



→ **ELGEF® Plus**
electrofusion system

My system
My partner
My plus

ELGEF Plus → showing the way

ELGEF Plus is the electrofusion system for pressurised piping systems from Georg Fischer. Convincing due to its pioneering modular concept.



So the decision has been made to use plastics for the piping system? Then without a doubt our complete polyethylene system provides the perfect choice. Each single part has been developed to mix and match effectively and convincingly with all other system components. Whether for water, gas or other pressurised piping, above or below ground – ELGEF Plus is the exact answer.

The unique versatility of our fittings and saddles has made us the world's leading supplier of plastic piping systems. Our far-reaching and applications-led assortment of components includes, in addition to the modular electrofusion system, a comprehensive range of spigot end fittings. We provide market-oriented solutions utilising high quality products.



ELGEF Plus – the system with added value

Modularity is the strength of ELGEF Plus. Each individual fitting and saddle is made to match and when put together form reliable leak-proof connections. The outstanding customising possibilities of ELGEF Plus together with its flexibility are convincing and decisive customer benefits. Many different end combinations can be devised using just a few products.

Another hallmark of the ELGEF Plus modular concept is its limited stock requirement. As only a small number of fittings and saddles constitute the system, warehouse costs are low. This attractive feature reflects most positively on associated expenses. Installation engineers create tailor-made solutions on-site according to your individual requirements – quickly and flexibly.

ELGEF Plus
Everything is made
to match.

ELGEF Plus electrofusion coupler → the safe

ELGEF Plus electrofusion couplers join all PE pressure pipes and spigot fittings quickly and reliably.



- 1 A new design for electrofusion couplers in the medium-size ranges
- 2 Electrofusion couplers for large diameter pipes
- 3 Electrofusion couplers with integrated pipe fixation for sizes up to d63 mm

Your system

ELGEF Plus electrofusion couplers are available in the size range from d20 to d630 mm. Couplers are grouped into various size ranges. In this way, individual dimension requirements are fully satisfied. In the smaller sizes a coupler is available which especially fulfils service line conditions. Couplers up to d63 mm can be easily matched with all Georg Fischer threaded transition adapters.

The active reinforcement used for large couplers compensates for large differences in outer diameter tolerances. The extra large clearance permits easy assembly and accommodates the pipe ovality often found in practice.

The optimised use of materials in coupler manufacturing has a decisive and important environmental advantage.



connection



2



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What is gained

A covered coil winding design prevents any contact between medium and resistance wire. Therefore, the entire piping system has identical surface properties throughout. The coupler design concept provides an installation-friendly assembly. Large inside diameter, easy-to-hold form as well as integrated pipe fixation. The latest requirements have been closely considered when planning each size range. An even distribution of thermal penetration over the entire fusion zone is assured by the dynamic pitch technology of the heating coil.

➔ Your benefits

- easy assembly due to the tapered socket mouth
- each electrofusion socket has a smooth inside surface with a protected resistance wire permitting a thorough and simple removal of possible on-site contamination
- the dynamic pitch of the heating coil results in optimum joint quality
- clear identification with large and easily understandable product marking
- large and effective fusion area for your safety
- ideal gap closing characteristics for reliable PE large pipe joints
- integrated pipe fixation up to d63 mm for fast and safe jointing
- removable centre stop up to d160 mm – a coupler for all applications



ELGEF Plus electrofusion fittings → the attrac

ELGEF electrofusion fittings convincingly satisfy all demands with their attractive practical advantages and ease-of-assembly. You can combine them without reservation together with any other ELGEF Plus modular product.



Your system

The electrofusion fitting programme is unique for two reasons. Firstly, due to the complete range of elbows, tees, reducers and end caps extending from d20 to d250 mm. Secondly, because of the unlimited possibilities offered when combining such fittings in the sizes d20 to d63 mm with modular transition adapters. On top of this, the harmonised design of our complete range of fittings easily meets your demanding requirements.



Directional control

The advantages of using electrofusion fittings are now offered up to d250 mm. From the wrapping directly onto the prepared pipe end. One fitting, one joint and the direction can be reset. On-site cleaning becomes unnecessary due to the care and attention taken during manufacture and the sealed packaging used for all fittings.

A complete installation in the sizes between d20 and d63 mm can be easily pre-assembled without any difficulty using the integrated pipe fixation. The jointing procedure is then completed when everything is in its final position. The threaded adapters are screwed into position and then the direction chosen using the fitting. This is a crucial advantage in difficult conditions.



 **Your benefits**

- single source supplier – complete range even up to the very largest dimensions
- extensive variety of combination possibilities and ease-of-assembly with the modular transition adapters
- easy user-friendly pre-assembly due to integrated pipe fixation up to d63 mm
- highly automated manufacturing and process technology for flawless products
- tees may be connected using couplers or reducers

- 1** Design of small and medium size ranges
- 2** Supplied in kit form, on request: the third electrofusion outlet
- 3** 90° elbows as an example of extensive assortment

ELGEF Plus branch fitting →

ELGEF Plus branch fitting – the user-friendly solution for new installations or network extensions in water and gas distribution systems. For non-pressure applications – simply use a normal drill.

The ELGEF Plus branch fitting offers a user-friendly solution for new installations or network extensions. Whether a new installation, subsequent tie-in of mains or service line, hydrant connection, renovation or repair work – our branch fittings are faster and easier to use than standard tees. Branch fittings provide considerable savings with respect to material and overall costs.



- 1 Sub-assemblies can be easily prepared in advance
- 2 Branch fittings for user-friendly solutions
- 3 Unlimited possibilities

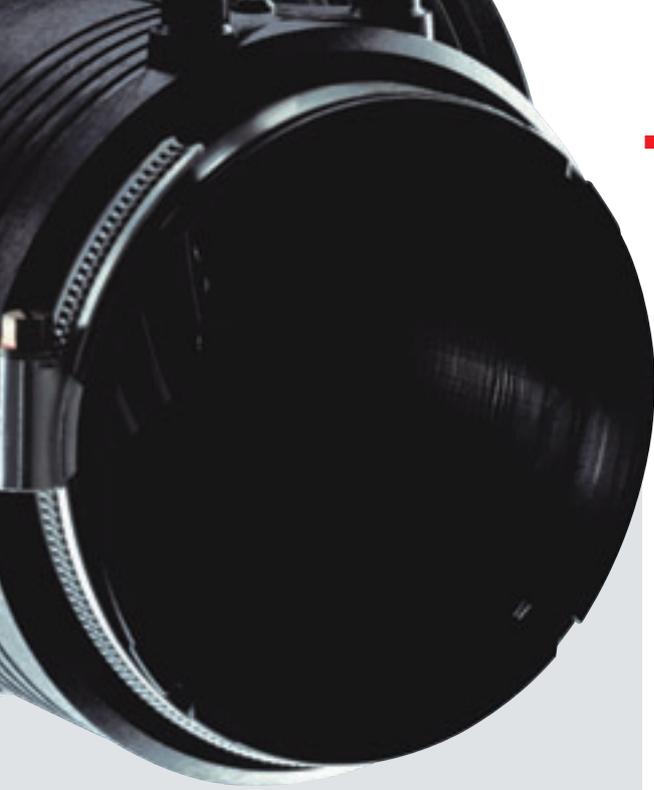


Why is this?

To begin with coiled pipes are laid without any disruption. Then the branch fitting is mounted and the connection for the non-pressure or pressurised pipe completed.

At the same time, the electrofusion outlet simplifies the workload considerably. As a result, the system offers maximum flexibility and economy-of-use. Naturally, all of this has a minimising effect on total time consumed as well as final costs.

Save time and money – with ELGEF Plus branch fittings.



→ for a flexible solution



→ Your benefits

- branch fittings can be installed and tapped under live mains conditions – so the main line must not be shut down or bypassed like when using tees
- fewer fittings required resulting in savings for material costs
- lower installation costs thanks to easy handling
- conventional tapping procedures, i.e. the use of existing, conventional tooling is possible
- integrated pipe fixation for the branch outlet

ELGEF Plus saddles → the convincing variations

ELGEF Plus modular saddles offer the ideal connection for all purposes.



Greater possibilities, increased flexibility, less stock – a contradiction? Not with the ELGEF Plus modular system.



Your system

ELGEF Plus modular saddles comprise a complete product package – tapping saddles, tapping saddles with Gas-Stop, pressure tapping valves, stop-off saddles, repair saddles and spigot saddles. The branch fitting – also called saddle – is at the heart of our modular system. All requirements are covered with just a few components.

Your application

When extending or replacing existing distribution networks, maximum flexibility can be assured with the use of our ELGEF Plus modular saddles. The saddles can be used equally well for water distribution networks up to 16 bar or for gas distribution purposes up to

10 bar working pressure as well as for a large variety of industrial applications. A complete saddle connection can be completed at full working pressure or under non-pressure conditions.



All saddle sizes from d40 to d250 mm are supplied with bottom saddle to ease assembly.



1 The branch saddle at the heart of the modular system

 Your benefits

- complete system with just a few parts
- reduced stock volume with savings of up to 50%
- 360° rotation of outlet permits infinitely variable positioning and wide freedom of movement during assembly
- vertical or horizontal fixation possible – exactly as site conditions dictate
- easy, flexible and fast attachment, therefore, substantially lower costs

ELGEF Plus transition adapters → the unlimited

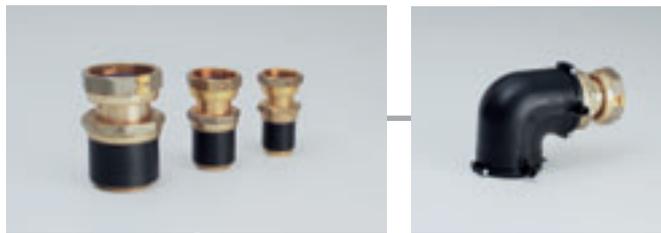
The ELGEF Plus transition range offers many practical solutions with just a few components.



Your system

The unique ELGEF Plus modular range of transition fittings permits wide product utilisation but is, nevertheless, limited to just a few component parts: transition couplers, 45° and 90° transition elbows, transition tees and transition reducers. All bodies are available either in brass or stainless steel with male or female threads and also with a loose collar. Therefore, one can decide in advance which fitting and transition should be taken from stock and combined for particular on-site applications. Of course, each individual fitting and transition combination is available as a separate kit.

connections



→ Your benefits

- modular concept – diverse combinations – only a few parts
- matching, fully interchangeable fittings and transitions
- low costs due to minimised stock volume
- brass and stainless steel transition adapters are available
- rotating transition adapters provide easy installation

Your application

All components that enable a transition from metal to polyethylene pipes form a very important part of any water and gas distribution network. They are frequently used as tie-ins for polyethylene piping in existing systems. Also for repair work.

Additionally, water meters can also be installed in an uncomplicated and reliable manner using such transitions. The ELGEF Plus rotating transition enables pumps and metal flow control valves to be connected easily and without complication to fixed line components even under difficult on-site conditions.



- 1 Transition coupler
- 2 Transition fittings (90° and 45° elbows, 90° tees and reducers)

MSA fusion control units → the reliable partner

The range of MSA control units offers the right unit for every application.

Our MSA control units offer comprehensive solutions from joint data recording to the highly-sophisticated Win-Weld software.



Your MSA control units

Complex demands with respect to today's electrofusion technology for water and gas distribution networks are entirely fulfilled by MSA control units. These units are valued because of their user-friendliness, easy handling and especially their performance. For each application, whether MSA 250, 300, 350 or 400, one can choose exactly which unit is needed – no more, no less. Robust cast aluminium housing, close attention to quality during manufacture, careful selection of components, low overall weight and latest technology – are offered by all of these control units.

MSA 250: This control unit is a complete all-rounder. Fusion data input either by barcode reader pen or, as an alternative, manually. The menu guide is straightforward and language-independent. The inverter technology permits maximum output even at poor generator performance levels. Simple and strong. The 11.5 kg lightweight partner for daily use.

MSA 300: In addition to the functions of the MSA 250, this unit contains a 24-language menu guide. This reliable control unit is in daily use from China to Chile. It bridges over on-site multi-cultural language barriers and oversees

each joint safely and reliably. The unit indicates status and any possible faults as a visible text and supports an efficient work flow on site.

MSA 350: The unit with a fusion data recording option. In gas distribution circles, fusion data recording forms an important milestone towards successful co-operation between installer and network operator. In addition to the functions of the MSA 300, the MSA 350 has a memory storage capability for 750 fusion records. The Win-Weld software provides support for the evaluation of





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1 For every application, the right solution: MSA 250, MSA 300, MSA 350 and MSA 400

Your options with the Win-Weld software package:

- individual configuration of fusion devices
- fusion data processing and organisation
- creating individual barcodes
- reading out of fusion data
- piping system documentation according to ISO 12176-4

2 Data processing via interface or data carrier

all data and with the configuration of the unit. Barcodes can be created to control procedures, limit operator access and allocate individual order numbers on the retrievable data. You can also choose to pre-set and optimise all process functions either on-site or beforehand in the comfort of your office.

MSA 400: This unit combines all the features of the MSA 350, but also provides full traceability for all associated pipeline components. In the future, traceability of on-site process procedures and all components will play an

important role in the co-operation between manufacturer, installer and operator. Regulations will also cover the limitation of unit usage to qualified personnel, require continuous data recording and management, as well as more innovative solutions in control unit technology. Already the MSA 400 electrofusion control unit with traceability function, in co-operation with the matching MSA Win-Weld operational software, provides a complete solution for the management of these tasks. Configure all operating procedures according to your individual wishes and achieve highest levels of safety for your distribution network.



 **Your benefits**

- reliability in your fusion process
- improved work quality
- robust design
- user guidance in more than 24 languages
- long service life
- rational working

Spigot fittings → the proven technology



Georg Fischer spigot fittings provide a natural extension to the ELGEF Plus electrofusion programme. Proven technology with a broad and diversified range.

Your system

The extensive spigot fitting range from Georg Fischer is the natural complement to the ELGEF Plus electrofusion programme. Elbows, tees, bends, reducers, end caps and flange adapters in the sizes from d20 to d630 mm are all available. These spigot fittings can be easily combined with ELGEF Plus electrofusion couplers or fittings, illustrating their pronounced diversity. This variety and wide range are especially interesting for those important applications. Additionally, reducers and reduced outlets can prove indispensable under difficult conditions.

So much is certain

The well-known and well-proven spigot fitting is, as always, technically up-to-date. Decades of injection moulding experience in combination with the latest processing technology place our products at the peak of quality. The exclusive use of high-grade PE 100 material assures efficient utilisation even under demanding conditions.



Wall thicknesses in SDR 11 and from d90 mm also in SDR 17/17.6 provide you with a sufficient scope for detailed network design.



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- 1 Wide range with respect to diameter and outlet
- 2 For example, end caps extend from d20 to d630 mm
- 3 Typical fitting types



 **Your benefits**

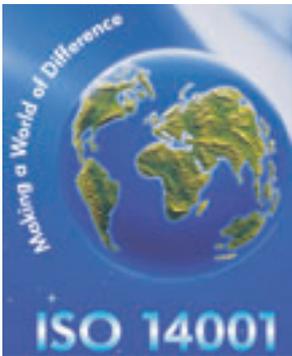
- wide assortment of fittings and sizes
- high quality manufacturing
- full compatibility with existing piping from PE 63, PE 80 and PE 100
- long spigot end versions are suitable for both electrofusion and butt fusion jointing – assuring on-site flexibility
- individually wrapped in PE foil to protect against on-site contamination

We do more for our customers

High level technical production methods produce decisive benefits. Highest standards of quality are therefore fulfilled.



Our production facilities are ISO 9001 certified.



Environment management implies professional treatment of environmental issues. Certification to ISO 14001 is just the start. Continual self-evaluation and improvement is a further obligation.

Modern production technology and highest quality levels

Creating added value for your satisfaction is the declared goal of Georg Fischer.

How can we achieve this?

Our highly technical production methods assure maximum levels of quality. In all respects. It also greatly simplifies logistics. Any possible product contamination is avoided. Additionally, the fully-automatic manufacturing process completely eliminates inadvertent faults. The high quality level is under constant supervision. Just-in-time delivery and, last but not least, a good price are additional benefits of the fully automatic manufacturing process.

Local presence and advice – worldwide

Competent practice-related operator training and close customer support are important success factors. In addition to top grade products, we offer a first-class customer-focused service. Georg Fischer is very active on a global basis with sales organisations in 24 different countries and production locations in North America, Asia as well as Europe. We are represented in a further 40 countries through well-trained distributors and partners. Therefore, from the planning stage to realisation close and intensive customer support is assured by our local specialists. And this throughout the world.



Competent training

Our intensive training courses give users a chance to receive the knowledge and skills required for all piping system products. We offer such courses, for example, in our modern Training Centre in Schaffhausen. The courses can also be held in one of our sales companies or on the premises of one of our partners or distributors based around the world.



1



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Your plus → ELGEF Plus

Customising – tailor-made solutions for our customers

Georg Fischer has the right solutions for practice-related problems. We realise special customer-oriented solutions as well as tailor-made products trimmed to your particular needs.

Single sourcing

We provide the most versatile product packages. Our sales companies and distributors will be pleased to assist you. Global market support is guaranteed.

→ Your benefits

- state-of-the-art technology
- technically advanced production methods
- full traceability of all PE components in accordance with ISO 12 176
- continuously monitored high-grade product quality
- global presence
- tailor-made customer-focused solutions
- product packages – all from one supplier

Georg Fischer creates added value – for your benefit.

Request full details of our comprehensive training programmes.

www.piping.georgfischer.com

Visit our Internet website around the clock for the latest information from Georg Fischer. You are always in the picture regarding the current status of your order or product availability.



- 1 Worldwide customer support
- 2 In-house training, worldwide
- 3 On-line information

GF Piping Systems → worldwide at home

Our sales companies and representatives ensure local customer support in over 100 countries.

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Australia

Georg Fischer Pty Ltd
Unit 1, 100 Belmore Road
Riverwood NSW 2210 Australia
Phone +61(0)2/9502 8000
australia.ps@georgfischer.com
www.georgfischer.com.au

Austria

Georg Fischer
Rohrleitungssysteme GmbH
3130 Herzogenburg
Phone +43(0)2782/856 43-0
austria.ps@georgfischer.com
www.georgfischer.at

Georg Fischer Fittings GmbH
3160 Traisen
Phone +43 (0)2762 90300
fittings.ps@georgfischer.com
www.fittings.at

Belgium/Luxembourg

Georg Fischer NV/SA
1070 Bruxelles/Brüssel
Phone +32(0)2/556 40 20
be.ps@georgfischer.com
www.georgfischer.be

Brazil

Georg Fischer Ltda
04795-100 São Paulo
Phone +55(0)11/5687 1311
br.ps@georgfischer.com

China

Georg Fischer
Piping Systems Ltd Shanghai
Pudong, Shanghai 201319
Phone +86(0)21/58 13 33 33
china.ps@georgfischer.com
www.cn.piping.georgfischer.com

Denmark/Iceland

Georg Fischer A/S
2630 Taastrup
Phone +45 (0)70 22 19 75
info.dk.ps@georgfischer.com
www.georgfischer.dk

France

Georg Fischer SA
Bâtiment Le Rabelais Paris Nord 2
22 Avenue des Nations
BP 88026 Villepinte
95932 Roissy Charles de Gaulle Cedex
Phone +33(0)1 41 84 68 84
fr.ps@georgfischer.com
www.georgfischer.fr

Germany

Georg Fischer GmbH
73095 Albershausen
Phone +49(0)7161/302-0
info.de.ps@georgfischer.com
www.vgd.georgfischer.de

India

Georg Fischer Piping Systems Ltd
400 093 Mumbai
Phone +91 224007 201
in.ps@georgfischer.com

Italy

Georg Fischer S.p.A.
20063 Cernusco S/N (MI)
Phone +3902/921 861
it.ps@georgfischer.com
www.georgfischer.it

Georg Fischer TPA Srl
Via Bonazzi, 32
IT-40013 Castel Maggiore (BO)
Phone +39 051-632 42 11
tpa.ps@georgfischer.com
www.alprene.com

Japan

Georg Fischer Ltd
556-0011 Osaka,
Phone +81(0)6/6635 2691
jp.ps@georgfischer.com
www.georgfischer.jp

Korea

Georg Fischer Piping Systems
#902 Ace Techno-Tower III
197-48, Guro-dong, Guro-gu
Seoul 152-050 Korea
Phone +82 2 851 3861/3862
Fax +82 2 851 3844
kor.ps@georgfischer.com

Malaysia

Georg Fischer (M) Sdn. Bhd.
47500 Subang Jaya
Phone +60 (0)3-8024 7879
conne.kong@georgfischer.com.my

Middle East

Georg Fischer Piping Systems
Dubai, United Arab Emirates
Phone +971 4 289 41 20
gfdubai@emirates.net.ae
www.piping.georgfischer.com

Netherlands

Georg Fischer N.V.
8161 PA Epe
Phone +31(0)578/678 222
nl.ps@georgfischer.com
www.georgfischer.nl

Georg Fischer WAGA NV
NL-8160 AG Epe
Phone +31 (0)578-678 378
waga.ps@georgfischer.com
www.waga.nl

Norway

Georg Fischer AS
1351 Rud
Phone +47(0)67 18 29 00
no.ps@georgfischer.com
www.georgfischer.no

Poland

Georg Fischer Sp. z o.o.
02-226 Warszawa
Phone +48(0)22/313 10 50
poland.ps@georgfischer.com
www.georgfischer.pl

Romania

Georg Fischer
Rohrleitungssysteme AG
70000 Bucharest - Sector 1
Phone +40(0)1/222 91 36
ro.ps@georgfischer.com

Russia

Georg Fischer Piping Systems
Office 14a, 3 Entrance, 9 Floor
Business Center Parus
1st Tverskaya-Yamskaya Street, 23
Moscow 125047
Tel. +7 495 258 60 80
ru.ps@georgfischer.com

Singapore

Georg Fischer Pte Ltd
528 872 Singapore
Phone +65(0)67 47 06 11
sgp.ps@georgfischer.com
www.georgfischer.com.sg

Spain/Portugal

Georg Fischer S.A.
280046 Madrid
Phone +34(0)91/781 98 90
es.ps@georgfischer.com
www.georgfischer.es

Sweden/Finland

Georg Fischer AB
12523 Älvsjö-Stockholm
Phone +46(0)8 506 775 00
info.se.ps@georgfischer.com
www.georgfischer.se

Switzerland

Georg Fischer
Rohrleitungssysteme (Schweiz) AG
8201 Schaffhausen
Phone +41(0)52 631 30 26
ch.ps@georgfischer.com
www.piping.georgfischer.ch

Taiwan

Georg Fischer Piping Systems
2F, No. 88, Hsing Te Road
San Chung City
Taipei Hsien, Taiwan (R.O.C.)
Phone +886 2 8512 2822
Fax +886 2 8512 2823

United Kingdom/Ireland

Georg Fischer Sales Limited
Coventry, CV2 2ST
Phone +44(0)2476 535 535
uk.ps@georgfischer.com
www.georgfischer.co.uk

USA/Canada/Latin America/Caribbean

Georg Fischer Inc.
Tustin, CA 92780-7258
Phone +1(714) 731 88 00
Toll Free 800/854 40 90
us.ps@georgfischer.com
www.us.piping.georgfischer.com

Export

Georg Fischer
Piping Systems (Switzerland) Ltd.
8201 Schaffhausen
Phone +41 (0)52-631 30 26
Fax +41 (0)52-631 28 93
export.ps@georgfischer.com
www.piping.georgfischer.ch

GMST 5949/4 (9.06)

© Georg Fischer Piping Systems Ltd
CH-8201 Schaffhausen/Switzerland, 2006
Printed in Switzerland

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