

AquaShield®

Couplings & Flange Adaptors

RANGE
EXTENDED

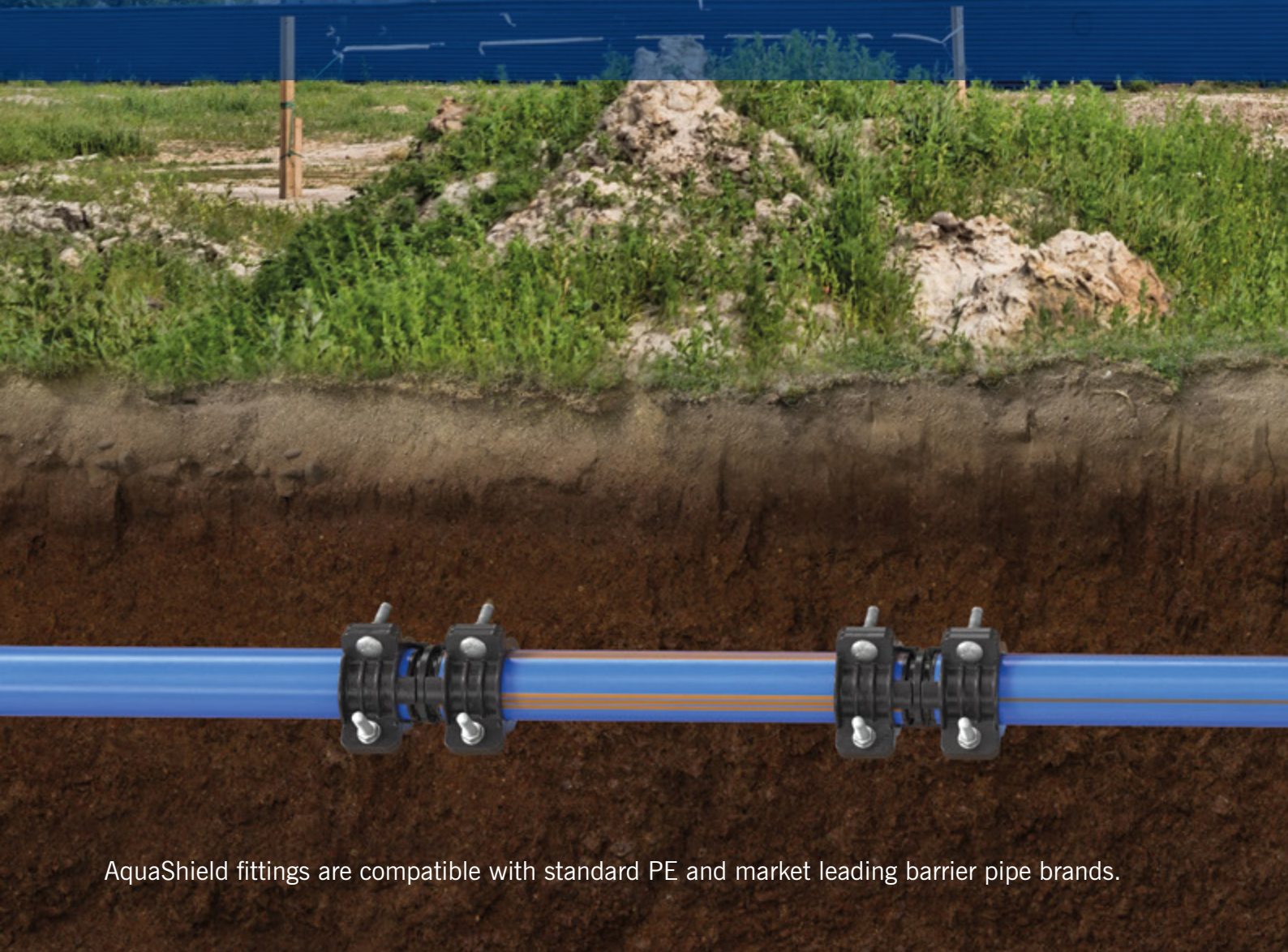


AquaShield® - Universal Fittings For Barrier Pipes
DN90 / DN125 / DN180

Brownfield Sites

Brownfield sites gained political significance after the UK government set a national target in February 1998 to ensure 60 per cent of all new housing developments were to be built on brownfield land. This land had been previously developed for industrial or commercial purposes and may have also been contaminated owing to its prior use.

Brownfield development is preferable to building on the green belt and has been reinforced as established government planning policy in subsequent years especially with the growing demand to encourage and support sustainable solutions.



AquaShield fittings are compatible with standard PE and market leading barrier pipe brands.

AquaShield® - Unique Fittings for Barrier Pipe Connections

Consequently, there has been a demand for barrier pipe and the connections required between pipework to protect water supplies for households and businesses from possible contamination.

However, up until now a key unsolved client issue has been that no independently certified solution for joining pipe systems from different manufacturers is available.

And although connections can be made by electrofusion this often involves heavy and expensive equipment and trained operators. **This is where AquaShield® can help.**



The AquaShield® Solution

AquaShield® is a non-permeable universal fitting, available as a coupling or a flange adaptor to be used on new installations and repairs to connect different barrier pipe systems reliably.

These fittings prevent contaminants entering water networks by sealing the barrier pipe from within while keeping the outer layer of the barrier pipe intact. It can also be used as a transition to a standard PE water network.

AquaShield® is rated to 16 bar working pressure and has a unique gripping mechanism offering WIS 4-24-01 type-1 end load restraint which means the pipe will fail before the fitting.



Unique Gripping Technology

AquaShield® forms a leak-tight seal without the need for a gasket simply by torquing up the bolts. The spigot profile design ensures a firm and secure connection is made from inside the pipe.

AquaShield® Universal Fitting Examples for Barrier Pipes

AquaShield® can be used to connect barrier pipes from different manufacturers*. See examples below:-

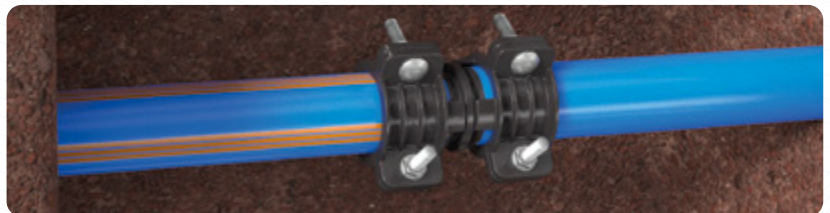
AquaShield® Couplings are compatible to connect two PURITON® barrier pipes.



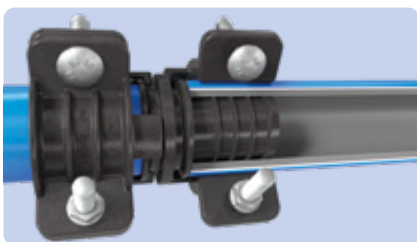
AquaShield® Couplings are compatible to connect PROTECTA-LINE® to PURITON® barrier pipe.



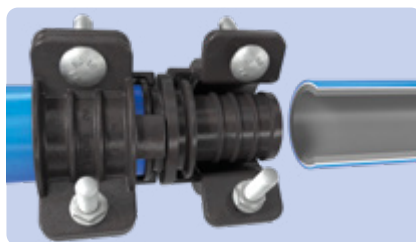
AquaShield® Couplings are compatible to connect SLA® to standard PE pipe.



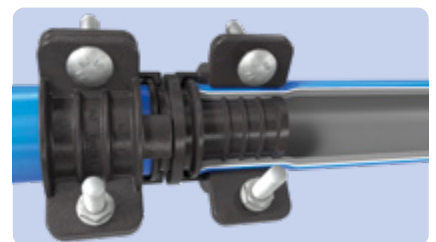
AquaShield® Flange Adaptors are compatible to connect all barrier pipe brands stated in the data sheet. Below is an example of connection between PROTECTA-LINE®, valve and PE pipe.



1. Loosen bolts slightly and slide pipe on



2. Push pipe on to spigot and check is visible in indicator window



3. Tighten bolts sequentially and incrementally

Couplings & Flange Adaptors

Product Design Benefits

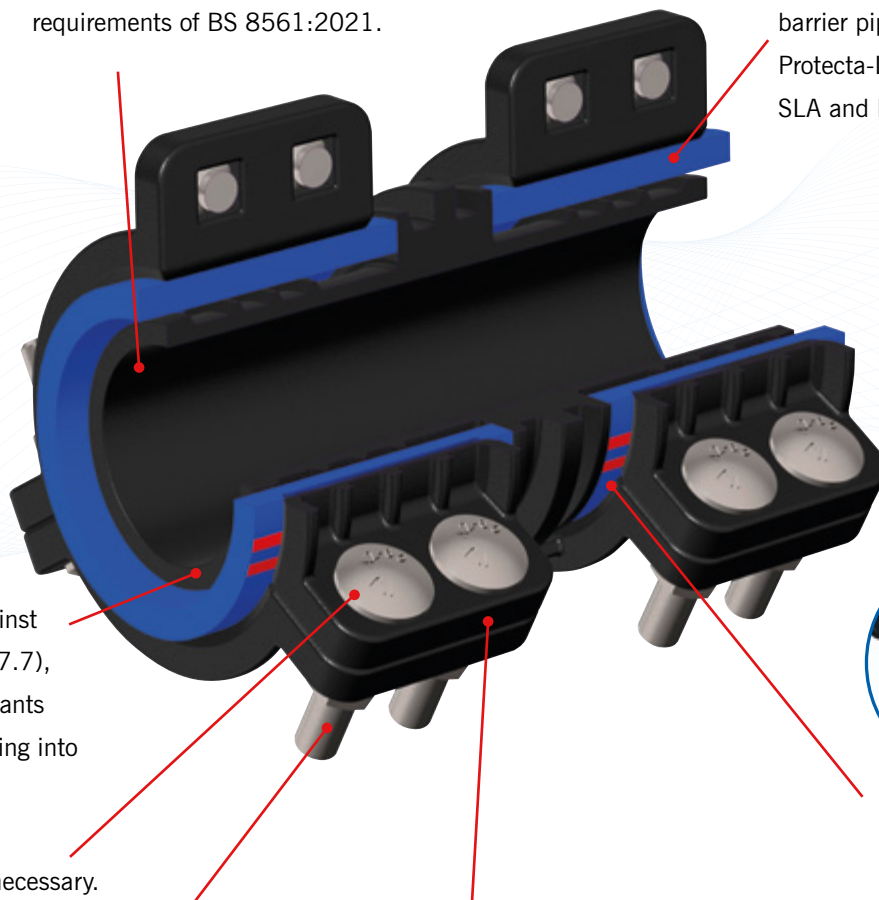
AquaShield® is simple to install and comes preassembled with captive and reversible stainless steel bolts, which makes it quick and easy to slide onto the pipe and tighten up with only a single spanner or a wrench. There is no requirement for pipe surface preparation and no need to wrap after installation. Fittings have a 50 year design life expectancy and have been independently tested and approved to BS 8561:2021 and certified by WRc and RINA for permeation against contaminants as per BS 8588:2017 (section 7.7).



Long life Protection
50 year design life expectancy is assured through accelerated ageing tests that simulates the life cycle of the product.

Fully restrained, Type-1 fitting designed to meet the performance requirements of BS 8561:2021.

Universal fitting that interconnects all major barrier pipe brands including Protecta-Line, Puriton, SLA and PE 100.



Independently tested against BS 8588:2017 (section 7.7), which prevents contaminants from the ground penetrating into the water supply.

No secondary re-torque necessary.

Visual indicator for correct installation.

Stainless steel nuts and bolts coated with dry film lubricant, which provides long term corrosion protection.

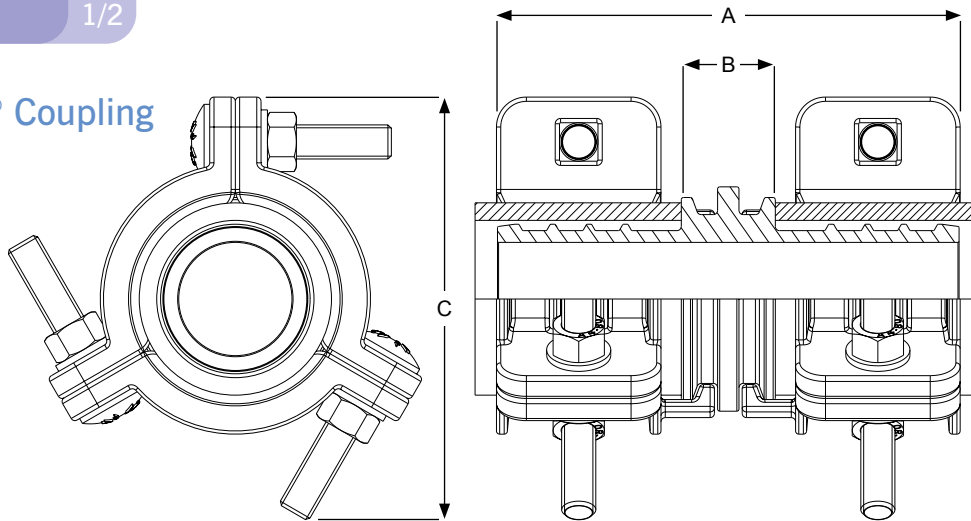
As with all Viking Johnson products, AquaShield® utilises Rilsan: a bio coating made from castor oil which is highly protective and environmentally sustainable.



AquaShield® Flange Adaptor

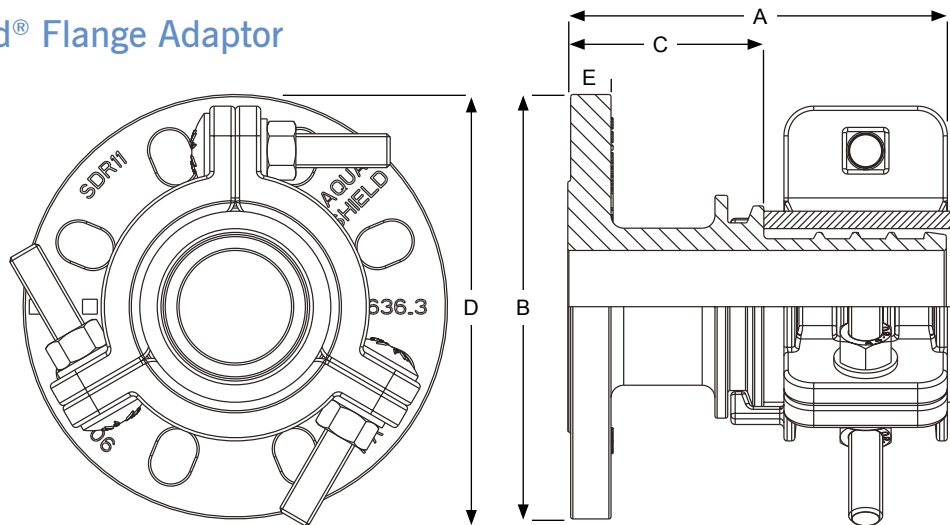
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AquaShield® Coupling



| Pipe OD | SDR Rating | Dimensions (mm) | | | Clamp Band Bolts | | Weight (kg) |
|---------|------------|-----------------|----|-----|------------------|------------|-------------|
| | | A | B | C | No. of Bolts | Bolts size | |
| 90 | 11 | 217 | 45 | 198 | 6 | M16 x 80 | 10.2 |
| 90 | 17 | 217 | 45 | 198 | 6 | M16 x 80 | 10.2 |

AquaShield® Flange Adaptor



| Pipe OD | SDR Rating | Flange Drilling | | Dimensions (mm) | | | | | Clamp Band Bolts | | Weight (kg) |
|---------|------------|-----------------|-------------------------------|-----------------|-----|----|-----|-------|------------------|------------|-------------|
| | | Nom (DN) | Metric Drilling Specification | A | B | C | D | E | No. of Bolts | Bolts size | |
| 90 | 11 | DN65 / DN80 | PN10 / 16 | 179 | 200 | 93 | 198 | 20.34 | 3 | M16 x 80 | 9.9 |
| 90 | 17 | DN65 / DN80 | PN10 / 16 | 179 | 200 | 93 | 198 | 20.34 | 3 | M16 x 80 | 9.9 |

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Technical Information

Working Pressure Rating

Water 16 bar

Gas not approved

Vacuum Pressure

Capable of accommodating a vacuum pressure of -0.8 bar

Site Test Pressure

1.5 times working pressure for short duration (2 hours)

Pipe Material

Compatible† with following barrier pipe materials:-

- GPS Protecta-Line
- Radius Puriton
- Egeplast SLA

In addition, works on standard PE 100 Pipe to BS EN 12001:2011/2012

In all cases the SDR rating must be either 11 or 17.

Angularity

Not Applicable

Bolt Torque/Spanner

Torque 200-210Nm on every bolt

Spanner size A/F 24mm

Temperature Rating of Product

-20°C to +40°C

For optimal installation temperature, please refer to the installation manual.

End Load Due to Internal Pressure

AquaShield® fully restrained fitting, designed to meet the performance requirements of WIS 4-24-01 Type 1 and BS 8561:2021.

Approvals

The following water contact materials used in AquaShield® are approved for use with potable water:-

Rilsan Nylon 11:

- WRAS, AS/NZS 4020, DVGW, W270, ACS & KIWA

Permeation test in accordance with BS 8588:2017 (section 7.7) conducted and independently verified by RINA test laboratory.

Verification of compliance with BS 8561:2021 and BS 8588:2017 (section 7.7) by Water Research Centre (WRc).

KIWA UK Reg4 Approval (Pending).

Materials & Relevant Standards

Coupling, Flange Adaptor & Clamp Bands

SG Iron to BS EN 1563 Symbol EN-GJS-450-10

Bolts

Stainless Steel grade A2-70

Nuts

Stainless Steel grade A4-80

Coatings:

Cast/Metal Components:

- Rilsan Nylon 11 (Black)

Bolts and Nuts:

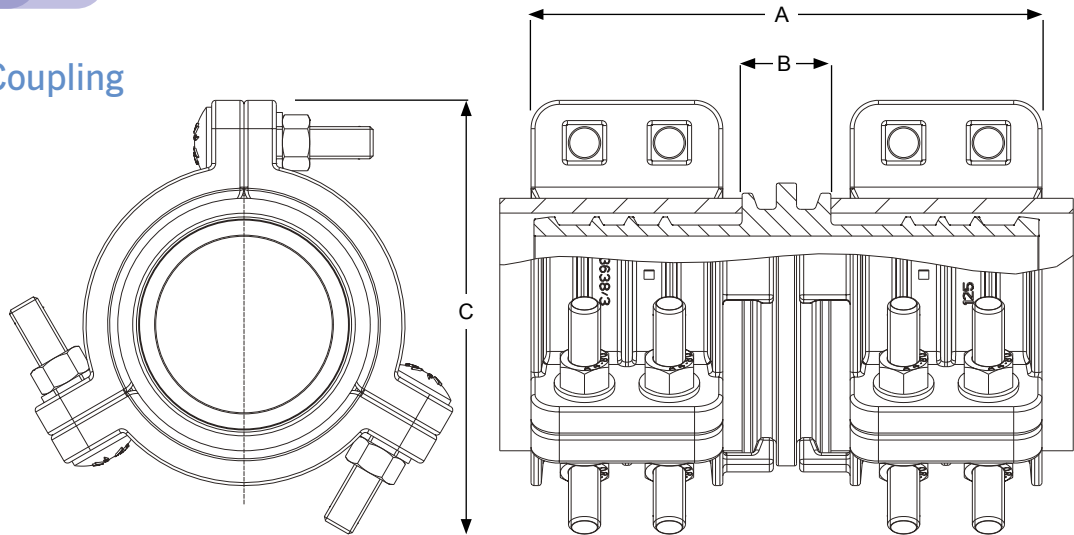
- Delta Seal Silver GZ

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† Relevant tests have been conducted and certifications obtained in accordance with BS 8588:2017 (section 7.7) and BS 8561:2021 for the barrier pipe materials listed above.

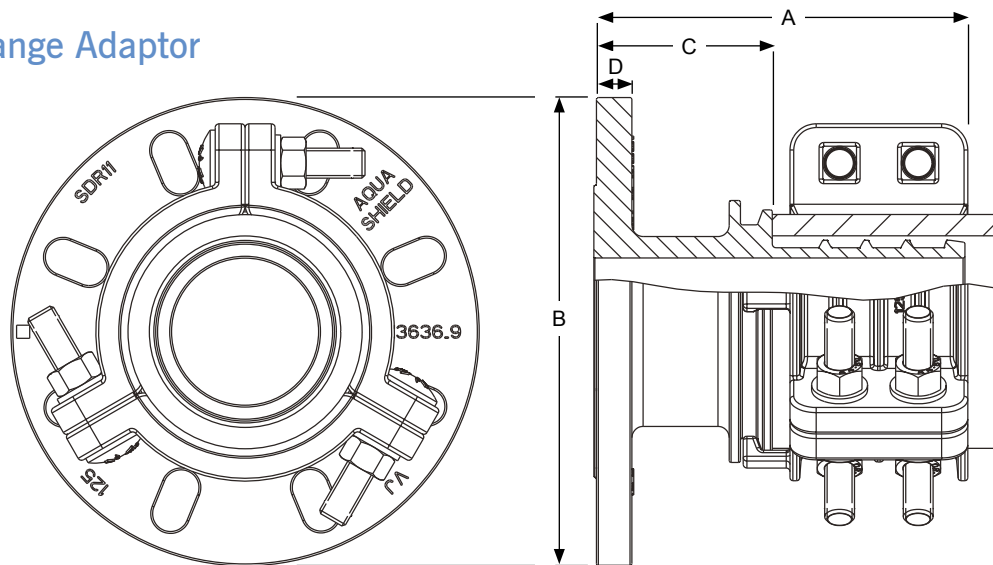
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AquaShield® Coupling



| Pipe OD | SDR Rating | Dimensions (mm) | | | Clamp Band Bolts | | Weight (kg) |
|---------|------------|-----------------|----|-----|------------------|------------|-------------|
| | | A | B | C | No. of Bolts | Bolts size | |
| 125 | 11 | 253 | 44 | 221 | 12 | M16 x 80 | 17.2 |
| 125 | 17 | 253 | 44 | 221 | 12 | M16 x 80 | 17.2 |

AquaShield® Flange Adaptor



| Pipe OD | SDR Rating | Flange Drilling | | Dimensions (mm) | | | | Clamp Band Bolts | | Weight (kg) |
|---------|------------|-----------------|-------------------------------|-----------------|-----|----|------|------------------|------------|-------------|
| | | Nom (DN) | Metric Drilling Specification | A | B | C | D | No. of Bolts | Bolts size | |
| 125 | 11 | DN100 / DN125 | PN10 / 16 | 250 | 200 | 95 | 20.3 | 6 | M16 x 80 | 16.1 |
| 125 | 17 | DN100 / DN125 | PN10 / 16 | 250 | 200 | 95 | 20.3 | 6 | M16 x 80 | 16.1 |

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Vacuum Pressure

Capable of accommodating a vacuum pressure of -0.8 bar

Site Test Pressure

1.5 times working pressure for short duration (2 hours)

Pipe Material

Compatible† with following barrier pipe materials:-

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- Radius Puriton
- Egeplast SLA

In addition, works on standard PE 100 Pipe to BS EN 12001:2011/2012

In all cases the SDR rating must be either 11 or 17.

Angularity

Not Applicable

Bolt Torque/Spanner

Torque 200-210Nm on every bolt

Spanner size A/F 24mm

Temperature Rating of Product

-20°C to +40°C

For optimal installation temperature, please refer to the installation manual.

End Load Due to Internal Pressure

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Materials & Relevant Standards

Coupling, Flange Adaptor & Clamp Bands

SG Iron to BS EN 1563 Symbol EN-GJS-450-10

Bolts

Stainless Steel grade A2-70

Nuts

Stainless Steel grade A4-80

Coatings:

Cast/Metal Components:

- Rilsan Nylon 11 (Black)

Bolts and Nuts:

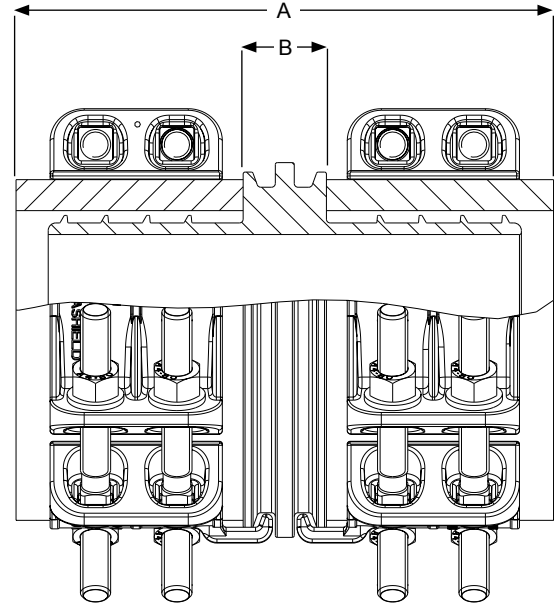
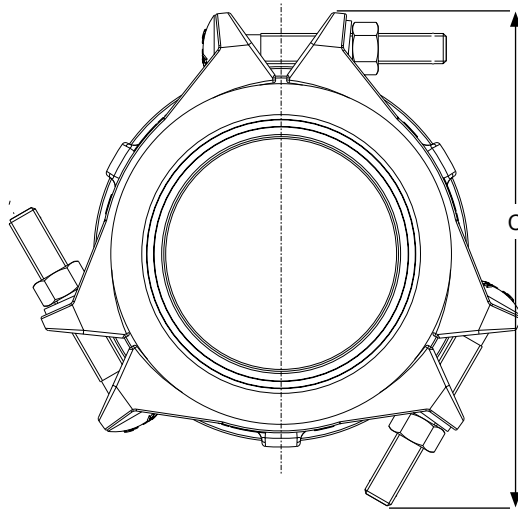
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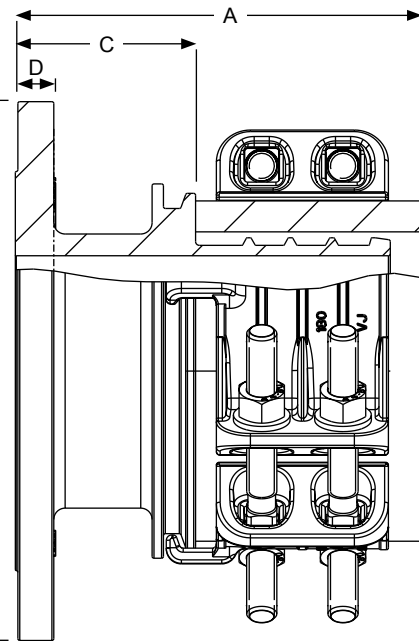
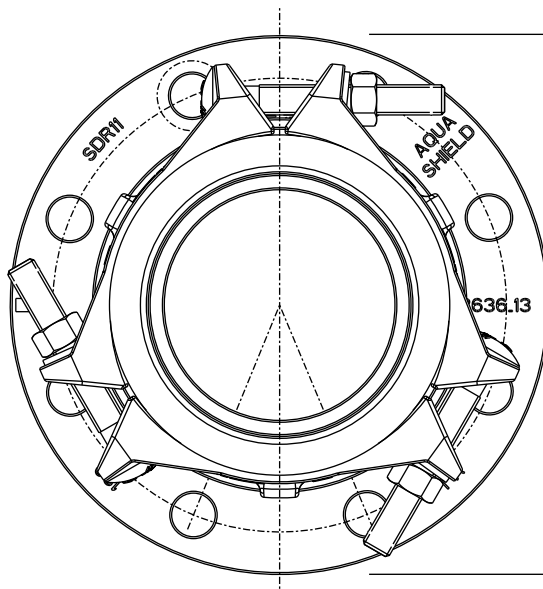
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AquaShield® Coupling



| Pipe OD | SDR Rating | Dimensions (mm) | | | Clamp Band Bolts | | Weight (kg) |
|---------|------------|-----------------|----|-----|------------------|------------|-------------|
| | | A | B | C | No. of Bolts | Bolts size | |
| 180 | 11 | 261 | 44 | 248 | 12 | M16 x 120 | 20.8 |
| 180 | 17 | 261 | 44 | 248 | 12 | M16 x 120 | 20.8 |

AquaShield® Flange Adaptor



| Pipe OD | SDR Rating | Flange Drilling | | Dimensions (mm) | | | | Clamp Band Bolts | | Weight (kg) |
|---------|------------|-----------------|-------------------------------|-----------------|-----|----|------|------------------|------------|-------------|
| | | Nom (DN) | Metric Drilling Specification | A | B | C | D | No. of Bolts | Bolts size | |
| 180 | 11 | DN150 | PN10 / 16 | 285 | 197 | 95 | 20.3 | 6 | M16 x 120 | 20.1 |
| 180 | 17 | DN150 | PN10 / 16 | 285 | 197 | 95 | 20.3 | 6 | M16 x 120 | 20.1 |

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Technical Information

Working Pressure Rating

Water 16 bar

Gas not approved

Vacuum Pressure

Capable of accommodating a vacuum pressure of -0.8 bar

Site Test Pressure

1.5 times working pressure for short duration (2 hours)

Pipe Material

Compatible† with following barrier pipe materials:-

- GPS Protecta-Line
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- Egeplast SLA

In addition, works on standard PE 100 Pipe to BS EN 12001:2011/2012

In all cases the SDR rating must be either 11 or 17.

Angularity

Not Applicable

Bolt Torque/Spanner

Torque 200-210Nm on every bolt

Spanner size A/F 24mm

Temperature Rating of Product

-20°C to +40°C

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KIWA UK Reg4 Approval (Pending).

Materials & Relevant Standards

Coupling, Flange Adaptor & Clamp Bands

SG Iron to BS EN 1563 Symbol EN-GJS-450-10

Bolts

Stainless Steel grade A2-70

Nuts

Stainless Steel grade A4-80

Coatings:

Cast/Metal Components:

- Rilsan Nylon 11 (Black)

Bolts and Nuts:

- Delta Seal Silver GZ

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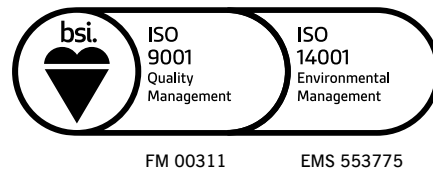


PIONEERS IN PIPE SOLUTIONS

46-48 WILBURY WAY
HITCHIN, HERTFORDSHIRE
SG4 0UD. UNITED KINGDOM
TELEPHONE: +44 (0)1462 443322
FAX: +44 (0)1462 443311
EMAIL: info@vikingjohnson.com

www.vikingjohnson.com

DUBAI SALES OFFICE
CRANE BS&U
BUILDING 4, OFFICE 901
THE GALLERIES
PO BOX 17415
DOWNTOWN JEBEL ALI
DUBAI. UAE
TELEPHONE: +971 4816 5800



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