GF Piping Systems

Building Technology

C

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 14000 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 jointing 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.

Contents

С	ontents	2
•	Georg Fischer	
Ρ	lastics	4
•	Advantages	
•	Lifecycle analysis	
A	pplications	6
•	Family house	
•	Multi-storey commercial building	
•	Hospital	
•	Industrial building	
•	Focus on renovation	
С	onnection methods	16
R	eferences	20
•	Telecom Italia – Data centres	
•	Residential complex – Bonate Sopra	
•	Residential buildings – Palermo	
•	CASA 21 – Pienza	
С	ustomer service	28
•	Documentation	
•	Online tools	
•	Mobile App	
•	CAD library	
•	Technical support	
•	Prefabrication	
•	Training	
P	roduct summary	34
С	ertification	35

Material

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 petro-leum 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

High density

- Crane needed for transport
- Widely spaced fixings
- High anchoring forces, fixing required

Thermal conductivity

- Insulation always needed to limit heat loss
- + Formation of condensates and resulting corrosion

Electrical conductivity

• Galvanic corrosion may occur

Chemical resistance

- Low resistance to acids, requiring the use of costly alloys
- Damage from incrustation

Plastic systems

Low density

- Can be carried by hand up to d110
- Closely spaced fixings
- Limited anchoring forces, simple and economic

Low thermal conductivity

- Limited heat loss
- · Low levels of condensation and resistance to corrosion

Electrical insulator

No corrosion

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



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-

5

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.

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.



Family House

Heating

iKLIMA

- Radiant heating and air conditioning system for floors, walls and ceilings. <u>For example</u> 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 GASystem

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



.

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



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 / m^3 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

22330

·····

- 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



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



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: ALUEC01 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

0

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

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: 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

de

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





Control

Radio

÷

15:54 20

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



Electrofusion (INSTAFLEX)





Clean pipe and fitting

Insert pipe into fitting and Weld tighten screws

Electrofusion (ELGEF)





Scrape and degrease the Clean pipe and fitting pipes

Press fit (ALUPEX Express)





Remove the label from the Insert the pipe fully fitting

Systems to Meet Every Requirement

GF Piping Systems offers various jointing technologies allowing connections materials. The jointing method is definitively determined by the choice of

17



Check that the welding indicators are protruding



Insert pipe into fitting and tighten screws



Set welding parameters and weld



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 torg wrench





Quick connection (iFIT)

Cut the pipe

Deburr with the appropriate tool

Socket fusion (AQUASYSTEM, INSTAFLEX)





Cut the pipe

Clean the fitting

Compression fittings (ALUPEX Europ)



Calibrate the pipe





Insert nut, ring and hose fit- Tighten nut onto fitting ting





Cementing (PVC-U, PVC-C)





Cut and deburr the pipe

19

Clean pipe and fitting





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



Press until you hear a click



Heat up pipe and fitting



Bring the parts to be welded together



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 COOL-FIT ABS Plus Butterfly valves
Dimensions	d160-d315
Installation year	2013/2014

21



References

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,
GF Piping Systems products	INSTAFLEX bare and pre-insu
Dimensions	d20-d63
nstallation 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, distribution, gas distribution, heating
GF Piping Systems products	INSTAFLEX iFIT ALUPEX Gasystem iKLIMA
Dimensions	From d20 to d90
Installation year	2014/2015

25

24







+GF+

References

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.

Key data
CASA 21
Air conditioning distribution Heating distribution
ALUPEX Express
d16-d50
2015

27



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.



Customer service

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.

Products & Solutions	Downloads Sup	port & Se	rvices	About GF P	iping Systems	GF	Piping Systems in Switzerland
Value Added Services	CO2 Calcula	ator					
Planning Assistance	Calculate the possible	carbee d	Califie an	ings of plastics of	moared to metal pip	ing eve	Aure.
CAD Library							
- Online Tools	Carbon Calculation	Eplan	ation				Carbon Calculat
+ CO2 Calculator	Plante	Disease				1.	Please charge a single and a matel. They est
Chemical Resistance	Sister	Please	hoose				pipe lengths per dimension!
+ Cooling Calculation Teel	Pipe Dimension	Lerge	am	Plastc C02	Metar CO2	T	
Flow Calculator	DN151c20	0		0	0	4	
N Earthy Calculator	DN201025	Q	+	0	0		
	DN25 032	0	1	0	0		
Tiphtening Torques	DN32 640	0	+	6	0		
· Union Calculator	DNH0 (d50	0	-	6	0		
	DRIS0 1053	0	-	4	0		
 Building Technology Calculation Tools 	D19651075	0	- Ital	0	0		
10	Denso 1 490	0		0	0		
Diagram	DN1001d113	0	÷	0	0		
+ Valve Sizine Tool	DN12514140	0	÷	0	0		
a state to a state	Dev16014160	0	1.	0	0	1	
· moose Apps	Passan pass		1.1				
Trainings & Seminars	Unit	Hebic ()	Vicgram	n/Moter)			
• Deservice of a							

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!

+GF+ GEORG FISCHER	+GF+ GEORG FISCH	HER +GF+ GEORG FISCHER
	Rohrdimensionierung	Haustechnik
1	Rohrdurchmesser	INSTAFLEX
Berechnungen	Ausstosszeit) IFIT C
🎸 QR Code Scanner	Ausdehnung	iFIT Mehrschichtverbundrohre
Serechnungswerte	Längenänderung	Sanipex classic
Einstellungen	Rohrschellenabstand	Sanipex MT
	Fixpunktkräfte	Versorgung
	Druckverlust	ELGEF Plus (PE100/SDR11)
	Druckverlustberechnung	D Industrie
	Rohroberflächentemperatur	GF ABS



Customer service

CAD library

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

The database includes more than 25000 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 25000 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/



CAD-Bibliothek	Downloadcenter Daten	pakete		Rectati	inveise	Login
- Consideration	9 Dateien			++ Yerschraubs	ing mit Au	ussengewinde
Produktoruppen		Getunien	e Artiket 7	Wählen Sie Ihre Ansi	en 📗	11
() industrie		-	Artikel-Nr.	Bezeichnung		Daten
E Automation		•	761069400	Verschraubung mit Aussengewinde, installer, d-Rp 16-1/2		
B Hauslechnik		•	761069401	Verschraubung mit Aussengewinde, Installer, d-Rp 20-1/2		
BINSTAPLEX (re;	•	761069402	Verschraubung mit Aussengewinde, Instaflex, d-Rp 25-3/4		
E Helceleme	ntnuffenschweissung		761069403	Verschraubung mit Aussengewinde, Instaltex, d-Rp 32-1		
E Formie	ilschweissprogramm ile für die Heizwendel-		761069404	Verschraubung mit Aussengewinde, Instaflex, d-Rp 40-1 1/4		
EM	naprogrammi fe		761069405	Verschraubung mit Aussengewinde, Installex, d-Rp 50-1 1/2		0
C We	Auf 90° Auf 90° Mutten-Stutzen Auf 45°		761069406	Verschraubung mit Aussengewinde, Installex, 6/Rp 63-2		
C Win C T 9 C T 9 C Obs C Red	kei 45° Nuffen-Stutzen 0° egal 9° reduziet sryangs-T 90° mit Aussengewinde Suttion					
C Kap E Ver C	ipe ischraubungen Verschraubung mit Aussengewinde					
0	Verschraubung mit Innengewinde HWS Verschraubung mit Aussengewinde MYM Verschraubung mit Innengemind					
g übe	ergänge auf Gevinde und Ventile					
B JRG ARMATU	REN					

+GF+



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



				ENCO C	OLLETTO						
COD.	SUPERFICE	Ν.	TEMP	TEMP	PORTATA	dpmax		POT.	POT.	POT.	
COLLET.	PANNELLATA	CHC.	H ₂ O	Hut	3/10			ALTO	BASSO	TOT	
	[m/]		INV	857		(daPa)		[W]	[99]	(W)	
			PG .	(C)							
							INVERNO	5395	2513.5	7908.5	
C - 1	58.5	•	40	15	679	932.6	ESTATE	0	0	0	
		_			-				-		
C - 2	77.31		40	15	924	1145.65	INVERNO	7338.3	3418.8	10757.1	
							ESTATE	0	0	0	
								INVERNO	9029.8	4152.4	13162.2
C - 3	69.96	10	40	15	1221	1071.66	ESTATE	0	0	0	
		_			_						
C - 4	127.62	13	40	15	2181	3010.09	INVERNO	17005.6	7888.3	24894.9	
							ESTATE	0	0	0	
							INVERNO	38769.7	17973	56742.8	
TOTALE	113.19	37			5005		ESTATE	0	0	0	
_											
			RISI	ULTATI	DI CALC	οιο					
_		POTENZA	INVERNAL	E IMPIANT	O A PANNEL	ULL:	5074	2.8	[W]		
_		- NOTE	ALA LITT	POR	TATA TOTA	ILE:	9	005	[l/h]		
_			R	FTATA TO	TALE (40 P)	CDr	6	005	B/bl		



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.





Products and systems

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									F	luid	tem	per	atur	e [°C]							
		-50	-40	-30	-2	20 -10	0	10	20		30	40	50	60	70	80	90	100) 110) 12	20 13	30 1	140
ABS	ABS	- 50	°C to	+ 60)°C	(d250	-d31	5 ope	er. te	m	p + 4() °C)										
ALUPEX	Multilayer										0 °	'C to) + 9	5 °C									
AQUASYSTEM	PP-R										0 °	'C to) + 9	5 °C									
ELGEF Plus	PE			-	•		- 50 '	°C to	+ 60	°C	;			-									
GHISA	Malleable cast iron											- 3	20 °(C to +	300	°C							
iFIT	Multilayer/PB										0 °	'C to) + 9	5 °C									
iJOINT	PP-B			-				0 °C	to +	4	0 °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	5 °C									
PROGEF	PP-H									0	°C to) + 8	30 °C	;		-							
PVC-C	PVC-C									0	°C to) + 8	80 °C										
PVC-U	PVC-U								0 ° (C to	o + 60) °C											
Sanipex MT	PE-x/Al/PE-x										0 °	C to) + 9	5 °C									
SYGEF	PVDF			•								- 2	20 °C	to +	140	°C	-						
WTF	Steel/PE						- 40 °	°C to ·	+ 60	°C	:												

			Range /	
System			Dimensions	Joint type
ABS	PN10		d16-d315	bonded
ALUPEX	PN10		d16-d63	press fit, compression
AQUASYSTEM	PN10/PN20		d20-d125	socket weld
ELGEF Plus	PN10/PN16		d20-d2000	electrofusion
GHISA	PN20/PN25		1⁄8" – 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-d2000	mechanical (compression)
PRIMOFIT	PN16			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

Approval

Certification

	ALUPEX	iFIT	INSTAFLEX	AQUASYSTEM	ELGEF PLUS	GHISA	Sanipex MT
	\checkmark						
	\checkmark	\checkmark	\checkmark			\checkmark	\checkmark
OSTERREICHISCHE VEREINIGUNG FÜR DAS GAS- UND WASSERFACH		\checkmark	\checkmark		\checkmark	\checkmark	\checkmark
		\checkmark	\checkmark		\checkmark	\checkmark	\checkmark
WRAS.		\checkmark	\checkmark	\checkmark	\checkmark		1
		\checkmark	\checkmark	\checkmark	\checkmark		1
BUREAU VERITAS		\checkmark	√	~	~		V
Lloyd's Register		\checkmark	\checkmark	\checkmark	\checkmark		1
ĴÅ DNV		\checkmark	\checkmark	\checkmark			V
ABS		\checkmark	\checkmark	\checkmark	\checkmark		1
kiwa C		\checkmark	\checkmark	\checkmark	\checkmark		
		\checkmark	√	√			
		\checkmark	\checkmark		\checkmark		V
SITAC		\checkmark	\checkmark				1
CSTB le futur en construction		\checkmark	\checkmark				V
ag			√				
\Diamond					\checkmark	\checkmark	
FM					√	\checkmark	

+GF+

35

Worldwide at Home

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

www.gfps.com

Argentina / Southern South America Georg Fischer Central Plastics Sudamérica S.R.L. Buenos Aires, Argentina Phone +54 11 4512 02 90 gfcentral.ps.ar@georgfischer.com www.gfps.com/ar

Australia

Australia George Fischer Pty Ltd Riverwood NSW 2210 Australia Phone +61 (0) 2 9502 8000 australia.ps@georgfischer.com www.gfps.com/au

Austria

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

Belgium / Luxembourg

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

Brazil

Georg Fischer Sist. de Tub. Ltda. 04571-020 São Paulo/SP Phone +55 (0)11 5525 1311 br.ps@georgfischer.com www.gfps.com/br

Canada Georg Fischer Piping Systems Ltd Mississauga, ON L5T 2B2 Phone +1 (905) 670 8005 Fax +1 (905) 670 8513 ca.ps@georgfischer.com www.gfps.com/ca

China Georg Fischer Piping Systems Ltd Shanghai 201319 Phone +86 21 3899 3899 china.ps@georgfischer.com www.gfps.com/cn

Denmark / Iceland Georg Fischer A/S

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

Finland

 Financial

 Georg Fischer AB

 01510 VANTAA

 Phone
 +358 (0) 9 586 58 25

 Fax
 +358 (0) 9 586 58 29
 info.fi.ps@georgfischer.com www.gfps.com/fi

France Georg Fischer SAS 95932 Roissy Charles de Gaulle Cedex Phone +33 (0) 1 41 84 68 84 fr.ps@georgfischer.com www.gfps.com/fr

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

India

Georg Fischer Piping Systems Ltd 400 083 Mumbai Phone +91 224007 2001 branchoffice@georgfischer.com www.gfps.com/in

Indonesia George Fischer Pte Ltd -Representative Office Phone +62 21 2900 8564 Fax +62 21 2900 8566

sgp.ps@georgfischer.com www.gfps.com/sg Italy

Georg Fischer S.p.A. 20063 Cernusco S/N (MI) Phone +39 02 921 861 it.ps@georgfischer.com www.gfps.com/it

Japan Georg Fischer Ltd

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

Korea GF Piping Systems Georg Fischer Korea Co., Ltd. Unit 2501, U-Tower 120 HeungdeokJungang-ro (Yeongdeok-dong) Giheung-gu, Yongin-si, Gyeonggi-do, Korea Phone: +82 31 8017 1450 Fax: +82 31 217 1454 kor.ps@georgfischer.com www.gfps.com/kr

Malaysia

George Fischer (M) Sdn. Bhd. 40460 Shah Alam, Selangor Darul Ehsan Phone +60 (0) 3 5122 5585 Fax +603 5122 5575 my.ps@georgfischer.com www.gfps.com/my

Mexico / Northern Latin America Georg Fischer S.A. de C.V. Apodaca, Nuevo Leon Apodaca, Nuevo Leon CP66636 Mexico Phone +52 (81) 1340 8586 Fax +52 (81) 1522 8906 mx.ps@georgfischer.com www.gfps.com/mx

Middle Fast

Georg Fischer Piping Systems (Switzerland) Ltd Dubai, United Arab Emirates Phone +971 4 289 49 60 acc.ps@georafischer.com www.gfps.com/int

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

Norway Georg Fischer AS 1351 Rud Phone +47 67 18 29 00 no.ps@georgfischer.com www.gfps.com/no

Philippines George Fischer Pte Ltd Representative Office Phone +632 571 2365 Fax +632 571 2368 sgp.ps@georgfischer.com www.gfps.com/sg

Poland

Georg Fischer Sp. z o.o. 05-090 Sekocin Nowy Phone +48 (0) 22 31 31 0 50 poland.ps@georgfischer.com www.gfps.com/pl

Romania

Georg Fischer Piping Systems (Switzerland) Ltd 020257 Bucharest - Sector 2 Phone +40 (0) 21 230 53 80 ro.ps@georgfischer.com www.gfps.com/int

Russia

Georg Fischer Piping Systems (Switzerland) Ltd Moscow 125040 Phone +7 495 748 11 44 ru.ps@georgfischer.com www.gfps.com/ru

Singapore George Fischer Pte Ltd 11 Tampines Street 92, #04-01/07 528 872 Singapore Phone +65 6747 0611 Fax +65 6747 0577

sgp.ps@georgfischer.com www.gfps.com/sg

Spain / Portugal Georg Fischer S.A. 28046 Madrid Phone +34 (0) 91 781 98 90 es.ps@georgfischer.com www.gfps.com/es

Sweden

Georg Fischer AB 117 43 Stockholm Phone +46 (0) 8 506 775 00 info.se.ps@georgfischer.com www.gfps.com/se

Switzerland

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

Taiwan Georg Fischer Co., Ltd San Chung Dist., New Taipei City Phone +886 2 8512 2822 Fax +886 2 8512 2823

United Kingdom / Ireland George Fischer Sales Limited Coventry, CV2 2ST Phone +44 (0) 2476 535 535 uk.ps@georgfischer.com www.gfps.com/uk

USA / Caribbean Georg Fischer LLC 9271 Jeronimo Road 92618 Irvine, CA Phone +1 714 731 88 00 Fax +1 714 731 62 01 us.ps@georgfischer.com www.gfps.com/us

International

Georg Fischer Piping Systems (Switzerland) Ltd 8201 Schaffhausen/Switzerland Phone +41 (0) 52 631 30 03 Fax +41 (0) 52 631 28 93 info.export@georgfischer.com www.gfps.com/int

The technical data are not binding. They neither constitute expressly warranted characteristics nor guaranteed properties nor a guaranteed durability. They are subject to modification. Our General Terms of Sale apply.

