



FLEXIBLE COUPLINGS FOR PIPES



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## MORE THAN THREE DECADES OF RESEARCH AND INNOVATION

Uniones Arpol is a family business founded in 1976 and one of the pioneers in the designing and manufacturing of couplings for all types of pipes.

Nowadays, the company leads the water market in Spain and offers a made-to-measure manufacturing system that is internationally acknowledged. One of the company's characteristics is the wide range of solutions available, which include an exclusive series specifically designed for flexible pipes.

## SPECIALISTS IN MADE-TO-MEASURE DESIGNING AND MANUFACTURING

The Research and Development department is one of our biggest assets. We are constantly creating innovative products; we evolve with the market and study each project individually to provide our customers with the made-to-measure couplings adequate for every application.

## A COMPANY OPEN TO THE WORLD

Uniones Arpol is present in more than thirty countries and works with leading companies in the water market. It participates in projects as important as the High Speed Train of Madrid (ventilation system in the Guadarrama tunnels) or the Water Treatment Plant of Paris. Also, the company's work in the innovation and development of couplings was awarded in Smagua 2008.

## COMMITTED TO QUALITY

Our priority is our customer's satisfaction. We commit to every project with excitement and responsibility. We guarantee a high quality standard, therefore we supervise the whole manufacturing in our premises in Barcelona, we have our own patents and brands, and we meticulously apply the appropriate norms and regulations



ISO 9001  
ISO 14001  
KTW  
DVGW - W 270  
EN 681-1

## WORK APPLICATIONS

Arpol couplings are currently applied in several areas, like water and gas distribution, waste and water treatment plants, chemical and manufacturing industry, power plants, domestic installation, building and civil engineering, mining, bottling plants, shipbuilding industry, etc.



## ADVANTAGES

Advantages of the application of flexible couplings:

- Easy installation
- Light weight
- Fast installation
- Small storage space
- Cheaper installation

## FLEXIBLE

Arpol couplings accept:

- Angular deflections
- Axial movements
- Radial deformation
- Application on rough surfaces
- Absorbs vibration



■ RED SILICONE



■ BLUE SILICONE



■ COATED CASING

## MATERIALS

### QUALITY W1

Anticorrosion coated carbon steel casing  
Dacromet coated carbon steel bolts and bars

### QUALITY W2

Stainless steel casing AISI 304 L  
Dacromet coated carbon steel bolts and bars

### QUALITY W4

Stainless steel casing AISI 304 L  
Stainless steel bolts and bars AISI 304

### QUALITY W5

Stainless steel casing AISI 316 L  
Stainless steel bolts and bars AISI 316

## SEALING GASKET

### EPDM

Suitable for water, air and some chemical products.  
Temperatures: from -20 °C to 100 °C

### NBR

Suitable for fuel, gas and some hydrocarbons.  
Temperatures: from -20 °C to 80 °C

### SILICONE

#### Red silicone

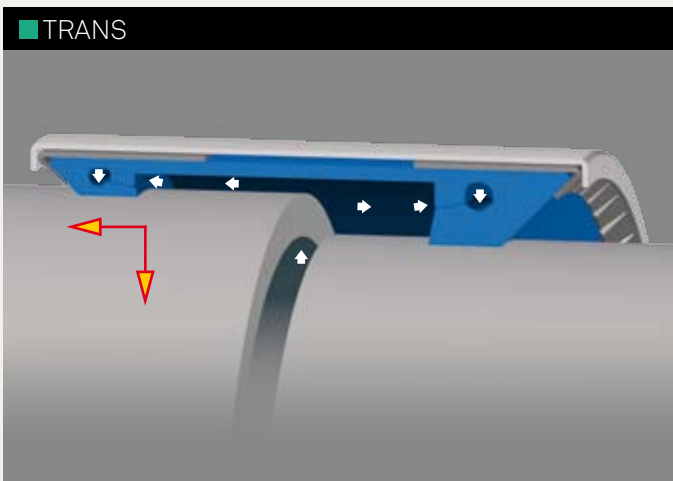
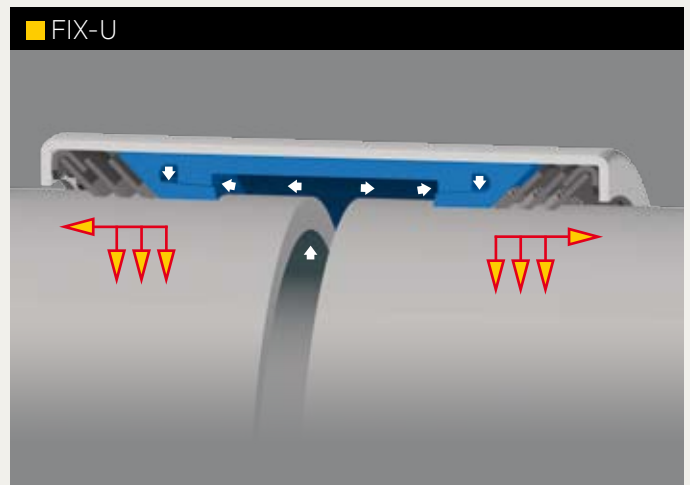
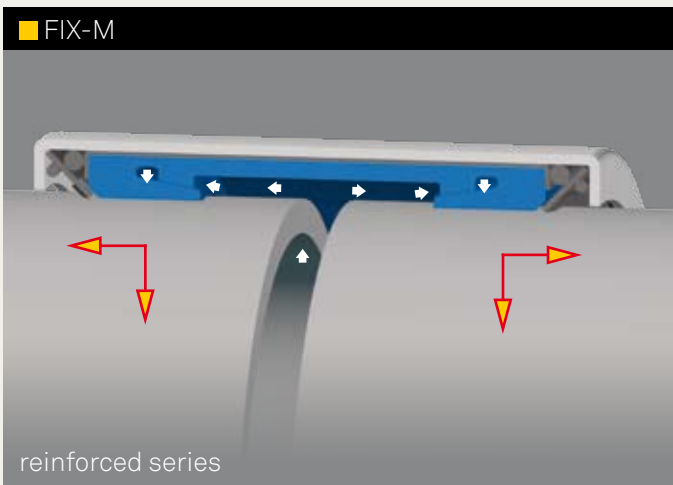
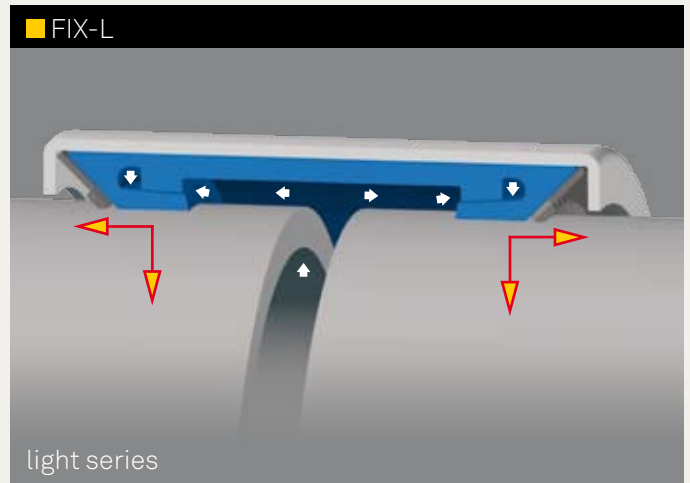
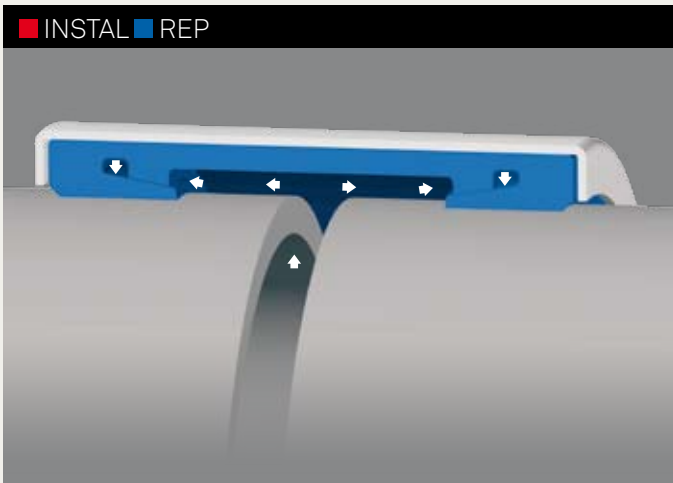
Suitable for hot air and steam.  
Temperatures from -55 °C to 240 °C

#### Blue silicone

Suitable for drinking water and domestic water.  
Temperatures from -55 °C to 200 °C

PROPERTIES: SEALING AND ANCHORING

The sealing lip pressure increases when the line inner pressure also does.



- ▶ Active sealing system
- ▶ Axial restrain system with one ring
- ▶ Axial restrain system with three rings

## COUPLING PARTS

■ INSTAL ■ REP ■ FIX ■ TRANS



■ ■ ■ ■ AVAILABLE IN ALL SERIES



■ FIX-L ■ FIX-M ■ FIX-U



■ TRANS

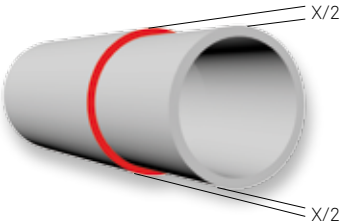
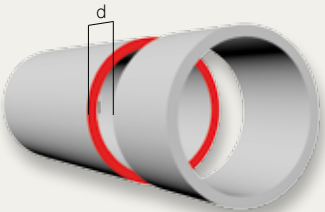
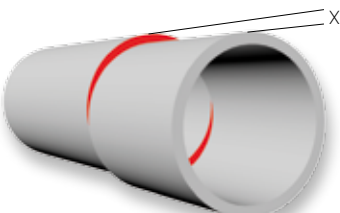
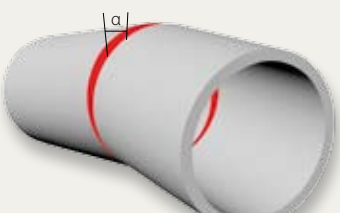
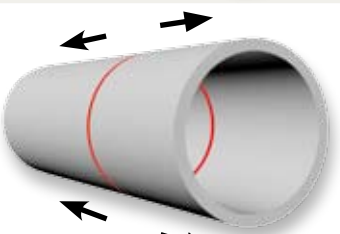
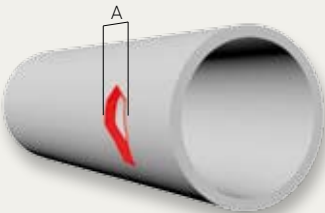


Suitable for different pipe materials

Pipe materials	INSTAL	REP	FIX-L – FIX-M	FIX-FIX-U	MULTI-FIX	TRANS
Steel	✓	✓	✓	✓		✓
Cast and Ductile Iron	✓	✓	✓	✓		✓
Asbestos Cement	✓	✓				✓
Concrete	✓	✓				✓
GRP	✓	✓				✓
PE	✓*	✓*		✓	✓	✓*
PVC	✓*	✓*		✓	✓	✓*

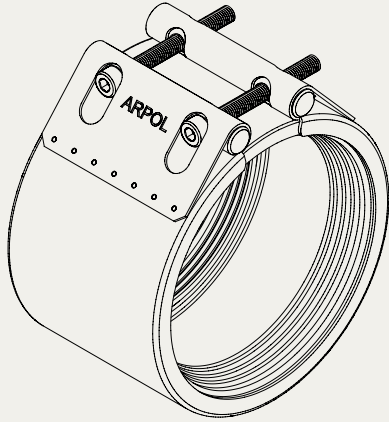
\* Suitable only if there are no pipe movements

PERMITTED TOLERANCES

	INSTAL	REP	FIX				TRANS
			FIX -L	FIX-M	FIX-U	MULTI-FIX	
 <p>Connection of pipes with different diameter</p>	✓	✓	✓	✓	✓		✓
 <p>Connection of pipes with gaps in between</p>	✓	✓	✓	✓	✓	✓	✓
 <p>Connection of misaligned pipes</p>	✓	✓	✓	✓	✓		✓
 <p>Connection of pipes with angular deflection</p>	✓	✓	✓	✓	✓		✓
 <p>Connection of pipes with movement</p>	✓	✓					✓
 <p>Repair of pipes with cracks</p>		✓					

## ARPOL **INSTAL**

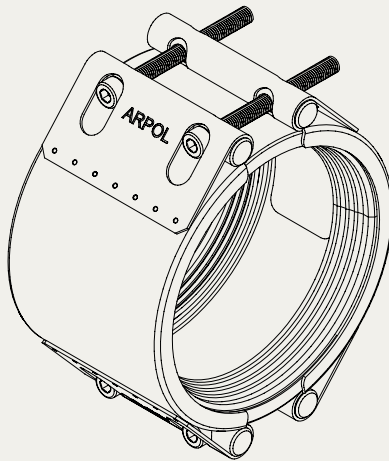
FLEXIBLE COUPLINGS FOR PIPE **CONNECTIONS**



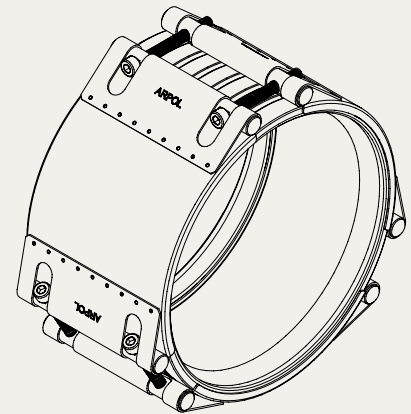
INSTAL

## ARPOL **REP**

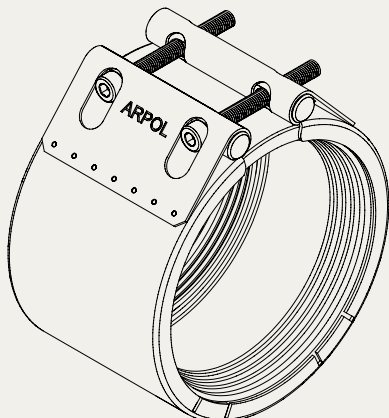
FLEXIBLE COUPLINGS FOR PIPE **REPAIR**



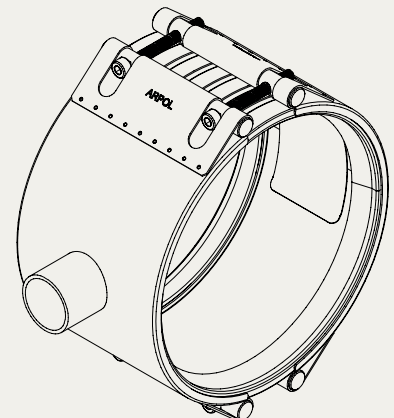
REP 2



REP 3



REP-C

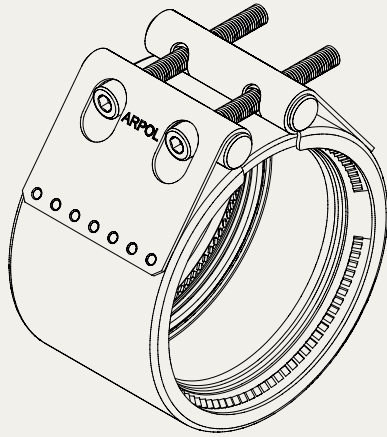


REP-S

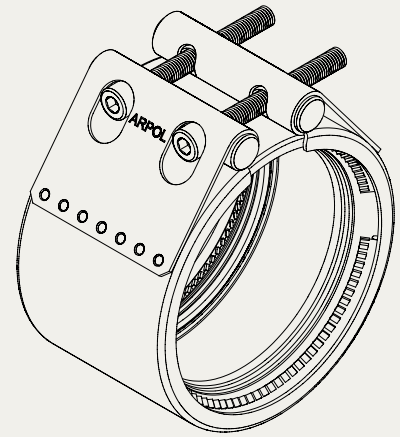


# ARPOL **FIX**

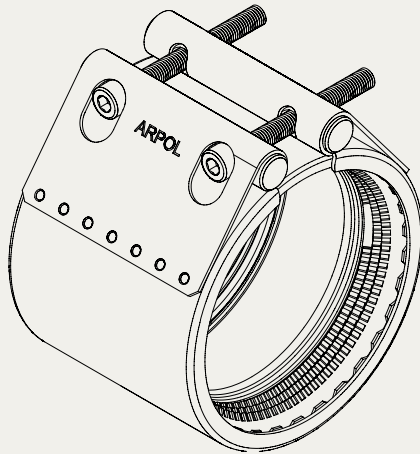
FLEXIBLE COUPLINGS FOR PIPE CONNECTIONS WITH **AXIAL RESTRAINT**



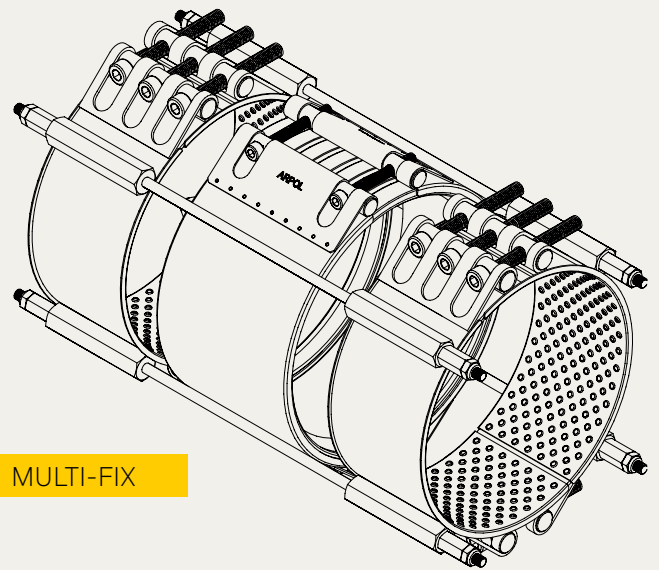
FIX-L



FIX-M



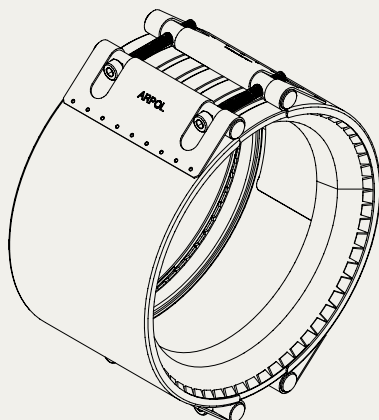
FIX-U



MULTI-FIX

# ARPOL **TRANS**

FLEXIBLE COUPLINGS FOR CONNECTING PIPES WITH **DIFFERENT OUTSIDE DIAMETER**



TRANS

# INSTAL

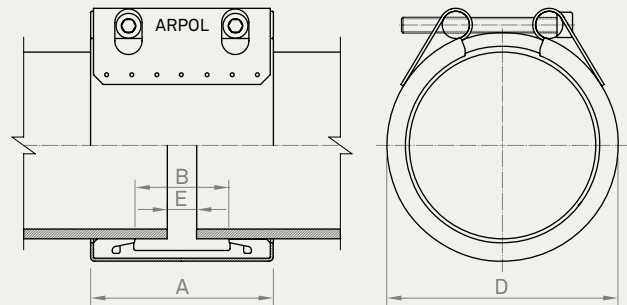
FLEXIBLE COUPLINGS FOR PIPE  
**CONNECTIONS**





## NOMINAL WIDTH 95

### Series IBX



	Quality W1		Quality W2		Quality W4		Quality W5	
	AISI	DIN	AISI	DIN	AISI	DIN	AISI	DIN
Casing			304 L	1.4307	304 L	1.4307	316 L	1.4404
Bolts			1035	1.0501	304	1.4301	316	1.4401
Bars			1045	1.0503	304 L	1.4307	316 L	1.4404
Inner Steel Bridge (Lock)			304 L	1.4307	304 L	1.4307	316 L	1.4404

OD	Range	Pressure		Dimensions					Bolts	
		PN bar	PS bar	A mm	B mm	D mm	E <sup>1</sup> mm	E <sup>2</sup> mm	Diam.	Tor. Nm
48,3	47 - 49	16	45	78	31	67,3	5	15	M 8	7
54,0	53 - 55	16	45	78	31	73,0	5	15	M 8	7
57,0	56 - 58	16	40	78	31	76,0	5	15	M 8	7
60,3	59 - 61	16	40	78	31	79,3	5	15	M 8	7
63,0	62 - 65	16	40	78	31	82,0	5	15	M 8	7
76,1	74 - 77	16	30	94	45	98,1	5	15	M 8	7
84,0	82 - 85	16	30	94	45	106,0	5	15	M 8	7
88,9	87 - 91	16	30	94	45	110,9	5	15	M 8	7
104,0	102 - 106	16	30	94	45	126,0	5	15	M 8	10
108,0	107 - 111	14	30	94	45	130,0	5	15	M 8	10
114,3	112 - 117	13	30	95	45	136,3	5	15	M 8	10
125,0	124 - 127	12	20	95	45	147,0	5	15	M 8	10
129,0	127 - 131	12	20	95	45	151,0	5	15	M 8	10
133,0	131 - 136	11	20	95	45	155,0	5	15	M 8	10
139,7	137 - 142	11	20	95	45	161,7	5	15	M 8	10
154,0	152 - 156	10	20	95	45	176,0	5	15	M 8	10
159,0	156 - 161	10	20	95	45	181,0	5	15	M 8	10
168,3	166 - 171	10	20	95	45	190,3	5	15	M 8	10

E<sup>1</sup> Permitted gaps without internal band E<sup>2</sup> Permitted gaps with internal band Tor. Torque Value  
 PN Nominal pressure for the shipbuilding industry with safety factor ≥ 4 PS Working pressure OD Outside Diameter

OD	Maximum diameter difference	Maximum angular deflection	Maximum misalignment
mm	mm	degrees	mm
48,3	0,5	4,0	1,0
54 - 63	1,0	4,0	1,0
76,1 - 104	1,5	4,0	1,0
108 - 154	2,5	4,0	1,0
154 - 168,3	2,5	4,0	2,0

See page 5 (Permitted tolerances)

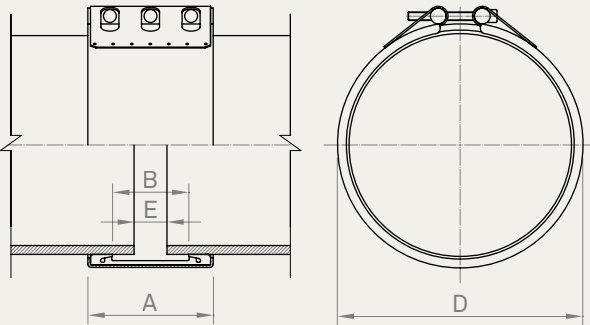
For the correct operation of the coupling, fitting instructions must be respected.

Sealing gasket: EPDM / NBR / Silicone

Test pressure = 1.5 x PS / PN

## NOMINAL WIDTH 140

### Series IBY to IFY



	IBY	ICY	IDY	IEY	IFY
	mm	mm	mm	mm	mm
A	139	140	141	142	144
B	86	86	86	86	86
D	OD + 23	OD + 24	OD + 25	OD + 26	OD + 28
E <sup>1</sup>	10	10	10	10	10
E <sup>2</sup>	35	35	35	35	35

	Quality W1		Quality W2		Quality W4		Quality W5	
	AISI	DIN	AISI	DIN	AISI	DIN	AISI	DIN
Casing			304 L	1.4307	304 L	1.4307	316 L	1.4404
Bolts			1035	1.0501	304	1.4301	316	1.4401
Bars			1045	1.0503	304 L	1.4307	316 L	1.4404
Inner Steel Bridge (Lock)			304 L	1.4307	304 L	1.4307	316 L	1.4404

DN mm	IBY			ICY			IDY			IEY			IFY		
	PS bar	Diam. mm	Tor. Nm	PS bar	Diam. mm	Tor. Nm	PS bar	Diam. mm	Tor. Nm	PS bar	Diam. mm	Tor. Nm	PS bar	Diam. mm	Tor. Nm
150	23	M 10	20	30	M 10	20									
200	18	M 10	20	24	M 10	20	30	M 10	20						
250	15	M 10	20	19	M 10	20	24	M 10	20						
300	12	M 10	25	16	M 10	20	20	M 10	20						
350	11	M 10	30	14	M 10	20	18	M 10	20	21	M 10	20	28	M 12	25
400	9	M 10	30	13	M 10	20	16	M 10	20	19	M 10	20	25	M 12	25
450	8	M 10	25	11	M 10	25	14	M 10	25	17	M 12	30	22	M 12	30
500	8	M 10	30	10	M 10	25	13	M 10	25	15	M 12	30	20	M 12	35
550	7	M 10	30	9	M 10	30				14	M 12	35	19	M 12	35
600	6	M 10	30	9	M 10	30				13	M 12	35	17	M 12	35
650	6	M 10	35	8	M 10	35				12	M 12	45	16	M 12	45
700	6	M 10	35	7	M 10	35				11	M 12	45	15	M 12	45
750	5	M 10	40	7	M 10	40				10	M 12	45	14	M 16	60
800	5	M 10	40	6	M 12	50				10	M 12	50	13	M 16	70
850	5	M 10	45	6	M 12	60				9	M 12	60	12	M 16	70
900				6	M 12	60				9	M 12	60	12	M 16	80
950				5	M 12	60				8	M 12	60	11	M 16	80
1000				5	M 12	70				8	M 12	70	10	M 16	90
1100				5	M 12	70				7	M 16	90	9	M 16	90
1200				4	M 12	80				7	M 16	100	9	M 16	100

E<sup>1</sup> Permitted gaps without internal band E<sup>2</sup> Permitted gaps with internal band Tor. Torque Value PS Working pressure DN Nominal Diameter OD Outside Diameter

For the correct operation of the coupling, fitting instructions must be respected.

Nominal diameters serve as guidance of the pressure scale. All measures within the DN range are manufactured.

Sealing gasket: EPDM / NBR / Silicone

Test pressure = 1.5 x PS

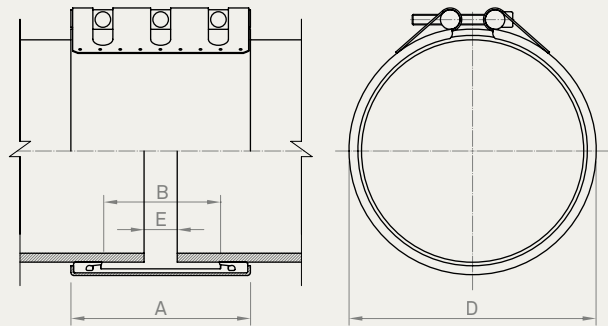
OD mm	Maximum diameter difference mm	Maximum angular deflection degrees	Maximum misalignment mm
150 - 250	2,5	2,0	2,0
250 - 500	2,5	2,0	3,0
500 - 1200	3,0	2,0	3,0

See page 5 (Permitted tolerances)

## NOMINAL WIDTH 200

### Series IBZ to IGZ

	IBZ	ICZ	IDZ	IEZ	IFZ	IGZ
	mm	mm	mm	mm	mm	mm
A	199	200	201	202	204	206
B	142	142	142	142	142	142
D	OD + 23	OD + 24	OD + 25	OD + 26	OD + 28	OD + 30
E <sup>1</sup>	15	15	15	15	15	15
E <sup>2</sup>	60	60	60	60	60	60



	Quality W1		Quality W2		Quality W4		Quality W5	
	AISI	DIN	AISI	DIN	AISI	DIN	AISI	DIN
Casing			304 L	1.4307	304 L	1.4307	316 L	1.4404
Bolts			1035	1.0501	304	1.4301	316	1.4401
Bars			1045	1.0503	304 L	1.4307	316 L	1.4404
Inner Steel Bridge (Lock)			304 L	1.4307	304 L	1.4307	316 L	1.4404

DN	IBZ			ICZ			IDZ			IEZ			IFZ			IGZ			
	mm	PS bar	Diam.	Tor. Nm	PS bar	Dia	Tor. Nm	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm
150	23	M 12	20	30	M 12	20													
200	18	M 12	20	24	M 12	25	30	M 12	20										
250	15	M 12	25	19	M 12	25	24	M 12	20										
300	12	M 12	30	16	M 12	30	20	M 12	20										
350	11	M 12	35	14	M 12	30	18	M 12	25	21	M 12	25	28	M 16	30				
400	9	M 12	35	13	M 12	25	16	M 12	30	19	M 12	25	25	M 16	60				
450	8	M 12	45	11	M 12	30	14	M 12	30	17	M 12	30	22	M 16	40				
500	8	M 12	45	10	M 12	35	13	M 12	35	15	M 12	30	20	M 16	40				
550	7	M 12	35	9	M 12	35				14	M 16	45	19	M 16	45				
600	6	M 12	35	9	M 12	35				13	M 16	50	17	M 16	50	21	M 20	60	
650	6	M 12	40	8	M 12	45				12	M 16	60	16	M 16	60	20	M 20	70	
700	6	M 12	45	7	M 12	45				11	M 16	60	15	M 16	60	18	M 20	70	
750	5	M 12	45	7	M 12	45				10	M 16	60	14	M 16	60	17	M 20	80	
800	5	M 12	50	6	M 12	50				10	M 16	70	13	M 16	70	16	M 20	90	
850	5	M 12	60	6	M 12	60				9	M 16	70	12	M 16	70	15	M 20	90	
900				6	M 12	60				9	M 16	80	12	M 16	80	14	M 20	100	
950				5	M 12	60				8	M 16	80	11	M 16	80	14	M 20	100	
1000				5	M 12	70				8	M 16	90	10	M 16	90	13	M 20	120	
1100				5	M 16	90				7	M 16	90	9	M 16	90	12	M 20	120	
1200				4	M 16	100				7	M 16	100	9	M 16	10	11	M 20	120	
1300										6	M 16	120	9	M 16	120	10	M 20	140	
1400										6	M 16	120	7	M 16	120	9	M 20	160	
1500										5	M 16	140	7	M 16	140	9	M 20	160	

E<sup>1</sup> Permitted gaps without internal band E<sup>2</sup> Permitted gaps with internal band Tor. Torque Value PS Working pressure DN Nominal Diameter OD Outside Diameter

OD	Maximum diameter difference	Maximum angular deflection	Maximum misalignment
mm	mm	degrees	mm
150 - 250	2,5	2,0	2,0
250 - 500	2,5	2,0	3,0
500 - 1500	3,0	2,0	3,0

See page 5 (Permitted tolerances)

For the correct operation of the coupling, fitting instructions must be respected.

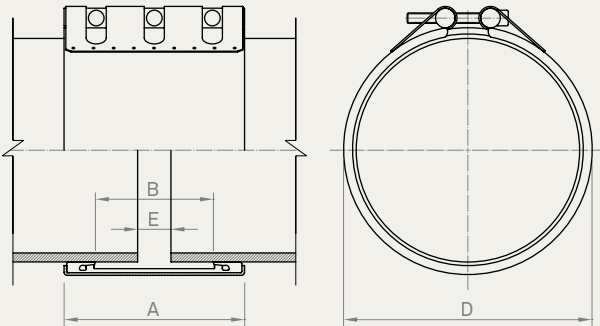
Nominal diameters serve as guidance of the pressure scale. All measures within the DN range are manufactured.

Sealing gasket: EPDM / NBR / Silicone

Test pressure = 1.5 x PS

## COATED NOMINAL WIDTH 200

### Series AFZ to AGZ



	AFZ	AGZ
	mm	mm
A	204	206
B	142	142
D	OD + 28	OD + 30
E <sup>1</sup>	15	15
E <sup>2</sup>	60	60

	Quality W1		Quality W2		Quality W4		Quality W5	
	AISI	DIN	AISI	DIN	AISI	DIN	AISI	DIN
Casing	1024	1.0570						
Bolts	1035 / 304	1.0501 / 1.4301						
Bars	1045 / 304 L	1.0503 / 1.4307						
Inner Steel Bridge (Lock)	304 L	1.4307						

DN	AFZ			AGZ		
	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm
500	27	M 20	60			
550	25	M 20	60			
600	23	M 20	60	29	M 20	60
650	21	M 20	70	27	M 20	70
700	20	M 20	80	25	M 20	80
750	19	M 20	80	23	M 20	80
800	17	M 20	90	22	M 20	90
850	16	M 20	90	21	M 20	90
900	16	M 20	100	19	M 20	100
950	15	M 20	100	18	M 20	100
1000	14	M 20	120	18	M 20	120
1100	13	M 20	120	16	M 20	120
1200	12	M 20	120	15	M 20	140
1300	11	M 20	140	14	M 20	140
1400	10	M 20	160	13	M 20	160
1500	9	M 20	160	12	M 20	160

E<sup>1</sup> Permitted gaps without internal band   E<sup>2</sup> Permitted gaps with internal band   Tor. Torque Value   PS Working pressure   DN Nominal Diameter   OD Outside Diameter

For the correct operation of the coupling, fitting instructions must be respected.

Nominal diameters serve as guidance of the pressure scale. All measures within the DN range are manufactured.

Sealing gasket: EPDM / NBR / Silicone

Test pressure = 1.5 x PS

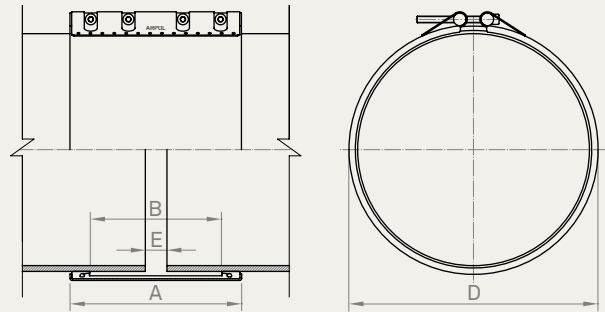
OD	Maximum diameter difference	Maximum angular deflection	Maximum misalignment
mm	mm	degrees	mm
500 - 1500	3,0	2,0	3,0

See page 5 (Permitted tolerances)

## NOMINAL WIDTH 300

### Series IBW to IGW

	IBW	ICW	IDW	IEW	IFW	IGW
	mm	mm	mm	mm	mm	mm
A	294	295	296	297	299	301
B	240	240	240	240	240	240
D	OD + 23	OD + 24	OD + 25	OD + 26	OD + 28	OD + 30
E <sup>1</sup>	15	15	15	15	15	15
E <sup>2</sup>	80	80	80	80	80	80



	Quality W1		Quality W2		Quality W4		Quality W5	
	AISI	DIN	AISI	DIN	AISI	DIN	AISI	DIN
Casing			304 L	1.4307	304 L	1.4307	316 L	1.4404
Bolts			1035	1.0501	304	1.4301	316	1.4401
Bars			1045	1.0503	304 L	1.4307	316 L	1.4404
Inner Steel Bridge (Lock)			304 L	1.4307	304 L	1.4307	316 L	1.4404

DN	IBW			ICW			IDW			IEW			IFW			IGW			
	mm	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm
300	12	M 12	15	16	M 12	15	20	M 12	15										
350	11	M 12	20	14	M 12	20	18	M 12	20	21	M 16	25	28	M 16	25				
400	9	M 12	20	13	M 12	20	16	M 12	20	19	M 16	30	25	M 16	30				
450	8	M 12	25	11	M 12	25	14	M 12	25	17	M 16	30	22	M 16	30				
500	8	M 12	25	10	M 12	25	13	M 12	25	15	M 16	35	20	M 16	35				
550	7	M 12	30	9	M 12	30				14	M 16	35	19	M 16	35				
600	6	M 12	30	9	M 12	30				13	M 16	40	17	M 16	40	21	M 20	40	
650	6	M 12	30	8	M 12	30				12	M 16	45	16	M 16	45	20	M 20	60	
700	6	M 12	35	7	M 12	35				11	M 16	45	15	M 16	45	18	M 20	60	
750	5	M 12	35	7	M 12	35				10	M 16	50	14	M 16	50	17	M 20	60	
800										10	M 16	50	13	M 16	50	16	M 20	70	
850										9	M 16	60	12	M 16	60	15	M 20	70	
900										9	M 16	60	12	M 16	60	14	M 20	70	
950										8	M 16	60	11	M 16	60	14	M 20	80	
1000										8	M 16	70	10	M 16	70	13	M 20	80	
1100										7	M 16	70	9	M 16	70	12	M 20	90	
1200										7	M 16	80	9	M 20	100	11	M 20	100	
1300										6	M 16	80	8	M 20	100	10	M 20	100	
1400										6	M 16	90	7	M 20	120	9	M 20	120	
1500										5	M 16	100	7	M 20	120	9	M 20	120	

E<sup>1</sup> Permitted gaps without internal band E<sup>2</sup> Permitted gaps with internal band Tor. Torque Value PS Working pressure DN Nominal Diameter OD Outside Diameter

OD	Maximum diameter difference	Maximum angular deflection	Maximum misalignment
mm	mm	degrees	mm
300 - 500	2,5	2,0	3,0
500 - 1500	3,0	2,0	3,0

See page 5 (Permitted tolerances)

For the correct operation of the coupling, fitting instructions must be respected.

Nominal diameters serve as guidance of the pressure scale. All measures within the DN range are manufactured.

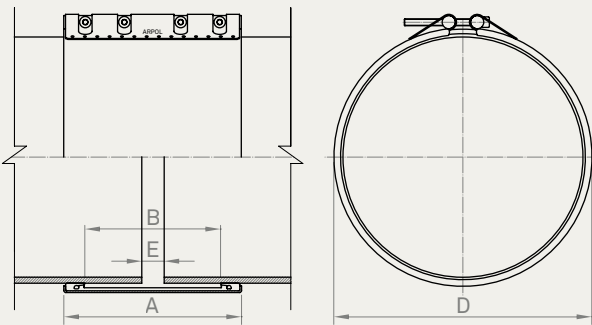
Sealing gasket: EPDM / NBR

Test pressure = 1.5 x PS



## COATED NOMINAL WIDTH 300

### Series AFW to AGW



	AFW	AGW
	mm	mm
A	299	301
B	240	240
D	OD + 28	OD + 30
E <sup>1</sup>	15	15
E <sup>2</sup>	80	80

	Quality W1		Quality W2		Quality W4		Quality W5	
	AISI	DIN	AISI	DIN	AISI	DIN	AISI	DIN
Casing	1024	1.0570						
Bolts	1035 / 304	1.0501 / 1.4301						
Bars	1045 / 304 L	1.0503 / 1.4307						
Inner Steel Bridge (Lock)	304 L	1.4307						

DN	AFW			AGW		
	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm
500	27	M 20	40			
550	25	M 20	45			
600	23	M 20	50	29	M 20	50
650	21	M 20	60	27	M 20	60
700	20	M 20	60	25	M 20	60
750	19	M 20	60	23	M 20	60
800	17	M 20	70	22	M 20	70
850	16	M 20	70	21	M 20	70
900	16	M 20	70	19	M 20	70
950	15	M 20	80	18	M 20	80
1000	14	M 20	80	18	M 20	80
1100	13	M 20	90	16	M 20	90
1200	12	M 20	100	15	M 20	100
1300	11	M 20	100	14	M 20	100
1400	10	M 20	120	13	M 20	120
1500	9	M 20	120	12	M 20	120

E<sup>1</sup> Permitted gaps without internal band E<sup>2</sup> Permitted gaps with internal band Tor. Torque Value PS Working pressure DN Nominal Diameter OD Outside Diameter

For the correct operation of the coupling, fitting instructions must be respected.

Nominal diameters serve as guidance of the pressure scale. All measures within the DN range are manufactured.

Sealing gasket: EPDM / NBR

Test pressure = 1.5 x PS

OD	Maximum diameter difference	Maximum angular deflection	Maximum misalignment
mm	mm	degrees	mm
500 - 1500	3,0	2,0	3,0

See page 5 (Permitted tolerances)

## APPLICATION

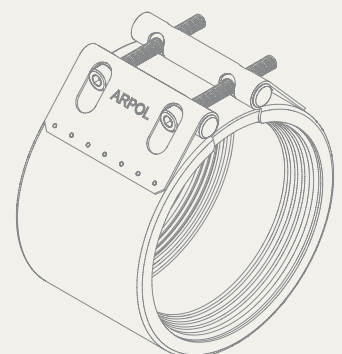
### INSTAL



- Installation of an aerial steel pipeline in a waste water treatment plant.



- Connection of a polyester piece of pipe between collection boxes.



## APPLICATION

### INSTAL



■ Connection of a polyester pipe to a valve.

■ Installation of a dismantling pipe inside a collection box.



■ Connection of a galvanized steel pipeline for air supply.



■ Installation of a polyester pipeline for water supply.



■ Installation of stainless steel pipeline for disposal of urban solid waste.

# REP

## FLEXIBLE COUPLINGS FOR PIPE REPAIR

REP 2



REP 3



REP-C



REP-S



REP 3



REP-C



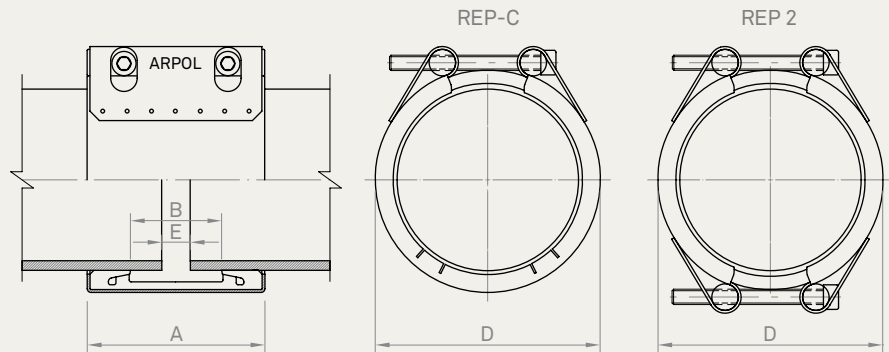
REP 2



REP-S

## NOMINAL WIDTH 95

### Series IBXC - IBXR



	Quality W1		Quality W2		Quality W4		Quality W5	
	AISI	DIN	AISI	DIN	AISI	DIN	AISI	DIN
Casing			304 L	1.4307	304 L	1.4307	316 L	1.4404
Bolts			1035	1.0501	304	1.4301	316	1.4401
Bars			1045	1.0503	304 L	1.4307	316 L	1.4404
Inner Steel Bridge (Lock)			304 L	1.4307	304 L	1.4307	316 L	1.4404

OD mm	Range		Pressure PS bar	Dimension					Bolts	
	IBXC mm	IBXR mm		A mm	B mm	D mm	E <sup>1</sup> mm	E <sup>2</sup> mm	Diam.	Tor. Nm
48,3	47 - 49		45	78	31	68	5	15	M 8	7
54,0	53 - 55		45	78	31	74	5	15	M 8	7
57,0	56 - 58		40	78	31	77	5	15	M 8	7
60,3	59 - 61		40	78	31	80	5	15	M 8	7
63,0	62 - 65	60 - 64	40	78	31	84	5	15	M 8	7
76,1	74 - 77	74 - 78	30	94	45	99	5	15	M 8	7
84,0	82 - 85	80 - 86	30	94	45	107	5	15	M 8	7
88,9	87 - 91	87 - 93	30	94	45	113	5	15	M 8	7
104,0	102 - 106	98 - 106	30	94	45	128	5	15	M 8	10
108,0	107 - 111	107 - 111	30	94	45	133	5	15	M 8	10
114,3	112 - 117	110 - 116	30	95	45	139	5	15	M 8	10
125,0	124 - 127	118 - 125	20	95	45	149	5	15	M 8	10
129,0	127 - 131	125 - 131	20	95	45	153	5	15	M 8	10
133,0	131 - 136	131 - 136	20	95	45	158	5	15	M 8	10
139,7	137 - 142	137 - 144	20	95	45	164	5	15	M 8	10
154,0	152 - 156	147 - 156	20	95	45	178	5	15	M 8	10
159,0	156 - 161	156 - 162	20	95	45	183	5	15	M 8	10
168,3	166 - 171	166 - 171	20	95	45	193	5	15	M 8	10

E<sup>1</sup> Permitted gaps without internal band E<sup>2</sup> Permitted gaps with internal band PS Working pressure OD Outside diameter Tor. Torque Value

OD mm	Maximum diameter difference		Maximum angular deflection		Maximum misalignment		Maximum crack width	
	IBXC mm	IBXR mm	IBXC degrees	IBXR degrees	IBXC mm	IBXR mm	IBXC mm	IBXR mm
48,3	0,5	-	4,0	-	1,0	-	20	
54 - 63	1,0	2,0	4,0	4,0	1,0	1,0	20	
76,1 - 104	1,5	3,0	4,0	4,0	1,0	1,0	35	
108 - 154	2,5	3,0	4,0	4,0	1,0	1,0	35	
154 - 168,3	2,5	3,0	4,0	4,0	2,0	2,0	35	

See page 5 (Permitted tolerances)

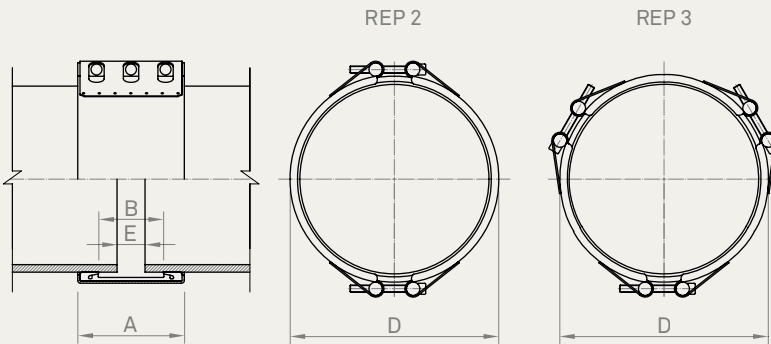
For the correct operation of the coupling, fitting instructions must be respected.

Sealing gasket: EPDM / NBR / Silicone

Test pressure = 1.5 x PS

## NOMINAL WIDTH 140

### Series IBYR to IFYR IBY3 to IFY3



	IBYR IBY3	ICYR ICY3	IDYR IDY3	IEYR IEY3	IFYR IFY3
	mm	mm	mm	mm	mm
A	139	140	141	142	144
B	86	86	86	86	86
D	OD + 23	OD + 24	OD + 25	OD + 26	OD + 28
E <sup>1</sup>	10	10	10	10	10
E <sup>2</sup>	35	35	35	35	35

	Quality W1		Quality W2		Quality W4		Quality W5	
	AISI	DIN	AISI	DIN	AISI	DIN	AISI	DIN
Casing			304 L	1.4307	304 L	1.4307	316 L	1.4404
Bolts			1035	1.0501	304	1.4301	316	1.4401
Bars			1045	1.0503	304 L	1.4307	316 L	1.4404
Inner Steel Bridge (Lock)			304 L	1.4307	304 L	1.4307	316 L	1.4404

DN mm	IBYR - IBY3			ICYR - ICY3			IDYR - IDY3			IEYR - IEY3			IFYR - IFY3		
	PS bar	Diam. mm	Tor. Nm	PS bar	Diam. mm	Tor. Nm	PS bar	Diam. mm	Tor. Nm	PS bar	Diam. mm	Tor. Nm	PS bar	Diam. mm	Tor. Nm
150	23	M 10	20	30	M 10	20									
200	18	M 10	20	24	M 10	20	30	M 10	20						
250	15	M 10	20	19	M 10	20	24	M 10	20						
300	12	M 10	25	16	M 10	20	20	M 10	20						
350	11	M 10	30	14	M 10	20	18	M 10	20	21	M 10	20	28	M 12	25
400	9	M 10	30	13	M 10	20	16	M 10	20	19	M 10	20	25	M 12	25
450	8	M 10	25	11	M 10	25	14	M 10	25	17	M 12	30	22	M 12	30
500	8	M 10	30	10	M 10	25	13	M 10	25	15	M 12	30	20	M 12	35
550	7	M 10	30	9	M 10	30	12	M 10	30	14	M 12	35	19	M 12	35
600	6	M 10	30	9	M 10	30	11	M 10	30	13	M 12	35	17	M 12	35
650	6	M 10	35	8	M 10	35	10	M 12	40	12	M 12	45	16	M 12	45
700	6	M 10	40	7	M 10	35	9	M 12	45	11	M 12	45	15	M 12	45
750	5	M 10	40	7	M 10	40				10	M 12	45	14	M 16	60
800	5	M 10	40	6	M 12	50				10	M 12	50	13	M 16	70
850	5	M 10	45	6	M 12	60				9	M 12	60	12	M 16	70
900				6	M 12	60				9	M 12	60	12	M 16	80
950				5	M 12	60				8	M 12	60	11	M 16	80
1000				5	M 12	70				8	M 12	70	10	M 16	90
1100				5	M 12	70				7	M 16	90	9	M 16	90
1200				4	M 12	80				7	M 16	100	9	M 16	100

E<sup>1</sup> Permitted gaps without internal band E<sup>2</sup> Permitted gaps with internal band PS Working pressure DN Nominal diameter OD Outside diameter Tor. Torque Value

For the correct operation of the coupling, fitting instructions must be respected.

Nominal diameters serve as guidance of the pressure scale. All measures within the DN range are manufactured.

Sealing gasket: EPDM / NBR / Silicone

Test pressure = 1.5 x PS

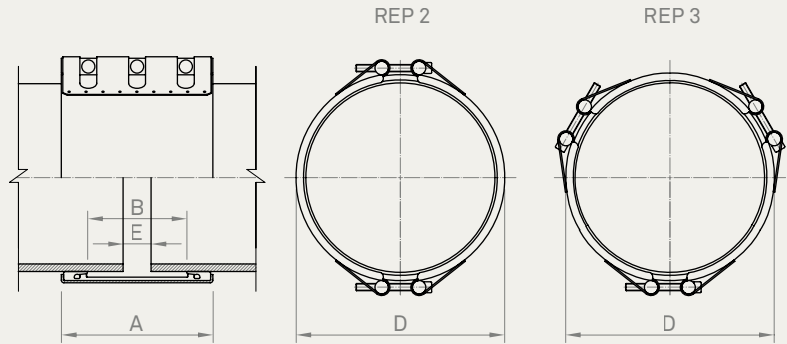
OD mm	Maximum diameter difference		Maximum angular deflection degrees	Maximum misalignment mm	Maximum crack width mm
	2 locks mm	3 locks mm			
150 - 250	5,0	7,0	2,0	2,0	50
250 - 500	5,0	7,0	2,0	3,0	50
500 - 1200	6,0	8,0	2,0	3,0	50

See page 5 (Permitted tolerances)

## NOMINAL WIDTH 200

### Series IBZR to IGZR IBZ3 to IGZ3

	IBZR IBZ3	ICZR ICZ3	IDZR IDZ3	IEZR IEZ3	IFZR IFZ3	IGZR IGZ3
	mm	mm	mm	mm	mm	mm
A	199	200	201	202	204	206
B	142	142	142	142	142	142
D	OD + 23	OD + 24	OD + 25	OD + 26	OD + 28	OD + 30
E <sup>1</sup>	15	15	15	15	15	15
E <sup>2</sup>	60	60	60	60	60	60



	Quality W1		Quality W2		Quality W4		Quality W5	
	AISI	DIN	AISI	DIN	AISI	DIN	AISI	DIN
Casing			304 L	1.4307	304 L	1.4307	316 L	1.4404
Bolts			1035	1.0501	304	1.4301	316	1.4401
Bars			1045	1.0503	304 L	1.4307	316 L	1.4404
Inner Steel Bridge (Lock)			304 L	1.4307	304 L	1.4307	316 L	1.4404

DN	IBZR - IBZ3			ICZR - ICZ3			IDZR - IDZ3			IEZR - IEZ3			IFZR - IFZ3			IGZR - IGZ3		
	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm
150	23	M 12	20	30	M 12	20												
200	18	M 12	20	24	M 12	25	30	M 12	20									
250	15	M 12	25	19	M 12	25	24	M 12	20									
300	12	M 12	30	16	M 12	30	20	M 12	20									
350	11	M 12	35	14	M 12	30	18	M 12	25	21	M 12	25	28	M 16	30			
400	9	M 12	35	13	M 12	25	16	M 12	30	19	M 12	25	25	M 16	60			
450	8	M 12	45	11	M 12	30	14	M 12	30	17	M 12	30	22	M 16	40			
500	8	M 12	45	10	M 12	35	13	M 12	35	15	M 12	30	20	M 16	40			
550	7	M 12	35	9	M 12	35	12	M 12	35	14	M 16	45	19	M 16	45			
600	6	M 12	35	9	M 12	35	11	M 12	40	13	M 16	50	17	M 16	50	21	M 20	60
650	6	M 12	40	8	M 12	45	10	M 12	45	12	M 16	60	16	M 16	60	20	M 20	70
700	6	M 12	45	7	M 12	45	9	M 12	45	11	M 16	60	15	M 16	60	18	M 20	70
750	5	M 12	45	7	M 12	45				10	M 16	60	14	M 16	60	17	M 20	80
800	5	M 12	50	6	M 12	50				10	M 16	70	13	M 16	70	16	M 20	90
850	5	M 12	60	6	M 12	60				9	M 16	70	12	M 16	70	15	M 20	90
900				6	M 12	60				9	M 16	80	12	M 16	80	14	M 20	100
950				5	M 12	60				8	M 16	80	11	M 16	80	14	M 20	100
1000				5	M 12	70				8	M 16	90	10	M 16	90	13	M 20	120
1100				5	M 16	90				7	M 16	90	9	M 16	90	12	M 20	120
1200				4	M 16	100				7	M 16	100	9	M 16	100	11	M 20	120
1300										6	M 16	120	8	M 16	120	10	M 20	140
1400										6	M 16	120	7	M 16	120	9	M 20	160
1500										5	M 16	140	7	M 16	140	9	M 20	160
1600										5	M 16	140	7	M 20	180	8	M 20	180
1700										5	M 16	140	6	M 20	180	8	M 20	180
1800										4	M 16	160	6	M 20	200	7	M 20	200
1900										4	M 16	160	6	M 20	200	7	M 20	200
2000										4	M 16	180	5	M 20	200	7	M 20	220

E<sup>1</sup> Permitted gaps without internal band E<sup>2</sup> Permitted gaps with internal band PS Working pressure DN Nominal diameter OD Outside diameter Tor. Torque Value

OD	Maximum diameter difference		Maximum angular deflection	Maximum misalignment	Maximum crack width
	2 locks	3 locks			
mm	mm	mm	degrees	mm	mm
150 - 250	5,0	7,0	2,0	2,0	100
250 - 500	5,0	7,0	2,0	3,0	100
500 - 1500	6,0	8,0	2,0	3,0	100
1500 - 2000	6,0	8,0	2,0	3,0	100

See page 5 (Permitted tolerances)

For bigger diameters, please consult.

For the correct operation of the coupling, fitting instructions must be respected.

Nominal diameters serve as guidance of the pressure scale. All measures within the DN range are manufactured.

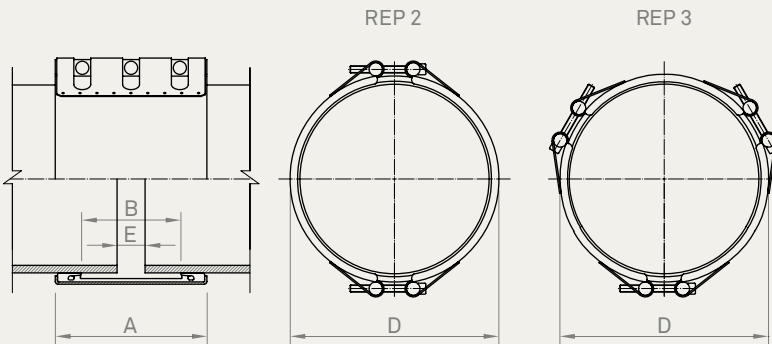
Sealing gasket: EPDM / NBR / Silicone

Test pressure = 1.5 x PS



## COATED NOMINAL WIDTH 200

### Series AFZR to AGZR AFZ3 to AGZ3



	AFZR - AFZ3	AGZR - AGZ3
	mm	mm
A	204	206
B	142	142
D	OD + 28	OD + 30
E <sup>1</sup>	15	15
E <sup>2</sup>	60	60

	Quality W1		Quality W2		Quality W4		Quality W5	
	AISI	DIN	AISI	DIN	AISI	DIN	AISI	DIN
Casing	1024	1.0570						
Bolts	1035 / 304	1.0501 / 1.4301						
Bars	1045 / 304 L	1.0503 / 1.4307						
Inner Steel Bridge (Lock)	304 L	1.4307						

DN	AFZR - AFZ3			AGZR - AGZ3		
	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm
500	27	M20	60			
550	25	M20	60			
600	23	M20	60	29	M20	60
650	21	M20	70	27	M20	70
700	20	M20	80	25	M20	80
750	19	M20	80	23	M20	80
800	17	M20	90	22	M20	90
850	16	M20	90	21	M20	90
900	16	M20	100	19	M20	100
950	15	M20	100	18	M20	100
1000	14	M20	120	18	M20	120
1100	13	M20	120	16	M20	120
1200	12	M20	120	15	M20	140
1300	11	M20	140	14	M20	140
1400	10	M20	160	13	M20	160
1500	9	M20	160	12	M20	160
1600	9	M20	180	11	M20	180
1700	8	M20	180	10	M20	150
1800	8	M20	200	10	M20	200
1900	7	M20	200	9	M20	200
2000	7	M20	200	9	M20	220

E<sup>1</sup> Permitted gaps without internal band E<sup>2</sup> Permitted gaps with internal band PS Working pressure DN Nominal diameter OD Outside diameter Tor. Torque Value

For bigger diameters, please consult.

For the correct operation of the coupling, fitting instructions must be respected.

Nominal diameters serve as guidance of the pressure scale. All measures within the DN range are manufactured.

Sealing gasket: EPDM / NBR / Silicone

Test pressure = 1.5 x PS

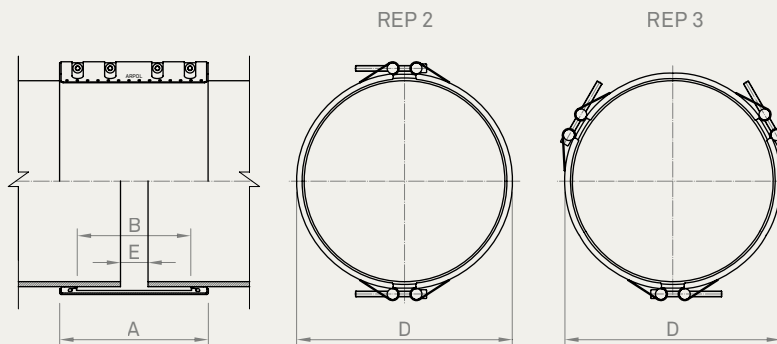
OD	Maximum diameter difference		Maximum angular deflection	Maximum misalignment	Maximum crack width
	2 locks	3 locks			
mm	mm	mm	degrees	mm	mm
500 - 1500	6,0	8,0	2,0	3,0	100
1500 - 2000	6,0	8,0	1,0	3,0	100

See page 5 (Permitted tolerances)

## NOMINAL WIDTH 300

### Series IBWR to IGWR IBW3 to IGW3

	IBWR IBW3	ICWR ICW3	IDWR IDW3	IEWR IEW3	IFWR IFW3	IGWR IGW3
	mm	mm	mm	mm	mm	mm
A	294	295	296	297	299	301
B	240	240	240	240	240	240
D	OD + 23	OD + 24	OD + 25	OD + 26	OD + 28	OD + 30
E <sup>1</sup>	15	15	15	15	15	15
E <sup>2</sup>	80	80	80	80	80	80



	Quality W1		Quality W2		Quality W4		Quality W5	
	AISI	DIN	AISI	DIN	AISI	DIN	AISI	DIN
Casing			304 L	1.4307	304 L	1.4307	316 L	1.4404
Bolts			1035	1.0501	304	1.4301	316	1.4401
Bars			1045	1.0503	304 L	1.4307	316 L	1.4404
Inner Steel Bridge (Lock)			304 L	1.4307	304 L	1.4307	316 L	1.4404

DN	IBWR - IBW3			ICWR - ICW3			IDWR - IDW3			IEWR - IEW3			IFWR - IFW3			IGWR - IGW3		
	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm
300	12	M 12	15	16	M 12	15	20	M 12	15									
350	11	M 12	20	14	M 12	20	18	M 12	20	21	M 16	25	28	M 16	25			
400	9	M 12	20	13	M 12	20	16	M 12	20	19	M 16	30	25	M 16	30			
450	8	M 12	25	11	M 12	25	14	M 12	25	17	M 16	30	22	M 16	30			
500	8	M 12	25	10	M 12	25	13	M 12	25	15	M 16	35	20	M 16	35			
550	7	M 12	30	9	M 12	30	12	M 12	25	14	M 16	35	19	M 16	35			
600	6	M 12	30	9	M 12	30	11	M 12	30	13	M 16	40	17	M 16	40	21	M 20	40
650	6	M 12	30	8	M 12	30	10	M 12	30	12	M 16	45	16	M 16	45	20	M 20	60
700	6	M 12	35	7	M 12	35	9	M 12	30	11	M 16	45	15	M 16	45	18	M 20	60
750	5	M 12	35	7	M 12	35				10	M 16	50	14	M 16	50	17	M 20	60
800										10	M 16	50	13	M 16	50	16	M 20	70
850										9	M 16	60	12	M 16	60	15	M 20	70
900										9	M 16	60	12	M 16	60	14	M 20	70
950										8	M 16	60	11	M 16	60	14	M 20	80
1000										8	M 16	70	10	M 16	70	13	M 20	80
1100										7	M 16	70	9	M 16	70	12	M 20	90
1200										7	M 16	80	9	M 20	100	11	M 20	100
1300										6	M 16	80	8	M 20	100	10	M 20	100
1400										6	M 16	90	7	M 20	120	9	M 20	120
1500										5	M 16	100	7	M 20	120	9	M 20	120
1600										5	M 16	100	7	M 20	140	8	M 20	140
1700										5	M 20	140	6	M 20	140	8	M 20	140
1800										4	M 20	140	6	M 20	140	7	M 20	140
1900										4	M 20	160	6	M 20	160	7	M 20	160
2000										4	M 20	160	5	M 20	160	7	M 20	160

E<sup>1</sup> Permitted gaps without internal band E<sup>2</sup> Permitted gaps with internal band PS Working pressure DN Nominal diameter OD Outside diameter Tor. Torque Value

OD	Maximum diameter difference		Maximum angular deflection	Maximum misalignment	Maximum crack width
	2 locks	3 locks			
mm	mm	mm	degrees	mm	mm
300 - 500	5,0	7,0	2,0	3,0	190
500 - 1500	6,0	8,0	2,0	3,0	190
1500 - 2000	6,0	8,0	1,0	3,0	190

See page 5 (Permitted tolerances)

For bigger diameters, please consult.

For the correct operation of the coupling, fitting instructions must be respected.

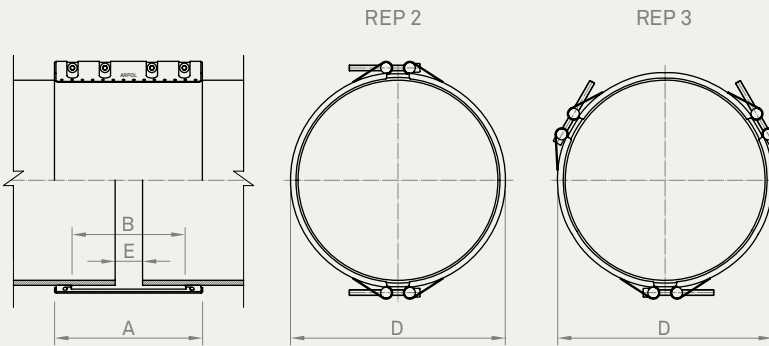
Nominal diameters serve as guidance of the pressure scale. All measures within the DN range are manufactured.

Sealing gasket: EPDM / NBR

Test pressure = 1.5 x PS

## COATED NOMINAL WIDTH 300

### Series AFWR to AGWR AFW3 to AGW3



	AFWR - AFW3	AGWR - AGW3
	mm	mm
A	299	301
B	240	240
D	OD + 28	OD + 30
E <sup>1</sup>	15	15
E <sup>2</sup>	80	80

	Quality W1		Quality W2		Quality W4		Quality W5	
	AISI	DIN	AISI	DIN	AISI	DIN	AISI	DIN
Casing	1024	1.0570						
Bolts	1035 / 304	1.0501 / 1.4301						
Bars	1045 / 304 L	1.0503 / 1.4307						
Inner Steel Bridge (Lock)	304 L	1.4307						

DN	AFWR - AFW3			AGWR - AGW3		
	PS bar	Diam.	Tor. Nm	PS bar	Diam.	Tor. Nm
500	27	M20	40			
550	25	M20	45			
600	23	M20	50	29	M20	50
650	21	M20	60	27	M20	60
700	20	M20	60	25	M20	60
750	19	M20	60	23	M20	60
800	17	M20	70	22	M20	70
850	16	M20	70	21	M20	70
900	16	M20	70	19	M20	70
950	15	M20	80	18	M20	80
1000	14	M20	80	18	M20	80
1100	13	M20	90	16	M20	90
1200	12	M20	100	15	M20	100
1300	11	M20	100	14	M20	100
1400	10	M20	120	13	M20	120
1500	9	M20	120	12	M20	120
1600	9	M20	140	11	M20	140
1700	8	M20	140	10	M20	140
1800	8	M20	140	10	M20	140
1900	7	M20	160	9	M20	160
2000	7	M20	160	9	M20	160

E<sup>1</sup> Permitted gaps without internal band E<sup>2</sup> Permitted gaps with internal band PS Working pressure DN Nominal diameter OD Outside diameter Tor. Torque Value

For bigger diameters, please consult.

For the correct operation of the coupling, fitting instructions must be respected.

Nominal diameters serve as guidance of the pressure scale. All measures within the DN range are manufactured.

Sealing gasket: EPDM / NBR

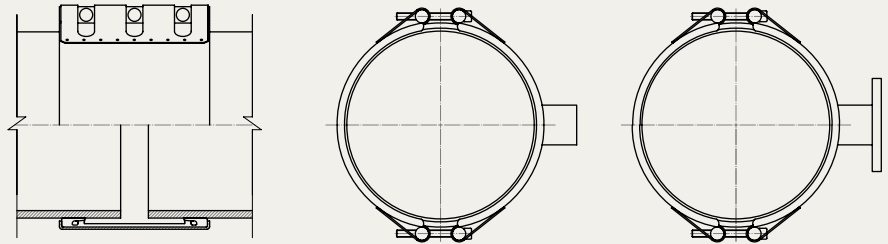
Test pressure = 1.5 x PS

OD	Maximum diameter difference		Maximum angular deflection	Maximum misalignment	Maximum crack width
	2 locks	3 locks			
mm	mm	mm	degrees	mm	mm
500 - 1500	6,0	8,0	2,0	3,0	190
1500 - 2000	6,0	8,0	1,0	3,0	190

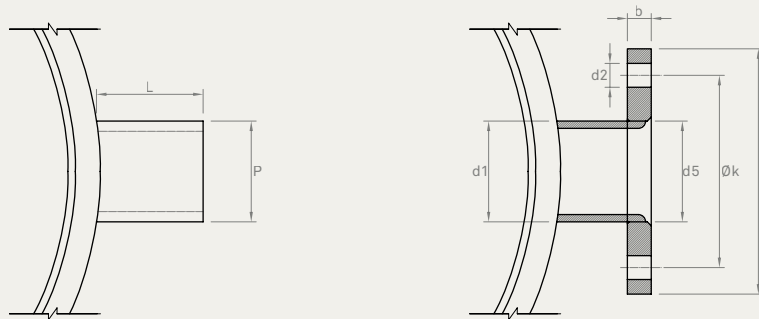
See page 5 (Permitted tolerances)

## WITH OUTLET

### Series REP-S



	Quality W1		Quality W2		Quality W4		Quality W5	
	AISI	DIN	AISI	DIN	AISI	DIN	AISI	DIN
Casing			304 L	1.4307	304 L	1.4307	316 L	1.4404
Bolts			1035	1.0501	304	1.4301	316	1.4401
Bars			1045	1.0503	304 L	1.4307	316 L	1.4404
Inner Steel Bridge (Lock)			304 L	1.4307	304 L	1.4307	316 L	1.4404
Outlet Thread			316 L	1.4404	316 L	1.4404	316 L	1.4404
Outlet Flange			304 L	1.4307	304 L	1.4307	316 L	1.4404



Outlet thread			Outlet flange							Series Y	Series Z
DN in	L mm	P mm	DN mm	d1 mm	d2 mm	d5 mm	D mm	b mm	Øk mm	Width 140 mm	Width 200 mm
1	43	39,5	25	33,7	14	34,5	115	16	85	•	•
1 ½	48	54,5	40	48,3	18	49,5	11	18	110	•	•
2	56	66,2	50	60,3	18	61,5	125	19	125	•	•
2 ½	65	82,0	65	76,1	18	77,5	145	20	145	•	•
3	71	95,0	80	88,9	18	90,5	160	20	160	•	•
4	83	121,4	100	114,3	18	116,0	180	22	180	•	•

Available from DN 250 mm

Working pressure up to 10 bar

Thread BSP according to ISO 7/1

Flange according to EN 1092-1-01 PN10

For the correct operation of the coupling, fitting instructions must be respected.

## APPLICATION

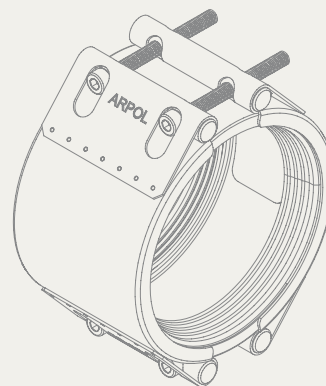
REP



- Repair of an underwater asbestos-cement pipeline.
- Installation of a polyester pipe in a power plant.



- Repair of a cracked concrete pipe.
- Repair of an underground polyester pipe.



- Repair of a polyester pipe 3m OD.

# FIX

FLEXIBLE COUPLINGS FOR PIPE CONNECTIONS WITH  
**AXIAL RESTRAINT**

FIX-L



FIX-M



FIX-U



MULTI-FIX



FIX-M



FIX-U



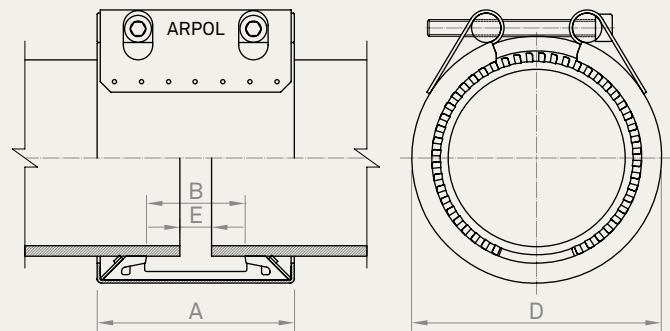
FIX-L



MULTI-FIX

## FOR STEEL PIPE

### Series FIX-L



	Quality W1		Quality W2		Quality W4		Quality W5	
	AISI	DIN	AISI	DIN	AISI	DIN	AISI	DIN
Casing					304 L	1.4307	316 L	1.4404
Bolts					304	1.4301	316	1.4401
Bars					304 L	1.4307	316 L	1.4404
Inner Steel Bridge (Lock)					304 L	1.4307	316 L	1.4404
Anchoring ring					302	1.4310	302	1.4310

OD	Range	Pressure		Dimensions					Bolts	
		PN bar	PS bar	A mm	B mm	D mm	E <sup>1</sup> mm	E <sup>2</sup> mm	Diam.	Tor. Nm
48.3	47.8 - 48.9	16	35	78	31	68	5	15	M 8	15
54.0	53.5 - 54.5	16	30	78	31	74	5	15	M 8	15
57.0	56.4 - 57.6	16	30	78	31	77	5	15	M 8	15
60.3	59.7 - 60.9	16	30	78	31	80	5	15	M 8	15
76.1	75.3 - 76.9	16	20	94	45	96	5	15	M 8	15
88.9	88.0 - 89.8	16	20	94	45	112	5	15	M 8	15
108.0	106.9 - 109.1	16	19	94	45	131	5	15	M 8	20
114.3	113.2 - 115.4	16	23	95	45	137	5	15	M 8	20
133.0	131.7 - 134.3	16	18	95	45	156	5	15	M 10	20
139.7	138.3 - 141.1	16	16	95	45	163	5	15	M 10	25
154.0	152.4 - 155.6	14	15	95	45	178	5	15	M 10	25
159.0	157.4 - 160.6	14	15	95	45	183	5	15	M 10	30
168.3	166.6 - 170.0	13	14	95	45	191	5	15	M 10	30
219.1	216.9 - 221.3		10	141	86	251	15	35	M 12	50
244.5	242.0 - 247.0		5,5	141	86	276	15	35	M 12	50
267.0	264.5 - 269.5		5	141	86	299	15	35	M 12	50
273.0	270.5 - 275.5		4,5	141	86	305	15	35	M 12	50
323.0	320.5 - 327.0		3	141	86	356	15	35	M 12	50
355.6	352.0 - 359.0		2,5	141	86	387	15	35	M 12	50
406,4	402.5 - 410.5		2	141	86	438	15	35	M 12	60

E<sup>1</sup> Permitted gaps without internal band E<sup>2</sup> Permitted gaps with internal band Tor. Torque Value

PN Nominal pressure for shipbuilding industry with safety factor ≥ 4 PS Working pressure OD Outside diameter

OD	Maximum diameter difference	Maximum angular deflection	Maximum misalignment
mm	mm	degrees	mm
48	0,5	4,0	1,0
50 - 60	1,0	4,0	1,0
76 - 104	1,5	4,0	1,0
106 - 154	2,5	4,0	1,0
159 - 219	2,5	2,0	2,0
244 - 406	2,5	2,0	3,0

See page 5 (Permitted tolerances)

For the correct operation of the coupling, fitting instructions must be respected.

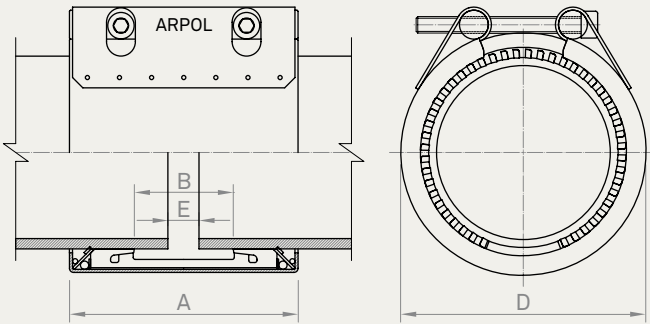
Sealing gasket: EPDM / NBR / Silicone

Test pressure = 1.5 x PS / PN



**FOR STEEL PIPE**

**Series FIX-M**



	Quality W1		Quality W2		Quality W4		Quality W5	
	AISI	DIN	AISI	DIN	AISI	DIN	AISI	DIN
Casing					304 L	1.4307	316 L	1.4404
Bolts					304	1.4301	316	1.4401
Bars					304 L	1.4307	316 L	1.4404
Inner Steel Bridge (Lock)					304 L	1.4307	316 L	1.4404
Anchoring ring					302	1.4310	302	1.4310

OD	Range	Pressure		Dimensions					Bolts	
		PN bar	PS bar	A mm	B mm	D mm	E <sup>1</sup> mm	E <sup>2</sup> mm	Diam.	Tor. Nm
48.3	47.8 - 48.9	16	40	93	31	72	5	15	M 8	20
54.0	53.5 - 54.5	16	35	93	31	82	5	15	M 8	25
57.0	56.4 - 57.6	16	35	93	31	85	5	15	M 8	25
60.3	59.7 - 60.9	16	35	93	31	88	5	15	M 8	25
76.1	75.3 - 76.9	16	22	111	45	104	5	15	M 8	35
88.9	88.0 - 89.8	16	22	111	45	119	5	15	M 10	35
108.0	106.9 - 109.1	16	21	111	45	141	5	15	M 10	35
114.3	113.2 - 115.4	16	25	112	45	174	5	15	M 10	35
133.0	131.7 - 134.3	16	19	112	45	167	5	15	M 10	35
139.7	138.3 - 141.1	16	18	112	45	184	5	15	M 10	35
154.0	152.4 - 155.6	16	18	113	45	188	5	15	M 10	35
159.0	157.4 - 160.6	16	18	113	45	193	5	15	M 10	35
168.3	166.6 - 170.0	16	18	113	45	202	5	15	M 10	35
219.1	216.9 - 221.3		16	142	86	255	15	35	M 12	65
244.5	242.0 - 247.0		9	142	86	280	15	35	M 12	65
267.0	264.5 - 269.5		8	142	86	303	15	35	M 12	65
273.0	270.5 - 275.5		8	142	86	309	15	35	M 12	65
323.0	320.5 - 327.0		6	142	86	360	15	35	M 12	65
355.6	352.0 - 359.0		6	142	86	391	15	35	M 12	65
406.4	402.5 - 410.5		5	142	86	441	15	35	M 12	65

E<sup>1</sup> Permitted gaps without internal band E<sup>2</sup> Permitted gaps with internal band Tor. Torque Value  
PN Nominal pressure for shipbuilding industry with safety factor ≥ 4 PS Working pressure OD Outside diameter

For the correct operation of the coupling, fitting instructions must be respected.

Sealing gasket: EPDM / NBR / Silicone

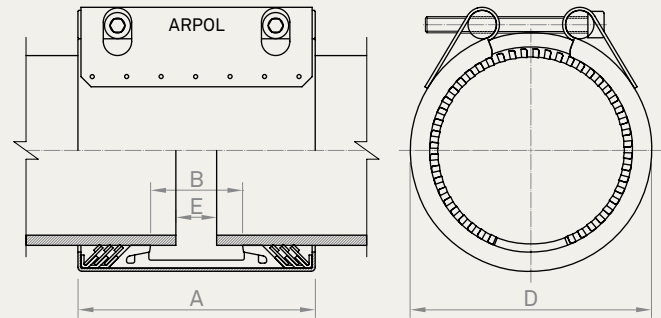
Test pressure = 1.5 x PS / PN

OD	Maximum diameter difference	Maximum angular deflection	Maximum misalignment
mm	mm	degrees	mm
48	0,5	4,0	1,0
50 - 60	1,0	4,0	1,0
76 - 104	1,5	4,0	1,0
106 - 154	2,5	4,0	1,0
159 - 219	2,5	2,0	2,0
244 - 406	2,5	2,0	3,0

See page 5 (Permitted tolerances)

## FOR POLYETHYLENE AND PVC PIPE

### Series FIX-U



It is necessary to place an inner ring inside the PE or PVC pipe to stiffen it and prevent the deformation and reduction of pipe diameters caused by temperature differentials.

	Quality W1		Quality W2		Quality W4		Quality W5	
	AISI	DIN	AISI	DIN	AISI	DIN	AISI	DIN
Casing					304 L	1.4307	316 L	1.4404
Bolts					304	1.4301	316	1.4401
Bars					304 L	1.4307	316 L	1.4404
Inner Steel Bridge (Lock)					304 L	1.4307	316 L	1.4404
Anchoring ring					302	1.4310	316 L	1.4404

OD	Range	Pressure		$\Delta T$ max			Max axial load			Dimensions					Bolts								
										PS bar	°C			kN			A mm	B mm	D mm	E <sup>1</sup> mm	E <sup>2</sup> mm	Diam.	Tor. Nm
											PS6	PS10	PS16	PS6	PS10	PS16							
63	62,0 - 64,0	10	16	40	30	7,5	9,5	99	31	85	5	15	M8	10									
75	74,0 - 76,0	10	16	40	30	10,6	13,5	117	31	97	5	15	M8	10									
90	89,0 - 91,0	10	16	40	30	15,2	19,4	117	31	112	5	15	M8	15									
110	108,0 - 111,0	10	16	40	30	22,7	29,0	117	45	132	5	15	M10	15									
125	123,0 - 126,0	10	16	40	30	29,4	37,5	118	45	149	5	15	M10	15									
140	138,0 - 142,0	10	16	40	30	36,9	47,0	118	45	164	5	15	M10	15									
160	158,0 - 162,0	10	16	40	30	48,1	61,4	118	45	184	5	15	M10	15									
180	178,0 - 182,0	6	10	16	40	20	15	40,6	43,3	51,5	201	95	217	10	35	M12	30						
200	198,0 - 203,0	6	10	16	40	20	15	50,2	53,4	63,6	201	95	237	10	35	M12	30						
225	222,0 - 227,0	6	10	16	40	20	15	63,5	67,6	80,4	201	95	262	10	35	M12	30						
250	247,0 - 253,0	6	10	16	40	20	15	78,4	83,4	99,3	201	95	287	10	35	M12	40						
280	277,0 - 283,0	6	10	16	40	20	15	98,4	104,7	124,6	201	95	317	10	35	M12	40						
315	311,0 - 317,0	6	10	40	20	124,5	132,5	201	95	352	10	35	M12	40									
355	351,0 - 357,0	6	10	40	20	158,1	168,3	201	95	392	10	35	M16	50									
400	396,0 - 402,0	6	10	40	15	200,8	192,0	201	95	437	10	35	M16	50									

E<sup>1</sup> Permitted gaps without internal band E<sup>2</sup> Permitted gaps with internal band PS Working pressure OD Outside diameter  $\Delta T$  Temperature differential Tor. Torque Value

OD	Maximum diameter difference	Maximum angular deflection	Maximum misalignment
mm	mm	degrees	mm
48	1,0	4,0	1,0
75 - 90	1,5	4,0	1,0
110 - 140	2,5	4,0	1,0
160 - 225	2,5	2,0	2,0
250 - 400	2,5	2,0	3,0

See page 5 (Permitted tolerances)

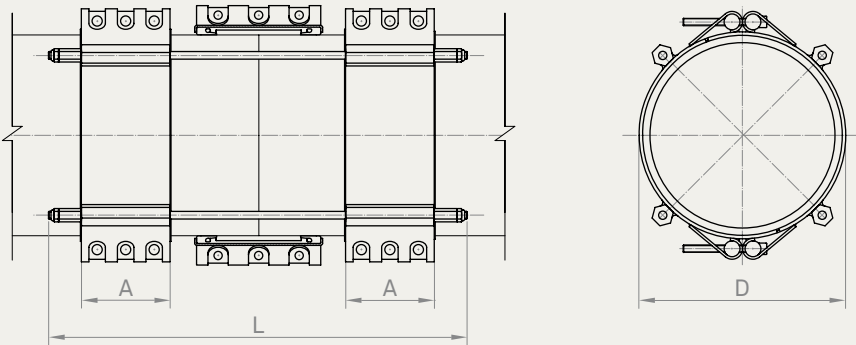
For the correct operation of the coupling, fitting instructions must be respected.

Sealing gasket: EPDM / NBR / Silicone

Test pressure = 1,25 x PS

**FOR POLYETHYLENE PIPE**

**Series MULTI-FIX**



It is necessary to place an inner ring inside the PE pipe to stiffen it and prevent the deformation and reduction of pipe diameters caused by temperature differentials.

This anchoring set requires a specialized installation process, please see the fitting instruction before choosing this product.

	Quality W1		Quality W2		Quality W4		Quality W5	
	AISI	DIN	AISI	DIN	AISI	DIN	AISI	DIN
Casing					304 L	1.4307	316 L	1.4404
Bolts					304	1.4301	316	1.4401
Bars					304 L	1.4307	316 L	1.4404
Restraining rod					304	1.4301	316	1.4401
Anchoring band					304 L	1.4307	316 L	1.4404

OD mm	Pressure PS bar			ΔT max °C			Max axial load kN			Dimensions						Restraining rod						
										A mm			L mm			D mm	Diam.			Quantity		
	PS6	PS10	PS16	PS6	PS10	PS16	PS6	PS10	PS16	PS6	PS10	PS16	PS6	PS10	PS16		PS6	PS10	PS16			
315	6	10	16	40	40	40	125	186	278	140	140	200	645	677	829	326	M12	M16	M16	4	4	4
355	6	10	16	40	40	40	158	237	353	140	140	200	645	677	829	366	M12	M16	M16	4	4	4
400	6	10	16	40	40	40	201	301	500	140	200	200	677	809	829	411	M16	M16	M20	4	4	4
450	6	10	16	40	40	40	254	382	567	140	200	200	677	829	829	461	M16	M16	M20	4	4	6
500	6	10		40	40		314	470		140	200		677	829		511	M16	M20		6	6	
560	6	10		40	40		393	589		140	200		677	829		571	M16	M20		6	6	
630	6	10		40	40		498	746		200	200		829	829		641	M20	M20		6	6	
710	6	10		40	30		633	810		200	200		829	829		722	M20	M20		6	8	
800	6	10		40	25		803	941		200	200		829	829		816	M20	M20		8	8	
900	6	10		40	20		1016	1081		200	200		829	829		916	M20	M20		9	9	
1000	6	10		40	15		1255	1200		200	200		829	829		1016	M24	M24		9	9	

PS Working pressure OD Outside diameter ΔT Temperature differential

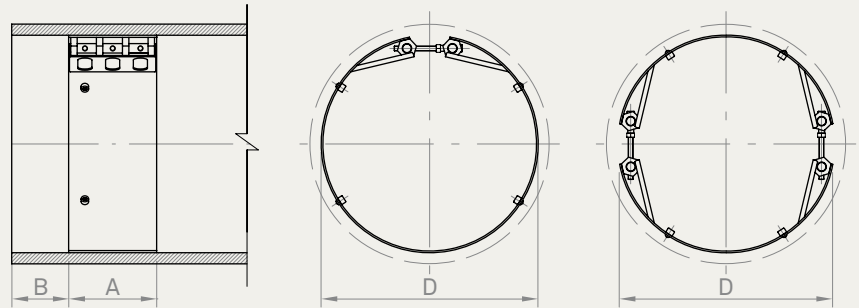
For the correct operation of the coupling, fitting instructions must be respected.

Test pressure = 1,25 x PS

The Arpol MULTI-FIX is the anchoring set only. The sealing coupling in the middle can be an Arpol INSTAL or Arpol REP.

## INSIDE STIFFENER FOR ARPOL MULTI-FIX

### Series MULTI-FIX



It is necessary to place an inner ring inside the PE pipe to stiffen it and prevent the deformation and reduction of pipe diameters caused by temperature differentials.

This anchoring set requires a specialized installation process, please see the fitting instruction before choosing this product.

	Quality W1		Quality W2		Quality W4		Quality W5	
	AISI	DIN	AISI	DIN	AISI	DIN	AISI	DIN
Casing					304 L	1.4307	316 L	1.4404
Bolts					304	1.4301	316	1.4401
Bars					304 L	1.4307	316 L	1.4404

OD mm	Dimensions				
	A mm	B mm	D mm		
			SDR 26	SDR 17	SDR 11
315	200	140	291	278	258
355	200	140	328	313	290
400	200	140	369	353	327
450	200	140	415	397	368
500	200	140	462	441	409
560	200	140	517	494	458
630	200	140	582	556	515
710	200	140	655	626	581
800	200	140	738	706	655
900	200	140	831	794	736
1000	200	140	923	882	818

**OD** Outside diameter    **SDR** Standard Dimension Ratio, ratio of outside diameter to wall thickness

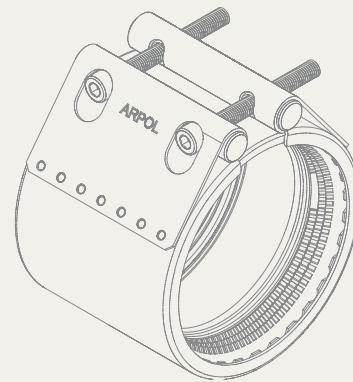
For the correct operation of the coupling, fitting instructions must be respected.

## APPLICATION

### FIX-U



- Anchoring installation in a polyethylene manhole.

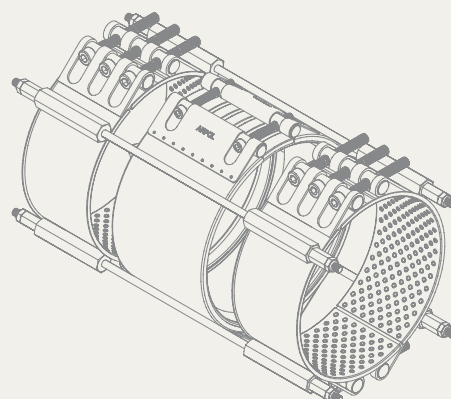


- Anchoring repair of a polyethylene pipe.

### MULTI-FIX

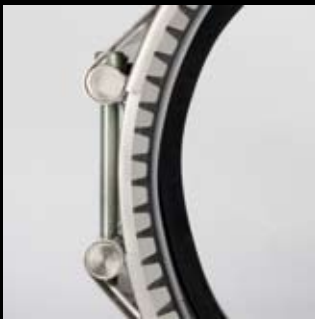


- Anchoring installation of a polyethylene line for a mine water extraction.



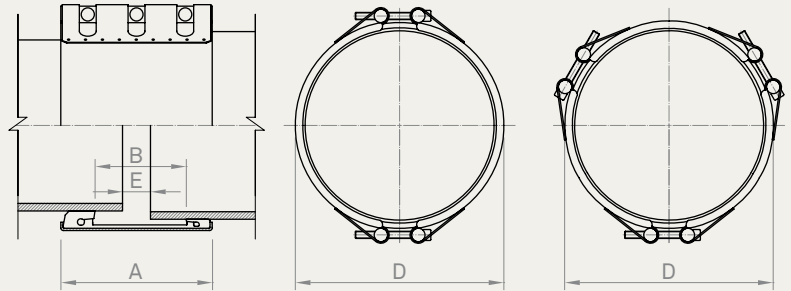
# TRANS

FLEXIBLE COUPLINGS FOR CONNECTING PIPES WITH  
**DIFFERENT OUTSIDE DIAMETER**





## Series TRANS



See dimensions on page 22. Series IBZR to IGZR

	Quality W1		Quality W2		Quality W4		Quality W5	
	AISI	DIN	AISI	DIN	AISI	DIN	AISI	DIN
Casing			304 L	1.4307	304 L	1.4307	316 L	1.4404
Bolts			1035	1.5511	304	1.4301	316	1.4401
Bars			1045	1.0503	304 L	1.4307	316 L	1.4404
Inner Steel Bridge (Lock)			304 L	1.4307	304 L	1.4307	316 L	1.4404

OD mm	TRANS 5				TRANS 10				TRANS 20				TRANS 30			
	2 locks		3 locks		2 locks		3 locks		2 locks		3 locks		2 locks		3 locks	
	$\Delta \emptyset$ min	$\Delta \emptyset$ max	$\Delta \emptyset$ min	$\Delta \emptyset$ max	$\Delta \emptyset$ min	$\Delta \emptyset$ max	$\Delta \emptyset$ min	$\Delta \emptyset$ max	$\Delta \emptyset$ min	$\Delta \emptyset$ max	$\Delta \emptyset$ min	$\Delta \emptyset$ max	$\Delta \emptyset$ min	$\Delta \emptyset$ max	$\Delta \emptyset$ min	$\Delta \emptyset$ max
47 - 159	consult															
160 - 230	2	10														
230 - 250	2	10	2	11												
251 - 299	2	10	2	11	5	15	4	16	15	25	14	26				
300 - 349	2	10	2	11	5	15	4	16	15	25	14	26	25	35	24	36
350 - 499	2	10	2	12	5	15	3	17	15	25	13	27	25	35	23	37
>500	2	11	2	13	4	16	2	18	14	26	12	28	24	36	22	38

DN Nominal diameter OD Outside diameter  $\Delta \emptyset$  min minimum difference between outside diameters  $\Delta \emptyset$  max maximum difference between outside diameters

OD mm	Maximum angular deflection degrees	Maximum misalignment mm
47 - 159	4,0	0,5
160 - 500	2,0	2,0

See page 5 (Permitted tolerances)

Working pressure up to 10 bar.

For the correct operation of the coupling, fitting instructions must be respected.

Nominal diameters serve as guidance of the pressure scale. All measures within the DN range are manufactured.

Sealing gasket: EPDM / NBR

Test pressure = 1.5 x PS

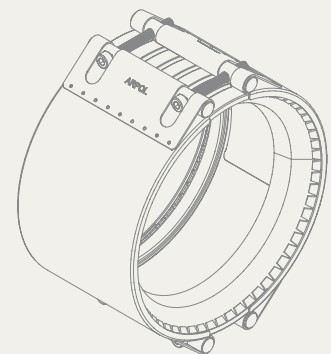


## APPLICATION

### TRANS



■ Connection of a polyester pipe with a steel pipe of a different outside diameter, at the entrance and exit of a collection box.



■ Repair of a polyester pipe with a cast iron piece of a different outside diameter.

## TOOLS



### FITTING

To correctly fit the couplings, Uniones Arpol recommends the following tools:

- torque wrench
- set of Allen spears



The information contained herein may include inaccuracies or typographical errors. In addition, changes are periodically made to this information. Uniones Arpol may make such changes to this information at any time without notice to the user.

ARPOL **INSTAL**

ARPOL **REP**

ARPOL **FIX**

ARPOL **TRANS**



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