



FUSAMATIC™
LARGE DIAMETER ELECTROFUSION
ELBOWS AND EQUAL TEES
FOR GAS AND WATER



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...”

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

ABOUT

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 customer, 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.

For further information on the Fusion Group product range download the Global PE Product Offer brochure from our website - www.fusiongroup.com
The Global PE Product Offer brochure features our extensive product range; PE ball and butterfly valves, electrofusion, spigot and transition fittings, access systems and associated equipment and ancillaries.



FUSAMATIC™ LARGE DIAMETER ELECTROFUSION ELBOWS AND EQUAL TEES



Manufactured in our world-class facilities, a new range of large diameter electrofusion elbows and equal tees in sizes 200, 225 and 250mm.

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.

Sizes

Fusamatic large diameter electrofusion elbows and equal tees are available in the following size range: 200mm, 225mm and 250mm. Elbows are available in 90° or 45° degrees.

An extension to our existing product range, Fusamatic electrofusion equal tees and 90° elbows are now available in sizes d20-250mm. 45° elbows are now available in sizes d32-250mm.

Pressure / SDR ratings

Fusamatic large diameter electrofusion elbows and equal tees are manufactured in PE100 black polyethylene and pressure rated up to 16 bar for water applications and 10 bar for gas applications.

The appropriate pipe SDR range for Fusamatic large diameter electrofusion elbows and equal tees is as per the list below:

- 200mm - 225mm: SDR11 - 17.6
- 250mm: SDR11 - 21

Specifications

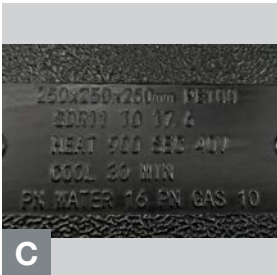
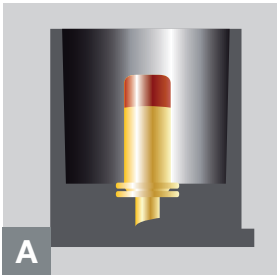
All Fusamatic large diameter electrofusion elbows and equal tees are tested and have 3rd party approval against the following standards:

- EN12201-3 / UNI EN12201-3
- EN1555-3 / UNI EN1555-3
- ISO 4427-3
- ISO 4437-3
- MS1058 Part 3
- AS/NZS 4129 and ISO Type 5
- AS/NZS 4129 and WaterMark Level 1



Features and Benefits

- Now available with 4mm or 4.7mm Fusamatic automatic welding pins supplied as standard - providing a totally automatic method for ensuring the correct welding parameters are used.
- Single coil design - one fusion cycle per fitting for time efficient installation.
- Suitable for jointing in ambient temperatures between -10°C and +40°C
- No temperature compensation required - single fusion time across installation temperature range.



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

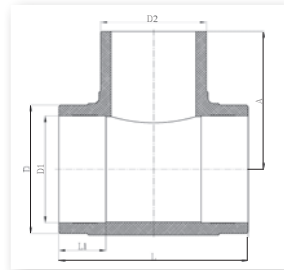
Quality control is central to the success of Fusion’s fittings. The unique barcode configuration, including QR code, provides full traceability of raw material for each individual fitting and welding information when used in conjunction with electrofusion boxes equipped with a barcode scanner.



Large Diameter Equal Tee

Specification

- PE100
 - Water PN16
 - Gas 10 Bar
 - 200 / 225mm: Pipe SDR range SDR11 - 17.6
 - 250mm: Pipe SDR range SDR11 - 21
 - d200 - 250
- 4mm and 4.7mm manual fittings available upon request



4mm Auto Pin Fitting Code	4.7mm Auto Pin Fitting Code	Fitting Size	L	L1	D	D1	D2	A	Fusion Time	Cooling Time	Weight	Box Quantity	Box Size (W X L X D)	Delivery Code 4mm Auto	Delivery Code 4.7mm Auto
		mm	mm	mm	mm	mm	mm	mm	secs	mins	Kg		mm		
ETBKHFA200	ETBKHA200	200	358	90	242	200	200	260	440	20	7.3	1	400 x 280 x 400	A	C
ETBKHFA225	ETBKHA225	225	406	105	271	225	225	285	600	30	9.4	1	420 x 310 x 440	A	C
ETBKHFA250	ETBKHA250	250	448	105	303	250	250	314	900	30	14.1	1	470 x 340 x 490	A	C

Fusamatic electrofusion equal tees are now available in sizes ranging from d20 - 250mm.

Visit our website www.fusiongroup.com to view the full range.

Delivery Codes

Products are categorised into 3 delivery codes which are based on our delivery commitments, these are as follows:

A = Available ex-stock, or up to 6 weeks

B = Up to 6 weeks

C = Upon enquiry

The above lead times are provided as an indication only and are manufacturing replenishment times in the event of a stock-out.

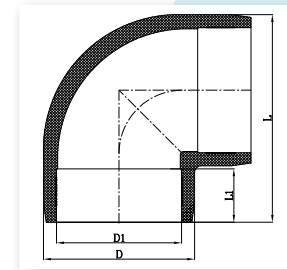
If your request is of an urgent nature, please email sales@fusiongroup.com or telephone +44(0)1246 268666 for further details regarding delivery commitments.



Large Diameter 90° Elbow

Specification

- PE100
- Water PN16
- Gas 10 Bar
- 200 / 225mm: Pipe SDR range SDR11 - 17.6
- 250mm: Pipe SDR range SDR11 - 21
- d200 - 250



4mm Auto Pin Fitting Code	4.7mm Auto Pin Fitting Code	Fitting Size	L	L1	D	D1	Fusion Time	Cooling Time	Weight	Box Quantity	Box Size (W X L X D)	Delivery Code 4mm Auto	Delivery Code 4.7mm Auto
		mm	mm	mm	mm	mm	secs	mins	Kg		mm		
EBKHFA200X90	EBKHA200X90	200	335	90	243	200	440	20	5.2	2	370 x 560 x 340	A	C
EBKHFA225X90	EBKHA225X90	225	376	100	274	225	600	30	7.4	2	400 x 600 x 390	A	C
EBKHFA250X90	EBKHA250X90	250	409	115	304	250	900	30	9.7	1	440 x 340 x 460	A	C

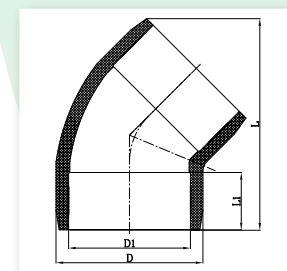
Fusamatic electrofusion 90° elbows are now available in sizes ranging from d20 - 250mm.

Visit our website www.fusiongroup.com to view the full range.

Large Diameter 45° Elbow

Specification

- PE100
- Water PN16
- Gas 10 Bar
- 200 / 225mm: Pipe SDR range SDR11 - 17.6
- 250mm: Pipe SDR range SDR11 - 21
- d200 - 250



4mm Auto Pin Fitting Code	4.7mm Auto Pin Fitting Code	Fitting Size	L	L1	D	D1	Fusion Time	Cooling Time	Weight	Box Quantity	Box Size (W X L X D)	Delivery Code 4mm Auto	Delivery Code 4.7mm Auto
		mm	mm	mm	mm	mm	secs	mins	Kg		mm		
EBKHFA200X45	EBKHA200X45	200	350	90	243	200	440	20	4.1	2	370 x 560 x 340	A	C
EBKHFA225X45	EBKHA225X45	225	377	100	274	225	600	30	5.6	2	400 x 600 x 390	A	C
EBKHFA250X45	EBKHA250X45	250	421	115	304	250	900	30	7.1	1	440 x 340 x 460	A	C

Fusamatic electrofusion 45° elbows are now available in sizes ranging from d32 - 250mm.

Visit our website www.fusiongroup.com to view the full range.

TYPICAL APPLICATION SCHEMATIC

EXAMPLE OF PRODUCT RANGE

Fusion Group are here to support you with a full package of products for your gas and water infrastructure project. For the full range visit our website www.fusiongroup.com

New
Extended range
of electrofusion
elbows and tees

A



A NEW range of large diameter electrofusion elbows and equal tees
Sizes 200, 225 and 250mm | Elbows available in 90° and 45°

B



C



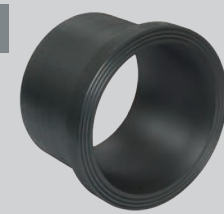
Electrofusion coupler
Sizes 20 - 630mm

D



Large diameter branch saddle (LDBS)
Simple, safe and cost-effective live connections on water and gas networks
Sizes 250 - 630mm | 150, 200 and 250 NP16 outlet size

E



Stub flange adaptor
Sizes range from 20 - 1200mm

F



Multiseal tapping tee
Delivering security, safety and speed at the point of installation
Stackload or underclamp
Sizes range from 40 - 355mm
20, 25, 32, 40, 50 and 63mm outlets

G



Series 158 under pressure drilling valve - GAS
Clear bore construction valve for use in under pressure gas distribution systems.

G



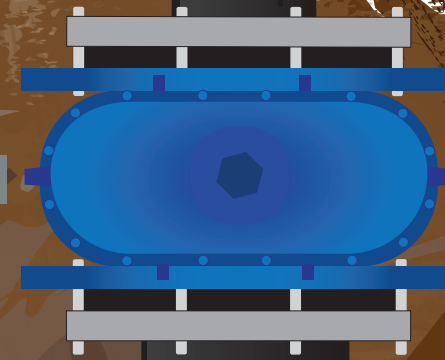
Series 555 cast iron gate valve - GAS
Flanged gate valve for the isolation of natural and manufactured gas.

G



Series 21 resilient seated gate valve - WATER
Resilient seat, wedge gate valve for isolation purposes in water and sewage networks.

G



Gator - Automatic Butt Fusion
The Gator range of automatic butt fusion machines have been designed and developed to be used on gas and water pressure polyethylene pipes for distribution networks
Various options available to weld pipe in the size range 63 - 400mm



SBOX Max - Electrofusion
The SBOX Max electrofusion welding machine gives you functionality, reliability and is capable of welding electrofusion fittings for gas, water and other pressure pipe applications from 20 - 630mm

F



C

E

Gas or Water

Distribution Network

A

B

D

C

ASSOCIATED PRODUCTS

PRODUCT SELECTOR GUIDE

Fusion Group are a leading innovator, manufacturer and supplier of products and services for gas and water polyethylene pipeline systems. For the full range visit our website www.fusiongroup.com



90° ELBOW
PE100
Water PN16
Gas 10 Bar
d20-250



45° ELBOW
PE100
Water PN16
Gas 10 Bar
d32-250



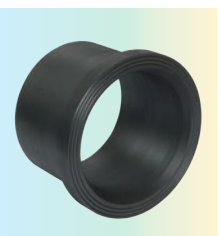
EQUAL TEE
PE100
Water PN16
Gas 10 Bar
d20-250



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



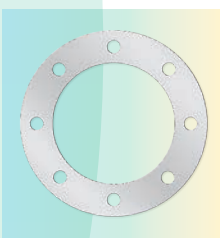
STUB FLANGE ADAPTOR
PE100
SDR 11 - Water PN16 /
Gas 10 Bar
SDR 17 - Water PN10 /
Gas 6 Bar
SDR 7.4 - Water PN25
SDR 9 - Water PN20
d20-1200



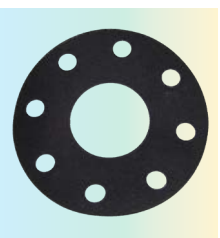
**STUB FLANGE ADAPTOR
- CHAMFERED
(SUITABLE FOR
BUTTERFLY VALVES)**
PE100
SDR 11 - Water PN16 /
Gas 10 Bar
SDR 17 - Water PN10 /
Gas 6 Bar
d160-1000



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



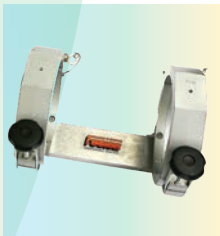
**FLANGE - GALVANISED
AND STAINLESS STEEL**
EN1092 - PN16 Drilling
EN1092 - PN10 Drilling
d20-630 (Pipe Diameter)



**FULL FACE GASKETS -
EPDM / NBR DUO**
EDPM - WATER
NBR - GAS
EN1092 - PN16 Drilling
EN1092 - PN10 Drilling
d20-630



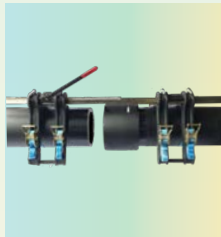
**SBOX MAX -
ELECTROFUSION**
Welds Fusumatic
fittings from
d20 - 630mm



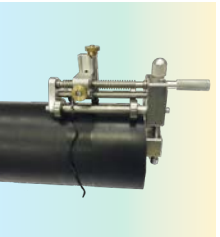
ALIGNMENT CLAMPS
For alignment and
restraint of pipe and
electrofusion fittings
250mm



**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



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



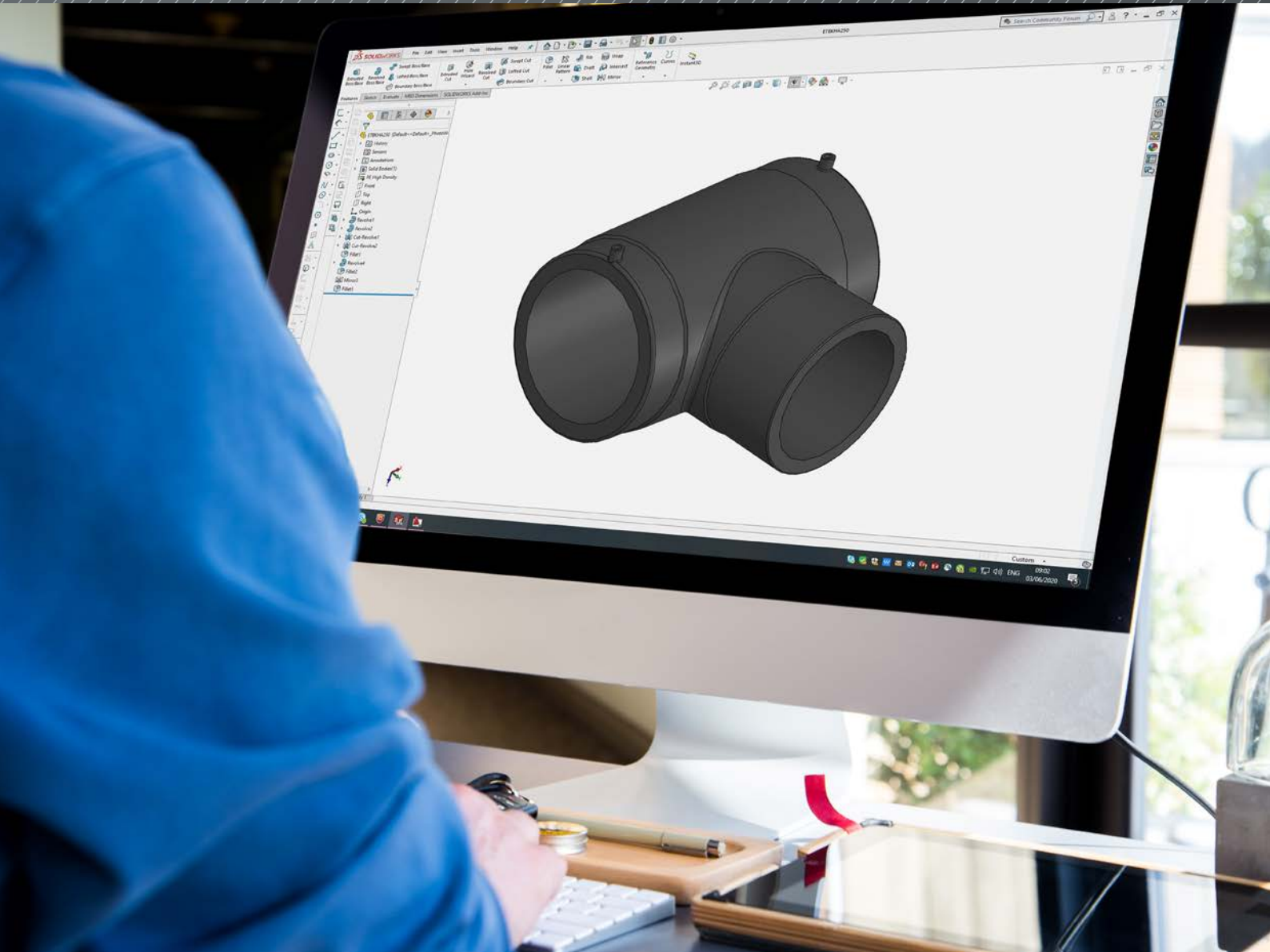
**PIPE SUPPORT
ROLLERS**
To assist in the butt fusion
welding process
63-315mm
63-400mm
315-630mm



GUILLotine CUTTER
For cutting polyethylene
pipe
63-125mm
63-225mm
63-315mm

Global PE Product Offer

For further information on the Fusion Group product range; download the Global PE Product Offer from our website - www.fusiongroup.com



Direct access to Fusion's BIM and CAD models at www.fusiongroup.com

Visit the Fusion Group website - www.fusiongroup.com for direct access to Fusion's BIM and CAD models, in .dxf, .igs and .step file formats.

The models provide customers with the ability to transfer 2D and 3D drawing data between a variety of CAD and BIM infrastructure design systems.



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