

GF Piping Systems

+GF+

Building Technology

Systems for Heating and
Sanitation Applications



We Bring You Clean Water

Corrosion and chemical resistant systems

+ Georg Fischer

GF focuses on three core businesses: GF Piping Systems, GF Automotive and GF Machining Solutions. The industrial corporation founded in 1802 headquarters in Switzerland and operates approximately 130 companies with more than 14 000 employees across 30 countries.

GF Piping Systems is a leading supplier of plastic and metal piping systems with global market presence. For the treatment and distribution of water and chemicals, as well as the safe transport of liquids and gases in industry, we have the corresponding joining technologies, fittings, valves, automation products and pipes in our portfolio.

+ Our market segments

Being a strong partner, GF Piping Systems supports its customers in every phase of the project. No matter which processes and applications are planned in the following market segments:

- Building Technology
- Chemical Process Industry
- Energy
- Food & Beverage / Cooling
- Microelectronics
- Marine
- Water & Gas Distribution
- Water Treatment

+ Global presence

Our global presence ensures customer proximity worldwide. Sales companies in over 26 countries and representatives in another 80 countries provide customer service around the clock. With 48 production sites in Europe, Asia and the USA we are close to our customers and comply with local standards. A modern logistics concept with local distribution

centers ensures highest product availability and short delivery times. GF Piping Systems specialists are always close by.

+ Complete solutions provider

Our extensive product range represents a unique form of product and competence bundling. With over 60 000 products, allied with a broad range of services, we offer individual and comprehensive system solutions for a variety of industrial applications. Our automation offering perfectly fits into our complete system approach and is thus an integral

part of our portfolio. Having the profitability of the project in focus, we optimize processes and applications that are integrated into the whole system.

Continually setting standards in the market, we directly provide our customers with technological advantages. Due to our worldwide network customers benefit directly from over 50 years of experience in plastics.

From start to finish, we support our customers as a competent, reliable and experienced partner, actively contributing the know-how of an industrial company that has been successful in the market for over 200 years.

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• Georg Fischer	
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Benefits of Plastics

Plastics are polymers created by the chemical conversion of natural products or synthesized from organic materials. The primary components are long chains of carbon (C) and hydrogen (H), elements which make up the building blocks of plastics, known as monomers.

The raw materials for the production of plastics are natural compounds such as cellulose, coal, oil and natural gas. In total the plastics industry consumes around 6 % of the petroleum products that come out of refineries. Plastics fall into three main categories on the basis of their internal structure and the resulting mechanical characteristics: thermoplastics, thermosetting plastics and elastomers. The specific characteristics of thermoplastics make them the most suitable for creating systems of pipes and valves.

Thermoplastics in turn can be split into two categories on the basis of their molecular structure:

- Semi-crystalline thermoplastics, which have a partially ordered molecular structure: this category includes the polyolefins (polypropylene, polyethylene, polybutylene) and the fluoropolymers (PVDF, PTFE, FEP, etc.)
- Amorphous thermoplastics, which have a completely disordered molecular structure: this category includes the vinyl chlorides (PVC-U, PVC-C, etc.) and the styrenes (ABS, polystyrene, etc.)

Semi-crystalline materials are more suitable for hot welding, while amorphous thermoplastics are ideal for cementing or cold welding (solvent cementing).

+ Advantages

Thermoplastics obviously present different characteristics from those of the metals traditionally used for piping. A brief summary:

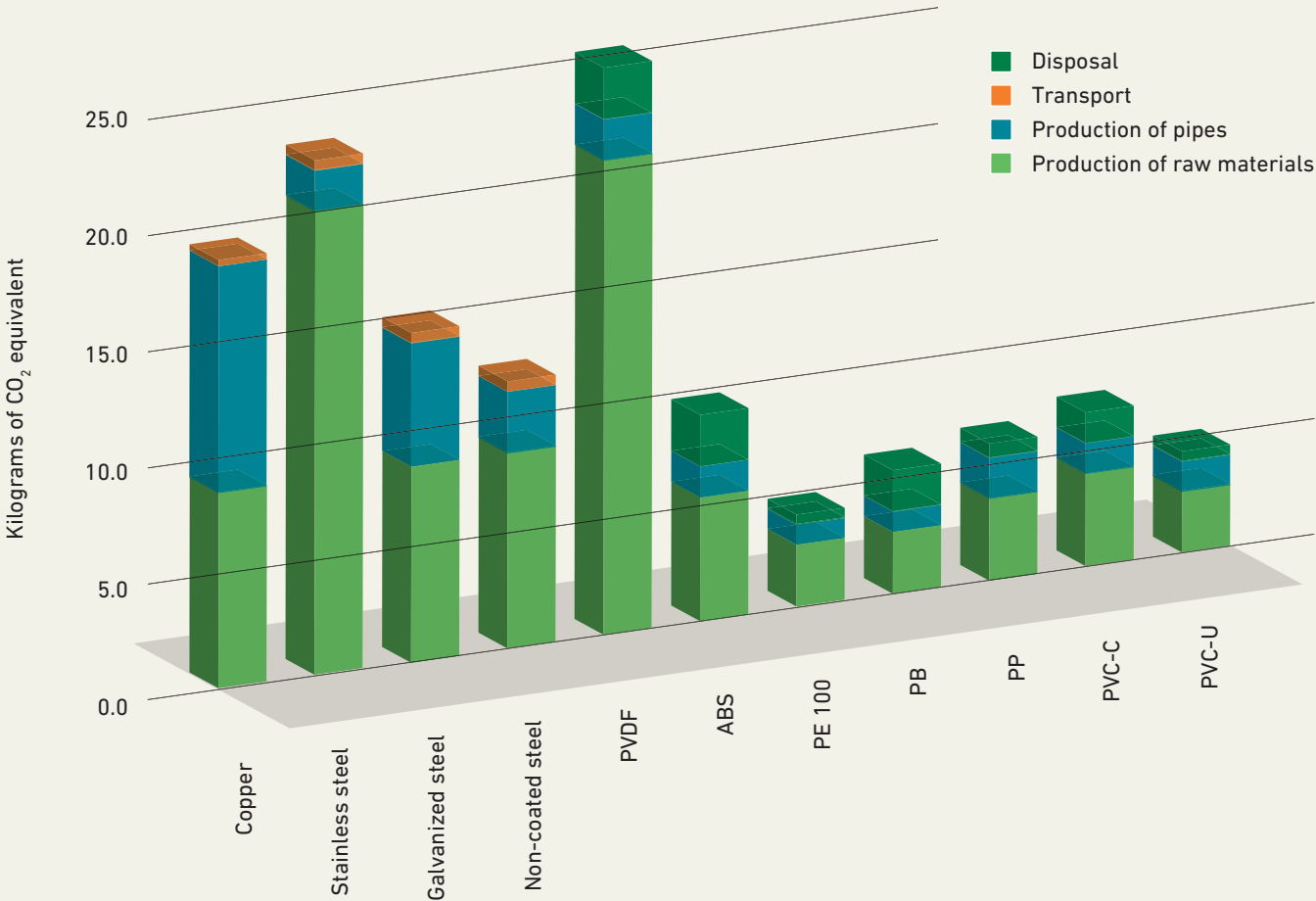
Metal systems	Plastic systems
High density • Crane needed for transport • Widely spaced fixings • High anchoring forces, fixing required	Low density • Can be carried by hand up to d110 • Closely spaced fixings • Limited anchoring forces, simple and economic
Thermal conductivity • Insulation always needed to limit heat loss • Formation of condensates and resulting corrosion	Low thermal conductivity • Limited heat loss • Low levels of condensation and resistance to corrosion
Electrical conductivity • Galvanic corrosion may occur	Electrical insulator • No corrosion
Chemical resistance • Low resistance to acids, requiring the use of costly alloys • Damage from incrustation	High chemical resistance • In combination with correct jointing methods, at least 25 years of useful life can be warranted • No incrustation

+ Lifecycle analysis

The carbon footprint is the total of all greenhouse gases emitted into the atmosphere throughout the lifetime of a product, from extraction to refining, plus production, transport, use and disposal.

The quality of the environmental performance of piping systems in thermoplastics has been shown by assessing the lifecycle of the pipes for applications in the building technology, industry and water and gas distribution sectors. The

analysis compares the environmental impact of a one metre pipe for each of the commonly used plastics with the main competitor materials (for DN25, 80, 150 and 400). The study was conducted by an independent Swiss company specialising in the analysis of environmental performance and is based on Ecoinvent, the world's leading life cycle inventory database. The graphic shows the results as follows.



The main conclusions of this study are that plastic piping systems offer better performance than metal systems, a result which has also been confirmed by various other studies in this area. Thermoplastics score particularly highly because of the reduced weight, which pays off in the transport and installation areas. Fully plastic solutions are lighter than other piping systems using conventional materials and this has a positive impact on the carbon footprint. The conclusions reached by these studies and by other sim-

ulations available have been brought together in a tool (www.gfps.com –online tools) for calculating the savings in carbon dioxide emissions by using plastics rather than the more common metals.

Applications

Family House

Heating

iKLIMA

Radiant heating and air conditioning system for floors, walls and ceilings.

For example

Panel type: TOPKLIMA

Tube type: iFIT EVO

Collector type: Klimaduo with hot/cold mixing unit

- Panel with rigid film and profiles to clamp the pipe
- Distribution unit preinstalled in cabinet with climate control unit. Limit wiring operations on site



Gas installations

ALUPEX GASsystem

Multilayer piping with brass fittings. For installations up to 35 kW.

Operating conditions: from -20 °C to 70 °C, 0.5 bar

Range: d16–d32

Joints: press fit fittings

- Connector without O-ring, mechanical seal on pipe
- Also suitable for underground installation



Chilled water distribution

ALPOL CLIMA

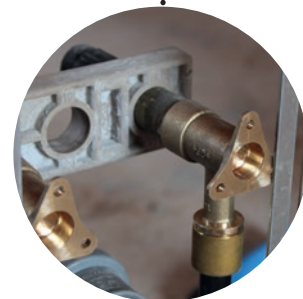
Multilayer pipe with increased insulation to transport chilled water.

Operating conditions: from 0 °C to 70 °C / PN16

Range: d16–d32

Joints: press fit or compression fitting

- Prevents condensation
- Fast installation



Hot and cold water supply, heating

ALUPEX

Multilayer piping with brass fittings.

Operating conditions: from 0 °C to 70 °C / PN16

Range: d16–d63

Joints: compression fittings or press fit

- Press fit connector without O-ring, mechanical seal on pipe
- PEXc pipe, electronically cross-linked
- Pipe with aluminum double layer



Irrigation

iJOINT

Compression fitting for joints in PE piping.

Operating conditions: PN16

Range: d20–d110

Joint: compression fitting

- Hand tightened up to d32
- Also suitable for thin-walled, ovalized or ridged piping



Swimming pool

TP brand PVC-U

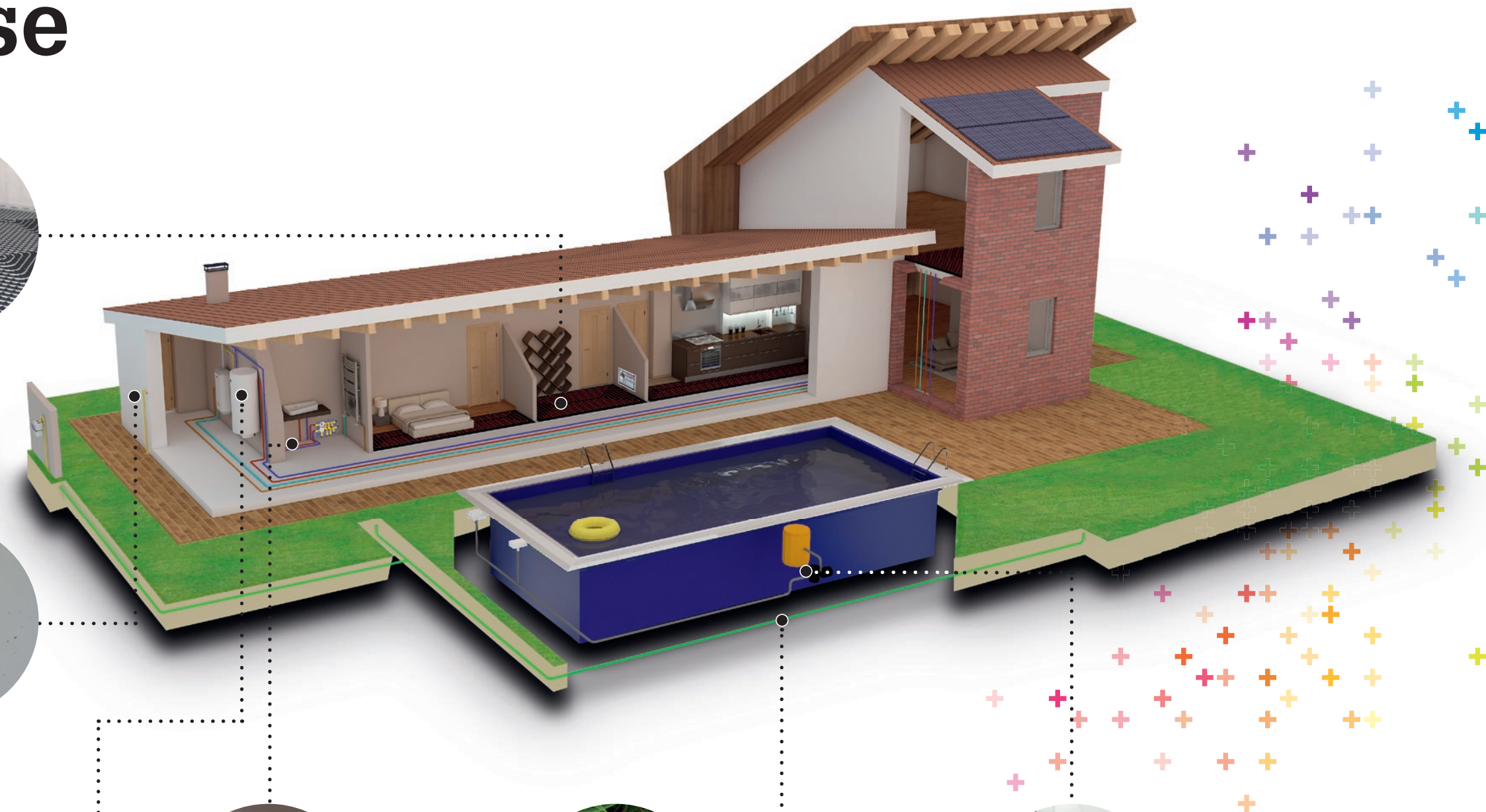
Pipes, fittings and valves in upper cases PVC-U.

Operating conditions: from 0 °C to + 60 °C / PN16

Range: d16–d315

Joints: cementing

- Fast, simple installation
- Innovative cementable saddle system



Applications

Multi-Storey Commercial Building

Firefighting installation

ELGEF Plus

Modular system for connections of pipes in PE-AD carrying water and gas.

Operating conditions: from - 40 °C a + 60 °C / PN16

Range: d20–d630

Joints: electrofusion, butt fusion

GHISA GF

Threaded connections in malleable cast iron.

Operating conditions: from - 20 °C to + 120 °C / 25 bar

Range: 1/8" – 4"

Frost-resistant transition joint

Galvanized iron coated with rigid expanded polyurethane for fire equipment cabinet.

This 1 400 mm high connector is the quick and simple solution that saves time and installation costs.

Riser and dorsal pipes to carry hot and cold water, heating, air conditioning

INSTAFLEX

Innovative system in polybutylene to carry sanitary, heating and cooling water and compressed air.

Operating conditions: from 0 °C to + 70 °C / PN16

Range: d16–d225

Joints: socket fusion, electrofusion, butt fusion

- Quick, simple and secure joining technology
- Flexible and easy to handle even at low temperatures
- Prefabrication possible

Floor heating and cooling

iKLIMA

Radiant heating system for floors, walls and ceilings.

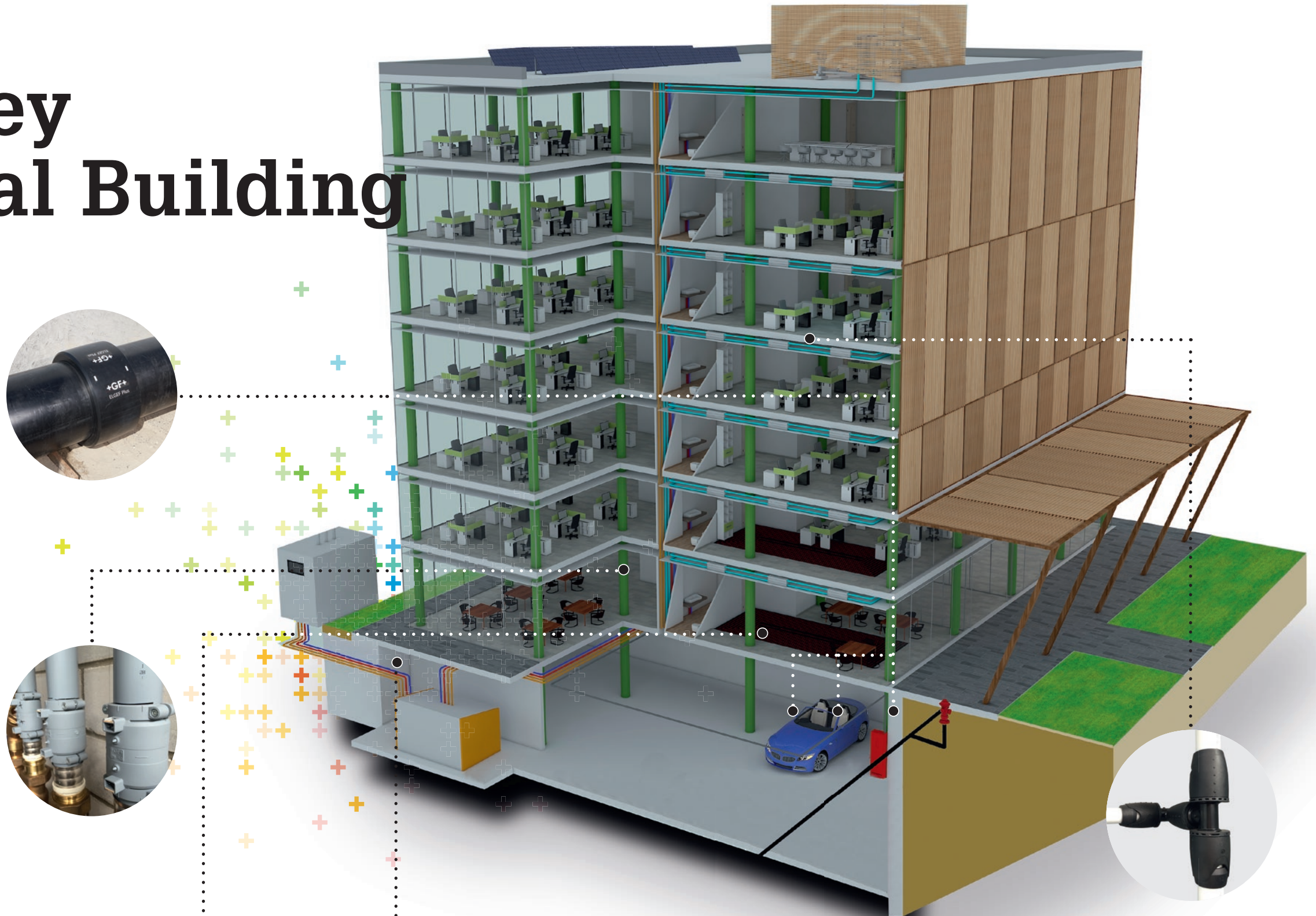
For example:

Panel type: PENTAKLIMA

Tube type: PEXc

Collector type: Klimanox

- Panel of 30 kg / m³ with vapour barrier
- Highly flexible, easy to fit piping



Underground distribution lines

PB pre-insulated pipe

Piping in pre-insulated polybutylene. Insulation in closed cell polyethylene and external finish in corrugated PEHD.

Operating conditions: from 0 °C to + 70 °C / PN16

Range: d20–d110

Joints: electrofusion

- Supplied in rolls up to 200 m
- Kit to extend insulation over joints
- Inspection pits are not required
- Also in double pipe version

Final distribution of hot and cold water, heating and air conditioning

iFIT

Multilayer system with PPSU quick fittings for sanitary and heating installations.

Operating conditions: from 0 °C to + 70 °C / PN16

Range: d16–d32

Joints: modular quick fittings

- Fast installation
- No tools required
- Through fittings for copper, stainless steel, galvanized steel, INSTAFLEX

Applications

Hospital

Sanitary water main

Sanipex MT

Multilayer system with compression fittings in PPSU.

Operating conditions: from 0 °C to + 70 °C / PN16

Range: d16–d63

Joint: compression with expansion

- Fully open
- Complete Legiotherm system to eliminate dead legs
- Reusable fittings



Laboratory/dialysis waste

SYGEF

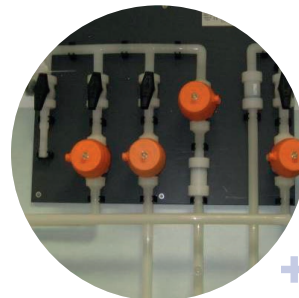
Pipes, fittings and valves in PVDF for special applications.

Operating conditions: from - 20 °C to + 140 °C / PN16

Range: d16–d315

Connection: butt fusion/socket fusion/IR/BCF

- Excellent chemical resistance
- Weld without shank available
- High Purity version to carry pure and ultrapure liquids



Riser and dorsal pipes to carry hot and cold water, heating, air conditioning, compressed air

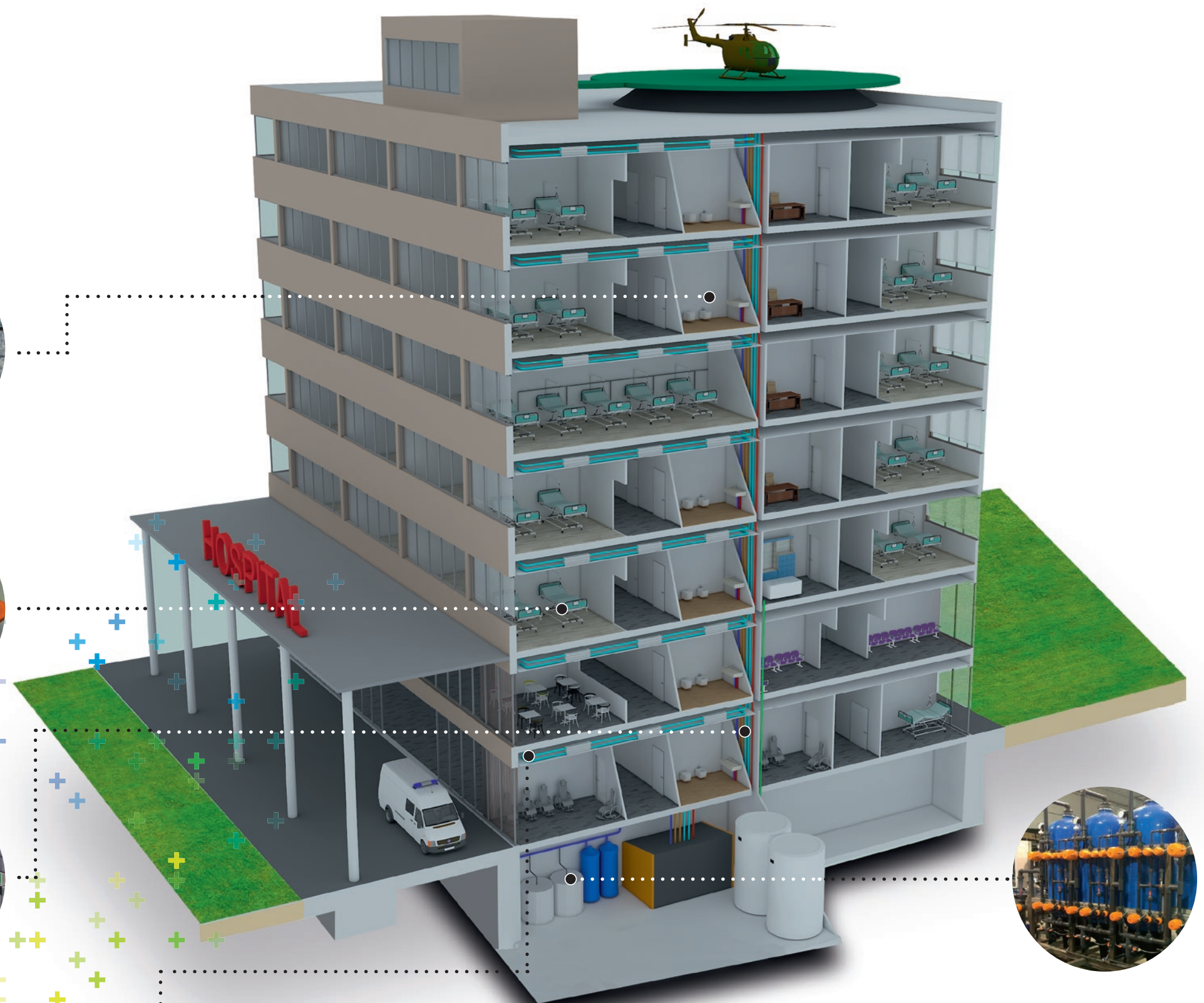
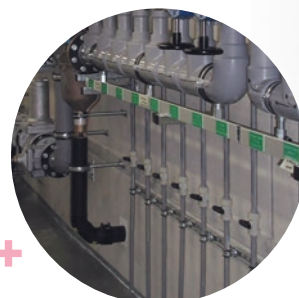
PVC-C
Complete PVC-C system suitable for transport of drinking water treated with products for chemical disinfection against bacterial growth.

Operating conditions: from 0 °C to + 80 °C / PN16

Range: d16–d225

Joints: cemented

- Chemical and mechanical resistance even at high temperatures
- No promotion of microbiological proliferation
- Quick and easy to install



Heating, air conditioning and compressed air terminals

iFIT

Multilayer system with PPSU quick connectors for sanitary and heating installations.

Operating conditions: from 0 °C to + 70 °C / PN16

Range: d16–d32

Joints: modular quick fittings

- Fast installation
- No tools required
- Through fittings for copper, stainless steel, galvanized steel, INSTAFLEX

Water treatment

PVC-U

Pipes, fittings and valves in PVC-U.

Operating conditions: from 0 °C to + 60 °C / PN16

Range: d16–d315

Joints: cemented

- Optimal chemical and mechanical resistance
- Biologically inert
- Quick and easy to install

Applications

Industrial Building

Riser and dorsal pipes for sanitary water, heating

AQUASYSTEM

Pipes and fittings in PPR characterized by high pressure and temperature resistance. Also available in fibre or aluminum reinforced versions.

Operating conditions: from 0 °C to + 80 °C / PN20

Range: d20–d110

Joints: socket fusion

- High dimensional thermostability
- Maximum resilience
- Optimal resistance to cracking

Compressed air

INSTAFLEX

Innovative system in polybutylene to carry sanitary, heating and cooling water and compressed air.

Operating conditions: from 0 °C to + 70 °C / PN16

Range: d16–d225

Joints: socket fusion, electrofusion, butt fusion

- Quick, simple and secure joining technology
- Flexible and easy to handle even at low temperatures
- Prefabrication possible

Firefighting installation

ELGEF Plus

Modular system for connections of pipes in PE-AD carrying water and gas.

Operating conditions: from - 40 °C to + 60 °C / PN16

Range: d20–d630

Joints: electrofusion, butt fusion

GHISA GF

Threaded connections in malleable cast iron.

Operating conditions: from - 20 °C to + 120 °C / 25 bar

Range: 1/8" – 4"

Heating

iKLIMA

Panel type: FLATKLIMA, FLEXKLIMA

Tube type: iFIT EVO d20

Collector type: ALUECO1 1/4

Water treatment

PVC-U

Pipes, fittings and valves in PVC-U.

Operating conditions: from 0 °C to + 60 °C / PN16

Range: d16–d315

Joints: cemented

- Optimal chemical and mechanical resistance
- Biologically inert
- Quick and easy to install

Sanitary water main, heating, compressed air

iFIT

Multilayer system with PPSU quick fittings for sanitary and heating installations.

Operating conditions: from 0 °C to + 70 °C / 10 bar

Range: d16–d32

Joints: modular quick fittings

- Fast installation
- No tools required
- Through fittings for copper, stainless steel, galvanized steel, INSTAFLEX

Applications

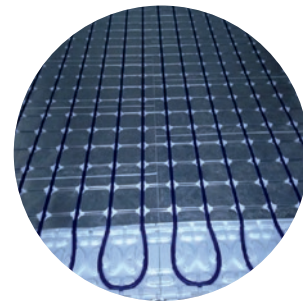
Focus Renovation

Heating for wooden mezzanine

iKLIMA Dryklima

Floor heating/cooling system for renovations.

- Total thickness 2.8 cm
- Reduced system weight for light floor slabs
- Clad in aluminum and sheet steel
- Quick installation



Gas and drinking water installations

PRIMOFIT

Mechanical modular restraint joint system for pipes in steel / PE, lead. In malleable cast iron for applications with drinking water, gas, compressed air, fuel oils and heating.

Operating conditions: from 0 °C to + 80 °C / PN16

Range: $\frac{3}{8}$ "–3", 20–63, 18.3–63.8

Joint: mechanical



Ceiling cooling/heating

CeilKLIMA

Ceiling radiant system with plasterboard panels.

- Dry installation.
- Panels connected using iFIT quick connectors
- Maximum comfort, minimum intrusion
- Extremely quick to come on stream



Risers for inlets, heating, air conditioning

INSTAFLEX

System in polybutylene.

For risers and horizontal distribution. Thanks to its flexibility and light weight it is recommended for installation in restricted spaces in and existing buildings.

Up to diameter 63 it can be supposed in preassembled reels in the desired size.



Gas installation

WTF transition joints

Fully open execution using hot overmoulding ensuring traceability - each joint bears its production batch number.



Control

Radio

Control systems using wireless RF communications. This avoids any need for masonry work to install new electrical wiring.

For example

Touchscreen 6-channel control unit and thermostat



Gas, heating, water supply installations

iFIT copper transition fittings

The iFIT system can be installed quickly into existing copper installations using the appropriate transition fitting. This avoids any need to create a double threaded joint with a considerable saving in time.

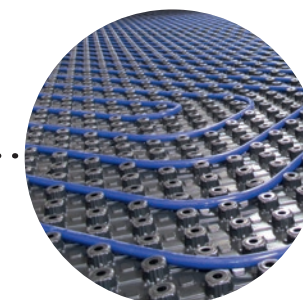


Ground floor heating

iKLIMA Topslim

Floor heating/cooling system for renovations.

- Total thickness 3.2 cm
- Use d16 or d17 tubing
- Variable pitch 5–10–15 cm



Systems to Meet Every Requirement

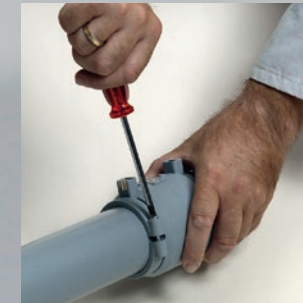
GF Piping Systems offers various jointing technologies allowing connections between parts in the same material and some combinations of different materials. The jointing method is definitively determined by the choice of product to be installed, but in some cases there are options to choose from.

Jointing methods

Electrofusion (INSTAFLEX)



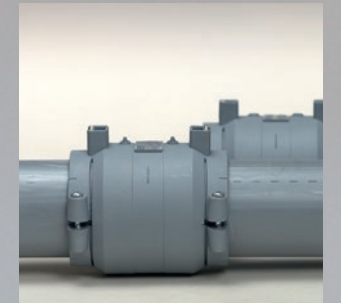
Clean pipe and fitting



Insert pipe into fitting and tighten screws



Weld

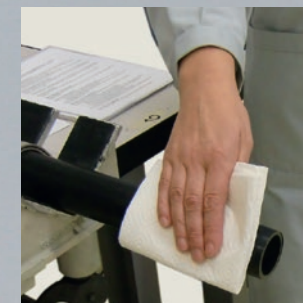


Check that the welding indicators are protruding

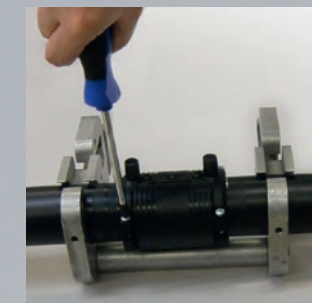
Electrofusion (ELGEF)



Scrape and degrease the pipes



Clean pipe and fitting

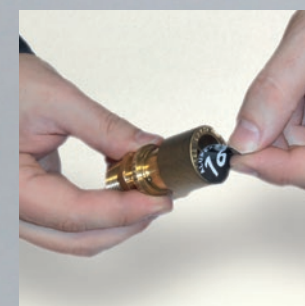


Insert pipe into fitting and tighten screws

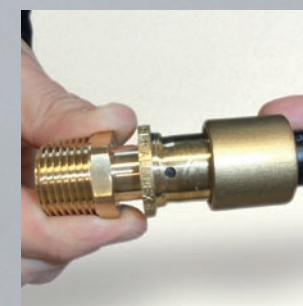


Set welding parameters and weld

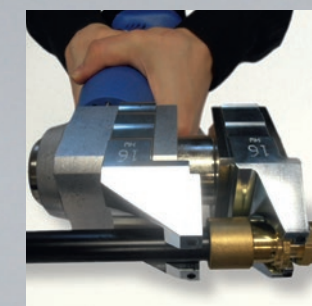
Press fit (ALUPEX Express)



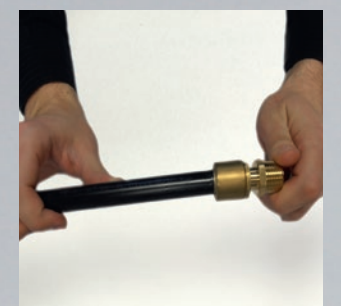
Remove the label from the fitting



Insert the pipe fully



Press



Remove pipe from press

Jointing methods

Practice, along with experience on site, is a key factor in executing work to professional standards. This is why we do not just provide manuals and instructions for the correct use of our products and systems, but also offer our clients a modern, practice-oriented training environment. Our training rooms are provided with a wide range of high quality equipment and offer the chance of gaining experience and confidence in the use of our products in real on-site situations. During training sessions and workshops you will be accompanied and assisted by our experts.

Compression fittings (Sanipex MT)



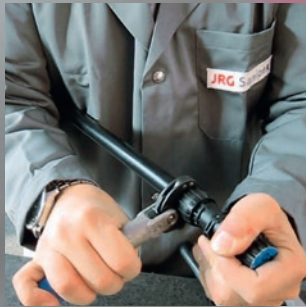
Cut the pipe



Expand the pipe



Insert the expanded pipe into the fitting



Tighten the nut with a torque wrench

Compression fittings (ALUPEX Europ)



Calibrate the pipe



Deburr



Insert nut, ring and hose fitting



Tighten nut onto fitting

Quick connection (iFIT)



Cut the pipe



Deburr with the appropriate tool

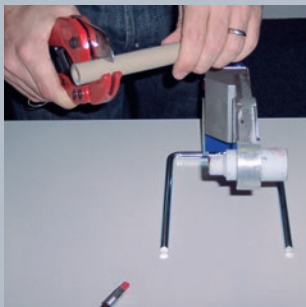


Push until the pipe is completely inserted and visible through the spyhole



Press until you hear a click

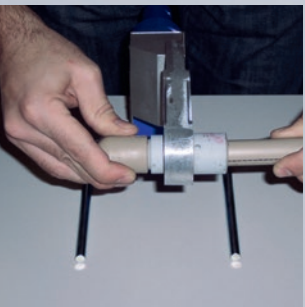
Socket fusion (AQUASYSTEM, INSTAFLEX)



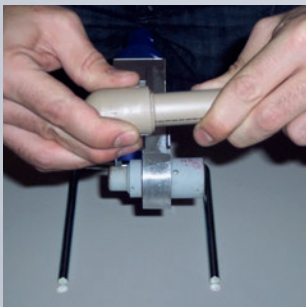
Cut the pipe



Clean the fitting

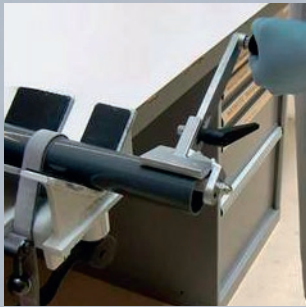


Heat up pipe and fitting



Bring the parts to be welded together

Cementing (PVC-U, PVC-C)



Cut and deburr the pipe



Clean pipe and fitting



Apply the adhesive



Bring the parts together

Telecom Italia – Data Centre



Telephone companies’ data centres have an extremely high demand for cooling energy. Efficiency during the production and transport phases therefore takes on a fundamental role in the eyes of the principal and influences the choice of the system to transport the coolant. Particular care must be taken when executing the insulation, which can be simplified by using pre-insulated systems.

+ Main benefits

GF is able to provide multiple solutions to convey coolant, depending on the requirements for the project, the site and the budget. The workshop prefabrication service is also highly valued, particularly for the dimensions involved. And advanced quick coupling technologies significantly shorten the installation phase.

	Key data
Client	Telecom Italia
Application	Liquid coolant 7–12 °C
GF Piping Systems products	ELGEF Plus (PE100) INSTAFLEX (PB) bare and pre-insulated COOL-FIT ABS Plus Butterfly valves
Dimensions	d160–d315
Installation year	2013 / 2014

Residential Complex – Bonate Sopra (BG)



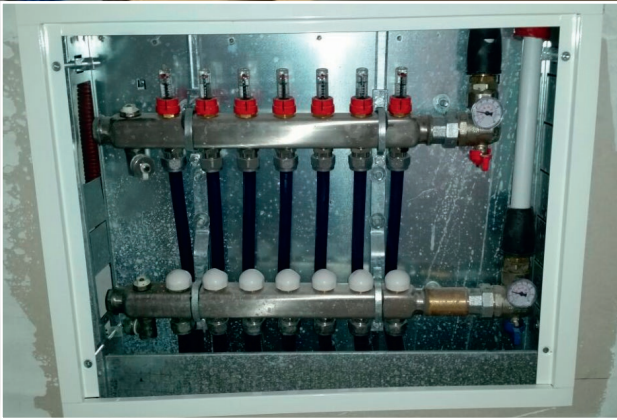
Centralized heat generation systems are increasingly used in the construction of low energy consumption residential complexes. Heat carrier fluid is often conveyed to the end user through underground pipes which are exposed to corrosion and weathering. The use of pre-insulated plastic piping offers a safe and convenient solution.

+ Main benefits

The INSTAFLEX pre-insulated system saves time on installation and ensures uniform insulation. Its flexibility also allows large radius curved paths without using joints. For buried sections this means that there is no need to create the inspection pits which would be required for welded joints.

	Key data
Client	Termoidraulica FDR
Application	Hot and cold water 70 / 20 °C, 2 bar
GF Piping Systems products	INSTAFLEX bare and pre-insulated
Dimensions	d20–d63
Installation year	2011

Residential Buildings – Palermo



When putting up a residential building the heating and sanitation component certainly plays a strategic role and is implicated in various aspects of the project. And successful, high quality products influence how the end client assesses the project. Being able to have a single partner supplying all the products provided for hot and cold water supplies, heating, cooling and gas considerably simplifies the task of designers and developers.

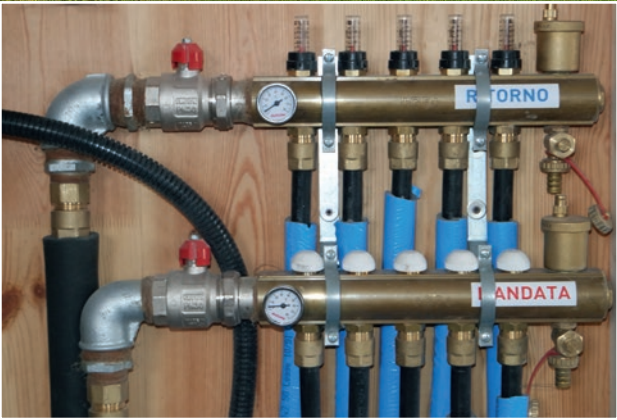
+ Main benefits

In GF the client found a partner able to provide a complete piping system for all requirements and dimensions. In particular, the technical and commercial support for the definition of custom solutions was highly appreciated at every stage of the project.

A nod was also given to the architectural aspect with the installation of Multifit concealed collectors.

Key data	
Client	Razzanelli s.r.l.
Application	Air conditioning distribution, heating distribution, gas distribution, radiant floor heating
GF Piping Systems products	INSTAFLEX iFIT ALUPEX Gasystem iKLIMA
Dimensions	From d20 to d90
Installation year	2014 / 2015

CASA 21 – Pienza



Located in the municipality of Pienza, in the famous and picturesque Val d'Orcia, an UNESCO world heritage site, Casa 21, the pilot project from the Pigreco-Progetti practice of Milan, was designed to “bring together the best for quality of life”, following the Casa 21 guidelines, applied to the rebuilding via demolition and faithful reconstruction of a stone-walled building. The project was executed in the run-up to Expo 2015.

+ Main benefits

GF products fit perfectly into a high quality construction project. The wide range of products allows the most suitable technical solution to be found for each installation. In this building ALUPEX was also used for risers and dorsals, ensuring continuity and reliability all the way from the heating plant to the point of delivery.

Client

Application

GF Piping Systems products

Dimensions

Installation year

Key data

CASA 21

Air conditioning distribution
Heating distribution

ALUPEX Express

d16–d50

2015

Customer Service

Individual service to meet your needs

Our aim is to create personalized added value by implementing our made to measure solutions. Because of our depth of knowledge of applications and skills in handling the products, we can work alongside you during the planning, execution and maintenance phases for the installation. Many years of experience in developing and producing heating and sanitation systems combined with knowledge of the industry and the market make us a qualified, professional partner for every situation.

Documentation

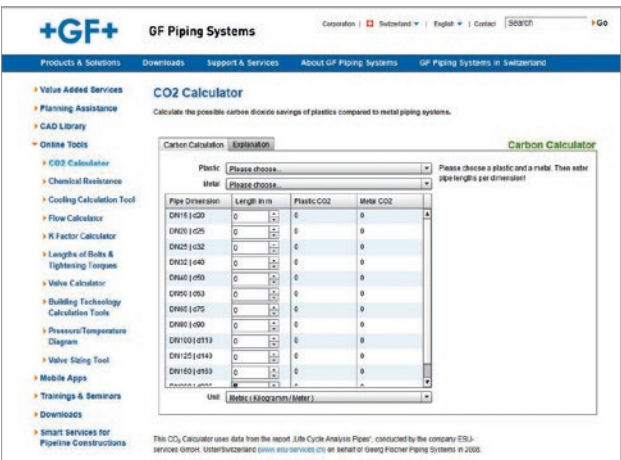
The vast know-how of GF Piping Systems in planning and installation of systems is documented in our catalogues and technical manuals. This detailed documentation is available in both digital and paper formats.

- For you, we have produced:
- Catalogues
 - Price lists
 - Technical manuals ("Planning fundamentals")
 - Installation instructions
 - Technical specifications
 - Preliminary calculation software for radiant floor heating
 - Certification

For more information please visit our website or contact our technical staff.

Online tools

Our range of online tools and apps make it easy to configure installations and make the relevant calculations. For example, using the pressure/temperature charts it is easy to calculate the maximum pressure of the fluid at different temperatures for both pipes and fittings. Likewise, the app FlowCalc is a practical tool to calculate the diameter of pipes where the speed or flow is known for the project.



Mobile app

This tool allows you to determine hydraulic data for individual systems by pipe. It also enables you to calculate and provide data on the basis of the temperature of the fluid and the assembly temperature. The calculated values can be sent by e-mail. The integrated QR code scanner makes it quick and easy to get additional information on products and systems. Georg Fischer Pipe Engineering Tool is available immediately from the app store!





Customer service

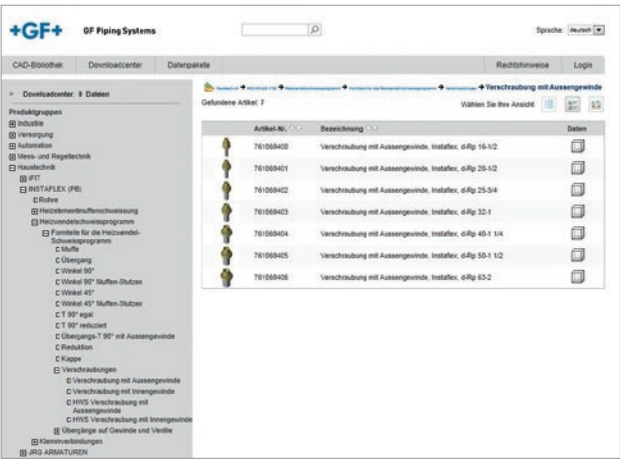
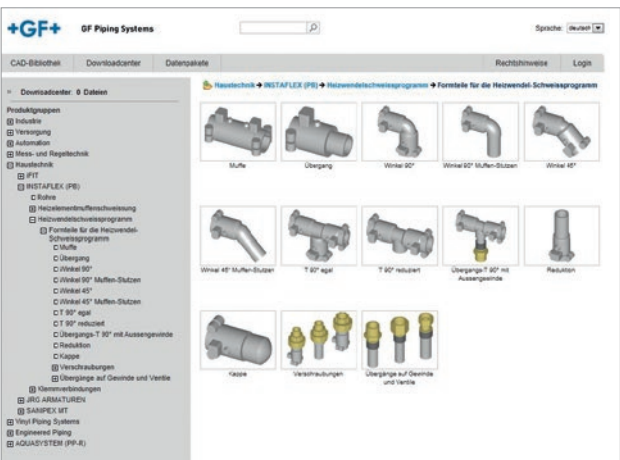
CAD library

Our enormous CAD library is the most widely used planning tool from GF Piping Systems.

The database includes more than 25 000 drawings and technical data of pipes, fittings, measuring and control instruments as well as manual and actuated valves.

- Find out how it can benefit you:
- Data packages, including all designs for a system
 - CAD library complete with over 25 000 drawings
 - Includes pipes, fittings, valves, measuring and control technology
 - Illustrations in 3D and 2D
 - Excellent user interface
 - Multifunction driver for direct use in many CAD systems
 - Rapid access

<http://cad.georgfischer.com/>



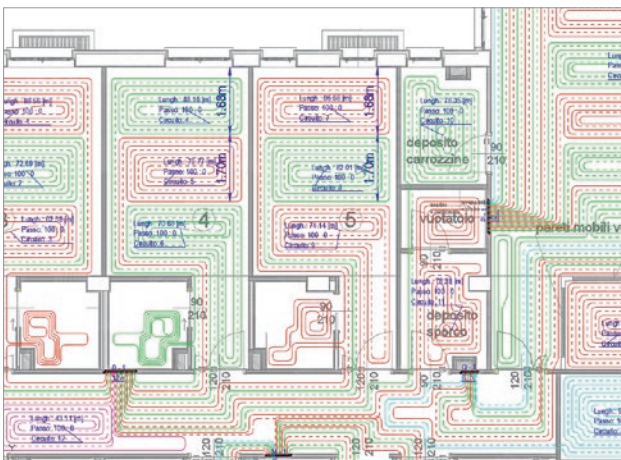
Customer service

Technical support

GF Piping Systems can help you at every step from planning to execution.

A dedicated technical support service supports customers skillfully for any requirement relating to GF products from the first draft of the specifications to aftersales service.

- Cost estimation service
- Quantity calculations
- Parts lists
- Predimensioning of maximums
- Drafting specifications
- Construction diagrams for radiant installations
- Functional diagrams
- Technical report for radiant installations
- Chemical compatibility checks
- Site monitoring
- Targeted technical consultancy



ELENCO COLLETTORI											
COD. COLLET.	SUPERFICIE PANNELLATA [mq]	N. CIRC.	TEMP. H ₂ O INV [°C]	TEMP. H ₂ O EST [°C]	PORTATA Q _{1/2} [l/s]	Q _{max} [l/s]	POT. ALTO [kW]	POT. BASSO [kW]	POT. TOT [kW]		
C - 1	58.5	6	40	15	679	932.6	INVERNO 5395	2513.5	7908.5	ESTATE	0
							0	0	0	0	
C - 2	77.31	8	40	15	924	1145.05	INVERNO 7338.3	3418.8	10757.1	ESTATE	0
							0	0	0	0	
C - 3	69.96	10	40	15	1221	1071.66	INVERNO 9029.8	4152.4	13182.2	ESTATE	0
							0	0	0	0	
C - 4	127.62	13	40	15	2181	3010.09	INVERNO 17006.6	7886.3	24894.9	ESTATE	0
							0	0	0	0	
TOTALE			333.39	37	3005		INVERNO 38769.7	17973	56742.8	ESTATE	0
							0	0	0	0	0
RISULTATI DI CALCOLO											
POTENZA INVERNALE IMPIANTO A PANNELLI							56742.8			[kW]	
POTENZA ESTIVA IMPIANTO A PANNELLI							0			[kW]	
PORTATA TOTALE							5005			[l/s]	
PORTATA TOTALE (40 °C)							5005			[l/s]	

Customer service

Prefabrication

Alongside an enormous range of pipes, fittings and valves, GF also offers a custom prefabrication service.

Our staff are highly qualified and can assemble the system requested in any material and using any jointing method.

The prefabrication service offers many benefits.

Preassembled circuits are delivered on site to suit your organisational requirements. You can install even the longest and most complex circuit rapidly and easily, with a significant saving in labour and better assurance of delivery deadlines.

All joints are executed by specialist GF technicians in a dedicated section of our works and are marked with a code to ensure traceability.

No more worrying about having joints executed correctly on site – just let our people handle it in advance!



Customer service

Training

On-site training

Knowledge-sharing and exchanging experience: that is how we make sure that our clients and partners are able to make use of all the options offered by our products and services or even find new horizons, where necessary.

GF produces a full range of machines for the jointing its systems and offers all its clients a training service on jointing techniques and on site coaching in order to raise the safety and reliability level of their own systems still further.



UNI9737 training courses

The use of polyethylene, particularly for gas, calls for exceptional quality in welding and a high level of specialization in execution. That is why GF is now able to organize training that complies with UNI9737 and to issue qualified welder's licences in line with the criteria set out in that standard.

Contact our commercial department to find out practical information and costs.



Product Summary

In the heating and sanitation sector, complete solutions are needed. GF Piping Systems offers a broad range of innovative materials and products that will enable you to provide the best solution for every end user, installation and application. Our advisors are always available to help you choose the best system for your installation.

System	Material	Fluid temperature [°C]																								
		-50	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140					
ABS	ABS	- 50 °C to + 60 °C (d250–d315 oper. temp + 40 °C)																								
ALUPEX	Multilayer						0 °C to + 95 °C																			
AQUASYSTEM	PP-R						0 °C to + 95 °C																			
ELGEF Plus	PE	- 50 °C to + 60 °C																								
GHISA	Malleable cast iron				- 20 °C to + 300 °C																					
iFIT	Multilayer/PB						0 °C to + 95 °C																			
iJOINT	PP-B						0 °C to + 40 °C																			
INSTAFLEX	PB					- 10 °C to + 95 °C																				
MULTI / JOINT	Ductile iron					- 5 °C to + 50 °C																				
PRIMOFIT	Malleable cast iron				- 20 °C to + 105 °C																					
PROGEF	PP-H						0 °C to + 80 °C																			
PVC-C	PVC-C						0 °C to + 80 °C																			
PVC-U	PVC-U						0 °C to + 60 °C																			
Sanipex MT	PE-x / Al / PE-x						0 °C to + 95 °C																			
SYGEF	PVDF				- 20 °C to + 140 °C																					
WTF	Steel/PE			- 40 °C to + 60 °C																						

System		Range /		Joint type
		Dimensions		
ABS	PN10	d16–d315	bonded	
ALUPEX	PN10	d16–d63	press fit, compression	
AQUASYSTEM	PN10 / PN20	d20–d125	socket weld	
ELGEF Plus	PN10 / PN16	d20–d2 000	electrofusion	
GHISA	PN20 / PN25	½" – 4"	mechanical (threaded)	
iFIT	PN10	d16–d32	quick coupling	
iJOINT	PN10 / PN16	d20–d110	mechanical (compression)	
INSTAFLEX	PN16 (up to d110; PN10 d125–d225)	d16–d225	socket weld, weld-neck, electrofusion	
MULTI / JOINT	PN16 / PN25	d50–d2 000	mechanical (compression)	
PRIMOFIT	PN16	¾" – 3" / d20–d63	mechanical (compression)	
PROGEF	PN6 / PN10	d16–d500	socket weld, weld-neck	
PVC-C	PN10 / PN16	d16–d225	bonded	
PVC-U	PN6 / PN10 / PN16	d6–d400	bonded	
Sanipex MT	PN10	d16–d63		
SYGEF	PN10 / PN16	d16–d450	socket weld, weld-neck	
WTF		d25–d315	threaded/electrofusion	

Certification

	ALUPEX	iFIT	INSTAFLEX	AQUASYSTEM	ELGEF PLUS	GHISA	Sanipex MT
	✓	✓	✓	✓	✓	✓	✓
	✓	✓	✓		✓	✓	✓
		✓	✓		✓	✓	✓
		✓	✓		✓	✓	✓
		✓	✓	✓	✓		✓
		✓	✓	✓	✓		✓
		✓	✓	✓	✓		✓
		✓	✓	✓	✓		✓
		✓	✓	✓	✓		✓
		✓	✓	✓	✓		✓
		✓	✓	✓	✓		
		✓	✓	✓			
		✓	✓		✓		✓
		✓	✓				✓
			✓				
					✓	✓	
					✓	✓	

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