



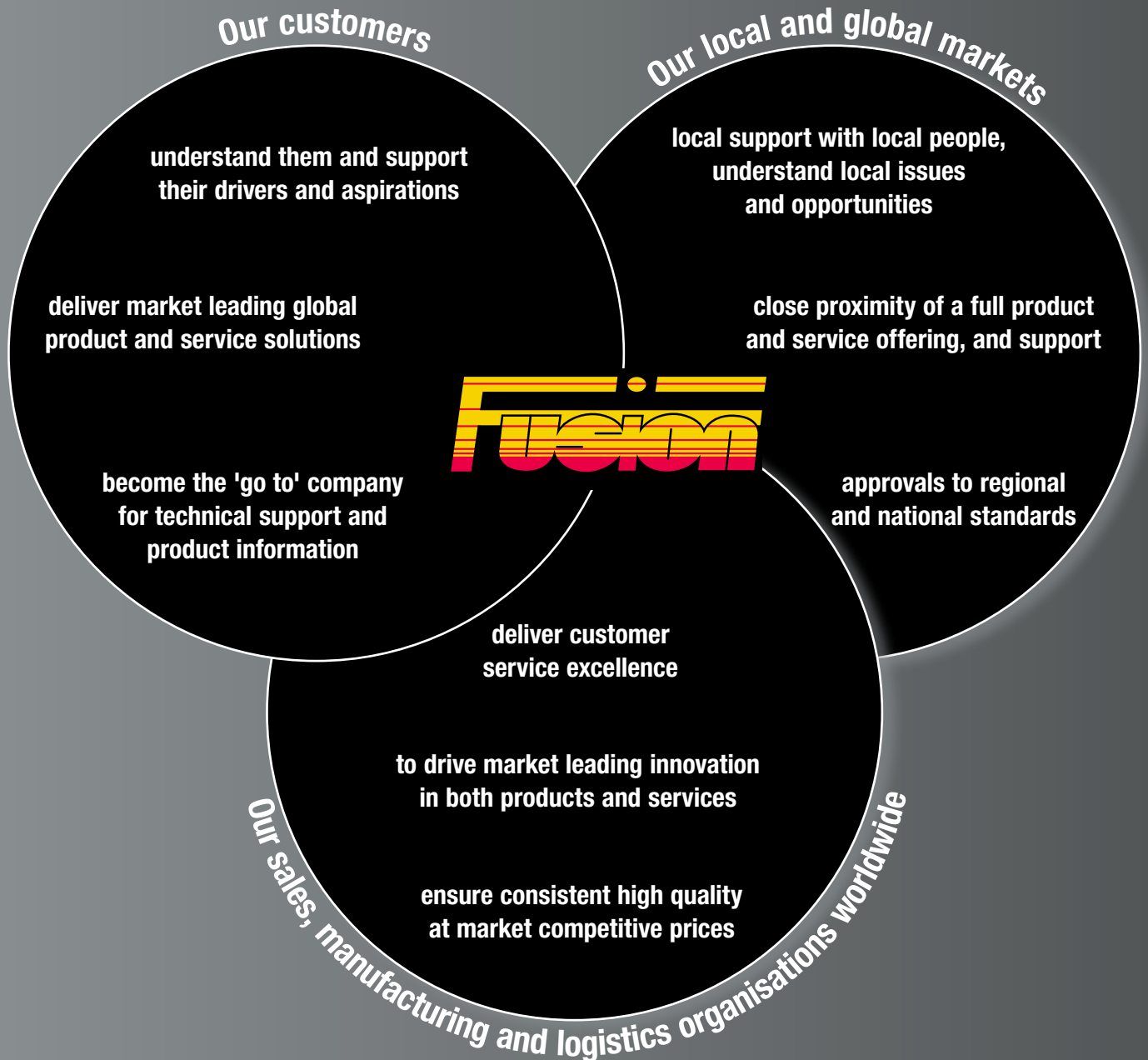
# GLOBAL PE PRODUCT OVERVIEW

FOR GAS AND WATER



# FUSION GROUP MISSION

**“The Fusion Group Strategy is to become the customers’ preferred partner as the leading innovator, manufacturer and supplier of products and services for gas and water polyethylene pipeline systems, worldwide...”**



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## Global PE Product Offer

For further information about the Fusion Group product range;  
download the Global PE Product Offer from our website -  
[www.fusiongroup.com](http://www.fusiongroup.com)





**Fusion Group Limited** pioneered polyethylene pipe jointing in the UK and across the globe. Fusion became a member of the AVK Group of Companies in 2017. A partnership that has resulted in a broader product and service offer and strengthened manufacturing base.

#### **Products and Innovations**

Fusion designs and manufactures electrofusion fittings, creates polyethylene fabrications, and distributes electrofusion boxes, automatic butt fusion machines and tooling. Fusion also offers an extensive range of spigot fittings. Our products are used in a multitude of applications worldwide, from gas and water infrastructure, to mining, energy and agricultural projects. Our people are valued for their knowledge and experience of polyethylene and their passion to deliver innovation.

#### **World Class Manufacturing**

Fusion has extensive manufacturing, test and inspection facilities and have integrated lean principles of continuous improvement within its manufacturing culture.

Fusion is much more than just manufacturing, it has world class facilities which give confidence to an end product which is fully traceable: right down to the core components.

#### **High Standards**

With ISO9001, ISO/TS 29001 certification and multi-national approvals, both Fusion and AVK believe in much more than just passing the finished product on to the consumer, but to give them the quality assurance they need on all the products supplied to the utilities industry.

Products meet and often exceed the highest standards of safety and durability, as well as being regularly audited by various institutions such as Bureau Veritas, AMI, KIWA, BSI, DVGW, INSTA-CERT and others.



# GLOBAL PE PRODUCT OVERVIEW

## FOR GAS AND WATER



The global PE product overview brochure for gas and water features PE ball and butterfly valves, electrofusion, spigot and transition fittings, access systems and associated equipment and ancillaries.

For the full range visit our website:  
[www.fusiongroup.com](http://www.fusiongroup.com)



## CUSTOMER PROMISES

*Our unique selling propositions enable us to give eight important promises to our customers:*

**SOLUTIONS, NOT ONLY PRODUCTS**

**GLOBAL LEADERSHIP AND LOCAL COMMITMENT**

**QUALITY IN EVERY STEP**

**PROMPT RESPONSE**

**LASTING INNOVATIONS**

**TOTAL SAVINGS**

**A LONG-TERM PARTNERSHIP**

**TO BE EFFECTIVE AND EASY**

# CERTUS™ PE BALL VALVES FOR GAS AND WATER

Body and spigots manufactured from high performance **PE100**. This material can be welded to all PE100 and PE80 pipes.

The valves are equipped with a **weather seal** avoiding ingress of ground water and dirt into the operating mechanism.

All spigot ends are delivered with **double spigot length** allowing for a second electrofusion weld if the first one fails.

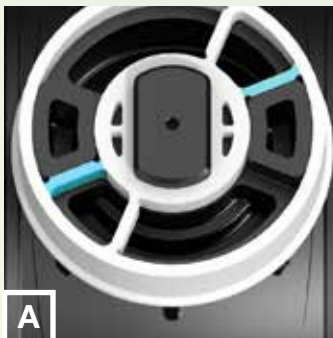
All **Certus** Series 85/30 valves are designed with a **clearway bore** (sizes d20, 32, 63, 90, 110 and 160mm only) ensuring no additional pressure drop and greater flow through the valve for the same pressure. The clearway bore allows for pigging of pipes.

The spigots are butt welded to the body. **Visual beads** reassuring joint quality for each weld.

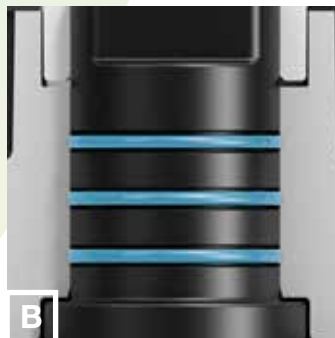
**Modular design of topcap** allowing for customer specific versions and a variety of accessories.

The **spigot ends are machined** on the inside as well as on the outside, guaranteeing a uniform wall thickness, allowing for optimal welding of electrofusion couplers and the smooth inner surface prevents deposits and will minimise flow resistance.

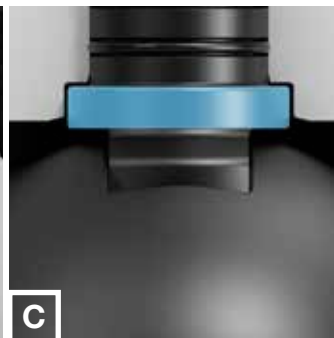
The floating ball principle and **special shaped ball seats** are designed to ensure sealing at all times and be less affected by dirt or debris.



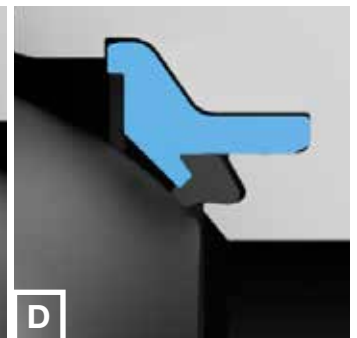
If the valve is over torqued, the topcap is designed to fail before the valve seals, thus preventing a leak to atmosphere. The **safety topcap** can be replaced easily under live conditions.



**Triple O-ring construction** around the stem guaranteeing sealing safety at all times, even during ground movement.



The intentionally over-designed stem is extremely strong and of the **anti blow-out** type.



The **seat retainer** design ensures the ball seat is kept in place at all times. This optimal design prevents the ball seat from being dislodged, which guarantees a good functionality throughout the years.



The **Certus Series 85/30** is an extensive range of PE ball valves up to d180 used for isolation of water and gas service to both domestic and commercial premises.

The Certus PE100 ball valves are manufactured at AVK Syntec, a modern purpose built and well equipped manufacturing facility complying with the international standard ISO/TS 29001:2010 quality management system, uses state of the art machinery and methods to produce high quality products.

These robust PE ball valves have been extensively and independently type tested against worldwide leading standards such as GIS/V7: Part 2, EN 1555-4. Full documented records of type testing are maintained by AVK and are available on request.

Every valve is individually tested and given a unique serial number which can be traced as far back as the raw polyethylene material. All of the manufacturing processes are managed to the exacting standards of the ISO 9001 certification and ISO/TS 29001:2010.



**CERTUS™  
PE BALL VALVES**  
SERIES 85/30  
PE100  
GIS/V7 Part 2  
EN 1555-4  
ISO4437-4  
EN12201-4  
d20-180

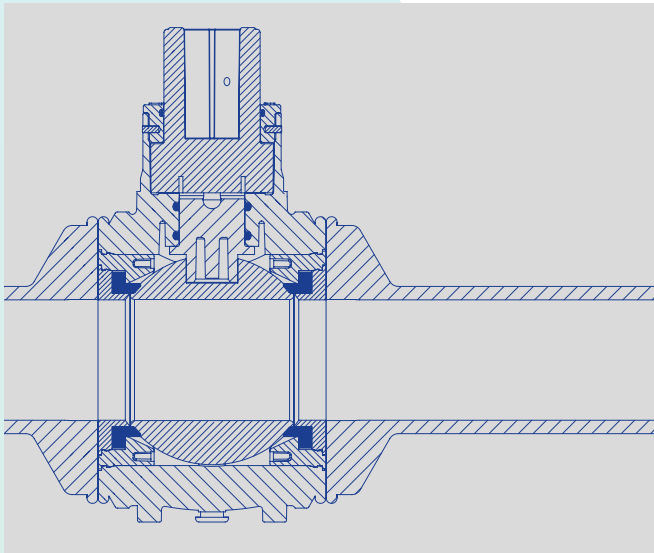


**CERTUS™  
INSTALLATION KIT**  
SERIES 85  
Fits the d20, 32, 40, 63  
and 90mm CERTUS™  
PE Ball Valves  
Available with or without  
lid



**CERTUS™  
50MM SQUARE DRIVE  
TEE KEY**  
SERIES 85/00  
To suit CERTUS™  
PE Ball Valves  
Length range 750-  
1500mm

# MAGNUS™ PE BALL VALVES FOR GAS AND WATER



The **Magnus Series 85/50** is an extensive range of PE ball valves up to d180 used for isolation of water and gas service to both domestic and commercial premises.

The range have been extensively and independently type tested against worldwide leading standards such as EN1555-4, ISO4437-4 and EN12201-4 for water applications.

Magnus ball valves have undergone additional testing over and above that required in the specification. This ensures that the valve is suitable for distribution systems and environments anywhere in the world.

The extensive Magnus ball valve range consists of multiple sizes starting at d25 up to d180. Depending on the requested pressure rating the valves are available with SDR11 or SDR 17 spigot ends. The selected materials are tested and approved for GAS and WATER applications.

The valves are rated as MOP10 for GAS applications and PN16 for WATER applications.



**MAGNUS™ FULL BORE PE BALL VALVES**  
SERIES 85/50-002  
PE100-RC  
EN 12201-4 / EN 1555-4  
ISO4437-4 / GB15558.3  
d25-180



**MAGNUS™ FULL BORE PE BALL VALVE WITH LEVER**  
SERIES 85/50-010  
PE100-RC  
EN 12201-4 / EN 1555-4  
ISO4437-4 / GB15558.3  
d25-180



**MAGNUS™ FULL BORE PE BALL VALVE WITH STEM EXTENSION**  
SERIES 85/50-004  
PE100-RC  
EN 12201-4 / EN 1555-4  
ISO4437-4 / GB15558.3  
d63-180



**MAGNUS™ FULL BORE PE BALL VALVE WITH STEM EXTENSION AND 1 PURGE POINT**  
SERIES 85/50-006  
PE100-RC  
EN 12201-4 / EN 1555-4  
ISO4437-4 / GB15558.3  
d63-180



**MAGNUS™ FULL BORE PE BALL VALVE WITH STEM EXTENSION AND 2 PURGE POINTS**  
SERIES 85/50-008  
PE100-RC  
EN 12201-4 / EN 1555-4  
ISO4437-4 / GB15558.3  
d63-180



Body and spigots manufactured from high performance **PE100-RC**. This material is extremely resistant to slow crack propagation and can be welded to all PE100 and PE80 pipes.

The valves are equipped with a **weather seal** avoiding ingress of ground water and dirt into the operating mechanism.

All spigot ends are delivered with the **double spigot length** option allowing for a second electrofusion weld if the first one fails.

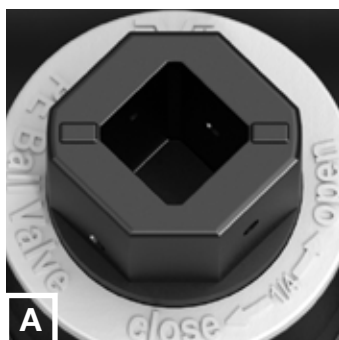
All **Magnus** valves are designed with a **full bore** ensuring a reduced pressure drop and greater flow through the valve for the same pressure. The large bore allows for pigging of pipes.

The spigots are butt welded to the body. **Visual beads** reassuring joint quality for each weld in complete pipe line.

The stem is of the **anti blow-out** type and has a double O-ring seal to guarantee safety at all times.

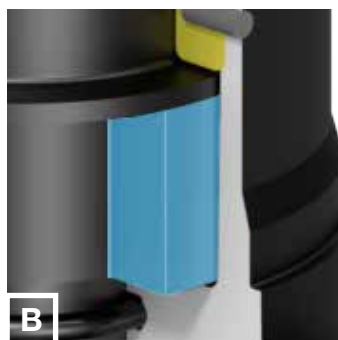
The **spigot ends are machined** on the inside as well as on the outside, guaranteeing a uniform wall thickness, allowing for optimal welding of electrofusion couplers and the smooth inner surface prevents deposits and will minimise flow resistance.

The floating ball principle and **special shaped ball seat** with large sealing surface are designed to ensure sealing at all times and be less affected by dirt or debris that might be in the pipeline.



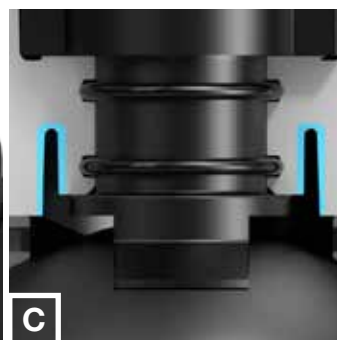
**A**

Due to the **internal and external drive** the valves can be operated by all standardised spindles.



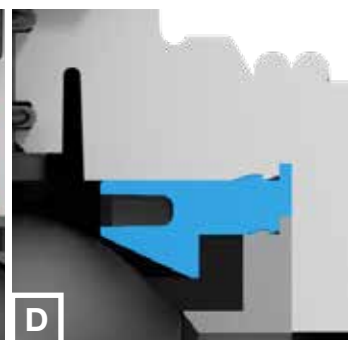
**B**

If the valve is over torqued during opening or closing, the connector is designed to fail before the valve seals, thus preventing a leak to atmosphere. The **safety connector** can be replaced under live conditions.



**C**

The **flexible spindle shaft** ensures equal compression around the O-rings when loaded by internal pressure. At the same time the groove will adapt to any deformation as a result of upstream pressure on the ball when the valve is in the closed position.



**D**

The **seat retainer and support ring** design ensure the ball seat is kept in place at all times. This optimal design prevents the ball seat from being dislodged, which guarantees a good functionality throughout the years.

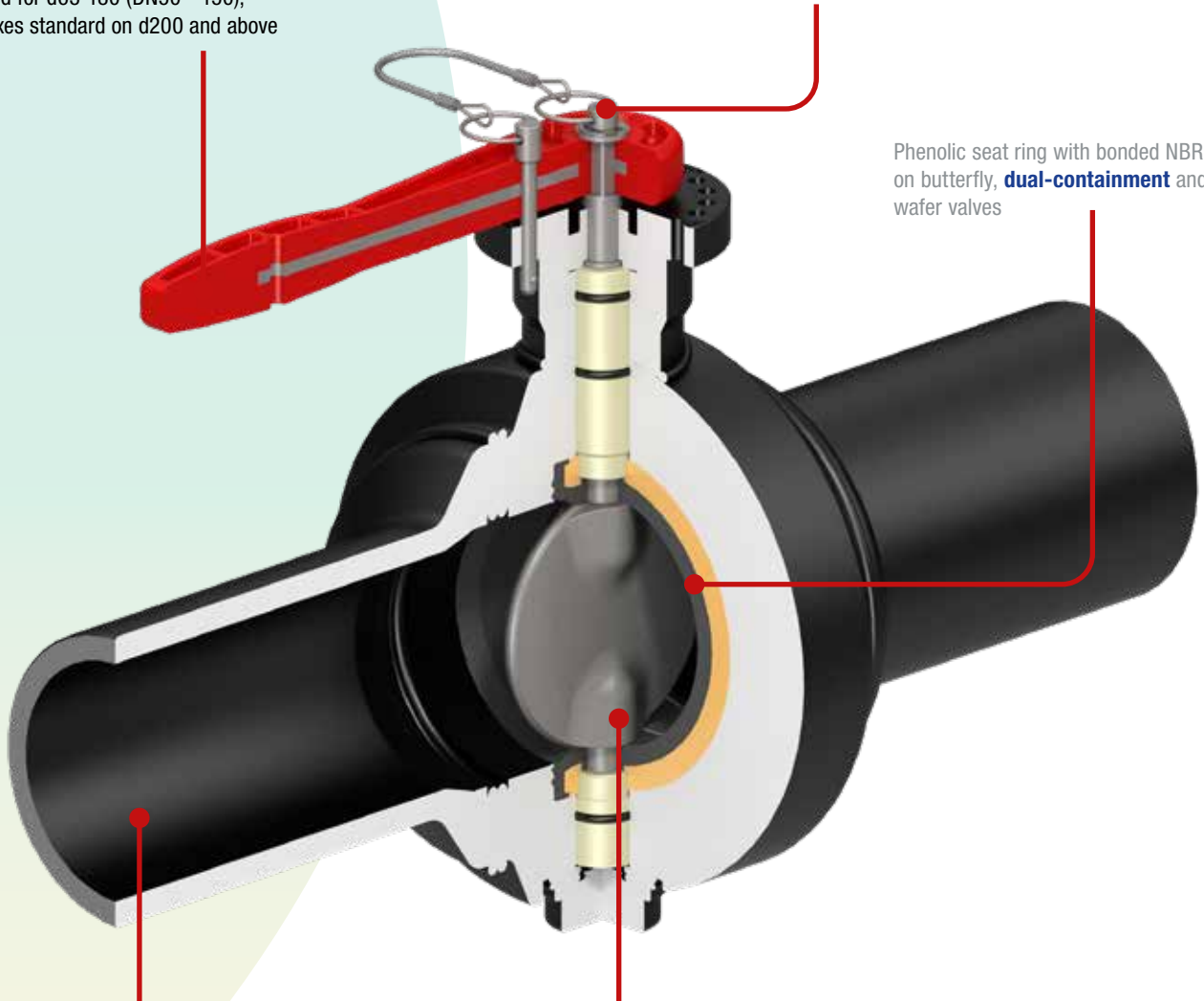
# TIMESAVER™ PE BUTTERFLY VALVES FOR GAS AND WATER

The **Series 89 Timesaver butterfly valves** are designed for quick, direct heat butt fusion or electrofusion into HDPE piping systems up to d315 (DN300). The Series 89 leak-free system enables ease of installation and eliminates the need for flange adaptors, spacers, backing rings, nuts, bolts or gaskets.

**360°C incremental positioning lever** standard for d63-180 (DN50 - 150); gearboxes standard on d200 and above

**Stem extensions available** from d300 to 2700mm, in 150mm increments

Phenolic seat ring with bonded NBR on butterfly, **dual-containment** and wafer valves



The **Timesaver** Series 89 valves (excluding the wafer valve) are **designed for butt fusion or electrofusion into HDPE piping systems**. The Series 89 leak-free system enables ease of installation and eliminates the need for flange adaptors, spacers, backing rings, nuts, bolts or gaskets.

**ASTM A582 316 stainless steel stems** and discs on butterfly, dual-containment and wafer valves

IPS valve sizes range from **d63 - 315 (DN50 through 300)** with larger sizes and DIPS available upon request



### FUSIBLE BUTTERFLY VALVE

Series 89 fusible butterfly valves are designed for butt-fusion or electrofusion into HDPE piping systems. The Series 89 leak-free system enables ease of installation and eliminates the need for flange adaptors, spacers, backing rings, nuts, bolts or gaskets.



### FUSIBLE DUAL CONTAINMENT BUTTERFLY VALVE

Series 890, dual-containment butterfly valves include a second pipe housing. This unit can be fused into new or existing dual-containment (double wall) HDPE pipelines, eliminating the need for valve boxes or vaults.



### WAFER BUTTERFLY VALVE

The Series 891 wafer butterfly valve utilises existing flanges, eliminating the need for valve spacers. The wafer valve is preferred in applications where easy access into piping systems is needed.



**HDPE FUSIBLE END BUTTERFLY VALVE**  
 SERIES 89/BFV  
 SDR 11 (Standard)  
 PE100  
 Stainless Steel Disc,  
 NBR Seat  
 d63 - 315  
 DN50-300



**HDPE FUSIBLE END DUAL CONTAINMENT BUTTERFLY VALVE**  
 SERIES 890/DCV  
 SDR 11 (Standard)  
 PE100  
 Stainless Steel Disc,  
 NBR Seat  
 d63 x110/125 -  
 160-180/250-280  
 DN50x100 - 150x250



**HDPE WAFER BUTTERFLY VALVE**  
 SERIES 891/WAF  
 Bolting pattern to  
 ASME/ANSI B 16.1  
 Class 125  
 PE 100  
 Stainless Steel Disc,  
 NBR Seat  
 d63 x 315  
 DN50-300

# FUSAMATIC™

# ELECTROFUSION FITTINGS

## FOR GAS AND WATER



Fusion Group's **Fusamatic** division is a world leader in the manufacture of electrofusion fittings.

All Fusion's electrofusion fittings are individually inspected using a computerised monitoring system that utilises advanced barcode technology. The barcode provides full individual fitting traceability right down to the polymer batch.

Together, electrofusion fittings and polyethylene pipes enable utilities, designers and contractors to create fully welded pipe networks. The production quality, reliability and flexibility of Fusion's electrofusion fittings provides the certainty and peace of mind needed for polyethylene pipe jointing.

### Sizes

Sizes range from d20 to 630+, d710 to 1200 available on request

### Pressure Ratings

All fittings are manufactured in virgin PE100 black polyethylene and pressure rated up to 10 bar for gas applications and 16 bar for water applications, unless stated otherwise.

**NOTE:** For UK gas applications (GIS PL2 Part 4) the maximum operating pressure can be either 5.5 bar or 7 bar dependant on the Class rating. For more detailed information contact us.

### SDR Ratings

The appropriate pipe SDR rating for electrofusion fittings is in accordance with the list below:

#### FITTING SIZES BELOW 63mm - Pipe SDR11

- Coupler
- Elbow
- Reducer
- Equal tee
- Tapping tee
- Branch saddle
- Transition fittings

#### FITTING SIZES 63mm AND ABOVE - Pipe SDR11 to 17.6

- Coupler
- Elbow
- Reducer
- Equal tee
- Tapping tee\*
- Branch saddle
- Hydrant products
- Transition fittings

\* Tapping tees for 63mm mains only are not suitable for SDR17 pressurised pipe applications.

Testing can be carried out on SDR rated pipe outside the stated ranges if required. Please contact Fusion's sales team on +44 (0)1246 268666 for details.

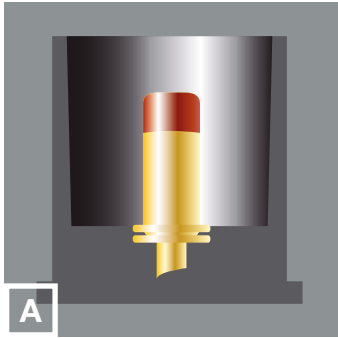
### Testing

Fusamatic branded electrofusion fittings are tested, accredited and approved against many international performance standards\* including:

- Kitemark GIS/PL2-4
- Kitemark GIS/PL2-6
- AS/NZS 4129, Watermark and ISO Type 5 Licence
- EN 1555-3
- UNI EN 1555-3
- INSTA SBC EN 1555-3
- EN 12201-3
- UNI EN 12201-3
- INSTA SBC EN 12201-3
- EN ISO 15494
- UNI EN ISO 15494
- WRAS
- ACS
- DVGW GW 335-B2-B1
- KIWA BRL-K17105

\*Due to size and fitting type regulations across standards, some items listed in this brochure may not be certified under the standards listed above. Please contact Fusion's sales team on +44 (0)1246 268666 before placing your order.

# FUSAMATIC



## Fusamatic Pin

Invented by Fusion, the Fusamatic pin provides a totally automatic method for ensuring the correct welding parameters are used. Within each Fusamatic pin is a resistor. When the electrofusion box is connected to the fitting, the Fusamatic pin enables it to automatically identify the correct fusion time required to make the joint. All the operator has to do is press go!



## Indicators

Pressure, created by the expanding molten plastic in the jointing area (inside the fitting) during the electrofusion process, will force out the indicator lugs. This is a visible sign that the necessary jointing pressure has been achieved.



## Moulded-in welding parameters

Manual welding parameters are moulded into the body of all Fusion's fittings. Information provided includes fitting size, material (PE100), applicable pipe SDRs, weld parameters, and pressure ratings for gas and water applications.



## Permanently marked batch number

The injection moulded batch number is just one of numerous quality control identifiers on each Fusamatic fitting. It is replicated on the fitting's barcode.



## Barcode / QR Code

Quality control is central to the success of Fusion's fittings. The unique barcode configuration, including QR code provides full traceability of raw material for each individual fitting and welding information when used in conjunction with electrofusion boxes equipped with a barcode scanner.



# FUSAMATIC™ ELECTROFUSION FITTINGS FOR GAS AND WATER



**COUPLER**  
PE100  
Water PN16  
Gas 10 Bar  
d20-400



**LARGE DIAMETER  
COUPLER**  
PE100  
SDR 11-26 -  
Water PN16 / Gas 10 Bar  
SDR 17-26 -  
Water PN10 / Gas 6 Bar  
d450 - 630



**END CAP**  
PE100  
Water PN16  
Gas 10 Bar  
d20-250



**REDUCER**  
PE100  
Water PN16  
Gas 10 Bar  
d25x20-180x125



**90° ELBOW**  
PE100  
Water PN16  
Gas 10 Bar  
d20-180



**45° ELBOW**  
PE100  
Water PN16  
Gas 10 Bar  
d32-180



**22.5° ELBOW**  
PE100  
Water PN16  
Gas 10 Bar  
d180



**EQUAL TEE**  
PE100  
Water PN16  
Gas 10 Bar  
d20-180



**REDUCING TEE**  
PE100  
Water PN16  
Gas 10 Bar  
d20x20x32-180x180x125



**FLANGED TEE**  
PE100  
Water PN16  
Gas 10 Bar  
d63xDN50-180xDN150



**MULTISEAL TAPPING  
TEE STACKLOAD**  
PE100  
Water PN16 / Gas 10 Bar  
(UK Gas Applications -  
Gas 5.5 Bar (Class B) /  
Gas 7 Bar (Class C))  
20-32mm Outlet  
d63x20-355x32



**MULTISEAL TAPPING  
TEE STACKLOAD**  
PE100  
Water PN16 / Gas 10 Bar  
(UK Gas Applications -  
Gas 5.5 Bar (Class B) /  
Gas 7 Bar (Class C))  
63mm Outlet  
d250x63-355x63



**MULTISEAL TAPPING  
TEE UNDERCLAMP**  
PE100  
Water PN16 / Gas 10 Bar  
(UK Gas Applications -  
Gas 5.5 Bar (Class B) /  
Gas 7 Bar (Class C))  
20-32mm Outlet  
d40x20-225x32



**MULTISEAL TAPPING  
TEE UNDERCLAMP**  
PE100  
Water PN16 / Gas 10 Bar  
(UK Gas Applications -  
Gas 5.5 Bar (Class B) /  
Gas 7 Bar (Class C))  
40-63mm Outlet  
d63x40-225x63



**FLEXTEE TAPPING TEE  
UNDERSTRAP**  
PE100  
Water PN16  
Gas 10 Bar  
d63x20-180x32



**BRANCH SADDLE  
STACKLOAD  
UNDERCLAMP**  
PE100  
Water PN16  
Gas 10 Bar  
63mm Outlet  
d250x63-355x63



**BRANCH SADDLE  
UNDERCLAMP**  
PE100  
Water PN16  
Gas 10 Bar  
40-63mm Outlet  
d63x40-225x63

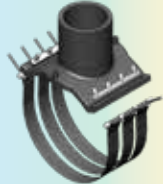


**BRANCH SADDLE  
UNDERCLAMP**  
PE100  
Water PN16  
Gas 10 Bar  
20-63mm Outlet  
d40x20-90x63

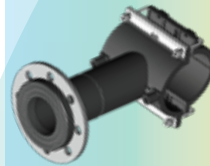
# FUSAMATIC



**BRANCH SADDLE UNDERCLAMP**  
PE100  
Water PN16  
Gas 10 Bar  
90-125mm Outlet  
d90x90-250x125



**BRANCH SADDLE UNDERSTRAP**  
PE100  
Water PN16  
Gas 10 Bar  
110-180mm Outlet  
d315x110-630x180



**FLANGED BRANCH SADDLE UNDERCLAMP**  
PE100  
Water PN16  
Gas 10 Bar  
d110xDN80-630xDN100

For use with under pressure drill



**FLANGED BRANCH SADDLE UNDERCLAMP - FASTCUT**  
PE100  
Water PN16  
Gas 10 Bar  
d250xDN150-630xDN150  
Only available through approved fastcut installers



**FLANGE BRANCH SADDLE UNDERSTRAP - ALH FLOWSTOP**  
PE100  
Gas 10 Bar  
d315xDN150-400xDN150  
Only available through approved fastcut installers



**BALLOON SADDLE**  
PE100  
Water PN16  
Gas 10 Bar  
d90x2½"-250x2½"



**TRANSITION SADDLE**  
PE100  
Water PN16  
Gas 10 Bar  
d63x1¼"-250x2"



**DUCKFOOT BEND**  
PE100  
Water PN16  
d90x90



**DUCKFOOT BEND KIT**  
PE100  
Water PN16  
d63xDN80-180xDN80



**HYDRANT BRANCH SADDLE KIT**  
PE100  
Water PN16  
d90xDN80-250xDN80



**STUB FLANGE KIT**  
PE100  
Water PN16  
d63xDN50-225xDN200





## AVK INSTALLATION TRACKER IS THE NEW **ASSET MANAGEMENT SYSTEM\*** FROM AVK FOR VALVES, FITTINGS AND ASSOCIATED PRODUCTS. UTILISING A NEW, PURPOSE BUILT, USER FRIENDLY MOBILE APP & WEB PORTAL.

AVK installation tracker uses a QR/barcode platform, designed to give full traceability of your assets providing the data on each installed asset, and gives the opportunity to review the quality of the joints and the installation. This, combined with a unique GPS pin location and a picture of each installation, ensures that you have a complete, accurate and auditable record of every installation. Furthermore, all the data recorded can be exported into standard data formats for integration into the clients existing mapping system.

\* Patent pending.



### FULL TRACEABILITY IN A FEW SIMPLE STEPS...

The QR code is generated when the asset successfully passes all the relevant test procedures. It assigns a unique serial number for the product which is linked to the full material and test records. When installed the data record becomes complete from raw material to accurate position and application.



**DOWNLOAD  
THE APP**



**SCAN THE  
QR/BAR CODE**



**SET  
LOCATION**



**TAKE THE  
INSTALLATION PICTURE**





## THE APP



## WEB PORTAL



Scan the QR / barcode using the App



Accurate GPS pin gives location



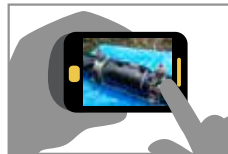
Secure Customer log in



Asset location on map (colours represent different pressures)



The pin shows asset location



Take an installation picture



Verify pictorial record



Data record includes: asset type, materials, size, pressure and who installed the asset

# AVK INSTALLATION TRACKER HAS ALL YOU NEED TO MANAGE FUTURE TRACEABILITY

Access to the recorded data, collected from the app is via a user friendly web portal providing at a glance accurate records.



**INCREASED ASSET TRACEABILITY**



**VISUALLY AUDIT THE INSTALLATION QUALITY**



**RECORD INDIVIDUAL ASSET INSTALLATIONS**



**EXPORTABLE DATA INTO STANDARD FORMATS**



**ACCURATE GPS PIN LOCATION**



**PERIODIC INSTALLATION AUDIT REPORT AVAILABLE**

# SPIGOT FITTINGS

## FOR GAS AND WATER



The Fusion range of spigot fittings is one of the most extensive in the world, with over 3,000 different product lines.

Fusion have a whole range of moulded, machined and butt welded spigots including elbows, bends, tees, stub flanges and many more in a range of different sizes and SDR's needed for polyethylene pipe jointing. Our spigot range allows for complicated yet high performance pipeline systems with a more diverse range of fittings than electrofusion, especially for larger diameter fittings.

### Manufacturing

All Fusamatic branded spigots are manufactured from PE100 virgin polyethylene polymer supplied by recognised international market leaders such as Borealis and Ineos. All materials comply with the requirements of relevant standards including EN 12201 for drainage, sewerage and potable water, and EN 1555 for gas. The recommended temperature range for Fusamatic spigots is +5°C and +40°C with butt fusion jointing methods, or between -10°C and +40°C using Fusamatic electrofusion systems.

All Fusamatic branded spigot fittings are available with long spigot welding ends suitable for butt fusion and electrofusion on site; short spigot welding ends are also available for cost effective factory assembled fabrications.

Fusamatic branded spigots comply with the requirements of:

- EN 12201-3 Plastics piping systems for water supply, and for drainage and sewerage under pressure. Polyethylene (PE) Fittings.
- EN 1555-3 Plastics piping systems for the supply of gaseous fuels. Polyethylene (PE) Fittings.

### International performance standards and regulations

Fusamatic branded spigots have the following international approvals:

- EN1555-3
- EN12201-3
- INSTA SBC EN 12201-3
- INSTA SBC EN 1555-3
- AS/NZS 4129 and ISO Type 5
- WRAS (UK)

\*Due to size and fitting type regulations across standards, some items listed in this brochure may not be certified under the standards listed above. Please contact Fusion's sales team on +44 (0)1246 268666 before placing your order.

### Sizes

Note: SDR ratings, brand supplied and stated diameters are subject to availability.

Contact us for specific details on +44 (0)1246 268666 or via the website - [www.fusiongroup.com](http://www.fusiongroup.com)

### Backing Rings

Fusion are able to provide a range of backing rings for mechanical connections in galvanised, stainless and polypropylene coated steel.

These can be supplied drilled in accordance to local standards, but typically available in stock for EN 1092 - PN10, EN 1092 - PN16 and ANSI Class 150.

Other ancillary items such as gaskets and bolting sets can be provided upon request.

### Applications

- Potable water mains, service pipes and house connections
- Gas transmission, distribution and house connections
- Wastewater systems including sewers
- Water and wastewater treatment plants
- Rain water and grey water collection
- Syphonic roof drainage
- Trenchless pipeline techniques including directional drilling
- Pumped slurry systems in mines and quarries
- Ducting for electrical, telecommunications and fibre optic cabling including subsea
- Open water and marine fish cages
- Industrial applications including process pipework and compressed air networks
- Agricultural irrigation



**90° ELBOW**  
 PE100  
 SDR 11 - Water PN16 / Gas 10 Bar  
 SDR 17 - Water PN10 / Gas 6 Bar  
 SDR 7.4 - Water PN25  
 SDR 9 - Water PN20  
 d20-500



**45° ELBOW**  
 PE100  
 SDR 11 - Water PN16 / Gas 10 Bar  
 SDR 17 - Water PN10 / Gas 6 Bar  
 SDR 7.4 - Water PN25  
 SDR 9 - Water PN20  
 d20-500



**90° MULTI BEND**  
 PE100  
 SDR 11 - Water PN16 / Gas 10 Bar  
 SDR 17 - Water PN10 / Gas 6 Bar  
 d32-315



**90° BEND – SHORT SPIGOT**  
 PE100  
 SDR 11 - Water PN16 / (Gas 10 Bar-upon request)  
 SDR 17 - Water PN10 / (Gas 6 Bar-upon request)  
 SDR 33 - Water PN5  
 d20-500



**SEAMLESS BEND 90°**  
 PE100  
 SDR 11 - Water PN16 / (Gas 10 Bar-upon request)  
 SDR 17 - Water PN10 / (Gas 6 Bar - upon request)  
 SDR 7.4 - Water PN25  
 SDR 9 - Upon request  
 d32-900



**SEAMLESS BEND 60°**  
 PE100  
 SDR 11 - Water PN16 / (Gas 10 Bar-upon request)  
 SDR 17 - Water PN10 / (Gas 6 Bar-upon request)  
 SDR 7.4 - Water PN25  
 SDR 9 - Upon request  
 d32-900



**SEAMLESS BEND 45°**  
 PE100  
 SDR 11 - Water PN16 / (Gas 10 Bar-upon request)  
 SDR 17 - Water PN10 / (Gas 6 Bar-upon request)  
 SDR 7.4 - Water PN25  
 SDR 9 - Upon request  
 d32-900



**SEAMLESS BEND 30°**  
 PE100  
 SDR 11 - Water PN16 / (Gas 10 Bar-upon request)  
 SDR 17 - Water PN10 / (Gas 6 Bar-upon request)  
 SDR 7.4 - Water PN25  
 SDR 9 - Upon request  
 d32-900



**SEAMLESS BEND 22°**  
 PE100  
 SDR 11 - Water PN16 / (Gas 10 Bar-upon request)  
 SDR 17 - Water PN10 / (Gas 6 Bar-upon request)  
 SDR 7.4 - Water PN25  
 SDR 9 - Upon request  
 d32-900



**SEAMLESS BEND 11°**  
 PE100  
 SDR 11 - Water PN16 / (Gas 10 Bar-upon request)  
 SDR 17 - Water PN10 / (Gas 6 Bar-upon request)  
 SDR 7.4 - Water PN25  
 SDR 9 - Upon request  
 d32-900



**EQUAL TEE**  
 PE100  
 SDR 11 - Water PN16 / Gas 10 Bar  
 SDR 17 - Water PN10 / Gas 6 Bar  
 SDR 7.4 - Water PN25  
 SDR 9 - Water PN20  
 d20-630



**EQUAL TEE – SHORT SPIGOT**  
 PE100  
 SDR 11 - Water PN16 / (Gas 10 Bar-upon request)  
 SDR 17 - Water PN10 / (Gas 6 Bar-upon request)  
 SDR 33 - Water PN5  
 d20-500



**REDUCING TEE**  
 PE100  
 SDR 11 - Water PN16 / Gas 10 Bar  
 SDR 17 - Water PN10 / Gas 6 Bar  
 SDR 7.4 - Water PN25  
 SDR 9 - Water PN20  
 d50x25-630x250



**REDUCING TEE – SHORT SPIGOT**  
 PE100  
 SDR 11 - Water PN16 / (Gas 10 Bar-upon request)  
 SDR 17 - Water PN10 / (Gas 6 Bar-upon request)  
 d90x32-180x125



**REDUCING AND EQUAL TEE (MACHINED)**  
 PE100  
 SDR 11 - Water PN16 / (Gas 10 Bar-upon request)  
 SDR 17 - Water PN10 / (Gas 5 Bar-upon request)  
 d250x63-1200x1200



**REDUCING AND EQUAL TEE – SHORT SPIGOT (MACHINED)**  
 PE100  
 SDR 11 - Water PN16 / (Gas 10 Bar-upon request)  
 SDR 17 - Water PN10 / (Gas 5 Bar-upon request)  
 d280x63-1200x1200



**REDUCING TEE ECCENTRIC LEVEL INVERT (MACHINED)**  
 PE100  
 SDR 11 - Water PN16 / (Gas 10 Bar-upon request)  
 SDR 17 - Water PN10 / (Gas 5 Bar-upon request)  
 d280x63-710x560



**45° ANGLE BRANCH TEE**  
 PE100  
 SDR 11 - Water PN16 / Gas 10 Bar  
 SDR 17 - Water PN10 / Gas 6 Bar  
 d63x45-250x45



# SPIGOT FITTINGS

## FOR GAS AND WATER



**Y PIECE**  
PE100  
SDR 11  
Water PN16  
Gas 10 Bar  
d32x25-50x40



**CROSS PIECE**  
PE100  
SDR 11 - Water PN16 /  
Gas 10 Bar  
SDR 17 - Water PN10 /  
Gas 6 Bar  
SDR 7.4 - Water PN25  
d63-355



**REDUCED CROSS PIECE**  
PE100  
SDR 11  
Water PN16  
Gas 10 Bar  
d125x90



**REDUCER**  
PE100  
SDR 11 - Water PN16 /  
Gas 10 Bar  
SDR 17 - Water PN10 /  
Gas 6 Bar  
SDR 7.4 - Water PN25  
SDR 9 - Water PN20  
d25x20-1000x900



**REDUCER -  
SHORT SPIGOT**  
PE100  
SDR11 - Water PN16 /  
(Gas 10 Bar-upon request)  
SDR 17 - Water PN10 /  
(Gas 6 Bar-upon request)  
SDR 7.4 - Water PN25  
SDR 9 - Water PN20  
SDR 26 - Water PN6  
SDR 33 - Water PN5  
d25x20-1200x1000



**STEP REDUCER -  
SHORT SPIGOT**  
PE100  
SDR 11 - Water PN16 /  
Gas 10 Bar  
SDR 17 - Water PN10 /  
Gas 6 Bar  
d225x160-900x630



**ECCENTRIC REDUCER**  
PE100  
SDR 11 - Water PN16  
SDR 17 - Water PN10  
SDR 33 - Water PN5  
d160x90-1200x1000



**ECCENTRIC REDUCER -  
SHORT SPIGOT**  
PE100  
SDR 11 - Water PN16  
SDR 17 - Water PN10  
SDR 33 - Water PN5  
d160x90-1200x1000



**END CAP**  
PE100  
SDR 11 - Water PN 16 /  
Gas 10 Bar  
SDR17 - Water PN10 /  
Gas 6 Bar  
SDR 7.4 - Water PN25  
SDR 9 - Water PN20  
d20-1200



**END CAP -  
SHORT SPIGOT**  
PE100  
SDR 11 - Water PN16 /  
(Gas 10 Bar-upon request)  
SDR 17 - Water PN10 /  
(Gas 6 Bar-upon request)  
SDR 7.4 - Water PN25  
SDR 9 - Water PN20  
SDR 33 - Water PN5  
d250-1200



**STUB FLANGE ADAPTOR**  
PE100  
SDR 11 - Water PN16 /  
Gas 10 Bar  
SDR 17 - Water PN10 /  
Gas 6 Bar  
SDR 7.4 - Water PN25  
SDR 9 - Water PN20  
d20-1200



**STUB FLANGE ADAPTOR  
- CHAMFERED  
(SUITABLE FOR  
BUTTERFLY VALVES)**  
PE100  
SDR 11 - Water PN16 /  
Gas 10 Bar  
SDR 17 - Water PN10 /  
Gas 6 Bar  
d160-1000



**STUB FLANGE ADAPTOR  
- ANSI**  
SDR 11 - Water PN16 /  
Gas 10 Bar  
SDR 17 - Water PN10 /  
Gas 6 Bar  
d20-630



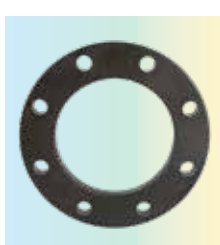
**STUB FLANGE ADAPTOR  
- SHORT SPIGOT**  
PE100  
SDR 11 - Water PN16 /  
Gas 10 Bar  
SDR17 - Water PN10 /  
Gas 6 Bar  
SDR 7.4 - Water PN25  
SDR9 - Water PN20  
SDR26 - Water PN6  
SDR33 - Water PN5  
d20-1200



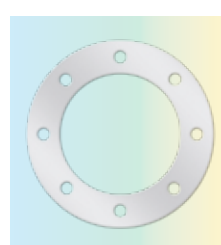
**STUB FLANGE ADAPTOR  
- CHAMFERED - SHORT  
SPIGOT (SUITABLE FOR  
BUTTERFLY VALVE)**  
PE100  
SDR 11 - Water PN16 /  
Gas 10 Bar  
SDR 17 - Water PN10 /  
Gas 6 Bar  
d200-1000



**STUB FLANGE ADAPTOR  
- ANSI - SHORT SPIGOT**  
PE100  
SDR 11 - Water PN16 /  
Gas 10 Bar  
SDR17 - Water PN10 /  
Gas 6 Bar  
d450 - 630



**FLANGE -  
POLYPROPYLENE WITH  
STEEL CORE**  
EN1092-1 - PN 16 Drilling  
EN1092-1 - PN 10 Drilling  
ANSI B16.5 - C150 Drilling  
d20-630 (Pipe Diameter)

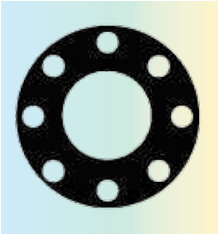


**FLANGE - GALVANISED  
AND STAINLESS STEEL**  
EN1092 - PN16 Drilling  
EN1092 - PN10 Drilling  
d20-630 (Pipe Diameter)



**LONG SPIGOT PUDDLE FLANGE - EPDM**

PE100  
SDR11  
SDR17  
Water tight 3 bar up to d315  
Water tight 1 bar d355 and above  
d90-630



**FULL FACE GASKETS - EPDM / NBR DUO**

EPDM - WATER  
NBR - GAS  
EN1092 - PN16 Drilling  
EN1092 - PN10 Drilling  
d20-630



# TRANSITION FITTINGS

## FOR GAS AND WATER



Transition fittings are a quick and easy way to connect various types of metallic pipes to PE pipe systems, using either a traditional flange, threaded or a modern SupaGrip™ fitting.

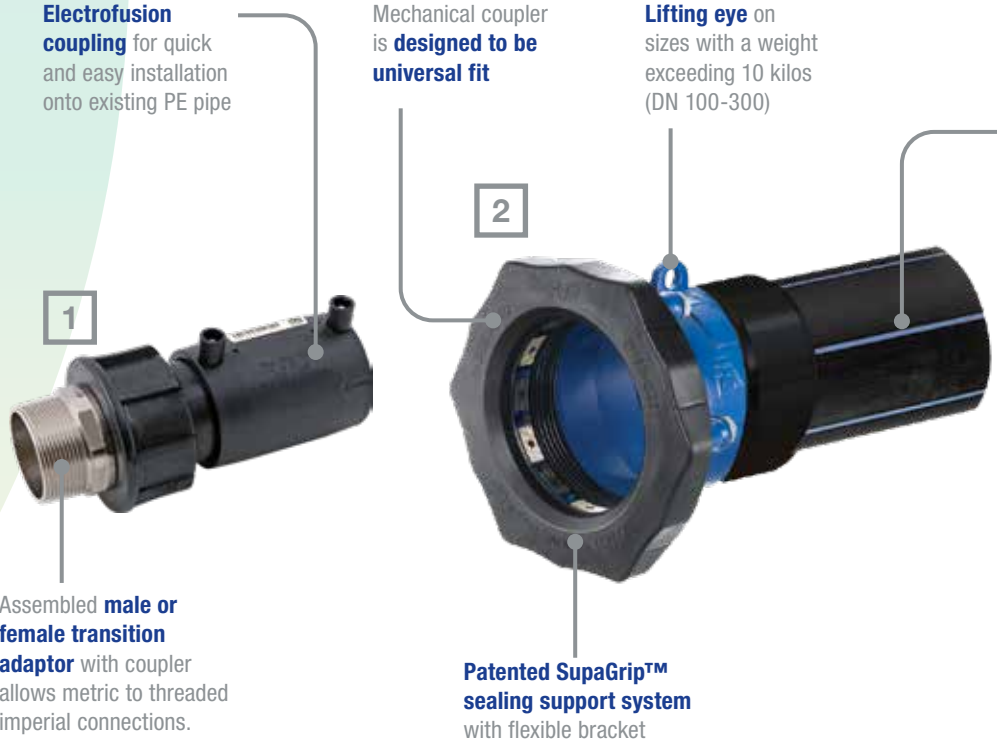
All fittings supplied by Fusion are manufactured according to the appropriate industry standards with the mechanical joint between the metal and PE fully end loading.

There is a varied range of fittings available under the title transition fittings including valves, elbows, and straight transitions from d25 to 250 PE in both PE80 and PE100 materials.

**Electrofusion coupling** for quick and easy installation onto existing PE pipe

Mechanical coupler is **designed to be universal fit**

**Lifting eye** on sizes with a weight exceeding 10 kilos (DN 100-300)



Assembled **male or female transition adaptor** with coupler allows metric to threaded imperial connections.

**Patented SupaGrip™ sealing support system** with flexible bracket



**Purpose designed positioning plate** secures the fitting to the concrete pad to ensure that the correct height is guaranteed.

PE ends enable the fittings to be directly electrofused to the existing pipeline **saving time and money**



4 bolts for **quick and easy installation**



Split flange ring for ease of installation and **flexible hole alignment**

**1. Fusion Male transition coupler for GAS and WATER**

Suitable for electrofusion welding on site but also available separately for manifold applications or pre fabrication. Other materials and threads are available upon request depending on specialist applications. A simple but effective solution for house connections, used by many operators internationally.

**2. Supa Maxi™ range of universal tensile for WATER.**

The patented SupaGrip™ sealing support system with flexible bracket ensures full support of the gasket and full tensile strength on all pipe types up to PN16. Supa Maxi™ couplings are very easy to mount with the possibility of  $\pm 4^\circ$  angular deflection, the permanent protection caps, the lifting eye and that they are tightened from the sleeve side with no need for re-tightening the bolts.

**3. Donkin Mechanical Coupler for GAS**

The Series 604 mechanical coupler with PE tail has been designed as a transition fitting to join metallic and PE gas pipes. The mechanical coupler is designed to be universal in most diameters whilst the PE end is available in SDR17 PE80 pipe suitable for the low and medium pressure network.

**4. Meter Module Riser Fittings for GAS**

The Series 218 Meter Module Riser Fittings are transition fittings designed to connect the underground PE pipework to the Emergency Control Valve at the inlet of a Meter Module. They can also be used on the outlet pipework to transition back to PE from the steel. Small diameters are available with threaded ends and the larger sizes with PN16 flanges for easy connection.



# TRANSITION FITTINGS

## FOR GAS AND WATER



### MALE TRANSITION COUPLER

PE100  
Water PN16  
Gas 10 Bar  
d25x3/4" - 63x2"



### FEMALE TRANSITION COUPLER

PE100  
Water PN16  
Gas 10 Bar  
d25x3/4" - 63x2"



### MALE TRANSITION 90° ELBOW

PE100  
Water PN16  
Gas 10 Bar  
d25x3/4" - 63x2"



### FEMALE TRANSITION 90° ELBOW

PE100  
Water PN16  
Gas 10 Bar  
d25x3/4" - 63x2"



### MALE TRANSITION 45° ELBOW

PE100  
Water PN16  
Gas 10 Bar  
d32x1" - 63x2"



### FEMALE TRANSITION 45° ELBOW

PE100  
Water PN16  
Gas 10 Bar  
d32x1" - 63x2"



### TRANSITION ADAPTOR BRASS (NOT COATED) - MALE

PE100  
SDR11  
Water PN16  
Gas 10 Bar  
d20x1/2" - 125x4"



### TRANSITION ADAPTOR BRASS (NOT COATED) - FEMALE

PE100  
SDR11  
Water PN16  
Gas 10 Bar  
d20x1/2" - 125x4"



### TRANSITION ADAPTOR BRASS DZR - MALE

PE100  
SDR11  
Water PN16  
Gas 10 Bar  
d20x1/2" - 125x4"



### TRANSITION ADAPTOR BRASS DZR - FEMALE

PE100  
SDR11  
Water PN16  
Gas 10 Bar  
d20x1/2" - 125x4"



### TRANSITION ADAPTOR STAINLESS STEEL - MALE

PE100  
SDR11  
Water PN16  
Gas 10 Bar  
d20x1/2" - 63x2"



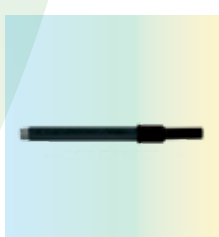
### TRANSITION ADAPTOR STAINLESS STEEL - FEMALE

PE100  
SDR11  
Water PN16  
Gas 10 Bar  
d20x1/2" - 63x2"



### PE - STEEL TRANSITION PIECE (WELDABLE END)

PE100  
SDR11 - Water PN16 / Gas 10 Bar  
SDR17 - Water PN10 / Gas upon request  
d25x3/4" - 400x16"



### PE - STEEL TRANSITION PIECE (THREADED END)

PE100  
SDR11  
Water PN16  
Gas 10 Bar  
d25x3/4" - 125x4"



### PE - STEEL CURVED TRANSITION PIECE (WELDABLE END)

PE100  
SDR11  
Water PN16  
Gas 10 Bar  
d25x3/4" - 63x2"



### PE - STEEL CURVED TRANSITION PIECE (THREADED END)

PE100  
SDR11  
Water PN16  
Gas 10 Bar  
d25x3/4" - 63x2"



### SUPA MAXI™ TRANSITION COUPLING

SERIES 635  
PN16  
Ductile Iron  
EN 14525  
DN50-300





**MAINS TO METER  
FACTORY ENTRY  
ELBOW**  
SERIES 217/31-001, 002  
PN5.5  
GIS/PL3  
PE x Screwed 001  
PE x Pipe End 002  
d40 x 1½" - 180x6"



**MAINS TO METER  
FACTORY ENTRY  
ELBOW WITH SPLIT  
FLANGE RING**  
SERIES 217/31-003  
PN5.5  
GIS/PL3  
d90x3" - 180x6"



**MAINS TO METER  
BUILDING ENTRY TEE**  
SERIES 219/31  
PN5.5  
GIS/PL3  
d20x¾" - 63x2"



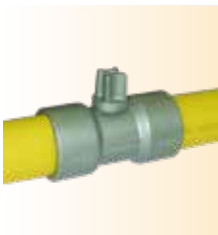
**MAINS TO METER  
BELOW GROUND ENTRY  
FITTING**  
SERIES 218/31-001, 002  
PN5.5  
GIS/PL3  
PE x Screwed 001  
PE x Pipe End 002  
d25 x ¾" - 180x6"



**MAINS TO METER  
BELOW GROUND ENTRY  
FITTING WITH SPLIT  
FLANGE**  
SERIES 218/31-003  
PN5.5  
GIS/PL3  
d90 x 3" - 180x6"



**MAINS TO METER  
METER MODULE RISER  
FITTING WITH SPLIT  
FLANGE**  
SERIES 218/41-001  
PN5.5  
GIS/PL3  
d25 x ¾" - 250x10"



**BALL VALVE -  
PE PIPE ENDS**  
SERIES 451/70  
PN4  
Ductile Iron Body  
Stainless Steel Ball  
GIS/V4  
GIS/PL3  
DN32-63mm



**BALL VALVE -  
PE TO SCREW ENDS**  
SERIES 451/73  
PN4/7  
Ductile Iron Body  
Stainless Steel Ball  
GIS/V4  
GIS/PL3  
DN25x1" - 63x2"



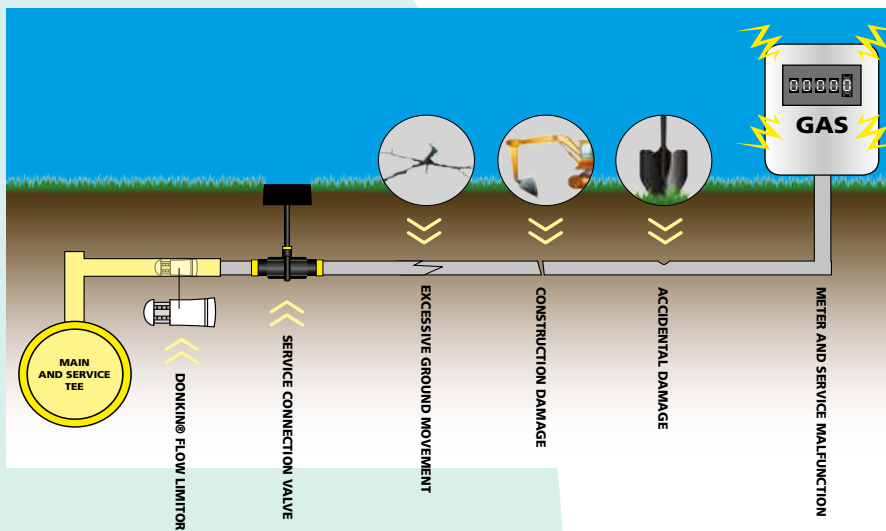
**TRANSITION COUPLER**  
SERIES 604  
PN2  
GIS/PL3  
Ductile Iron  
d90x3" - 355x12"



**PE100 FLANGE  
ADAPTOR**  
SERIES 39  
PN4/7  
PN16 (ASA 150 optional)  
Ductile Iron  
GIS/PL3  
EN 1092 (ISO 7005-2)  
d90-355

# FLOW LIMITORS

## FOR GAS AND WATER



Series 310 Flow Limitor range of emergency shut-off valves provide service line safety, service line theft protection and automatic shut off.

Should gas flow exceed limits the flow limiter will simultaneously trip and shut-off the gas, remaining closed until repairs have been made. Once the fault has been rectified, a small bleed-by flow enables the service to regain pressure, equalising the pressure with the main. The unit will automatically reset for normal operation without intervention.

The range consists of products that fit in the service pipe, tapping tee outlet and also integrated into electrofusion reducers. Sizes range from d25 to 32 with products approved to standards such as GIS/EFV1, MSS SP 115 or BGE/S/V/5.

### Features

- Tamper proof and maintenance free.
- Direction of flow indicator permanently moulded into the valve to ensure correct installation.
- Automatic self-acting operation.
- Installation at any angle.
- Bleed-by design provides automatic reset.
- All units are individually tested.



### ELECTROFUSION INTEGRAL FLOW LIMITOR

SERIES 310/080  
(Fits into Electrofusion Coupler or Reducer)  
Range: 0.69 Bar - 7 Bar  
MSS SP-115  
d32x20, 25 and 32



### FLOW LIMITOR

SERIES 310/061  
(Fits in tapping tee outlet)  
Range: 75 mBar - 5 Bar  
GIS/EFV1  
d32



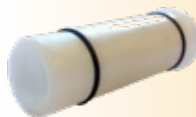
### FLOW LIMITOR

SERIES 310/063  
(Fits in tapping tee outlet)  
Range: 0.69 - 6.9 Bar  
MSS SP-115  
d32



### FLOW LIMITOR

SERIES 310/066  
(Fits into service pipe)  
Range: 500mBar - 4.0 Bar  
BGE/S/V/5  
MSS SP-115  
d25



### FLOW LIMITOR

SERIES 310/067  
(Fits into service pipe)  
Range: 500mBar - 4.0 Bar  
MSS SP-115  
d32



### COUPLER WITH EXCESS FLOW VALVE

PE100  
Gas 10 Bar  
d20-32



### REDUCER WITH EXCESS FLOW VALVE

PE100  
Gas 10 Bar  
d25x20-32x25

# EQUIPMENT AND ANCILLARIES

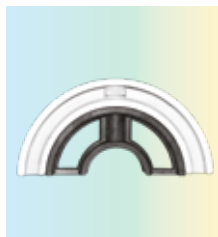


Fusion Group supplies a comprehensive range of equipment and ancillary tooling to help you achieve perfect joints across all pipe diameters.



### GATOR - AUTOMATIC BUTT FUSION

Gator 180, 250, 315 and 400



### GATOR LINERS

Liners to maximise the size of the Gator automatic butt fusion machine

180 – 400mm



### MANUAL BUTT FUSION

Welda 160 - 1200



### MANUAL BUTT FUSION LINERS

Liners to maximise the size of the manual butt fusion machine

160-1200mm



### EXTERNAL DEBEADERS

To remove external beads after butt fusion

125-400mm  
355-630mm  
400-900mm



### INTERNAL DEBEADERS

To remove internal beads after butt fusion

110-400mm  
(450mm with adaptor)



### CLEARBORE INTERNAL DEBEADER

To remove internal beads after butt fusion  
Specifically designed for cable ducting applications

110-250mm



### PIPE LIFTER 400

Assists with ejection and movement of polyethylene pipes during the welding process

Up to 400mm



### PIPE SUPPORT ROLLERS

To assist in the butt fusion welding process

63-315mm  
63-400mm  
315-630mm



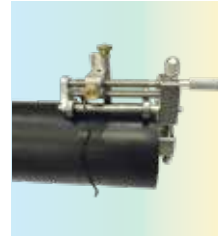
# EQUIPMENT AND ANCILLARIES



**SBOX MAX – ELECTROFUSION**  
Welds Fusamatic fittings from  
d20 – 630mm



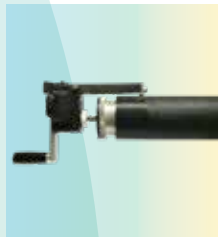
**SBOX LITE 220V – ELECTROFUSION**  
Welds Fusamatic fittings from  
d20-125mm



**UNIPREP SCRAPER**  
To prepare pipe ends prior to electrofusion  
63-250mm  
90-400mm  
125-500mm  
450-710mm



**UNIVERSAL SCRAPER**  
To prepare pipe ends prior to electrofusion  
63-250mm



**MULTI SCRAPE**  
To prepare pipe ends prior to electrofusion  
Designed with coiled pipe in mind  
20-63mm



**MULTI CLAMP**  
For alignment and restraint of pipe and electrofusion fittings  
63-180mm



**MINI CLAMPS**  
For alignment and restraint of pipe and electrofusion fittings for service connections  
20, 25 and 32mm



**VERSACLAMP**  
For alignment and restraint of pipe and electrofusion fittings  
20, 25 and 32mm



**ELBOW CLAMPS**  
For alignment and restraint of pipe and electrofusion fittings  
20, 25 and 32mm



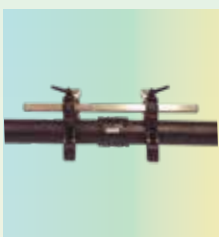
**MINI AND MAXI POSI CLAMPS**  
For alignment and restraint of pipe and electrofusion fittings  
MiniPosi (20-40mm)  
MaxiPosi (32-63mm)



**ALIGNMENT CLAMPS**  
For alignment and restraint of pipe and electrofusion fittings  
250mm



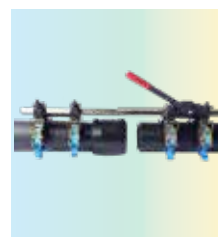
**TOP LOAD CLAMP**  
Strap clamp for use on top loaded saddles  
63-500mm



**STRAP CLAMP 200 STRAIGHT**  
For alignment and restraint of pipe and electrofusion fittings  
40-200mm



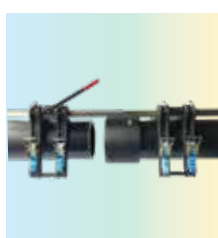
**STRAP CLAMP 200 KNUCKLE**  
For alignment and restraint of pipe and electrofusion fittings  
40-200mm



**STRAP CLAMP TITAN 200**  
For alignment and restraint of pipe and electrofusion fittings  
40-200mm



**STRAP CLAMP 500 STRAIGHT**  
For alignment and restraint of pipe and electrofusion fittings  
160-500mm



**STRAP CLAMP TITAN 500**  
For alignment and restraint of pipe and electrofusion fittings  
160-500mm



**T-ADAPTOR**  
Add on tool to enable strap clamps to be used for clamping tees  
40-200mm  
160-500mm



**HYDRAULIC PIPE CLAMPS**  
Hydraulically powered re-rounding and positioning clamps for supporting and restraining large diameter pipes and couplers  
400–900mm



**REROUNDING/POST SQUEEZE OFF CLAMPS**  
For re-rounding pipe after squeeze off has been applied  
50-250mm



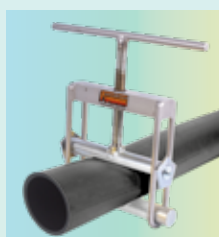
**REROUNDING TOOLS**  
Re-rounding tools for use on polyethylene coiled or oval pipe prior to electrofusion  
20-32mm  
40-90mm  
110-250mm



**MINI SQUEEZE TOOL**  
For use on SDR11 service pipes  
16-32mm



**SERVICE SQUEEZE TOOL**  
Squeeze tool for flowstopping on pipe  
16-63mm



**MECHANICAL SQUEEZE TOOL**  
Squeeze tool for flowstopping on pipe  
63–125mm



**200 HYDRAULIC MAINS SQUEEZE TOOL**  
Hydraulic squeeze tool for flowstopping on pipe  
63–200mm



**250 MAINS SQUEEZE TOOL**  
Mains squeeze tool for flowstopping on pipe  
180–250mm



**400 MAINS SQUEEZE TOOL**  
Mains squeeze tool for flowstopping on pipe  
250-400mm



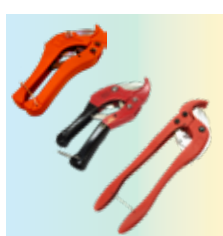
**GENERATORS**  
Manufactured to power electrofusion control boxes and automatic butt fusion machines  
5KVA / 7.5KVA  
Petrol or Diesel



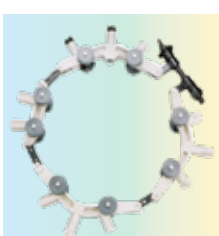
**FASTCUT DRILL**  
For use with large diameter electrofusion branch saddles  
250–500mm



**HAND SCRAPER**  
Used for scraping pipe areas prior to electrofusion  
1.5"  
2.5"



**SECATEURS**  
Secateurs for cutting polyethylene pipe  
16-42mm  
20-63mm



**JUMBO PIPE CUTTER**  
For cutting polyethylene pipe  
160-355mm  
355-630mm  
355-800mm



**GUILLOTINE CUTTER**  
For cutting polyethylene pipe  
63-125mm  
63-225mm  
63-315mm



**CUTTER KEY**  
Drive key tools for service/tapping tee integral cutters with 12mm hexagonal drives



**TEST CAPS**  
A range of reusable caps for the pressure testing of service/tapping tee fittings  
32 and 63mm

# ACCESS SYSTEMS

## FOR GAS AND WATER



Fusion offers a very comprehensive range of surface boxes in various material combinations: synthetic body with synthetic lids, synthetic body with cast iron lids, synthetic body with ductile iron surface plate/lid as well as cast iron body and lid.

### Boundary Boxes

The AVK PENTOBX range of Water Meter Boundary Boxes, comprises of a class leading, composite Grade B surface box able to withstand an 8 tonne loading and allowing, if required, Automated Meter Reading Technology (AMR). With patented push-fit connections in d20, 25 and 32mm, ½" HG and also ¾" BSP Female threaded.

### Surface boxes

Surface boxes are available in a floating design and a fixed/floating reversible design. The reversible surface box allows for deflection and internal fixation of telescopic extension spindles from both ends.

The fixed surface boxes of grey cast iron are height adjustable using ductile iron distance rings of a height of 10-50 mm.

### Fixed height surface boxes

Our fixed height synthetic surface boxes are DIN DVGW approved and designed to withstand heavy traffic loads. Therefore, they are often used in medium and heavy duty application areas.

Our Futura range is a lightweight and price competitive version and is often used in light to medium duty application areas.

### Height adjustable surface boxes

Fusion offers a wide range of DIN DVGW approved height adjustable surface boxes specifically designed for tarmac installation. The use of height adjustable surface boxes enables easy and precise installation thanks to flexible positioning of the top part. The top part ensures a safe and lasting alignment with the road surface preventing costly and time consuming corrections after installation and when roads are renovated.

As with all valves, best practice techniques should be used during installation and operation. To aid this process a series of recommended accessories is available, this includes a reliable installation and access system and retrofit extension spindles.

The valve access system consists of a support base, down pipe, surface box adaptor and surface box. The support base creates stability for the valve and avoids twisting of the pipe, but it also absorbs high loads and centres the down pipe installed on top of the valve ensuring valve operation at all times. The adaptor and surface box complete the valve access system. Besides giving access to the lower buried valve the surface box can bear media identification for easy recognition and, if required, customer specific logos.



**FIXED HEIGHT SURFACE BOX FOR SERVICE CONNECTION VALVES**  
SERIES 80/32-200  
Square top  
Cast iron lid  
PA+ body



**HEIGHT ADJUSTABLE SURFACE BOX FOR SERVICE CONNECTION VALVES ACCORDING TO DIN 4057**  
SERIES 80/32-100  
Cast iron lid  
PA+ body

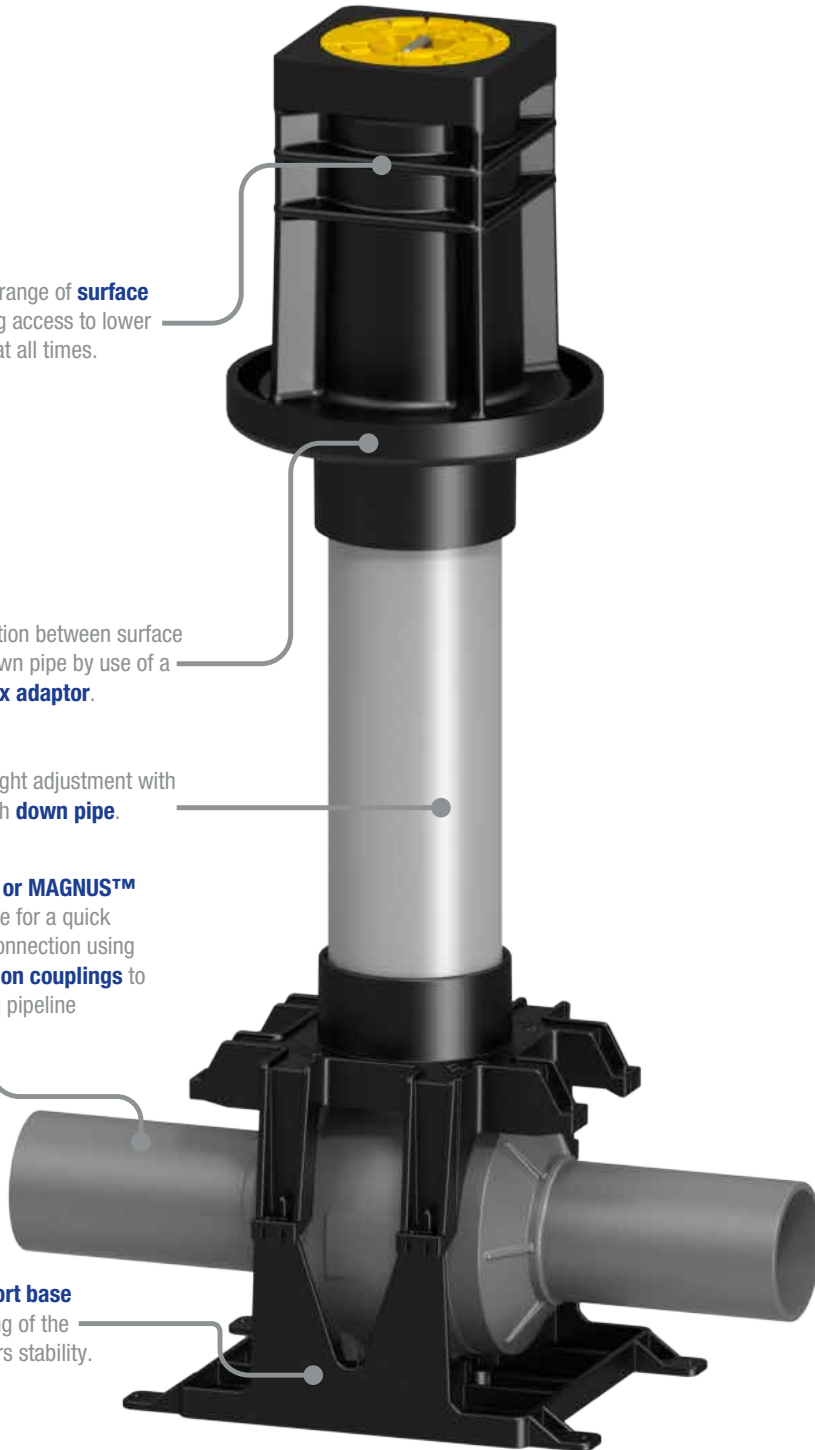
Fusion's wide range of **surface boxes** granting access to lower buried valves at all times.

Ideal transition between surface box and down pipe by use of a **surface box adaptor**.

Flexible height adjustment with cut to length **down pipe**.

**CERTUS™ or MAGNUS™** PE ball valve for a quick and easy connection using **Electrofusion couplings** to the existing pipeline

Robust **support base** avoids twisting of the pipe and offers stability.



**AVK PENTOBX WATER METER BOUNDARY BOX GRADE B VERSION, SEALED**  
 SERIES 8054/5211  
 BS 5834-1:2017  
 PN16  
 Polypropylene frame  
 d20-32, ¼" BSP, ½" HG



**AVK PENTOBX WATER METER BOUNDARY BOX GRADE B VERSION, SEALED**  
 SERIES 8054/2211  
 BS 5834-1:2017  
 PN16  
 Polypropylene frame  
 d20-32, ¼" BSP, ½" HG



**AVK PENTOBX WATER METER BOUNDARY BOX GRADE C VERSION, SEALED**  
 SERIES 8054/6211  
 BS 5834-1:2017  
 PN16  
 Polypropylene frame  
 d20-32, ¼" BSP, ½" HG



**AVK PENTOBX WATER METER BOUNDARY BOX GRADE B VERSION, UNSEALED**  
 SERIES 8054/8211  
 BS 5834-1:2017  
 PN16  
 Polypropylene frame  
 d20-32, ¼" BSP, ½" HG



**AVK PENTOBX WATER METER BOUNDARY BOX, CONTAMINATED GROUND GRADE B VERSION, SEALED**  
 SERIES 8054/52-002  
 BS 5834-1:2017  
 PN16  
 Polypropylene frame  
 ¾" BSP



**AVK PENTOBX WATER METER BOUNDARY BOX, DOUBLE OUTLET GRADE B VERSION, SEALED**  
 SERIES 8054/53  
 BS 5834-1:2017  
 PN16  
 Polypropylene frame  
 d25-32, ¼" BSP, ½" HG



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