM20	80	17
1156	1151 - 1161	10	210	118	20	60	6XM20	80	17
1220	1215 - 1225	10	210	118	20	60	6XM20	100	17
1229	1224 - 1234	10	210	118	20	60	6XM20	100	17
1255	1250 - 1260	10	210	118	20	60	6XM20	100	17
1331	1326 - 1336	10	210	118	20	60	6XM20	100	17
1420	1415 - 1425	10	210	118	20	60	6XM20	100	17
1434	1429 - 1439	10	210	118	20	60	6XM20	100	17
1462	1457 - 1467	10	210	118	20	60	6XM20	100	17
1535	1530 - 1540	10	210	118	20	60	6XM20	100	17
1565	1560 - 1570	10	210	118	20	60	6XM20	100	17
1620	1615 - 1625	10	210	118	20	60	6XM20	120	17
1637	1632 - 1642	10	210	118	20	60	6XM20	120	17
1668	1663 - 1673	10	210	118	20	60	6XM20	120	17
1820*	1815 - 1825	10	210	118	20	60	9XM20	120	17
1841*	1836 - 1846	10	210	118	20	60	9XM20	120	17
2020*	2015 - 2025	10	210	118	20	60	9XM20	140	17
2046*	2041 - 2051	10	210	118	20	60	9XM20	140	17
2220*	2215 - 2225	6	210	118	20	60	9XM20	150	17
2252*	2247 - 2257	6	210	118	20	60	9XM20	150	17
2420*	2415 - 2425	6	210	118	20	60	9XM20	160	17
2453*	2448 - 2458	6	210	118	20	60	9XM20	160	17

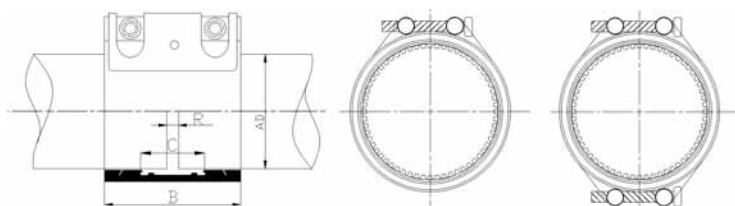
Components / Materials	W 1	W 2	W 5	DIN 86128
• Casing	• AISI 1024 galv.	• AISI 304	• AISI 316	
• Screws	• steel galvanized / Dacromet - 500	• steel galvanized / Dacromet - 500	• AISI 316	
• Bolts	• steel galvanized / Dacromet - 500	• steel galvanized / Dacromet - 500	• AISI 316	
• Strip insert (option)	• AISI 1024 galv.	• AISI 304	• AISI 316	
• Sealing sleeve EPDM	• Temp.: -20°C up to +120°C Medium: water,waste water,air,solids / chem. products.	• Temp.: -20°C up to +120°C Medium: water,waste water,air,solids / chem. products.	• Temp.: -20°C up to +120°C Medium: water,waste water,air,solids / chem. products.	
• Sealing sleeve NBR	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	

Remarks: - Admissible maximum axial movement of the pipes 15 mm
 - Steel strip inserts required when gap between pipe ends is excessive, in presence of swelling, vacuum/depression (suction line), or external pressure.
 - Steel strip inserts are available, under separate order, at additional cost.
 * Dimesions for 3-pieces body (recommended from Ø 1800mm)

BORFLEX - GRIP - S
 Ø 26.9 - 609.6 mm
 axial restraint


Pipe	Clamping range	Nominal pressure	Dimension		Distance between pipe ends R max.		Locking bolts		
AD mm	Min-Max mm	PN bar	B mm	C mm	without Strip mm	with Strip mm	thread M	torque rate Nm	allen head mm
26.9	26 - 28	20	56	17	5	5	2xM8	5	6
30.0	29 - 31	20	56	17	5	5	2xM8	5	6
33.7	33 - 35	20	56	17	5	5	2xM8	5	6
38.0	38 - 39	20	76	30	5	10	2xM10	7.5	8
42.4	42 - 43	20	76	30	5	10	2xM10	7.5	8
44.5	44 - 46	20	76	30	5	10	2xM10	7.5	8
48.3	47 - 50	20	76	30	5	10	2xM10	8	8
57.0	56 - 59	20	76	30	8	15	2xM10	8	8
60.3	59 - 62	20	76	30	8	15	2xM10	8	8
76.1	76 - 79	20	105	47	10	28	2xM10	8	8
88.9	88 - 91	20	105	47	10	28	2xM10	8	8
108.0	108 - 111	20	105	47	10	28	2xM10	8	8
114.3	113 - 117	20	105	47	10	28	2xM10	8	8
127.0	125 - 129	16	120	60	10	30	2xM12	8	10
133.0	132 - 136	16	120	60	10	30	2xM12	10	10
139.7	138 - 143	16	120	60	10	30	2xM12	10	10
159.0	157 - 162	16	120	60	10	30	2xM12	10	10
168.3	167 - 172	16	120	60	10	30	2xM12	10	10
180.0	178 - 182	12	152	81	10	30	2xM14	10	12
219.1	218 - 223	12	152	81	10	30	2xM14	10	12
273.0	272 - 277	10	152	81	10	30	2xM14	10	12
323.9	323.0 - 329.0	10	152	81	10	35	2xM14	20	12
355.6	352.0 - 359.0	6	152	81	10	35	2xM14	20	12
406.4	402.5 - 410.5	6	152	81	10	35	2xM14	20	12
457.2	452.5 - 462.0	6	152	81	10	35	2xM14	20	12
508.0	503.0 - 513.0	4	152	81	10	35	2xM14	30	12
558.8	554.0 - 564.0	4	152	81	10	35	2xM14	30	12
609.6	604.5 - 614.5	4	152	81	10	35	2xM14	40	12

Components / Materials	W 2	W 5	DIN 86128
• Casing	• AISI 304	• AISI 316	
• Screws	• steel galvanized / Dacromet - 500	• AISI 316	
• Bolts	• steel galvanized / Dacromet - 500	• AISI 316	
• Strip insert (option)	• AISI 304	• AISI 316	
• Sealing sleeve EPDM	• Temp.: -20°C up to +120°C Medium: water, waste water, air, solids and chem. products.	• Temp.: -20°C up to +120°C Medium: water, waste water, air, solids and chem. products.	
• Sealing sleeve NBR	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	


**BORFLEX
 PLAST & COMBI GRIP**
 Ø 26.9 - 609.6 mm
 axial restraint

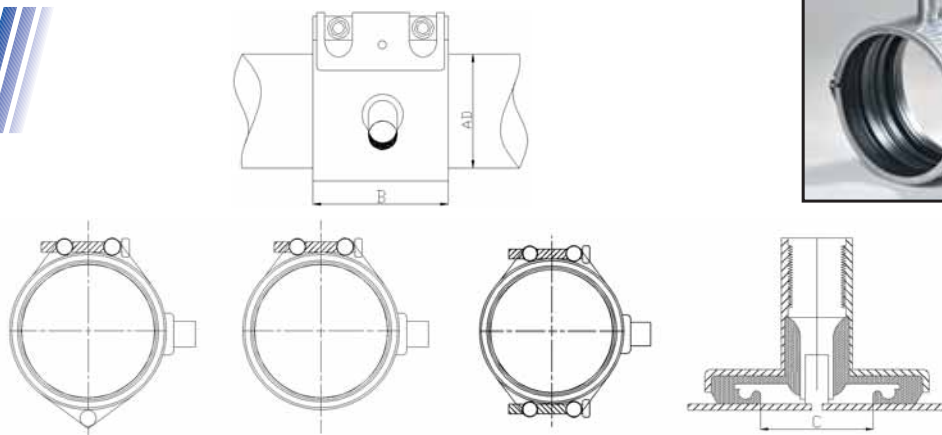
BORFLEX-PLAST-GRIP (Joint for plastic pipe)

Pipe	Clamping range	Nominal pressure	Dimension	Distance between pipe ends R _{max.}		Locking bolts			
					stiffening ring	torque rate	allen head	thread	
AD mm	Min-Max mm	PN bar	mm	mm	mm	Nm	mm	M	
40.0	39.0 - 40.5	16	61	19	5	15	6	2xM8	
50.0	49.0 - 50.5	16	61	26	5	15	6	2xM8	
63.0	62.0 - 64.0	16	76	32	10	20	6	2xM8	
75.0	74.0 - 76.0	16	98	39	10	35	8	2xM10	
90.0	89.0 - 91.0	16	98	39	10	35	8	2xM10	
110.0	109 - 111	16	98	39	10	35	8	2xM10	
114.3	113 - 115	16	98	39	10	35	8	2xM10	
125.0	124 - 126	16	108	43	15	60	10	2xM12	
140.0	139 - 142	16	109	43	15	60	10	2xM12	
160.0	159 - 162	16	109	43	15	60	10	2xM12	
180.0	178 - 182	10	141	80	15	60	10	2xM12	
200.0	198 - 202	7	141	80	15	60	10	2xM12	
225.0	223 - 227	6	141	80	15	60	10	2xM12	
250.0	248 - 252	5	141	80	15	80	10	2xM12	

BORFLEX-COMBI-GRIP (Joint for steel pipe)

Pipe		Clamping range		Nominal pressure	Dimension	Distance between pipe ends R _{max.}			Locking bolts		
							stiffening ring		torque rate	allen head	thread
AD mm		Min-Max mm		PN bar	mm	mm	mm		Nm	mm	M
40.0	38.0	37.5 - 39.0	37.5 - 39.0	16	61	19	5	10	15	6	2xM8
40.0	42.4	42.0 - 43.5	42.0 - 43.5	16	61	20	5	10	15	6	2xM8
50.0	48.3	49.0 - 50.5	47.8 - 49.0	16	61	26	5	10	15	6	2xM8
63.0	60.3	62.0 - 64.0	59.7 - 61.0	16	76	32	10	25	20	6	2xM10
75.0	76.1	74.0 - 76.0	75.0 - 77.5	16	94	39	10	25	35	8	2xM10
90.0	88.9	89.0 - 91.0	87.0 - 90.0	16	94	39	10	25	35	8	2xM10
110.0	108.0	109.0 - 111.0	106.5 - 110.5	16	94	39	10	25	35	8	2xM10
114.3	114.3	113 - 115	112.0 - 116.0	16	94	39	10	25	35	8	2xM12
140.0	139.7	139 - 142	137.5 - 141.0	16	109	43	15	30	60	10	2xM12
160.0	159.0	159 - 162	157.0 - 160.5	16	109	43	15	30	60	10	2xM12
180.0	180.0	178 - 182	178.0 - 182.0	10	141	80	15	30	60	10	2xM12
200.0	206.0	198 - 202	202 - 206	7	141	80	15	30	60	10	2xM12
225.0	219.0	223 - 227	217 - 221	6	141	80	15	30	60	10	2xM12
250.0	256.0	248 - 252	254 - 258	5	141	80	15	30	80	10	2xM12

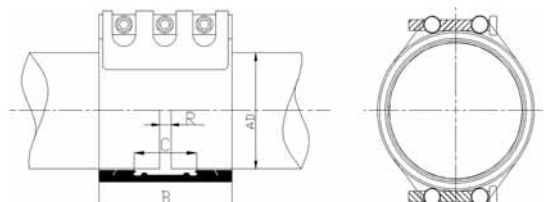
Components / Materials	W 2	W 5	DIN 86128
• Casing	• AISI 304	• AISI 316	
• Screws	• steel galvanized / Dacromet - 500	• AISI 316	
• Bolts	• steel galvanized / Dacromet - 500	• AISI 316	
• Strip insert (option)	• AISI 304	• AISI 316	
• Sealing sleeve EPDM	• Temp.: -20°C up to +120°C Medium: water, waste water, air, solids and chem. products.	• Temp.: -20°C up to +120°C Medium: water, waste water, air, solids and chem. products.	
• Sealing sleeve NBR	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	

BORFLEX - BR
 Ø 76.1- 4000 mm


Pipe	Clamping range	Nominal pressure	Dimension		outlet socket	Locking bolts		
AD mm	Min-Max mm	PN bar	B mm	C mm	(DN) mm	thread M	torque rate Nm	allen head mm
76.1	73 - 79	20	105	54	15-40	2xM10	7.5	8
88.9	86 - 92	20	105	54	15-40	2xM10	7.5	8
114.3	111 - 117	20	105	54	15-40	2xM10	7.5	8
139.7	136 - 142	20	120	67	15-40	2xM12	10	10
168.3	165 - 171	16	120	67	15-40	2xM12	10	10
219.1	216 - 222	16	210	107	15-100	6xM12	15	10
273	270 - 276	16	210	107	15-100	6xM12	20	10
323.9	321 - 327	16	210	107	15-100	6xM12	20	10
355	352 - 358	16	210	107	15-100	6xM12	20	10
406.4	403 - 409	16	210	107	15-100	6xM16	40	14
473	470 - 476	16	210	107	15-100	6xM16	40	14
508	505 - 511	16	210	107	15-100	6xM16	40	14
609	606 - 612	16	210	107	15-100	6xM16	60	14
711.2	708 - 714	16	210	107	15-100	6xM16	60	14
813	810 - 816	16	210	107	15-100	6xM16	60	14
914	911 - 917	16	210	107	15-100	6xM16	80	14
1016	1011 - 1021	16	210	107	15-100	6xM20	80	17
2000	1995 - 2005	16	210	107	15-100	6xM20	80	17
3000	2995 - 3005	16	210	107	15-100	6xM20	80	17
4000	3995 - 4005	16	210	107	15-100	6xM20	80	17

Components / Materials	W 2	W 5	DIN 86128
• Casing	• AISI 304	• AISI 316	
• Screws	• steel galvanized / Dacromet - 500	• AISI 316	
• Bolts	• steel galvanized / Dacromet - 500	• AISI 316	
• Strip insert (option)	• AISI 304	• AISI 316	
• Sealing sleeve EPDM	• Temp.: -20°C up to +120°C Medium: water, waste water, air, solids and chem. products.	• Temp.: -20°C up to +120°C Medium: water, waste water, air, solids and chem. products.	
• Sealing sleeve NBR	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	

STEP COUPLING FOR DIFFERENT PIPE DIAMETER



BORSTEP
 Ø 88 - 4000 mm

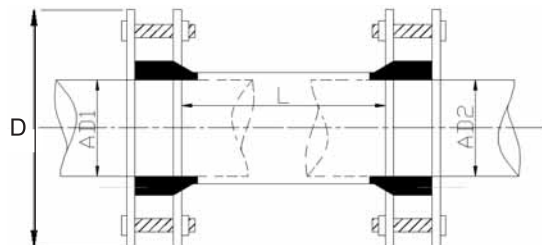
AD₁ ≠ AD₂

Pipe	Clamping range	Nominal pressure	Dimension		Locking bolts		
AD mm	mm	PN bar	B mm	C mm	thread M	torque rate Nm	allen head mm
88,9	+20	20	105	54	6xM8	7.5	6
100	+20	20	105	54	6xM8	7.5	6
200	+20	16	210	67	6xM12	10	10
300	+20	16	210	107	6xM12	15	10
350	+20	16	210	107	6xM12	20	10
400	+20	16	210	107	6xM16	40	14
450	+20	16	210	107	6xM16	40	14
500	+20	16	210	107	6xM16	50	14
550	+20	16	210	107	6xM16	50	14
600	+20	16	210	107	6xM16	60	14
650	+20	16	210	107	6xM16	60	14
700	+20	16	210	107	6xM16	60	14
750	+20	16	210	107	6xM16	60	14
800	+20	16	210	107	6xM16	70	14
850	+20	16	210	107	6xM16	80	14
900	+20	16	210	107	6xM16	80	14
950	+20	16	210	118	6xM16	80	14
1000	+20	16	210	118	6xM20	80	18
1050	+20	16	210	118	6xM20	120	18
2000	+20	16	210	118	6xM20	160	18
2500	+20	16	210	118	6xM20	160	18
3000	+20	16	210	118	6xM20	160	18
4000	+20	16	210	118	6xM20	160	18

Components / Materials	W 2	W 5	DIN 86128
• Casing	• AISI 304	• AISI 316	
• Screws	• steel galvanized / Dacromet - 500	• AISI 316	
• Bolts	• steel galvanized / Dacromet - 500	• AISI 316	
• Strip insert (option)	• AISI 304	• AISI 316	
• Sealing sleeve EPDM	• Temp.: -20°C up to +120°C Medium: water, waste water, air, solids and chem. products.	• Temp.: -20°C up to +120°C Medium: water, waste water, air, solids and chem. products.	
• Sealing sleeve NBR	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	

Remarks:

- Admissible maximum axial movement of the pipes 10 mm
- Steel strip inserts required when gap between pipe ends is excessive, in presence of swelling, vacuum/depression (suction line), or external pressure.
- Steel strip inserts are available, under separate order, at additional cost.

PIPE ADAPTER
BORLINE
 Ø 90 - 600 mm

 $AD_1 \neq AD_2$

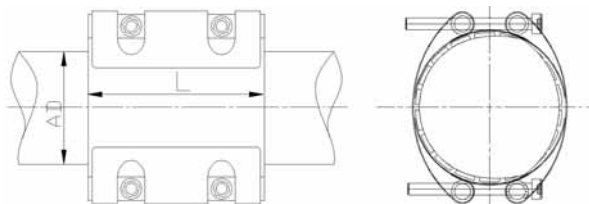

Clamping range		Dimension				Nominal pressure		bolts
AD (Min)	AD (Max)	D	flange-thickness	body-thickness	installation length	weight	PN	thread
mm	mm	mm	mm	mm	mm	kg	bar	
90	100	197	10	3,0	250	5,10	16	M12 x 8
110	132	229	10	3,0	250	5,90	16	M12 x 8
145	170	267	10	3,0	250	7,30	16	M12 x 8
168	190	287	10	3,0	250	8,18	16	M12 x 8
200	220	320	10	3,5	250	10,50	16	M12 x 8
222	252	352	10	3,5	250	11,90	16	M12 x 8
273	288	388	10	3,5	250	14,10	16	M12 x 12
296	326	426	10	3,5	250	15,10	16	M12 x 12
324	344	444	10	3,5	250	17,25	16	M12 x 12
355	378	478	10	3,5	250	20,10	16	M12 x 12
390	406	520	12	3,5	250	24,20	16	M14 x 16
406	429	544	12	3,5	250	27,10	16	M14 x 16
429	456	570	12	3,5	250	30,70	16	M14 x 16
472	490	604	12	3,5	250	33,70	16	M14 x 16
532	568	682	12	3,5	250	36,50	16	M14 x 16
574	586	700	12	3,5	250	42,00	16	M14 x 16

Components / Materials		BL 1
Body		ST 37 (Epoxy coated)
Bolts		8.8 steel galvanized
Flange		ST 37 (Epoxy coated)
Seal		EPDM (1-piece)
Diameter difference		max. 23 mm

REPAIR CLAMP



2-pieces body


NEW
BORCLAMP
 Ø 88 - 530 mm

Pipe	L = Clamp length (mm)				
AD	200	250	300	400	500
88 - 110	x	x	x		
100 - 120	x	x	x		
108 - 128	x	x	x		
114 - 134	x	x	x		
120 - 140	x	x	x		
130 - 150	x	x	x	x	
135 - 155	x	x	x	x	
140 - 160	x	x	x	x	x
159 - 180	x	x	x	x	x
165 - 185	x	x	x	x	x
168 - 189	x	x	x	x	x
170 - 190	x	x	x	x	x
176 - 196	x	x	x	x	x
190 - 210	x	x	x	x	x
195 - 217	x	x	x	x	x
210 - 230	x	x	x	x	x
216 - 238	x	x	x	x	x
225 - 246	x	x	x	x	x
240 - 260	x	x	x	x	x

Pipe	L = Clamp length (mm)				
AD	200	250	300	400	500
250 - 270		x	x	x	x
269 - 289		x	x	x	x
273 - 293			x	x	x
282 - 302			x	x	x
295 - 315			x	x	x
315 - 335			x	x	x
322 - 344			x	x	x
337 - 358				x	x
347 - 367				x	x
365 - 385				x	x
382 - 402				x	x
395 - 415				x	x
400 - 420				x	x
410 - 430				x	x
420 - 440				x	x
435 - 455					x
450 - 470					x
468 - 488					x
510 - 530					x

x available length

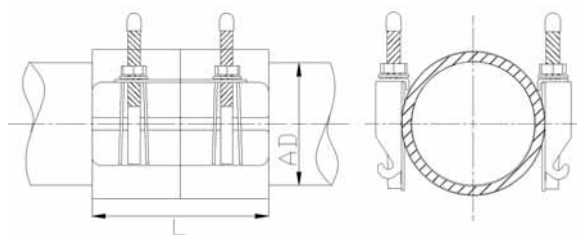
Pressure table

Pipe diameter AD	Pressure nominal water (bar)	Pressure nominal gas (bar)
88 - 293	16	6
294 - 510	10-16	4

Components / Materials

Diameter range	Body	Bolts	Sealing
20 mm	AISI 304 / 1.4301	steel galvanized / Dacromet 500	EPDM (wafer design) *NBR (wafer design)

* NBR on demand

BORFLEX - GOFRET
EASY - 20
 Ø 88 - 530 mm

REPAIR CLAMP


Pipe	L = Clamp length (mm)				
AD	200	250	300	400	500
88 - 110	x	x	x		
100 - 120	x	x	x		
108 - 128	x	x	x		
114 - 134	x	x	x		
120 - 140	x	x	x		
130 - 150	x	x	x	x	
135 - 155	x	x	x	x	
140 - 160	x	x	x	x	x
159 - 180	x	x	x	x	x
165 - 185	x	x	x	x	x
168 - 189	x	x	x	x	x
170 - 190	x	x	x	x	x
176 - 196	x	x	x	x	x
190 - 210	x	x	x	x	x
195 - 217	x	x	x	x	x
210 - 230	x	x	x	x	x
216 - 238	x	x	x	x	x
225 - 246	x	x	x	x	x
240 - 260	x	x	x	x	x

Pipe	L = Clamp length (mm)				
AD	200	250	300	400	500
250 - 270		x	x	x	x
269 - 289		x	x	x	x
273 - 293			x	x	x
282 - 302			x	x	x
295 - 315			x	x	x
315 - 335			x	x	x
322 - 344			x	x	x
337 - 358				x	x
347 - 367				x	x
365 - 385				x	x
382 - 402				x	x
395 - 415				x	x
400 - 420				x	x
410 - 430				x	x
420 - 440				x	x
435 - 455					x
450 - 470					x
468 - 488					x
510 - 530					x

x available length

Pressure table

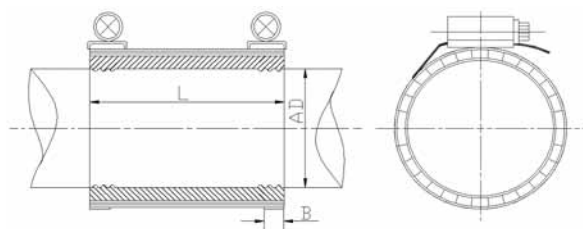
Pipe diameter AD	Pressure nominal water (bar)	Pressure nominal gas (bar)
88 - 293	16	6
294 - 510	10-16	4

Components / Materials

Diameter range	Body	Bolts	Sealing
20 mm	AISI 304 / 1.4301	steel galvanized / Dacromet 500	EPDM (wafer design) *NBR (wafer design)

* NBR on demand

PVC CLAMP



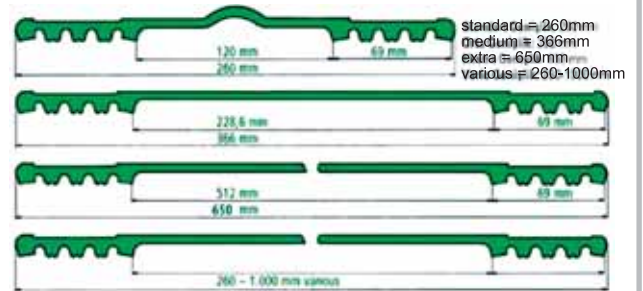
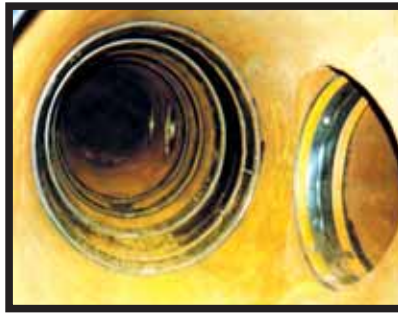
PVC CLAMP
 Ø 63 - 315 mm

Pipe	Outside-diameter	Inside-diameter	Length	Overlap	Band	Plate thickness
AD	OD	ID	L	B	Number	mm
mm	mm	mm	mm	mm		
63	80	68	85	10	2	0,4
75	93	81	85	10	2	0,4
90	110	93	85	10	2	0,4
110	130	118	125	10	2	0,4
125	145	133	125	10	4	0,8
140	160	148	125	10	4	0,8
160	180	168	125	10	4	0,8
180	200	188	125	10	4	0,8
200	220	208	125	10	4	0,8
225	245	233	125	10	4	0,8
280	300	288	150	10	4	0,8
315	335	323	150	10	4	0,8

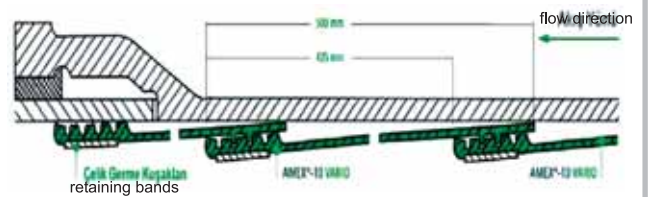
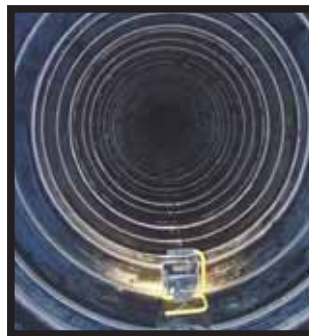
Components / Materials	PV 1	PV 2
• Casing	• AISI 304	• AISI 316
• Band	• AISI 304	• AISI 316
• Sealing sleeve EPDM	• Temp.: -20°C up to +120°C Medium: water, waste water, air, solids and chem. products.	• Temp.: -20°C up to +120°C Medium: water, waste water, air, solids and chem. products.
• Sealing sleeve NBR	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.	• Temp.: -20°C up to +100°C Medium: water, gas, oil, fuel and other hydrocarbons.

BORINLINE Rehabilitation System for Accessible Pipelines

1. INLINE



2. INFINIT



INSTALLATION

1. cleaning

2. structure and assembly

3. hydraulic tension adjusters use

4. control / test



Components / Materials

MONO

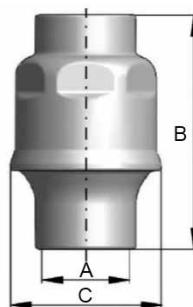
VARIO

- Dimensions
- Mounting width
- Tightening strap
- Brace
- Sealing sleeve
- Temperature
- Working pressure

500 mm - 6000 mm
260 mm, 366 mm, 500 mm, Vario
AISI 316 Ti
MPDE
EPDM, NBR
20°C up to + 120°C (EPDM)
20°C up to + 80°C (NBR)
20 bar

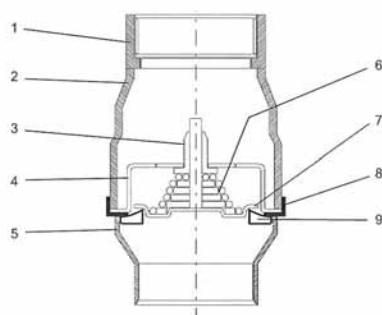
500 mm - 6000 mm
Modular / Unbounded
AISI 316 Ti
-
EPDM, NBR
20°C up to + 120°C (EPDM)
20°C up to + 80°C (NBR)
20 bar

CHECK VALVE

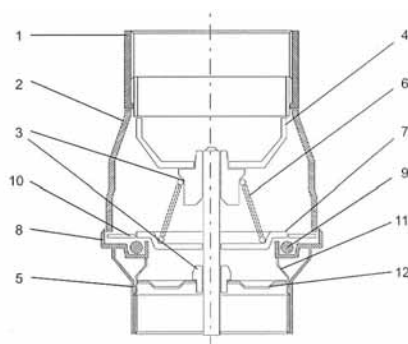


MONDEO
Check Valve
Ø 1/4" - 4"

Pipe diameter		Dimension			weight	packing unit
DN	DN	A	B	C		
Inch	mm	mm	mm	mm	gr.	Stk.
1/4"	6.35	18	55	32	91	12
3/8"	9.5	20	55	32	93	12
1/2"	12.7	25	55	32	94	12
3/4"	20	29	70	44	129	8
1"	25	36	84	53	191	8
1 1/4"	32	45	99	62	281	6
1 1/2"	40	51	119	78	388	6
2"	50	64	123	89	704	4
2 1/2"	65	80	147	113	1425	1
3"	80	93	166	132	2085	1
4"	100	120	193	165	3415	1



1/4" - 2"



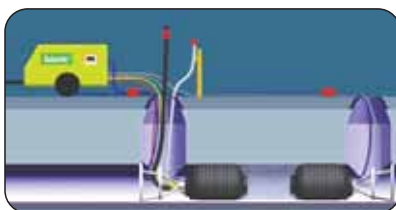
2 1/2" - 4"

	Description
1.	Outlet end
2.	Body 304 / 316
3.	Guide ring
4.	Flow control disk guide
5.	Inlet end
6.	Spring
7.	Flow control disc
8.	Sealring housing
9.	Seal ring
10.	Seal ring retainer
11.	Seal ring support
12.	Outlet side guide

1. Sava Block Pipe Plug



Application



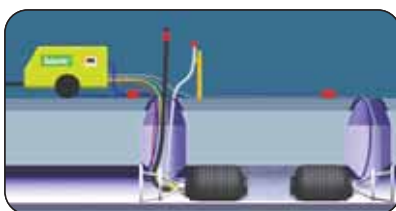
Characteristics

Material	: NBR or EPDM	
Dimension	: DN 15 - DN 305	
Pressure	: DN 20 - 150	2.2 bar
	: DN 200 - 305	1.8 bar

2. Sava Air Testing Plug



Application



Characteristics

Material	: NBR or EPDM	
Dimension	: DN 40 - DN 1800	
Pressure	: DN 40 - 750	2 - 1.1 bar
	: DN 800 - 1800	1 - 0.4 bar

3. Sava Bypass Plug



Application



Characteristics

Material	: NBR or EPDM	
Dimension	: DN 600 - DN 2200	
Pressure	: DN 600 - 1600	1 - 0.8 bar
	: DN 1600 - 2200	0.6 - 0.4 bar

- NBR: NR Isoprene rubber, natural
- EPDM: SBR Styrene-butadiene rubber

4. SAVA Manhole Plug



Application



Characteristics

Material	: NBR oder EPDM
Dimension	: DN 600 - DN 650
Pressure	: DN 600 - 650 1.5 bar
Weight	: 16 Kg

5. SAVA High Pressure Plug



Application



Characteristics

Material	: NBR oder EPDM
Dimension	: DN 54 - DN 400
Pressure	: DN 54 - 200 30 bar
Weight	: DN 54 - 200 3 - 15.2 Kg

6. SAVA Elliptical Plug



Application



Characteristics

Material	: NBR oder EPDM
Dimension	: DN 50 - DN 500
Pressure	: DN 50 - 315 1 bar
	: DN 315 - 500 0.8 bar

Accessories:

60450

60449

60310

71248



60450	: Controller-Water
60449	: Controller-Air
60310	: Controll-Unit
71248	: Inflation Hose

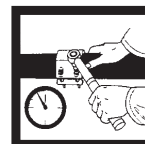
Damages

	Damages		Burst Pipe
	- damaged pipe collar		Cast-Iron-Pipe mostly radial damages
	- crack along the pipe		
	- angular deflection during assembly		Nodular-Cast-Iron-Pipe mostly longitudinal cracks replace spool piece with 2 couplings
	- Pitting holes		
	- mechanical damages		
	- untight collar sealing		PVC Pipe Zick-Zack-crack due ageing
	- radial crack		
	- external corrosion		Asbestos pipe mostly radial damages
	- excessive gap during assembly		
	- offset during assembly		PE-Pipe mostly longitudinal cracks replace spool piece with 2 couplings

ADVANTAGES

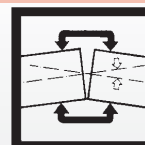
1. Ready to install

- No specialist tools required
- Easy to handle and install
- Lightweight and low profile



2. No pretreatment

- Angular deflection up to 5°
- When desired completely high-grade steel
- Several times usable



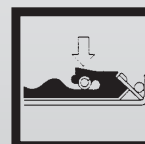
3. None welding

- no mechanical work
- Stretch and Vibration-absorbing



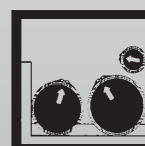
4. High chemical resistance

- Progressive sealing effect
- High impact strength



5. High working pressure and vacuum stability

- Up to 40 bar working pressure
- Noise-restraining



6. Space saving

- Install pipes close together
- Installation position freely selectable

7. Simple assembly of different pipe diameters and materials

RANGE OF APPLICATIONS

Surface-/underground engineering

Sanitary lines
Fuel lines
Fire fighting lines
Ventilation lines

Shipbuilding / Off-shore

Fuel lines
Fire fighting
Vent systems
Cooling lines

Gas- and water supply

Water supply
Gas supply
Shaft construction
Hydrant lines
Tank lines

Mining / Tunneling

Water supply
Vacuum lines
Compressed air lines
Cooling lines

Power generation

Utility lines
Cooling lines
Distribution conduit

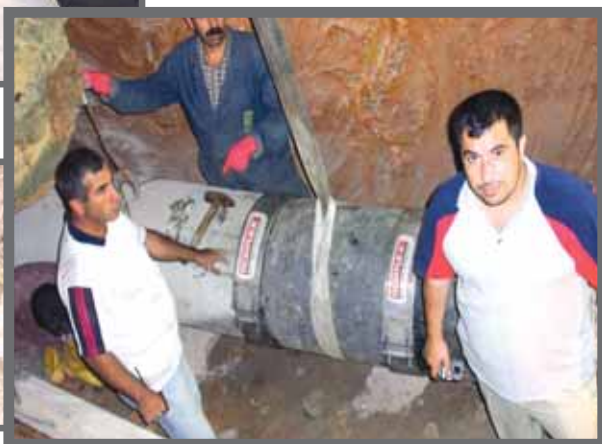
Sewage

Mud lines
Drainage lines
Chemical lines
Ventilation lines

Machinery and construction

Lubrication lines
Pressure lines
Transport lines
Sound decoupling

RELIABILITY IN SERVICE

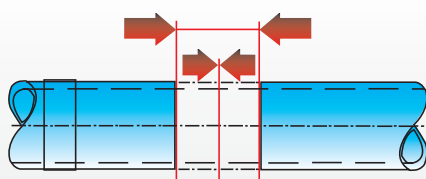


RELIABILITY IN SERVICE



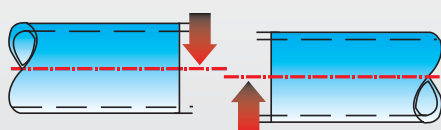
BORFLEX COUPLING / TECHNICAL CHARACTERISTICS

1 - DISTANCE



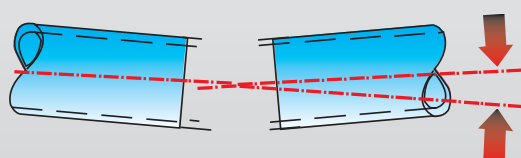
0-10 mm (standard)
 >10 mm with Strip insert

2 - AXIAL-MISALIGNMENT



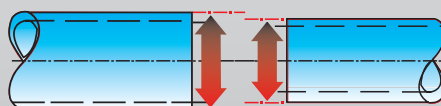
maximum 5 mm

3 - DEFLECTION



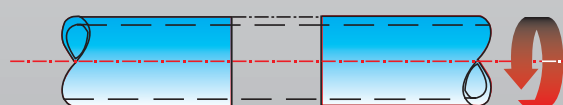
< DN 300	max. 5°
< DN 600	max. 4°
> DN 1000	max. 2°

4 - DIAMETER DIFFERENCES



2 mm	Ø < 100 mm
2 %	Ø > 100 mm
6 mm	Ø > 300 mm
max. 30 mm with BORSTEP	

5 - TWISTABLE



360 ° twistable

PIPE DIAMETER

		NEW INSTALLATIONS					ASBESTOS PIPES								
DN	Inch	Steel	GFK	HDPE PVC	GG	GGG	2.5 bar	5 bar	7.5 bar	10 bar	12.5 bar	15 bar	17.5 bar	HDPE	PVC
15	1/2"	21.3												20	20
20	3/4"	26.9		20										25	25
25	1"	33.7		25										32	32
32	1 1/4"	42.4		32										40	40
40	1 1/2"	48.3		40										50	50
50	2"	60.3		50										63	63
60				63	77		83	83	83	83	83			90	90
65	2 1/2"	76.1				82								110	110
70				75	87									125	125
80	3"	88.9		90	98	98	100	100	100	100	100			140	140
100	4"	114.3		110	118	118	120	120	120	120	126	132	132	160	160
125	5"	139.7		125										180	180
150	6"	168.3		160	144	144	145	145	145	149	153	159	163	200	200
175					170	170	170	170	174	176	182	190	194	225	225
180				180	196	222								250	250
200	8"	219.1	220	200	222		222	226	230	234	244	252	256	280	280
225				225	248	274								315	315
250	10"	273	272	250	274		274	276	284	288	298	306	310	355	355
275				280	300	326								400	400
300	12"	323.9	324.3	315	326		326	300	338	344	356	366	370	450	450
325					352	378								500	500
350	14"	355.6	376.1	355	378		378	382	390	400	414	426	430	560	560
375					403	429								630	630
400	16"	406.4	427.1	400	429	480	436	440	446	456	472	490	496	710	710
450	18"		473	450	480	532	488	492	500	512	526	546	550	800	800
500	20"	508	530.1	500			540	544	552	568	584	604	610	900	900
560				560		635								1000	1000
600	24"	610	617-633	630		738	760		660	676	692	710		1200	1200
700	28"	711	718.3	710		842	864	808						1400	1400
800	32"	813	819.9	800		945	972	924						1600	1600
900	36"	914	924.1	900		1048	1080	1040							
1000	40"	1016	1026.1	1000		1255		1156							
1200	48"	1220	1220.0	1200											
1300	52"		1337.0												
1400	56"	1420	1433.6	1400											
1500	60"		1535.6												
1600	64"	1620	1637.6	1600											
1800	72"	1820	1841.7	1800											
2000	80"	2020	2046	2000											
2200	88"	2220	2252	2200											
2400	96"	2420	2453	2400											



www.bortek.com

BORTEK®

Boru ve Tesisat Teknolojileri Dış Tic. Ltd. Şti.

Main Office : Bakır ve Pirinç San. Sitesi Mustafa Kurtoğlu Cad. ERŞE İş Merkezi B Blok .No: 11 / 4 Beylikdüzü / İSTANBUL

Tel: +90 212 875 99 22 (Pbx) +90 212 879 03 68 (Pbx) Fax: +90 212 876 55 26

www.bortek.com.tr / e-mail: bortek@bortek.com.tr

Euro Office: TORGEN (Switzerland) GmbH / Kesselstr. 2. Postfach 1318 Industrie Hardli CH - 8957 Spreitenbach

Tel: +41 56 419 71 00 / Fax: +41 56 419 71 09 www.torgen.com