

GF Piping Systems

+GF+

Infinite possibilities

ELGEF Plus



ELGEF Plus

More than 25 years of quality



ELGEF Plus is a made-to-match polyethylene product range for pressurized (water and gas) piping systems.

Then vs. Now

As a well-known system provider, GF Piping Systems entered the water and gas market with the ELGEF brand in 1974. The product range, consisting of various couplers and fittings, was made of PE80, a proven polyethylene grade. In the following years, the products developed and polarized through innovations, such as the first electrofusion polyethylene tapping saddle in 1975.

In order to take the range to the next level and create more possibilities with the existing ideas, GF Piping Systems launched, for the first time worldwide, a polyethylene system made of PE100. The third generation of PE material not only positively affected lifetime expectancies (over 100 years) but also enabled full pressurized use of the products up to 16 bars in water and 10 bars in gas applications.

Only by translating customer needs and desires into technical specifications, it was possible to offer a flexible system that could cover different applications even under the most challenging conditions.

Throughout the years, the product range of ELGEF Plus kept growing and re-innovating itself. From patented technologies and pioneering ideas, the brand developed a significant positive impact on the market.

Until today the unique versatility and high reliability of ELGEF Plus fittings and saddles have made GF Piping Systems the world's leading supplier of plastic piping systems. The far-reaching assortment of components includes a broad range of spigot fittings in addition to the extended electrofusion fittings range and its unique modular electrofusion system. GF Piping Systems provides market-oriented solutions utilizing high-quality products and by that extremely safe electro- and buttfusion welds. On top of that, the company offers the complete system package, including ELGEF Plus made-to-match tools, welding machines, and services.

Moreover, the outstanding customizing possibilities of ELGEF Plus, together with its flexibility, are convincing and result in decisive customer benefits. GF Piping Systems offers many different end combinations using just a few products, enabling efficient installations and infinite application possibilities.

Not only proved the polyethylene range to be reliable under all circumstances, but it also contributes to the world's sustainability by having one of the lowest carbon footprints compared to metal systems.



Close contact with the market and customers throughout more than 25 years allowed GF Piping Systems to offer infinite solutions led by trusted partnerships, peace of mind, and high performance.

The product range offers peace of mind through outstanding quality and leak-tight connections resulting in over 25 years of customer satisfaction. As an additional benefit, GF Piping Systems offers Specialized Solutions (Customizing, Prefabrication, ...) to support the customer in all project stages.



Being able to connect fixed pipe runs to ELGEF Plus couplers without a problem saves valuable installation time.



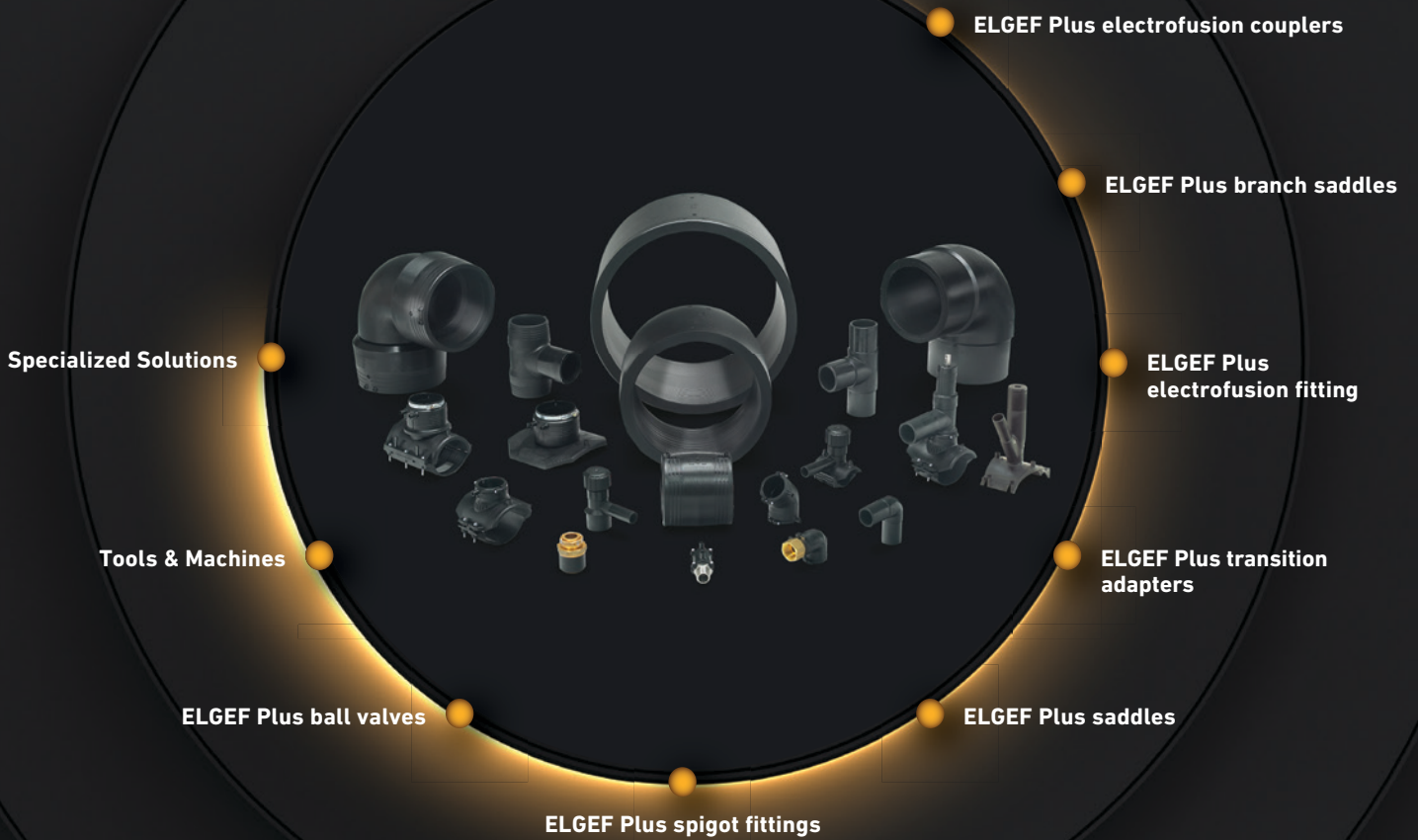
Anto Injic

Project Manager at Alois Bader AG

Lucerne, Switzerland

ELGEF Plus

Product overview



Highlights

Create “Connections for life” by using our corrosion-free, leak-proof, system of ELGEF Plus. With that, you can ensure to keep the water and gas distribution in your systems continuous and reduce the non-revenue water in your system.



Peace of mind

To go beyond customer's needs of safety and continuous high performance the component system of ELGEF Plus gets thoroughly checked. Through intensive testing in GF Piping Systems' accredited laboratory (ISO/IEC 17025) in Schaffhausen, Switzerland. On top of that the high-performance products are certified by over 90 approvals and certificates worldwide.

Furthermore, GF Piping Systems only uses fully compounded 100% virgin PE resins, approved by the PE100+ Association. This assures not only a high-quality material but also an outstandingly long lifetime performance.



Trusted partnerships

With over 25 years of experience in the market, ELGEF Plus has proven its quality and durability to its customers around the globe. Customers rely on the extensive solutions and services offered by GF Piping Systems to get the best results and success in their piping network projects. Customer proximity is valued as a key factor here – continuing support throughout the different project stages as well as local proximity. This includes not only technical support for challenging situations, but also further possibilities, such as on-site or off-site trainings, to ensure secure and efficient installations.



High performance even at extreme situations

Once laid, PE pipes absorb surges in pressure, vibration, and stress caused by soil movements or natural ground movements. This reduces the risks of breaks and leaks, therefore creating safety through flexibility. Keep your peace of mind in relining or horizontal drilling of piping systems due to the compatibility with trenchless technologies, avoiding long construction times, unnecessary damage to the infrastructure, like cutting roads, increased traffic, and noise pollution.

ELGEF Plus

Electrofusion couplers



ELGEF Plus electrofusion couplers join all PE pressure pipes and spigot fittings quickly and reliably. ELGEF Plus electrofusion couplers are available in sizes ranging from d20 to d1200 mm. Couplers are grouped into various size ranges. In this way, individual dimension requirements are fully satisfied.

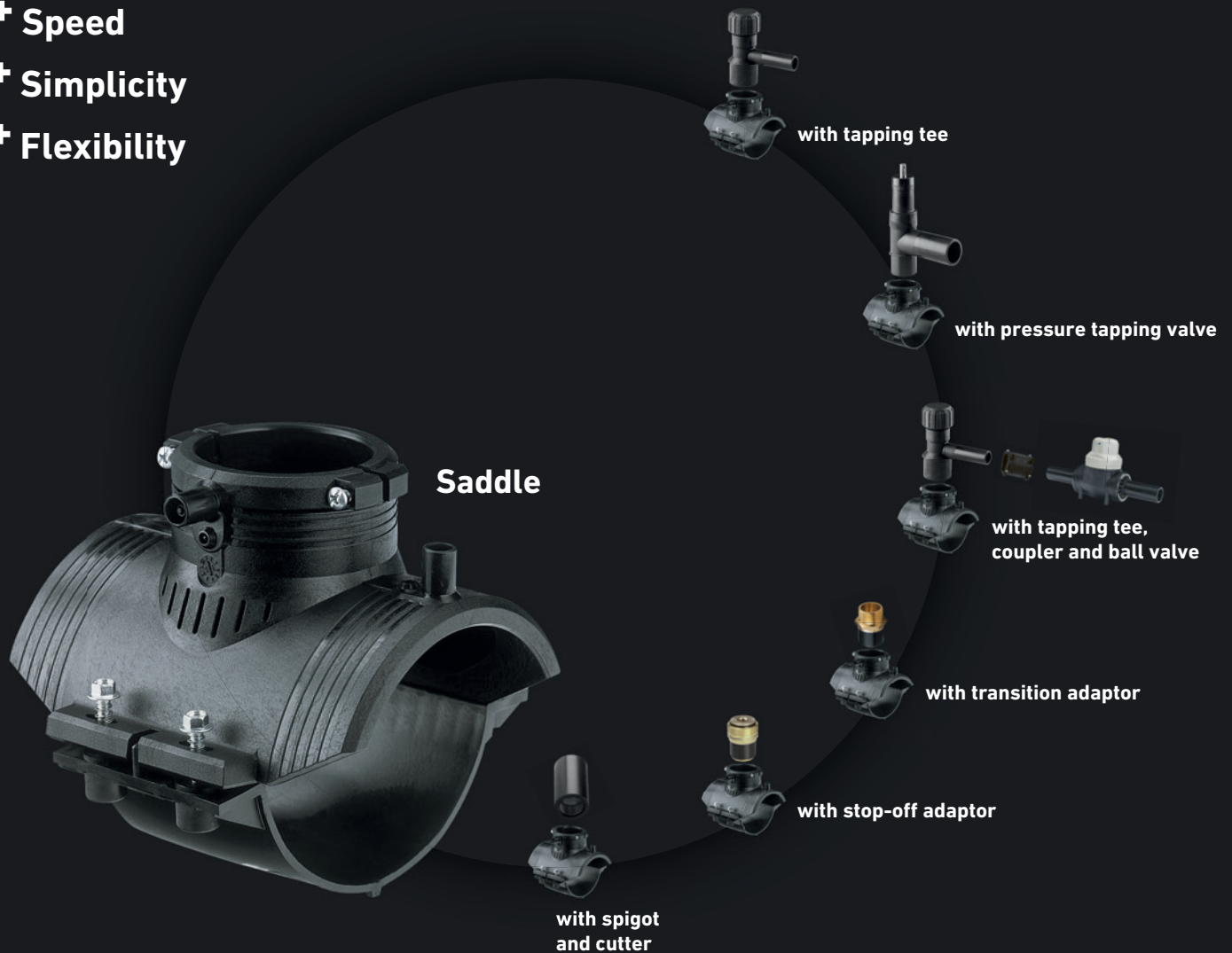
The patented active reinforcement used for large couplers in dimensions d355 up to d800 mm compensates for large differences in outer diameter tolerances. The extra-large clearance permits easy assembly and accommodates the pipe ovality often found in practice.



The only programme with a modular system!

With the ELGEF Plus electrofusion saddle at its core, the installation guarantees ...

- + Speed
- + Simplicity
- + Flexibility



ELGEF Plus modular saddles offer the ideal connection for all purposes. The modular saddle range comprises 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 the heart of our modular system. Infinite requirements are covered with just a few components.

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 saddle connection can be completed at full working pressure or under non-pressure conditions.

Branch saddle

ELGEF Plus branch saddle – the user-friendly solution for new installations or network extensions in water and gas distribution systems. Whether a new installation, subsequent tie-in of mains or service, hydrant connection, renovation, or repair work – our branch saddles are faster and easier to use than standard tees.

Coiled pipes or pipes using trenchless techniques can be laid without disruptions. Then the ELGEF Plus branch saddle is mounted, and the connection for the non-pressurized or pressurized pipe is 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 minimizing effect on total time consumption as well as final costs. Create infinite peace of mind – with ELGEF Plus branch saddles.





Get to know the latest development – ELGEF Plus Y-Tapping Saddle

Working with data from field tests and thanks to advanced engineering, we've reimagined and re-designed our ELGEF Plus tapping saddle. A new lever and belt design to assemble the saddle on the pipe brings ease of handling to a new level.



The new ELGEF Plus Y-tapping Saddle range provides the fastest assembly on the pipe, made possible by its new lever design. Not only is it easy to handle, but it also makes it simple to work under challenging conditions like expanded pipes, extreme temperatures and narrow trenches. ELGEF Plus Y-tapping saddles in all dimensions from d180–315 mm feature the groundbreaking Y-design with a 30° outlet, leakage-free tapping with an integrated cutter, fix end stops and the well-known ELGEF Plus electrofusion technology. The innovative Y-shaped design with optimized flow characteristics and reduced pressure losses helps decrease operational cost of the network. The saddles are part of our well-established ELGEF Plus system and used for pressurized piping systems in water, gas, and various industrial applications.

Electrofusion fitting



ELGEF Plus electrofusion fittings convincingly satisfy all demands with attractive, practical advantages and ease of assembly. The electrofusion fitting program 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 with modular transition adapters.

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 between d20 and d63 mm sizes can be easily pre-assembled without any difficulty using the integrated pipe fixation.

Transition adapters



The unique ELGEF Plus modular range of transition fittings permits comprehensive product utilization. Still, it is limited to just a few parts: transition couplers, 45°, and 90° transition elbows, transition tees, and transition reducers. All bodies are available in brass or stainless steel with male or female threads. Therefore, one can decide in advance which fitting and transition should be taken from stock and combined for particular on-site applications.



All components that enable a transition from metal to PE pipes form a vital part of any water and gas distribution network. They are frequently used as tie-ins for PE piping in existing systems and for repair work. Additionally, water meters can be installed uncomplicated and reliable using such transitions. The ELGEF Plus rotating transition enables pumps and metal flow control valves to be connected without complications to fixed line components even under difficult on-site conditions.

Spigot fittings



GF Piping Systems spigot fittings provide a natural extension to the ELGEF Plus electrofusion program. Proven technology with a broad and diversified range. The extensive spigot fitting range from GF Piping Systems is the natural complement to the ELGEF Plus electrofusion program. Elbows, tees, bends, reducers, end caps, and flange adapters in d20 to d1000 mm are all available. The ELGEF Plus spigot fittings (up to d800 mm) are suitable to use under full pressure, which creates an additional safety factor for your piping system.

These spigot fittings can be easily combined with ELGEF Plus electrofusion couplers or fittings, illustrating their pronounced diversity and creating infinite possibilities for applications. The well-known and well-proven spigot fittings are technically up-to-date. Decades of injection molding experience, combined with the latest processing technology, place our products at the peak of quality.



GF Piping Systems offers extremely well-matched products, devices, and tools. This optimized our operations and we were able to lay the lines quickly and securely.



Andreas Weber

Construction Supervisor at Pro Bau
Munich, Germany



Making your global footprint sustainable

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Not only proved the polyethylene range to be reliable under all circumstances, but it also contributes to the world's sustainability by having one of the lowest carbon footprints compared to metal systems.
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Axel Mathis
Network Infrastructure Project Manager at Energie 360°
Zurich, Switzerland

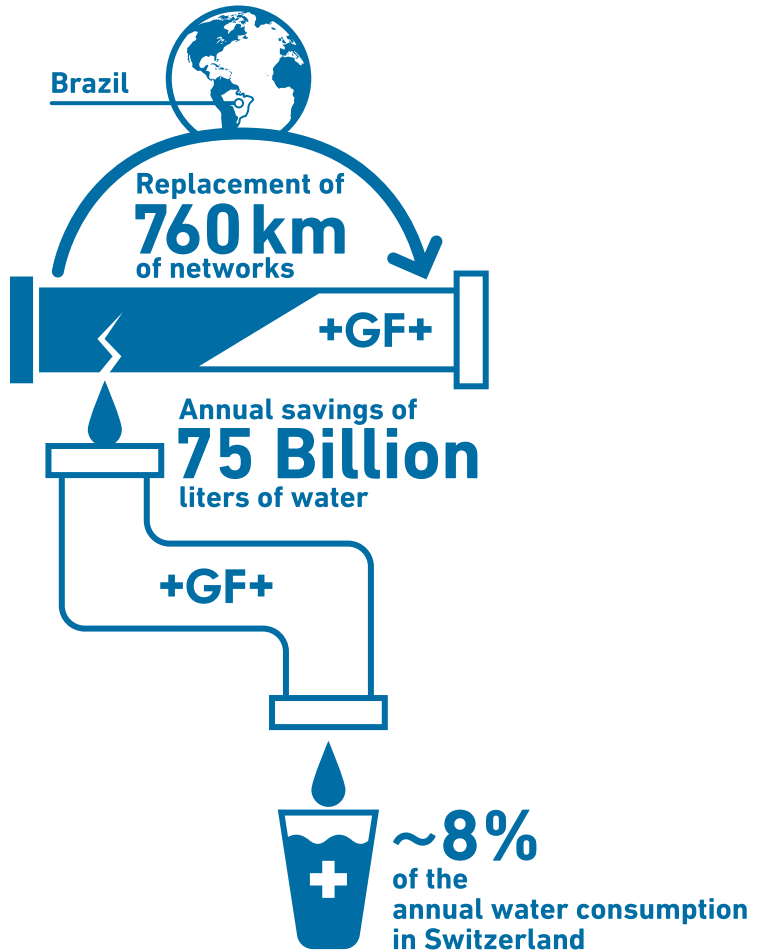


As a company that is active worldwide, it is our mission to show our commitment, by supporting our customers' success with innovative, energy-saving solutions making the collective global footprint more sustainable. GF is a participant of the UN Global Compact, with GF Piping Systems directly contributing to the United Nations' Sustainable Development Goals.

GF Piping Systems is making flow sustainable: Environmental regulations, water scarcity and increasing demand of consumers and society for greener and more sustainable solutions is an important set of trends shaping customer behavior. Our mission at GF Piping Systems is to make sure that customers enjoy sustainable flows of water and gas, without safety issues, leakages and other environmentally challenging consequences.

Saving water around the world

In the utility sector, our corrosion-free solutions help to reduce drinking water losses due to leaks. The Brazilian water and waste management company Sabesp currently loses 35% of its water distribution due to leakage. GF Piping Systems is supporting the water loss program by providing reliable PE piping systems including the ELGEF Plus product range for the replacement of 761 km of networks, to lower losses to 30%. This will result in an expected water savings of 7400 l per second in the Sao Paulo region, annually 75 billion liters, which is equivalent to 8% of Switzerland's annual drinking water consumption.



Infinite possibilities ELGEF Plus

**Pioneering
introduction**

**Convincing
with strong
innovations**

**Infinite
re-development**

**Celebrating
over 25 years of
proven customer
satisfaction**

Stories from the market

Choosing the best solution since 1994, Tecnosine di Sturaro e C. S.r.l.

We met Antonio Sturaro from Tecnosine, a distributor and technical consultant for irrigation, drinking water distribution, and industrial applications. The company has used ELGEF Plus since its very first beginning in 1994. Before that, they relied on the original ELGEF product line. "The distributor always looks for the best solution" says Antonio and emphasizes: "We always follow a market of quality, we promote quality products, and that's why we also promote GF". Especially technical advantages, such as the 360° rotatable pressure tapping valve or the easy insertion of the ELGEF Plus couplers were helpful and reassured the distributor of their decision to

buy ELGEF Plus. Mr. Sturaro also remembers the development of polyethylene and its reputation in the market: "The first PE pipes were installed in the 1970s and in the beginning many companies from the utility market had some quality issues. However, nowadays, compared to PE, alternative materials such as ductile iron are more sensitive to chemical and electrical aggressions." Due to the significant quality improvement and proven longevity, the installer is very happy and keeps buying ELGEF Plus products (also relying on its advantages of easy installation and high quality).

Proved success with polyethylene, Boldarino S.P.A.

Letizia Clementi from Boldarino started working in the year 2000 with ELGEF Plus products in various application areas including water, gas, fire fighting, and pressurized waste water. She remembers that in the beginning she had to convince people to rely on electrofusion fittings instead of butt fusion fittings. Nowadays the customers are choosing electrofusion products whenever possible. Letizia shares that polyethylene is used because they have seen that it is actually working well in their systems and highlights the product's ductility and versatility.

We asked Letizia about her experience with GF Piping Systems and she responded:

”

**If a customer has a problem, I know
GF will be there to help and solve it.
I feel supported by GF.**

“

High quality partners, Compania BF de Comercio S.A.

The Spanish dealer Compañía BF de Comercio S.A., a branch of Ferroplast, sells polyethylene products mainly for water distributions and house connections. In the conversation with Juan Antonio Sánchez Bernabé, we learned that the company has been using ELGEF Plus products for over 20 years. We met with the general director and asked about their experience with our ELGEF Plus products. He brings forward that installers ask for products from GF Piping Systems because ELGEF Plus is versatile and optimizes stock space while keeping costs under control and

giving the installers more flexibility for their installations. Looking back on the history of ELGEF Plus usage, the general director kept buying it because he trusted it:

”

**We produce high-quality pipes,
therefore we need high-quality partners.**

“

Experience over 25 years, Perin Termoidraulica

We met Perin Giuseppe, owner, and installer, who has been using ELGEF Plus products for more than 25 years. "I have the MSA 200 electrofusion machine (in use over 20 years), and it is still working" he explains amused. Perin installs ELGEF Plus products mainly in fire fighting lines or gas and water house connections. He in particular benefits from the ease of installation and trusts the reliable product: "Once you know how to use them, install them, it is effortless to work with them. We never had any problems." The installer also mentions that the decision to buy the products was due to

availability in a local store (F.lli Beltrame). The decision to keep using the products is made as no issues ever occurred with the products:

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It worked perfectly!

”

Easy handling and installation, Serpelloni Termoidraulica

Under the lead of Giampaolo Serpelloni, the company Serpelloni Termoidraulica (Italy), decided to transition from mechanical fittings to electrofusion couplers and fittings from the ELGEF Plus product range roughly 17 years ago. From fire fighting lines to water and gas to house connections, the company chose ELGEF Plus and appreciated the product lines' handling, installation, and transport upbringing. Also, the availability and service when getting the ELGEF Plus products from distributor SVAI was well remembered and appreciated. When our interviewer asked him why he decided to use ELGEF Plus all these years ago he revealed:

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Using ELGEF Plus and GF products feels good and I just trust it.

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"Cold local heat" in Soest

The climate-neutral heating concept

Customer benefits

- The ELGEF Plus modular system is designed with compatibility and reliable operation in mind.
- The ELGEF Plus polyethylen components are durable and practically maintenance-free.
- Pressure tapping valves, rotatable through 360°, add flexibility to the piping network arrangement.
- The system's modular structure significantly reduce storage costs.

Climate change and sustainability have become deeply embedded in social consciousness. More and more people are forcing us to rethink how we treat our planet. While events often appear to be slow at national and international level, certain municipalities are taking matters into their own hands. The city of Soest in North Rhine-Westphalia, Germany, for example, is running a pilot project with the intention of supplying 600 residential units with cold local heat. The scheme is making use of products from GF Piping Systems.

Background to the project

A glance at Germany's carbon footprint shows that private households account for the lion's share of energy consumption, heating systems and hot water to be precise. What's more, the use of fossil fuels releases large amounts of CO₂. With its "Cold local heat" initiative, Stadtwerke Soest is backing a climate-neutral heating concept: below ground, the year-round constant temperature of 10°C is harnessed and transported to heating pumps in the residential units. A mixture of water and glycol, which is then routed below the ground and heated up, acts as the energy carrier.

Chosen technical solution

An extensive piping system is required to circulate the cold district heat by transporting the water/glycol mixture. Especially the numerous fittings and connectors, then, have to work safely and reliably. This is where GF Piping Systems can offer its expertise as a partner: In the "Soester Norden" building zone, ELGEF Plus electrofusion welding couplers and fittings are used to route the long polyethylene pipes. In addition, the ELGEF Plus pressure tapping valves, rotatable through 360°, make sure the numerous branch lines reach the individual dwellings. The corrosion-free and chemical resistant components from GF Piping Systems are likewise made from polyethylene, making them ideally suited for use in Soest.

Accomplished improvements

The installation is quick and easy thanks to the ELGEF Plus modular system. Moreover, the high-performance ELGEF Plus polyethylene components are stress-free and ensure long-lasting and low-maintenance operation. In GF Piping Systems, Stadtwerke Soest has found a partner that is actively shaping a green future with safe, modern and above all sustainable piping systems.

Used products



ELGEF Plus Branch Saddle Topload

Ideal electrofusion saddles for large polyethylene pipe installations up to d2000 mm and customized outlets up to d500mm. For efficient installations and superior flexibility in on-site assembly.



Topload tool

The combination of peeling and clamping tool speeds up installation, allowing for ideal and easy pipe preparation. Pressure testing plugs available to secure the installation.



Butt fusion machine

Robust and reliable design, from manual up to high-tech automatic CNC machines are perfect solution, in challenging conditions like water and gas distribution, water treatment or mining projects among others.

Specialized Solutions

One partner from planning to commissioning

With Specialized Solutions, the global leader GF Piping Systems provides project support every step of the way to achieve construction excellence. Allowing owners and planners to concentrate on their daily business without interruption. A few of our recommended services for ELGEF Plus projects can be found below.



Digital Libraries

The libraries cover three key areas for the design, creation, and maintenance of a project: Building Information Modeling, the Plant Design Software, and the CAD Library, helping you reduce costs and construction times.



Custom Product Design and Prefabrication

Having your individual needs and application in focus, our customizing teams forge the solution that fits you best, developing custom-made parts to complete systems or special solutions produced in small series, individual consulting and off-site prefabrication.



CONNECT Conrivo

A powerful digital tool connecting the work of installers, owners, and project managers by recording all what is happening on a project and providing a detailed overview of it. Conrivo facilitates planning field works, organizing site works, and above all help reduce the amount of paper. It also supports installers to avoid mistakes and to capture all installation data in the field digitally with the help of their smartphone and send it back in real-time to their project manager.



Training

GF Piping Systems instructional courses to help you teach your customers and their installers essential knowledge for the welding of pipes and piping components, as well as in-depth knowledge of butt and electrofusion connections. With Specialized education from GF Piping Systems, we help prevent damage before it occurs, with well-trained and qualified installers. Trusted training, empowering you.



Check out
CONNECT Conrivo here

By employing ELGEF Plus plastic piping systems in combination with Specialized Solutions, customers make a step ahead of their competition, into a more prosperous future thanks to safer handling of their systems with the longest lifetime.

1

High-End Product Quality

Thorough material and product testing and fully-automated production process.

2

Planning & Engineering facilitated

Digital Libraries providing the basis for planning and designing projects, using the latest technologies. Engineering gives you specialized expertise.

3

Trusted training & Performance assured

Enabling and preparing your customers and installers for safe handling on-site. Additional peace of mind with Non-Destructive Testing avoiding possible damage to your system and enabling risk evaluation.

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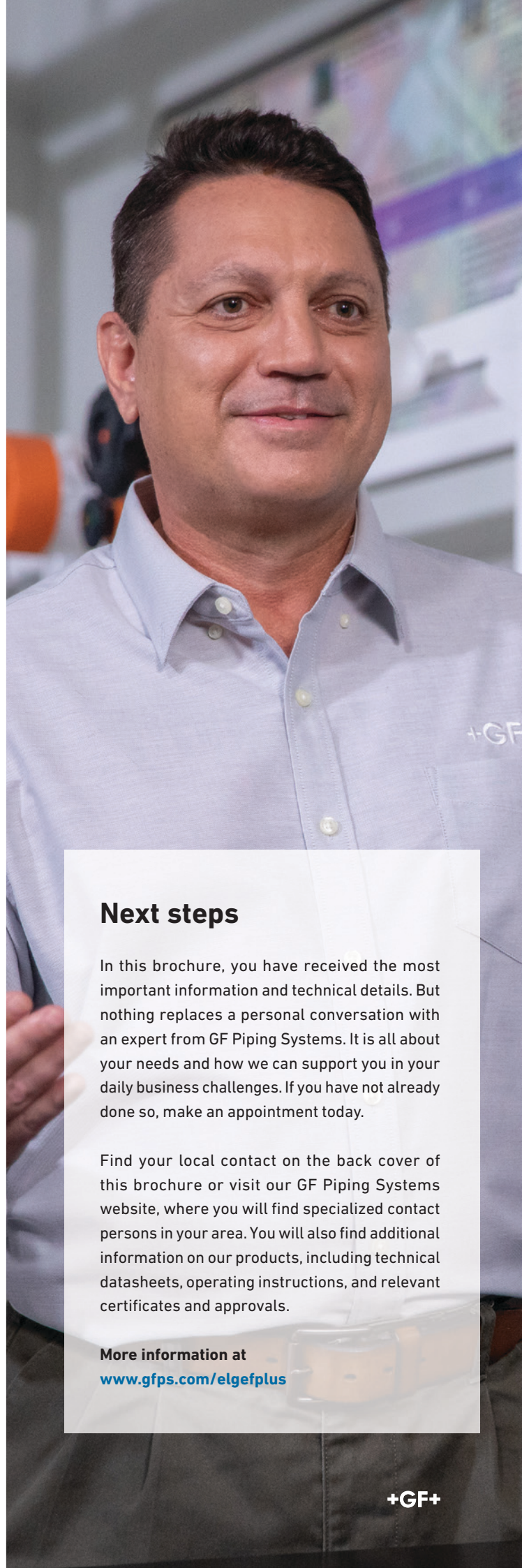
Made-to-match products

Machines and Tools (made for ELGEF Plus product range) enabling the perfect installation. Collect field data with CONNECT Conrivo paperless.

5

Sustainable Solutions

Reducing leakages and environmental impacts with an outstanding lifetime of more than 100 years.



Next steps

In this brochure, you have received the most important information and technical details. But nothing replaces a personal conversation with an expert from GF Piping Systems. It is all about your needs and how we can support you in your daily business challenges. If you have not already done so, make an appointment today.

Find your local contact on the back cover of this brochure or visit our GF Piping Systems website, where you will find specialized contact persons in your area. You will also find additional information on our products, including technical datasheets, operating instructions, and relevant certificates and approvals.

More information at www.gfps.com/elgefplus

GF Piping Systems

Local support around the world

Visit our webpage to get in touch with your local specialist:

www.gfps.com/our-locations



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