

PROTECTA-LINE

MECHANICAL FITTINGS

For total peace of mind



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Fast, reliable and secure connections for contaminated land

Protecta-Line, the UK market leading barrier pipe system, has been protecting drinking water supply in contaminated land for over 15 years. The latest addition to the range, Protecta-Line Mechanical Fittings, offers the same trusted reliability without the need for pipe end preparation or welding.

For drinking water distribution in contaminated land and sites with potential future contamination, Protecta-Line Mechanical Fittings create reliable connections with a quick and simple mechanical action. Just push pipe ends over an insert liner, slide a stainless steel shell over the pipe ends and tighten with a torque wrench. No pipe end preparation and specialist tooling is required. So, for situations where barrier pipes cannot be joined by butt-fusion or electrofusion, jointing just got a whole lot easier!



Features

- Accommodate up to 5° of pipe misalignment
- Supplied as a full set of liner insert and outer shells
- Corrosion resistant stainless steel construction
- Insert liners made from carbon steel, coated with WRAS approved Rilsan (0910504)
- Shells made from highest quality 316L stainless steel
- Shell bolts made from A4-80 stainless steel
- Unique fully end load bearing shell design with patent pending compression mechanism
- Lighter in weight than Fluid Compression Fittings

Benefits

- Full barrier performance (WIS 4-32-19)
- Fully end load bearing (WIS 4-24-01 Type 1)
- Fast and easy repairs – less disruption to water supply
- No pipe end preparation or welding required
- Only a torque wrench with an Allen (hex) bit socket is required. No need for specialist tooling (eg. hydraulic pump)
- No external power supply required – reduced health & safety risk
- Fast and easy all weather jointing by a single installer
- No need for elastomeric seals



Design

The unique fitting design (patent pending) incorporates a stainless steel shell, which is highly resistant to corrosion. The shell mechanically swages Protecta-Line pipe onto the insert liner grooves to give a perfect fully end load bearing joint without the need for elastomeric seals.

Ease of Installation

Light weight and with a low profile, the fittings are easy to handle and can be installed in the tightest of spaces by a single installer. They are supplied ready to install and a torque wrench is the only tool required to do the job. The shell of the fitting can be rotated into the optimum position – bolt access is only necessary from one side.

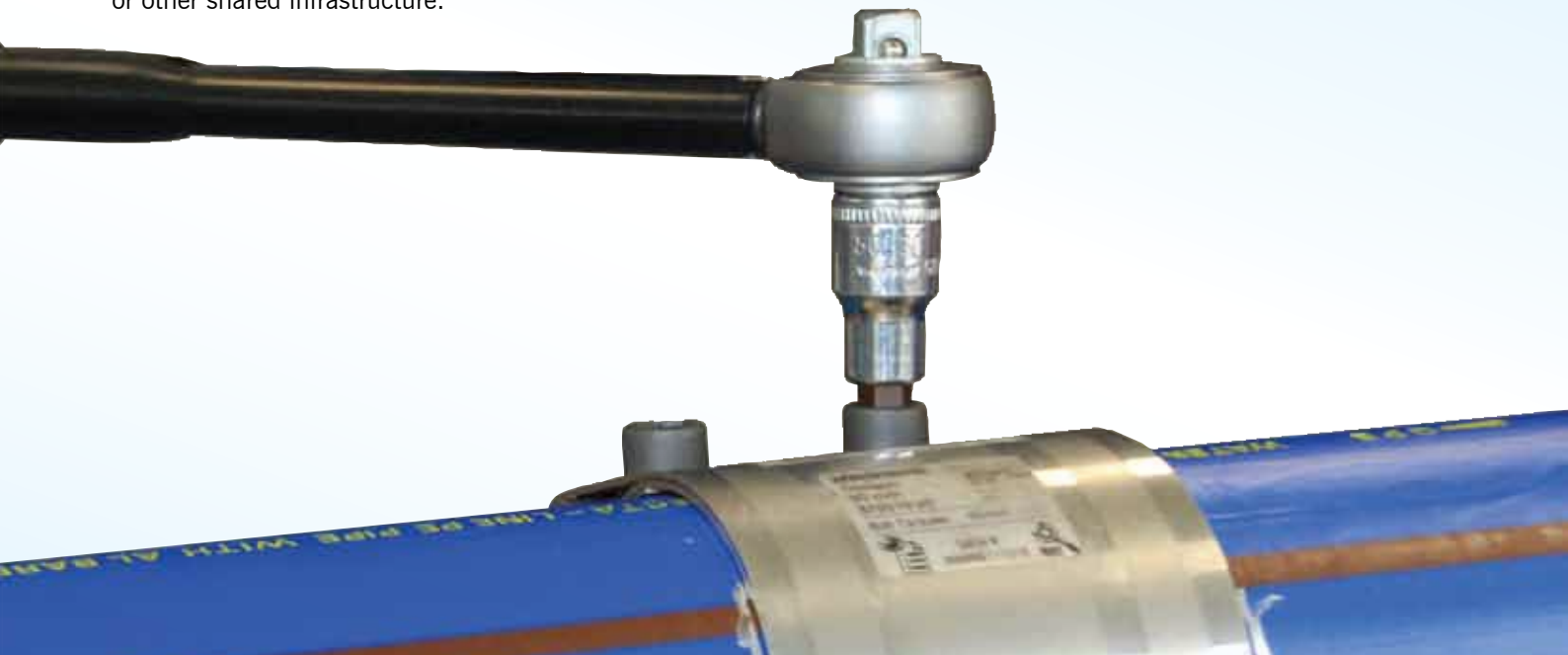


Proven Complete Barrier Protection

Protecta-Line Mechanical Fittings provide full barrier performance. They have been independently shown to meet the requirements of WIS 4-32-19 without any need for pipe end preparation or protective wrapping (test report is available).

Fast Pipe Repairs

One of the main advantages of Protecta-Line Mechanical Fittings is their ease and speed of use, even under adverse conditions. This means a short downtime for repair, renovation and maintenance of vital water infrastructure and less disruption to road traffic or other shared infrastructure.



Fitting Range	LINER INSERT	SUPPLIED WITH	OUTER SHELL
Coupler		+ 1x	 Full shell
Repair Coupler		+ 2x	 Half shell
Reducer		+ 2x	 Half shell
90° Elbow		+ 2x	 Half shell
45° Elbow		+ 2x	 Half shell
Equal Tee		+ 3x	 Half shell
Flanged Branch Tee		+ 2x	 Half shell
Duck Foot Bend		+ 1x	 Half shell
Flange Adaptor		+ 1x	 Half shell

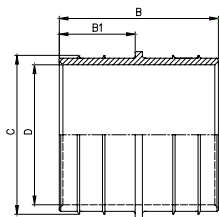
Joining instructions are supplied with fittings and also referenced in our Protecta-Line Product & Technical Guide.

Only Protecta-Line fittings shall be used with Protecta-Line pipe. The use of alternative fittings will have the following effects on your Protecta-Line system:

- Compromised permeation resistance (causing non-compliance with WIS 4-32-19 and possible risks to health).
- Danger of pipe-layer delamination, compromising system performance integrity and risking pipe bursts.

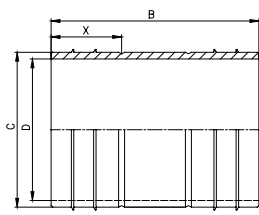
Product Codes and Dimensions

Couplers



Size (mm)	SDR	B (mm)	B1 (mm)	C (mm)	D (mm)	Weight (kg)	Code
63	11	95.0	45.0	49.5	41.0	1.5	PM 110 311
90	11	95.0	45.0	71.0	62.0	2.0	PM 100 313
110	11	110.0	52.5	87.5	76.0	2.6	PM 100 314
125	17	110.0	52.5	108.0	95.0	3.0	PM 109 315
160	17	110.0	52.5	138.5	124.5	4.3	PM 109 317
180	17	110.0	52.5	156.0	139.0	4.8	PM 109 318

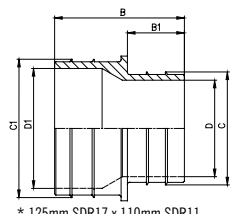
Repair Couplers



Other repair liner lengths may be available on request

Size (mm)	SDR	B (mm)	X (mm)	C (mm)	D (mm)	Weight (kg)	Code
63	11	195.0	47.5	49.5	40.0	1.0	PM 246 311
90	11	195.0	47.5	71.0	61.0	2.4	PM 246 313
110	11	210.0	55.0	87.5	75.0	3.0	PM 246 314
125	17	210.0	55.0	108.0	94.0	4.3	PM 245 315
160	17	210.0	55.0	138.5	123.5	6.0	PM 245 317
180	17	210.0	55.0	156.0	140.0	7.0	PM 245 318

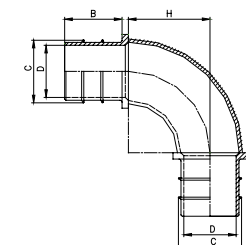
Reducers



* 125mm SDR17 x 110mm SDR11

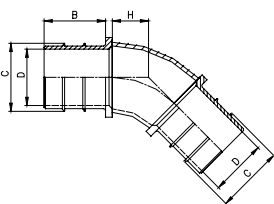
Size (mm)	SDR	B (mm)	B1 (mm)	C (mm)	C1 (mm)	D (mm)	D1 (mm)	Weight (kg)	Code
90x63	11	95.0	45.0	49.5	71.0	41.0	62.0	2.0	PM 441 459
110x90	11	102.5	45.0	71.0	87.5	62.0	76.0	2.5	PM 441 483
125x110*	17/11	110.0	52.5	87.5	99.5	76.0	86.5	3.2	PM 440 493
160x125	17	110.0	52.5	108.0	138.5	95.0	124.5	4.8	PM 440 504
180x125	17	110.0	52.5	108.0	156.0	95.0	139.0	6.0	PM 440 505

90° Elbows



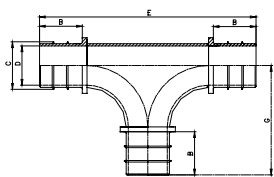
Size (mm)	SDR	B (mm)	C (mm)	D (mm)	H (mm)	Weight (kg)	Code
63	11	45.0	49.5	41.0	64.0	2.1	PM 209 311
90	11	45.0	71.0	62.0	92.0	3.4	PM 210 313
110	11	52.5	87.5	76.0	117.0	4.4	PM 210 314
125	17	52.5	108.0	95.0	142.0	5.8	PM 208 315
160	17	52.5	138.5	124.5	190.0	10.1	PM 208 317
180	17	52.5	156.0	139.0	216.0	11.5	PM 208 318

45° Elbows



Size (mm)	SDR	B (mm)	C (mm)	D (mm)	H (mm)	Weight (kg)	Code
63	11	45.0	49.5	41.0	27.0	1.8	PM 215 311
90	11	45.0	71.0	62.0	38.0	2.6	PM 216 313
110	11	52.5	87.5	76.0	48.0	3.6	PM 216 314
125	17	52.5	108.0	95.0	59.0	4.7	PM 214 315
160	17	52.5	138.5	124.5	79.0	7.2	PM 214 317
180	17	52.5	156.0	139.0	89.0	8.3	PM 214 318

Equal Tees

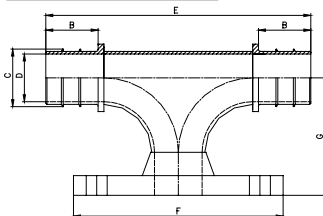


Size (mm)	SDR	B (mm)	C (mm)	E (mm)	E (mm)	G (mm)	Weight (kg)	Code
63	11	45.0	49.5	41.0	214.0	57.0	2.9	PM 221 311
90	11	45.0	71.0	62.0	252.0	76.0	5.2	PM 222 313
110	11	52.5	87.5	76.0	287.0	93.5	6.5	PM 222 314
125	17	52.5	108.0	95.0	325.0	105.0	8.2	PM 220 315
160	17	52.5	138.5	124.5	363.0	124.0	10.8	PM 220 317
180	17	52.5	156.0	140.0	401.0	143.0	12.6	PM 220 318

All items are supplied as a full set of liner insert and outer shell(s). Bolts and gaskets are not included. Weights shown are for the complete product.

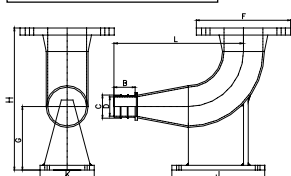
Product Codes and Dimensions

Flanged Branch Tees



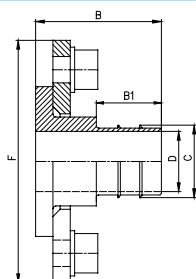
Size (mm x PN)	SDR	Bolts, Qty	Torque (NM ± 10%)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Weight (kg)	Code
90xDN80PN16	11	M16, 8x	70	45.0	71.0	62.0	272.0	200.0	186.0	6.7	PM 351 313
110xDN80PN16	11	M16, 8x	70	52.5	87.5	76.0	287.0	200.0	136.0	8.3	PM 351 314
90xDN100PN16	11	M16, 8x	80	45.0	71.0	62.0	310.0	220.0	207.0	7.7	PM 352 313
110xDN100PN16	11	M16, 8x	80	52.5	87.5	76.0	325.0	220.0	207.0	9.3	PM 352 314
125xDN80PN16	17	M16, 8x	70	52.5	108.0	95.0	287.0	200.0	136.0	9.5	PM 363 315
160xDN80PN16	17	M16, 8x	70	52.5	138.5	124.5	287.0	200.0	186.0	12.7	PM 363 317
180xDN80PN16	17	M16, 8x	70	52.5	156.0	140.0	282.0	200.0	186.0	14.0	PM 363 318
125xDN100PN16	17	M16, 8x	80	52.5	108.0	95.0	385.0	220.0	157.0	10.5	PM 364 315
160xDN100PN16	17	M16, 8x	80	52.5	138.5	124.5	325.0	220.0	207.0	13.7	PM 364 317
180xDN100PN16	17	M16, 8x	80	52.5	156.0	140.0	325.0	220.0	207.0	15.0	PM 364 318
160xDN150PN16	17	M20, 8x	120	52.5	138.5	124.5	401.0	285.0	248.0	13.8	PM 365 317
180xDN150PN16	17	M20, 8x	120	52.5	156.0	140.0	401.0	285.0	198.0	18.1	PM 365 318

Duck Foot Bends



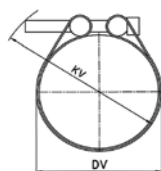
Size (mm x PN)	SDR	Bolts, Qty	Torque (NM ± 10%)	B (mm)	C (mm)	D (mm)	E (mm)	G (mm)	H (mm)	J (mm)	K (mm)	L (mm)	Weight (kg)	Code
63xDN80 PN 16	11	M16, 8x	70	45.0	49.5	41.0	200.0	135.0	302.0	152.0	90.0	275.0	6.8	PM 384 459
90xDN80 PN 16	11	M16, 8x	70	45.0	71.0	62.0	200.0	135.0	302.0	152.0	115.0	235.0	7.3	PM 384 313
110xDN80 PN 16	11	M16, 8x	70	52.5	87.5	76.0	200.0	135.0	302.0	152.0	130.0	230.5	8.0	PM 384 483
125xDN80 PN 16	17	M16, 8x	70	52.5	108.0	95.0	200.0	135.0	302.0	152.0	150.0	242.5	8.7	PM 385 484
160xDN80 PN 16	17	M16, 8x	70	52.5	138.5	124.5	200.0	135.0	302.0	152.0	180.0	309.5	10.0	PM 385 486
180xDN80 PN 16	17	M16, 8x	70	52.5	156.0	140.0	200.0	135.0	302.0	152.0	200.0	346.5	10.9	PM 385 487

Stub Flange Adaptors

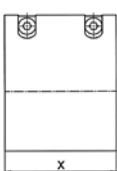


Size (mm x PN)	SDR	Bolts, Qty	Torque (NM ± 10%)	B (mm)	C (mm)	D (mm)	B1 (mm)	E (mm)	Weight (kg)	Code
63xDN50PN16	11	M16, 4x	60	83.0	49.5	41.0	45.0	165.0	2.4	PM 227 311
63xDN80xPN16	11	M16, 8x	70	85.0	49.5	41.0	45.0	202.0	3.6	PM 228 311
90xDN80PN16	11	M16, 8x	70	85.0	71.0	62.0	45.0	202.0	3.8	PM 228 313
110xDN100PN16	11	M16, 8x	80	92.5	87.5	76.0	52.5	220.0	5.2	PM 228 314
125xDN100PN16	17	M16, 8x	80	92.50	108.00	95.00	52.50	222.00	4.10	PM 226 315
160xDN150PN16	17	M20, 8x	120	104.50	138.50	124.50	52.50	286.00	9.10	PM 226 317
180xDN150PN16	17	M20, 8x	120	104.50	156.00	139.00	52.50	286.00	7.70	PM 226 318

Outer Shells



full sized shell



half sized shell

OD (mm)	DV (mm)	KV (mm)	X (mm)	Y (mm)	Hex Size (mm)	Bolts	Torque (NM)
63	64.0	94.0	95.0	47.5	10	M12	50
90	94.0	120.0	95.0	47.5	10	M12	60
110	113.0	139.0	110.0	55.0	10	M12	60
125	129.0	155.0	110.0	55.0	10	M12	60
160	165.0	188.0	110.0	55.0	14	M16	150
180	184.0	216.0	110.0	55.0	14	M16	160

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