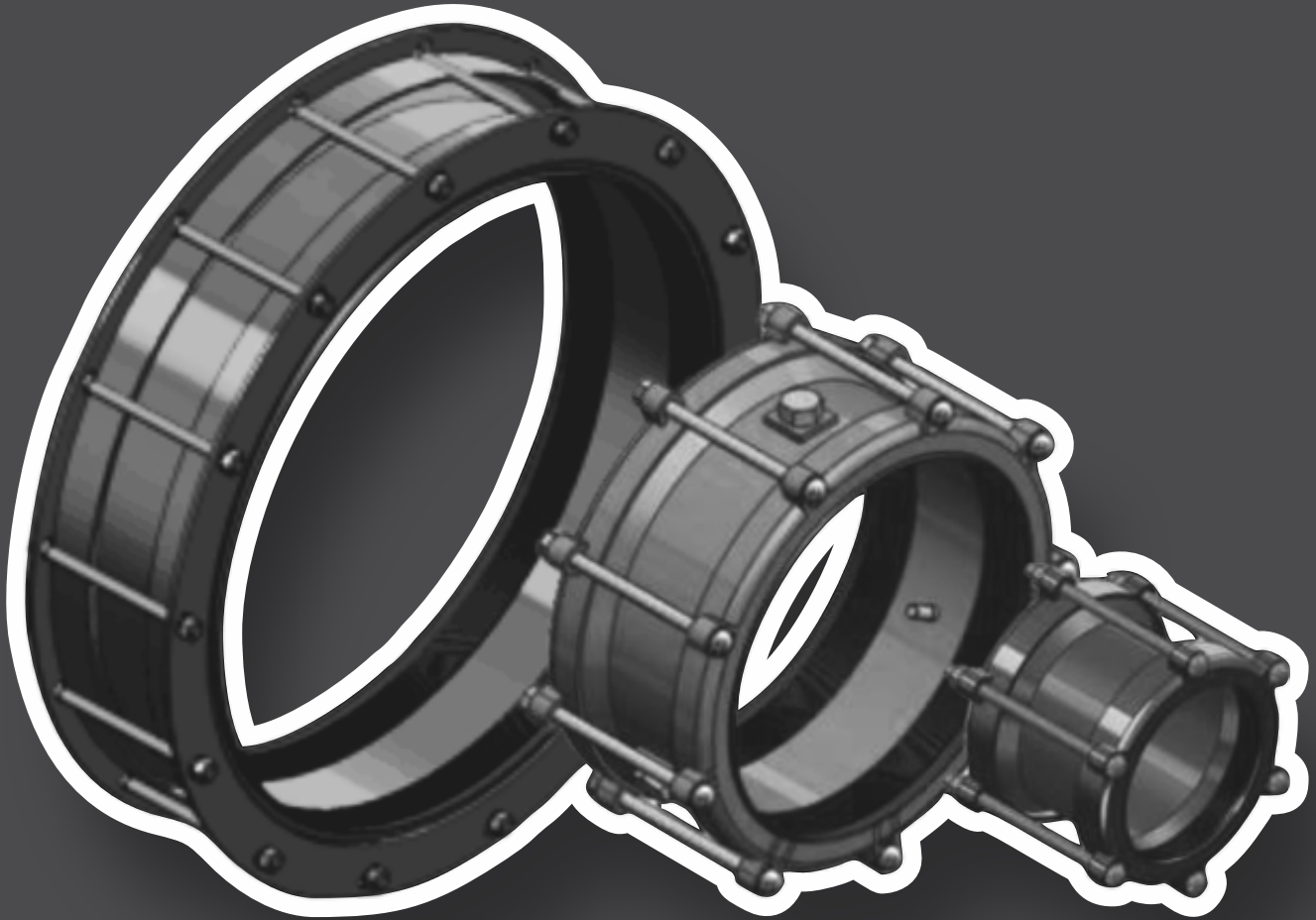


WELBRO
PIPE & COUPLING



**WIDE RANGE
COUPLINGS
TECHNICAL DATA**

The following abbreviations are used in this brochure:

OD	Pipe outside diameter
NB	Nominal bore
DN	Nominal diameter, in millimetres
PN	Nominal pressure, in bar
CI	Grey cast iron
DI	Ductile iron
PE	Polyethylene
MDPE	Medium density polyethylene (PE80)
HDPE	High density polyethylene (PE100)
AC	Asbestos cement
GRP	Glass reinforced plastics
uPVC	Unplasticised polyvinyl chloride
PVC-u	Metric uPVC pipe (including Molecular Oriented and Impact Modified)
EPDM	Ethylene propylene diene monomer
PCD	Pitch circle diameter

Application

WELBRO Couplings are designed to connect plain ended pipes to each other. The wide range tolerance of these couplings also allow for pipes of different materials to be connected, as it accommodates differing outside diameters for each nominal bore. This reduces the stockholding required to accommodate varying outside diameters. These couplings can be used in water, sewer and gas pipelines.

Pressure Rating

WELBRO Couplings up to 600mm are designed for a standard working pressure of 16 bar, and a test pressure of 24 bar. Larger pressure ratings can be accommodated upon request.

Temperature

WELBRO Couplings can be used in applications of between - 40°C and 90°C, but are not recommended for use in heating systems

Location

Above or below ground, subject to certain limitations according to product type and pipe material. Factories or any other pipe installation such as pump stations or treatment plants.

Range

WELBRO Couplings are available from 50mm to 600mm. Larger sizes can be accommodated upon request.

Angular Deflection

For pipe sizes between 50mm and 450mm:

- Angular deflections of up to 6 degrees.
- Inclination 1:10

For pipe sizes between 500 to 600mm:

- Angular deflection of up to 5 degrees.
- Inclination 1:12

Lateral Displacement

Couplings are not designed to accommodate lateral displacement, and proper pipe alignment is critical for a successful coupling installation.

Pipe End Preparation

In order to ensure proper sealing and operation of an WELBRO Coupling, the pipe ends must be properly prepared to ensure that the pipe is smooth, clean, without grooves, weld beads or other protrusions or irregularities. This must be for a distance of at least 100mm for nominal bores up to 250mm, and 160mm for nominal bores above 250mm. Also ensure that the pipe is properly round as site handling often leads to pipe ovality.

Pipe Setting Gap

For couplings up to 250mm nominal bore, a minimum setting gap of 16mm will be required. The setting gap may not exceed 32mm.

For couplings between 300mm and 600mm nominal bore, a minimum setting gap of 20mm will be required. The setting gap may not exceed 40mm.

Expansion and Contraction

The gasket on WELBRO Couplings allows for a significant amount of pipe movement due to thermal expansion and contraction. Up to 9mm of movement can be accommodated on a mechanical coupling without affecting sealing performance.



1. End Rings

Mild Steel to BS EN 10025:2004 or Grade CQ

2. Sleeve

Mild Steel to BS EN 10025:2004 or Grade CQ

3. Rubber Gasket

EPDM Grade E to BS 2494 1990 or SANS974 Related ISO4633

4. Bolts

Steel to BS970 Grade 070

DN50 to DN150: M12 x 170 Bolts and Nuts

DN175 to DN300: M12 x 210 Bolts and Nuts

DN300/2 to DN600/2: M12 x 260 Bolts and Nuts

Studs are of oval cup design to enable one-handed tightening

Bolts are hot dipped galvanised to SANS763

5. Coating

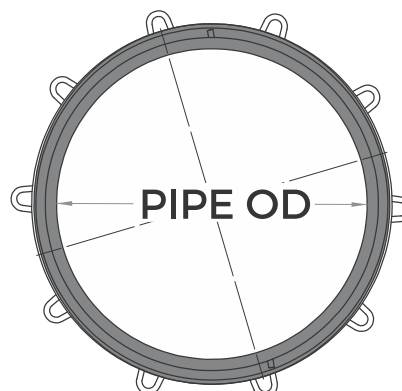
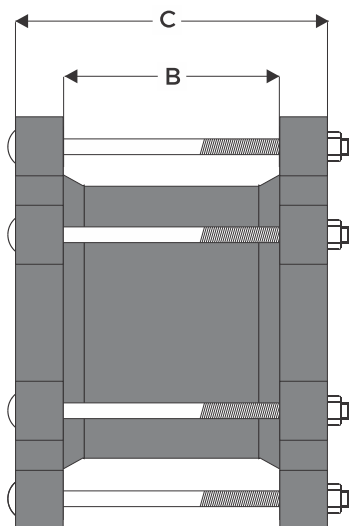
Fusion Bonded Epoxy to SABS 1217 to a minimum thickness of 250 microns

6. SABS Standard

WELBRO couplings are manufactured to SABS 1808-2: 2017

DIMENSIONS

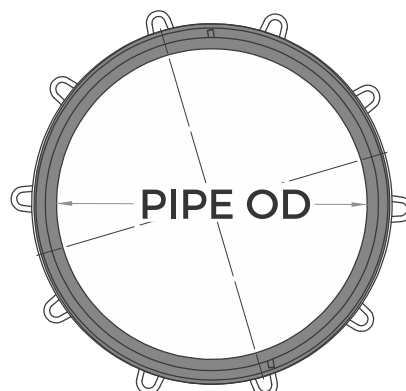
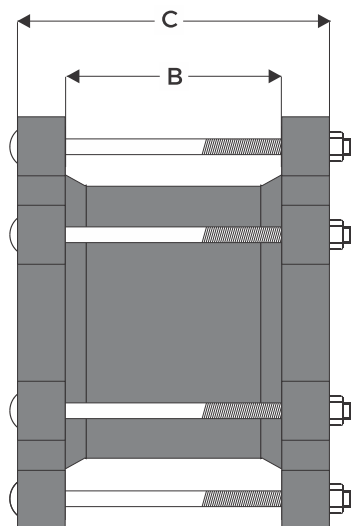
WELBRO COUPLINGS



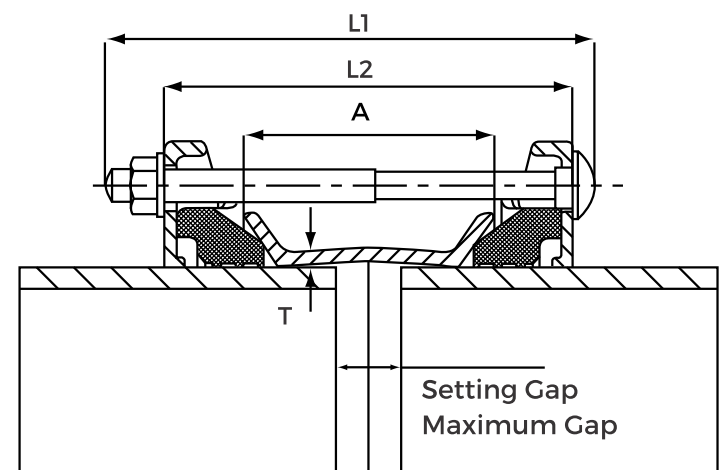
HDG FASTENERS					Standard Barrel Couplings						Long Barrel Couplings					
DN	ID	Range	Gasket		Product Code	Sleeve Length	Coupling Height	Fasteners		Boltset	Product Code	Sleeve Length	Coupling Height	Fasteners		Boltset
			Section	Length				Nr	Size					Nr	Size	
50	68	57-67	Moulded		WB0650	105	165	4	M12x170	SINGLE BOLTSET	WB0500LB	180	250	4	M12x260	SINGLE BOLTSET
65	81	59-79	Moulded		WB0700	105	165	4	M12x170		WB0650LB	180	250	4	M12x260	
80	95	74-93	Moulded		WB0750	105	165	4	M12x170		WB0800LB	180	250	4	M12x260	
80/2	106	88-104	Moulded		WB0800	105	165	4	M12x170		WB0802LB	180	250	4	M12x260	
100	121	98-118	Moulded		WB1000	105	165	4	M12x170		WB1000LB	180	250	4	M12x260	
100/2	131	108-128	Moulded		WB1002	105	165	4	M12x170		WB1002LB	180	250	4	M12x260	
125	156	132-154	Moulded		WB1250	105	165	4	M12x170		WB1250LB	180	250	4	M12x260	
150	173.5	150-170	Moulded		WB1500	105	165	4	M12x170		WB1500LB	180	250	4	M12x260	
150/2	121	159-187	Moulded		WB1502	105	165	4	M12x170		WB1502LB	180	250	4	M12x260	
150/3	131	180-200	Medium	0.675	WB1503	130	205	4	M12x210		WB1503LB	210	280	8	M12x115	DOUBLE BOLTSET
175	210	192-209	Medium	0.700	WB1750	130	205	4	M12x210	SINGLE BOLTSET	WB1750LB	210	280	8	M12x115	
200	225	205-223	Medium	0.747	WB2000	130	205	4	M12x210		WB2000LB	210	280	8	M12x115	
200/2	245	218-243	Medium	0.816	WB2002	130	205	4	M12x210		WB2002LB	210	280	8	M12x115	
225	256	235-253	Medium	0.845	WB2250	130	205	6	M12x210		WB2250LB	210	280	12	M12x115	
250	280	268-278	Medium	0.920	WB2500	130	205	6	M12x210		WB2500LB	210	280	12	M12x115	
250/2	299	275-295	Medium	0.980	WB2502	130	205	6	M12x210		WB2502LB	210	280	12	M12x115	
275	321	302-318	Medium	1.049	WB2750	130	205	6	M12x210		WB2750LB	210	280	12	M12x115	
300	330	315-328	Medium	1.077	WB3000	130	205	6	M12x210		WB3000LB	210	280	12	M12x115	

DIMENSIONS

WELBRO COUPLINGS

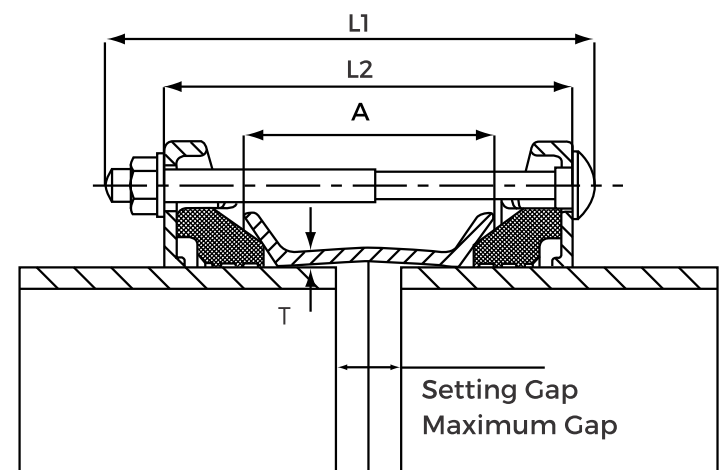


HDG FASTENERS					Standard Barrel Couplings						Long Barrel Couplings					
DN	ID	Range	Gasket		Product Code	Sleeve Length	Coupling Height	Fasteners		Boltset	Product Code	Sleeve Length	Coupling Height	Fasteners		Boltset
			Section	Length				Nr	Size					Nr	Size	
300/2	354	334 - 350	Large		WB3002	160	255	8	M12x260	SINGLE BOLTSET	WB3002LB	240	310	16	M12x115	DOUBLE BOLTSET
300/3	375	356 - 372	Large		WB3003	160	255	8	M12x260		WB3003LB	240	310	16	M12x115	
350	363	344 - 360	Large		WB3500	160	255	8	M12x260		WB3500LB	240	310	16	M12x115	
350/2	394	374-391	Large		WB3502	160	255	10	M12x260		WB3502LB	240	310	20	M12x115	
400	413	391-410	Large		WB4000	160	255	10	M12x260		WB4000LB	240	310	20	M12x115	
400/2	421	401-417	Large		WB4002	160	255	10	M12x260		WB4002LB	240	310	20	M12x115	
400/3	440	417-437	Large		WB4003	160	255	10	M12x260		WB4003LB	240	310	20	M12x115	
400/4	449	430-446	Large		WB4004	160	255	10	M12x260		WB4004LB	240	310	20	M12x115	
450	463	444-460	Large		WB4500	160	255	12	M12x260		WB4500LB	240	310	24	M12x115	
450/2	478	458-474	Large		WB4502	160	255	12	M12x260		WB4502LB	240	310	24	M12x115	
450/3	496	477-493	Large		WB4503	160	255	12	M12x260	SINGLE BOLTSET	WB4503LB	240	310	24	M12x115	DOUBLE BOLTSET
450/4	537	518-534	Large		WB4504	160	255	12	M12x260		WB4504LB	240	310	24	M12x115	
500	513	494-510	Large		WB4000	160	255	14	M12x260		WB4000LB	240	310	28	M12x115	
500/2	549	535-545	Large		WB5002	160	255	14	M12x260		WB5002LB	240	310	28	M12x115	
500/3	596	583-593	Large		WB5003	160	255	14	M12x260		WB5003LB	240	310	28	M12x115	
550	575	559-571	Large		WB5500	160	255	14	M12x260		WB5500LB	240	310	28	M12x115	
600	620	606-616	Large		WB5000	160	255	14	M12x260		WB6000LB	240	310	28	M12x115	
600/2	642	629-638	Large		WB6002	160	255	14	M12x260		WB6002LB	240	310	28	M12x115	



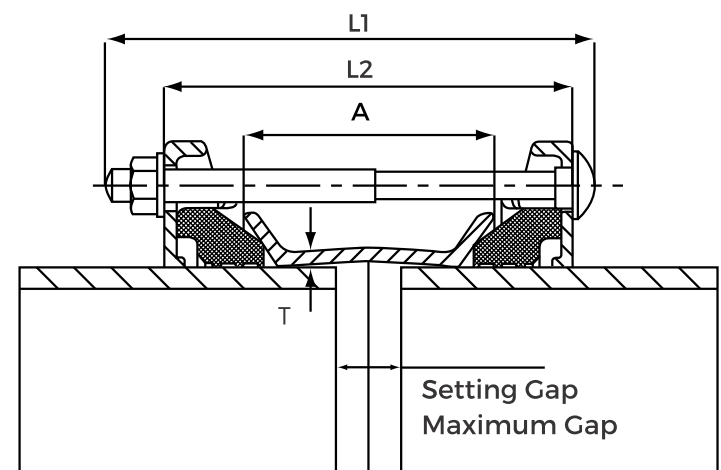
1	MEDIUM DETAILS	REF	UNIT	SPECIFICATION					
1.01	Medium			Potable					
1.02	Operating Temperature		deg C	-40 to +90					
2	PRODUCT DETAILS		UNIT	SPECIFICATION					
2.01	Model			WB0065	WB0070	WB0075	WB0080	WB0100	WB0100/2
2.02	Type			Wide range mechanical coupling					
2.03	Standard Rated Pressure		kPa	1600	1600	1600	1600	1600	1600
2.04	Face to Face Length (FTF)	L2	mm	210	260	260	260	260	260
2.05	Bolt Length	L1	mm	210	260	260	260	260	260
2.06	Sleeve Length and thickness	A x T	mm	130 x 4.5	130 x 4.5	130 x 4.5	130 x 4.5	130 x 4.5	130 x 4.5
2.07	Setting Gap Minimum Straight line		mm	20	20	20	20	20	20
2.08	Setting Gap Maximum Straight line		mm	40	40	40	40	40	40
3	CONSTRUCTION MATERIALS		UNIT	SPECIFICATION					
3.01	Clamping Rings			Mild Steel to BS EN 10025:2004 or Grade CQ					
3.02	Sleeve			Mild Steel to BS EN 10025:2004 or Grade CQ					
3.03	Clamping Bolts			Steel to BS970 Grade 070, hot dipped galvanised to SANS763					
3.04	Rubber Rings			EPDM Grade E to BS 2494 1990 or SANS974 Related ISO4633					
3.05	Coating Material			Fusion Bonded Epoxy to SABS 1217 to a minimum thickness of 250 microns					
3.06	Lining Material			Fusion Bonded Epoxy to SABS 1217 to a minimum thickness of 250 microns					
4	GENERAL DETAILS		UNIT	SPECIFICATION					
4.01	Total Weight		kg	3.6	3.9	4.7	4.7	5.7	5.7
4.02	Uninstalled length including bolts	L1	mm	170	170	170	170	170	170
4.03	Uninstalled length excluding bolts	L2	mm	180	190	190	190	190	190

Standard working pressure PN16
 Test pressure = 1.5 x WP = PN24
 Higher pressures available on request
 Long barrel sleeves available on request



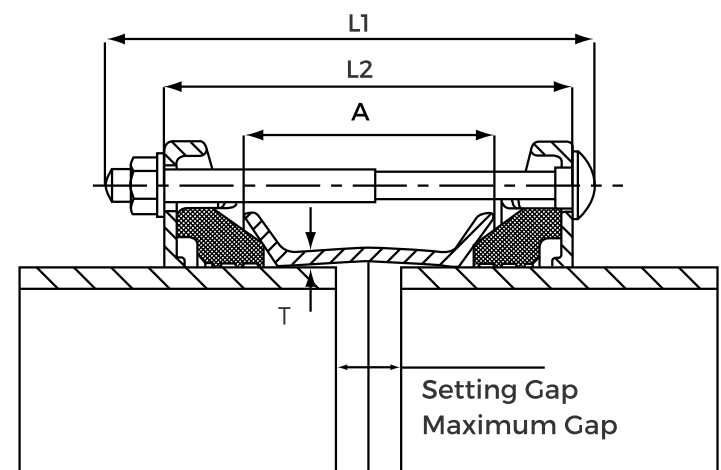
1 MEDIUM DETAILS	REF	UNIT	SPECIFICATION						
1.01 Medium			Potable						
1.02 Operating Temperature		deg C	-40 to +90						
2 PRODUCT DETAILS		UNIT	SPECIFICATION						
2.01 Model			WB0125	WB0150	WB0150/2	WB0150/3	WB0175	WB0200	
2.02 Type			Wide range mechanical coupling						
2.03 Standard Rated Pressure		kPa	1600	1600	1600	1600	1600	1600	
2.04 Face to Face Length (FTF)	L2	mm	260	260	260	260	260	260	
2.05 Bolt Length	L1	mm	260	260	260	260	260	260	
2.06 Sleeve Length and thickness	A x T	mm	160 x 4.5	160 x 4.5	160 x 4.5	160 x 4.5	160 x 4.5	160 x 4.5	
2.07 Setting Gap Minimum Straight line		mm	20	20	20	20	20	20	
2.08 Setting Gap Maximum Straight line		mm	40	40	40	40	40	40	
3 CONSTRUCTION MATERIALS		UNIT	SPECIFICATION						
3.01 Clamping Rings			Mild Steel to BS EN 10025:2004 or Grade CQ						
3.02 Sleeve			Mild Steel to BS EN 10025:2004 or Grade CQ						
3.03 Clamping Bolts			Steel to BS970 Grade 070, hot dipped galvanised to SANS763						
3.04 Rubber Rings			EPDM Grade E to BS 2494 1990 or SANS974 Related ISO4633						
3.05 Coating Material			Fusion Bonded Epoxy to SABS 1217 to a minimum thickness of 250 microns						
3.06 Lining Material			Fusion Bonded Epoxy to SABS 1217 to a minimum thickness of 250 microns						
4 GENERAL DETAILS		UNIT	SPECIFICATION						
4.01 Total Weight		kg	38	38	38	38	38	38	
4.02 Uninstalled length including bolts	L1	mm	260	260	260	260	260	260	
4.03 Uninstalled length excluding bolts	L2	mm	190	190	190	190	190	190	

Standard working pressure PN16
 Test pressure = 1.5 x WP = PN24
 Higher pressures available on request



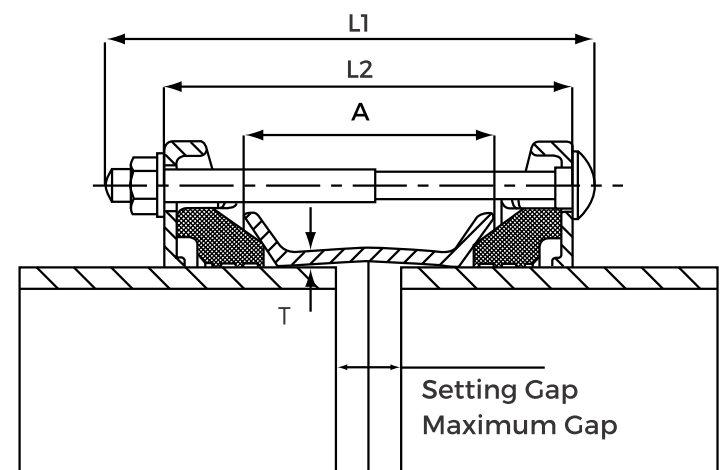
1	MEDIUM DETAILS	REF	UNIT	SPECIFICATION					
1.01	Medium			Potable					
1.02	Operating Temperature		deg C	-40 to +90					
2	PRODUCT DETAILS		UNIT	SPECIFICATION					
2.01	Model			WB0225	WB0225/2	WB0250	WB0250/2	WB0275	WB0300
2.02	Type			Wide range mechanical coupling					
2.03	Standard Rated Pressure		kPa	1600	1600	1600	1600	1600	1600
2.04	Face to Face Length (FTF)	L2	mm	260	260	260	260	260	260
2.05	Bolt Length	L1	mm	260	260	260	260	260	260
2.06	Sleeve Length and thickness	A x T	mm	160 x 4.5	160 x 4.5	160 x 4.5	160 x 4.5	160 x 4.5	160 x 4.5
2.07	Setting Gap Minimum Straight line		mm	20	20	20	20	20	20
2.08	Setting Gap Maximum Straight line		mm	40	40	40	40	40	40
3	CONSTRUCTION MATERIALS		UNIT	SPECIFICATION					
3.01	Clamping Rings			Mild Steel to BS EN 10025:2004 or Grade CQ					
3.02	Sleeve			Mild Steel to BS EN 10025:2004 or Grade CQ					
3.03	Clamping Bolts			Steel to BS970 Grade 070, hot dipped galvanised to SANS763					
3.04	Rubber Rings			EPDM Grade E to BS 2494 1990 or SANS974 Related ISO4633					
3.05	Coating Material			Fusion Bonded Epoxy to SABS 1217 to a minimum thickness of 250 microns					
3.06	Lining Material			Fusion Bonded Epoxy to SABS 1217 to a minimum thickness of 250 microns					
4	GENERAL DETAILS		UNIT	SPECIFICATION					
4.01	Total Weight		kg	38	38	38	38	38	38
4.02	Uninstalled length including bolts	L1	mm	260	260	260	260	260	260
4.03	Uninstalled length excluding bolts	L2	mm	190	190	190	190	190	190

Standard working pressure PN16
 Test pressure = 1.5 x WP = PN24
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 Long barrel sleeves available on request



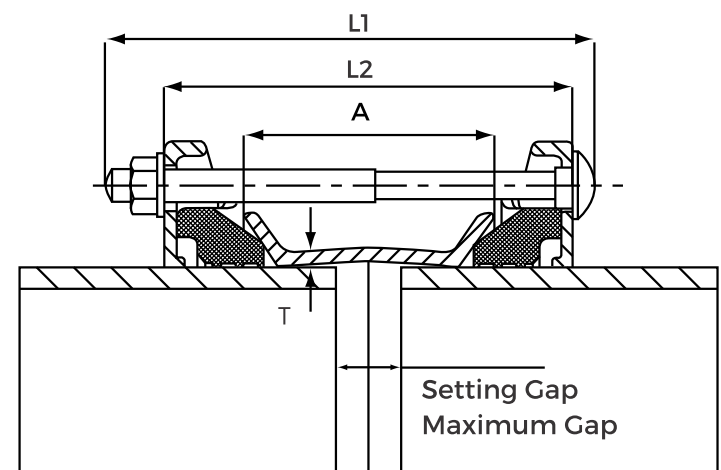
1	MEDIUM DETAILS	REF	UNIT	SPECIFICATION					
1.01	Medium			Potable					
1.02	Operating Temperature		deg C	-40 to +90					
2	PRODUCT DETAILS		UNIT	SPECIFICATION					
2.01	Model			WB0300/2	WB0300/3	WB0350	WB0350/2	WB0400	WB0400/2
2.02	Type			Wide range mechanical coupling					
2.03	Standard Rated Pressure		kPa	1600	1600	1600	1600	1600	1600
2.04	Face to Face Length (FTF)	L2	mm	260	260	260	260	260	260
2.05	Bolt Length	L1	mm	260	260	260	260	260	260
2.06	Sleeve Length and thickness	A x T	mm	160 x 4.5	160 x 4.5	160 x 4.5	160 x 4.5	160 x 4.5	160 x 4.5
2.07	Setting Gap Minimum Straight line		mm	20	20	20	20	20	20
2.08	Setting Gap Maximum Straight line		mm	40	40	40	40	40	40
3	CONSTRUCTION MATERIALS		UNIT	SPECIFICATION					
3.01	Clamping Rings			Mild Steel to BS EN 10025:2004 or Grade CQ					
3.02	Sleeve			Mild Steel to BS EN 10025:2004 or Grade CQ					
3.03	Clamping Bolts			Steel to BS970 Grade 070, hot dipped galvanised to SANS763					
3.04	Rubber Rings			EPDM Grade E to BS 2494 1990 or SANS974 Related ISO4633					
3.05	Coating Material			Fusion Bonded Epoxy to SABS 1217 to a minimum thickness of 250 microns					
3.06	Lining Material			Fusion Bonded Epoxy to SABS 1217 to a minimum thickness of 250 microns					
4	GENERAL DETAILS		UNIT	SPECIFICATION					
4.01	Total Weight		kg	38	38	38	38	38	38
4.02	Uninstalled length including bolts	L1	mm	260	260	260	260	260	260
4.03	Uninstalled length excluding bolts	L2	mm	190	190	190	190	190	190

Standard working pressure PN16
 Test pressure = 1.5 x WP = PN24
 Higher pressures available on request



1 MEDIUM DETAILS	REF	UNIT	SPECIFICATION					
1.01 Medium			Potable					
1.02 Operating Temperature		deg C	-40 to +90					
2 PRODUCT DETAILS		UNIT	SPECIFICATION					
2.01 Model			WB0400/3	WB0400/4	WB0450	WB0450/2	WB0450/3	WB0450/4
2.02 Type			Wide range mechanical coupling					
2.03 Standard Rated Pressure		kPa	1600	1600	1600	1600	1600	1600
2.04 Face to Face Length (FTF)	L2	mm	260	260	260	260	260	260
2.05 Bolt Length	L1	mm	260	260	260	260	260	260
2.06 Sleeve Length and thickness	A x T	mm	160 x 4.5	160 x 4.5	160 x 4.5	160 x 4.5	160 x 4.5	160 x 4.5
2.07 Setting Gap Minimum Straight line		mm	20	20	20	20	20	20
2.08 Setting Gap Maximum Straight line		mm	40	40	40	40	40	40
3 CONSTRUCTION MATERIALS		UNIT	SPECIFICATION					
3.01 Clamping Rings			Mild Steel to BS EN 10025:2004 or Grade CQ					
3.02 Sleeve			Mild Steel to BS EN 10025:2004 or Grade CQ					
3.03 Clamping Bolts			Steel to BS970 Grade 070, hot dipped galvanised to SANS763					
3.04 Rubber Rings			EPDM Grade E to BS 2494 1990 or SANS974 Related ISO4633					
3.05 Coating Material			Fusion Bonded Epoxy to SABS 1217 to a minimum thickness of 250 microns					
3.06 Lining Material			Fusion Bonded Epoxy to SABS 1217 to a minimum thickness of 250 microns					
4 GENERAL DETAILS		UNIT	SPECIFICATION					
4.01 Total Weight		kg	38	38	38	38	38	38
4.02 Uninstalled length including bolts	L1	mm	260	260	260	260	260	260
4.03 Uninstalled length excluding bolts	L2	mm	190	190	190	190	190	190

Standard working pressure PN16
 Test pressure = 1.5 x WP = PN24
 Higher pressures available on request
 Long barrel sleeves available on request



1 MEDIUM DETAILS	REF	UNIT	SPECIFICATION						
1.01 Medium			Potable						
1.02 Operating Temperature		deg C	-40 to +90						
2 PRODUCT DETAILS		UNIT	SPECIFICATION						
2.01 Model			WB0500	WB0500/2	WB0500/3	WB0550	WB0600	WB0600/2	
2.02 Type			Wide range mechanical coupling						
2.03 Standard Rated Pressure		kPa	1600	1600	1600	1600	1600	1600	1600
2.04 Face to Face Length (FTF)	L2	mm	260	260	260	260	260	260	260
2.05 Bolt Length	L1	mm	260	260	260	260	260	260	260
2.06 Sleeve Length and thickness	A x T	mm	160 x 4.5	160 x 4.5	160 x 4.5	160 x 4.5	160 x 4.5	160 x 4.5	160 x 4.5
2.07 Setting Gap Minimum Straight line		mm	20	20	20	20	20	20	20
2.08 Setting Gap Maximum Straight line		mm	40	40	40	40	40	40	40
3 CONSTRUCTION MATERIALS		UNIT	SPECIFICATION						
3.01 Clamping Rings			Mild Steel to BS EN 10025:2004 or Grade CQ						
3.02 Sleeve			Mild Steel to BS EN 10025:2004 or Grade CQ						
3.03 Clamping Bolts			Steel to BS970 Grade 070, hot dipped galvanised to SANS763						
3.04 Rubber Rings			EPDM Grade E to BS 2494 1990 or SANS974 Related ISO4633						
3.05 Coating Material			Fusion Bonded Epoxy to SABS 1217 to a minimum thickness of 250 microns						
3.06 Lining Material			Fusion Bonded Epoxy to SABS 1217 to a minimum thickness of 250 microns						
4 GENERAL DETAILS		UNIT	SPECIFICATION						
4.01 Total Weight		kg	38	38	38	38	38	38	38
4.02 Uninstalled length including bolts	L1	mm	260	260	260	260	260	260	260
4.03 Uninstalled length excluding bolts	L2	mm	190	190	190	190	190	190	190

Standard working pressure PN16
 Test pressure = 1.5 x WP = PN24
 Higher pressures available on request
 Long barrel sleeves available on request

While every effort has been made to ensure that the information in this document is correct and accurate at the time of publishing, WELBRO assumes no responsibility or liability for typographical errors or omissions or of for any misinterpretation of the information contained within the publication and reserves the right to change any information contained herein without notice.

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