+GF+

Redefine tomorrow

IR-225 M

Excellence in Flow+

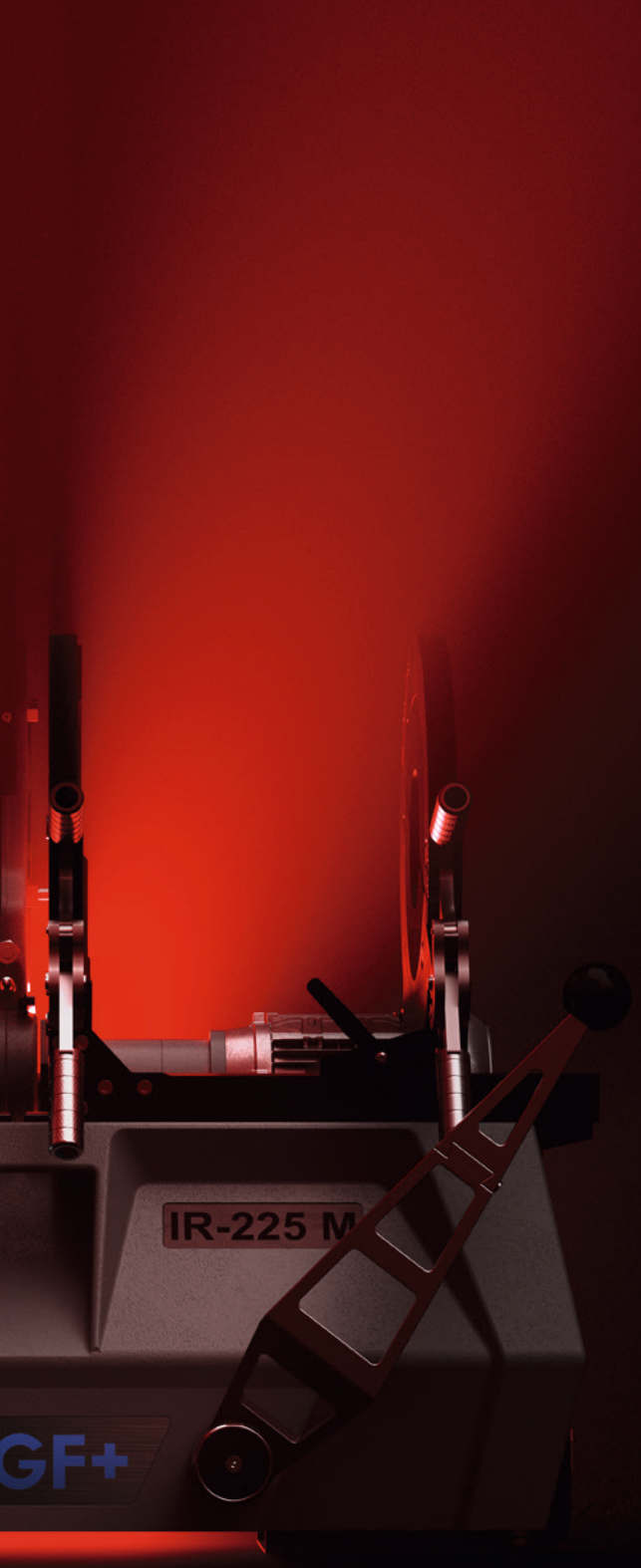
IR-225 M

Redefine solutions

The IR-225 M represents the next generation in fusion technology, building on our history as the pioneers of infrared fusion manufacturing to redefine industrial standards.

Up to 60% reduced cooling times
A unique active cooling system enables the IR-225 M to significantly increase efficiency and help overall project costs.

One machine, multiple materials
The IR welding machine stands out with unique and extensive portfolio, including PVDF, PP-H, PP-n, PE100, ECTFE, and PVC-U, as well as the CONTAIN-IT Plus system. It covers dimensions from d63 to d225 mm (2"–8"), ensuring versatility for a broad range of applications.



Maximized quality control
The fully controlled fusion process enables high reproducibility and reliability with seamless connectivity options enabling easy and complete traceability.

Compact, robust and lightweight
This machine features a modern base frame design and stronger clamping units to easily master the most complex installations. It also comes with a workbench for practical storage of accessories and tools.

Key features

Redefine functions

Tube drive and Clamping units

- Stronger clamping units with angle markings and fast half shell fixation concept enable a precise and fast installation
- One type of half shell per dimension
- Largest dimension integrated in clamping unit
- Exchangeable outer clamping units

Active cooling system

- The cooling system supports an increase in installation efficiency by reducing cooling times by up to 60%
- Optimized handling and automated activation

Touchscreen

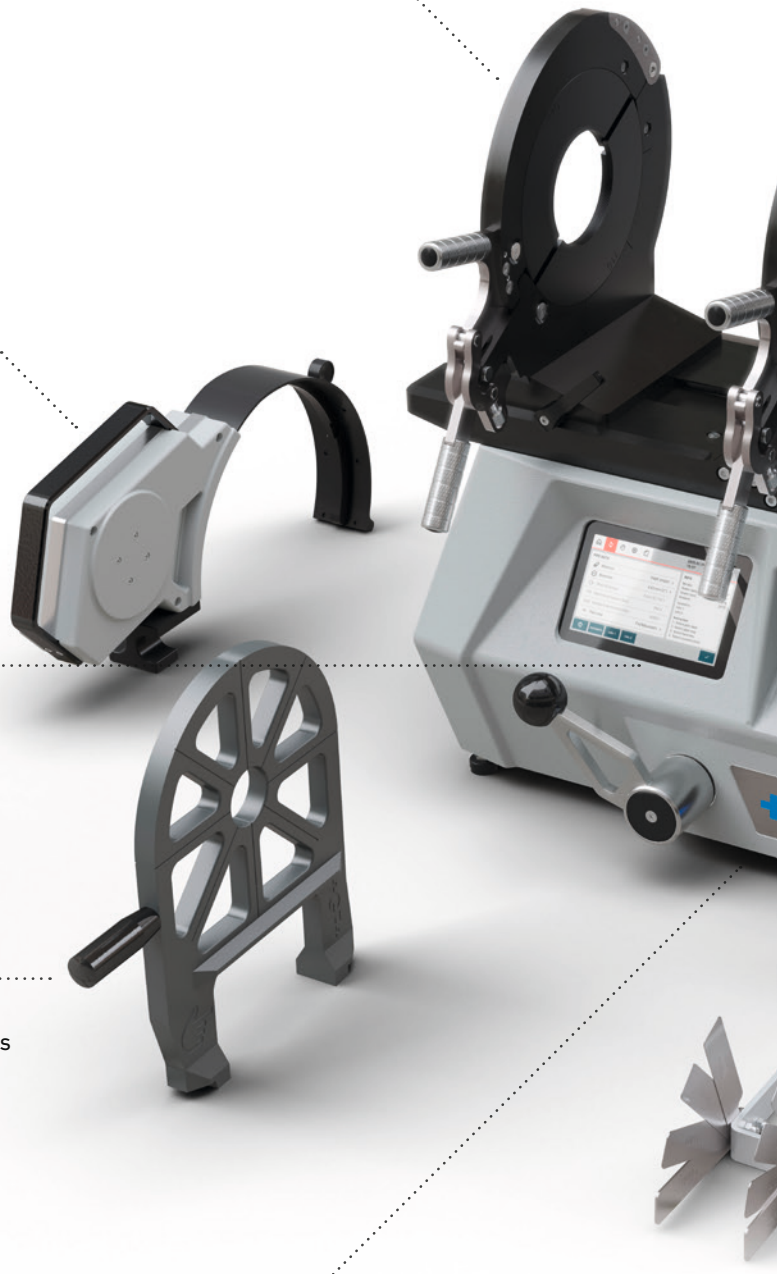
- 7'' touch screen with safety glass protection
- Illustration guided fusion process with instructions in 20 languages

Pipe stops

- Fixed pipe stop with angle markings and 2 mm facing on both sides
- Adjustable patented pipe stop for individual facing of 0.5 - 5 mm
- Fixed pipe stop with 2 mm facing on both sides

Base frame

- Modern housing design, compact, robust and lightweight
- Adjustable ergonomic levers
- Channel for shavings



Heater unit

- New design and handling
- Faster heat up process
- Optimized protection cage
- Improved mounting of heater plate
- Dampers to improve durability

Facer unit

- Automated activation
- Dampers to improve durability
- More ergonomic handling
- Multiple-use facing blades with special coating

Quality control

- Ambient and component temperature sensors
- Heating and cooling processes are adjusted to the ambient temperature
- Monitored jointing distance
- Component slippage controlled

CONNECT Welding Data Box

- Seamless fusion data transfer to GF cloud environment “CONNECT Welding Data”
- WiFi and Ethernet connection

Connections

- USB, USB-C and Ethernet port
- 230V port

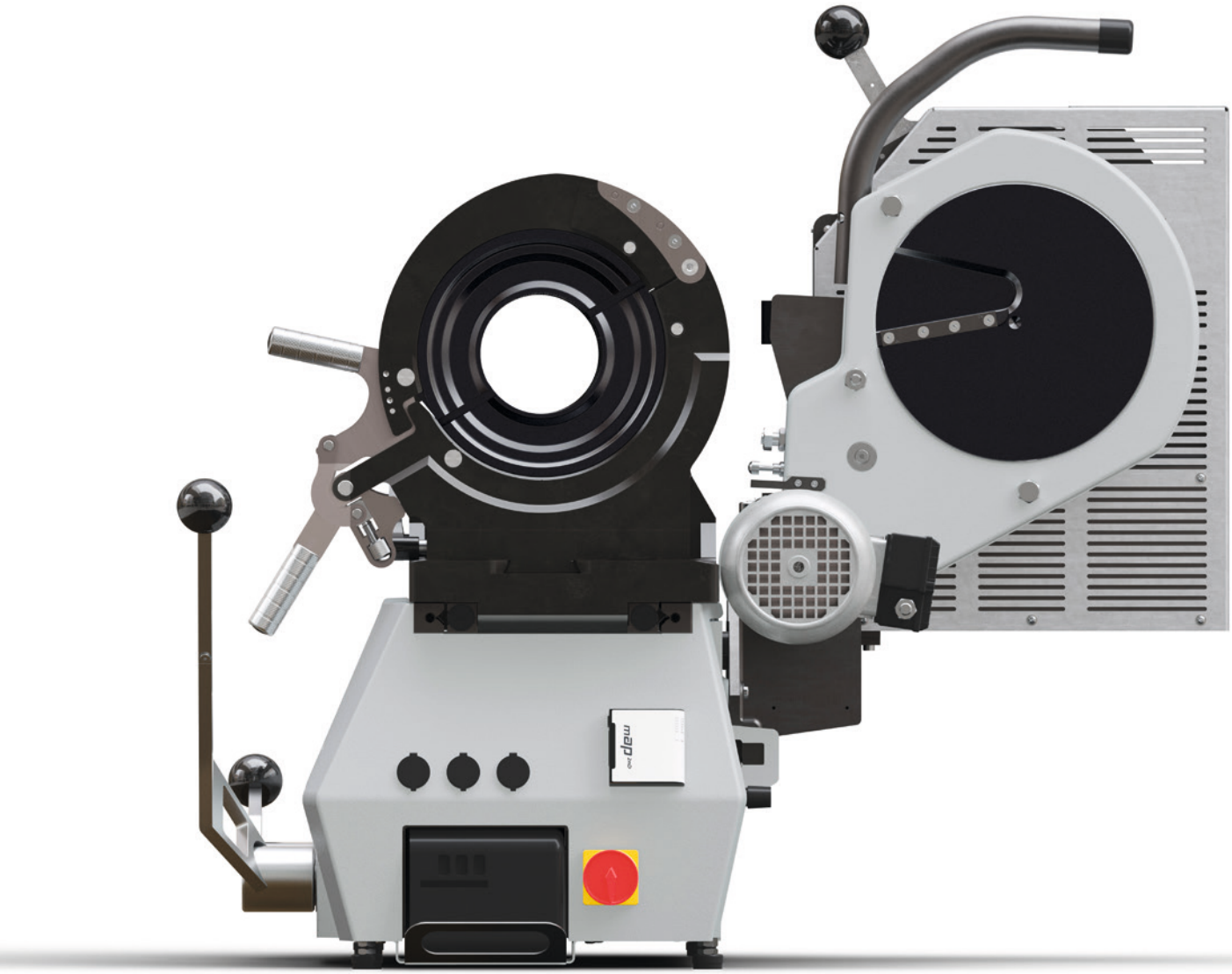
Integrated label printer

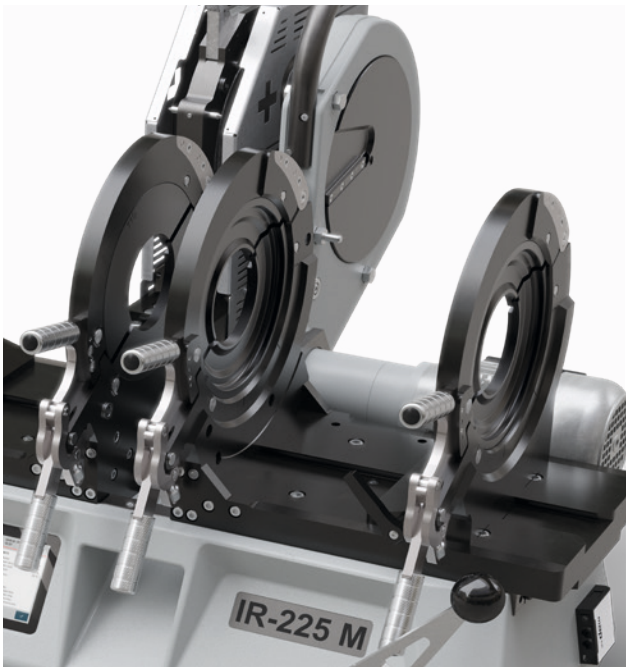
- Unique identification number and data matrix code for efficient traceability
- Export fusion documentation (up to 5 labels per fusion)

Flexible design and installation

Redefine precision

The IR-225 M offers a compact, air freight-compliant design with quick assembly and disassembly, plus a built-in workbench for practical storage, ensuring effortless logistics to increase versatility.



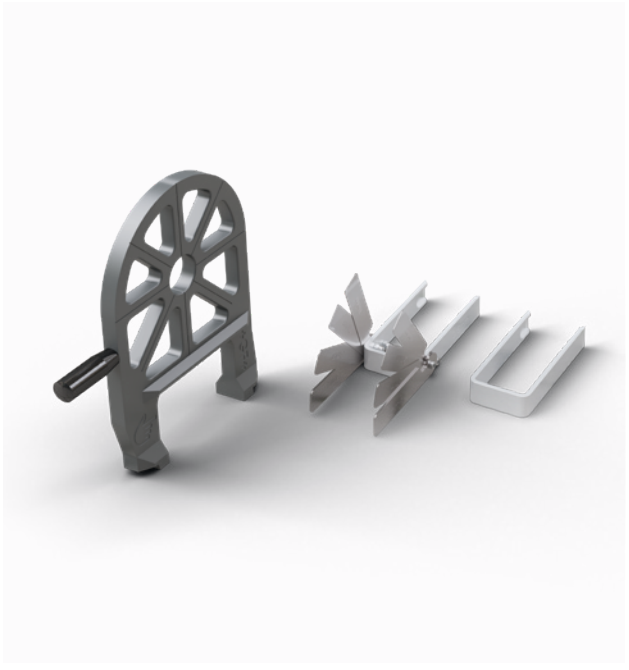


Tube drive

Our stronger clamping units and precise angle markings simplify compact installations, while a single half-shell type per dimension improves handling. The length of the clamping slide was optimized to weld bulky components. The machine recognizes slipping of components to ensure welding excellence.

Base frame

The modern housing features a compact, robust, and lightweight base frame with an integrated label printer and channel for shavings to efficiently keep the fusion zone clean. The machine can be leveled by adjusting its feet.



Revolutionary pipe stops

Achieve unparalleled precision with an adjustable pipe stop allowing individual facing on each side. Furthermore, the fixed pipe stop with angle markings assures accurate installations every time. Experience the future of welding technology with us!

Active cooling system

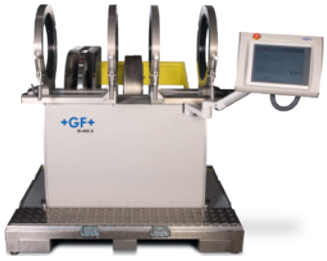
The active cooling system of the IR-225 M contributes to the 60% reduction in cooling time ensuring faster, more efficient operations. This unique feature draws in ambient air which is used to cool down the weld bead, allowing to significantly increase efficiency and help minimize overall project costs.

Technical opportunities

Redefine progress

Discover your perfect machine tailored to your project's unique needs. GF has over 30 years of IR technology expertise and offers a diverse range of solutions to ensure your project's success.

Specifications	IR-63 M	IR-110 Plus
Operation mode	Manual	Manual
Dimensions	d20-d63 mm (½ "-2")	d20-d110 mm (½ "-4")
Materials	PVDF SYGEF ECTFE SYGEF PP-H PROGEF PP-n PROGEF Natural PE100 ecoFit PVC-U metric PFA inch	PVDF SYGEF ECTFE SYGEF PP-H PROGEF PP-n PROGEF Natural PE100 ecoFit PFA inch
Languages	Chinese, Czech, Danish, Dutch, English, Finnish, French, German, Hindi (IR-M), Hungarian (IR-M), Italian, Japanese, Korean, Malay (IR-M), Norwegian, Polish, Russian, Spanish, Swedish, Taiwanese	
Adjustable facing option	Yes (0.5 - 3 mm)	No (always 2 mm)
Remote fusion	Yes	No
Power supply	230 V 50 / 60 Hz, max. 2,500 W	230 V 50 / 60 Hz, max. 1,500 W
Working temperature range	+5° C to +40° C	
Fusion data storage	More than 100,000 fusion data (Protocol and label data)	2,500 fusion data (Protocol and label data)
Maintenance **Calibration check**	2,500 fusions 18 months	2,500 fusions 18 months
Weight machine / incl. transport case	31.6 kg / 59 kg Standard 31.6 kg / 63 kg Complete	50 kg / 110 kg
Weight working table / incl. transport case	–	–
Dimensions transport case machine L x W x H	0.80 x 0.40 x 0.45 m	0.80 x 0.60 x 0.80 m
Dimensions transport case working table L x W x H	–	–
Conformance / standards	DVS 2007-6, DVS 2203-1	
Compliance with	2006/42/EC (MD), 2014/30/EU (EMC), 2011/65/EU (RoHS)	2006/42/EC (MD) + 2004/108/EC (EMC)
Applications	Designed for industrial applications and clean room conditions	
Order number	790180001 standard 790180003 complete with extension cable set and CONNECT box	790132001



IR-225 M	IR-110 A	IR-315 A	IR-400 A
Manual	Automated	Automated	Automated
d63-d225 mm (2"-8")	d20-d110 mm (½ "-4")	d110-d315 mm (4"-12")	d355-d400 mm (14"-16")
PVDF SYGEF ECTFE SYGEF PP-H PROGEF PP-n PROGEF Natural PE100 ecoFit PVC-U metric	PVDF SYGEF ECTFE SYGEF PP grey PROGEF PP-n PROGEF Natural PE100 ecoFit PVC-U metric	PVDF SYGEF PP grey PROGEF PE100 ecoFit	PVDF SYGEF
Same as IR-63 M	Chinese, Czech, Danish, Dutch, English, Finnish, French, German, Italian, Japanese, Korean, Norwegian, Polish, Spanish, Swedish, Taiwanese		
Yes (0.5 - 5 mm)	Yes (0.5 - 5 mm)		
	No		
400 / 230 V 50 / 60 Hz, max. 3,500 W	230 V 50 / 60 Hz, max. 2,000 W Integrated UPS	400 V 50 / 60 Hz, max. 5,000 W Integrated UPS	
	+5° C to +40° C		
More than 100,000 fusion data (Protocol & label data)	More than 20,000 fusion data (protocol, label, and video file)		
2,500 fusions 18 months	4,000 fusions 18 months	1,500 fusions 18 months	1,000 fusions 18 months
187 kg / 413 kg	130 kg / 250 kg (incl. transport case and working table)	643 kg / 711 kg	860 kg / 951 kg
–	–	275 kg / 315 kg	257 kg / 297 kg
1.20 x 0.80 x 1.50 m	1.00 x 0.80 x 1.35 m	1.20 x 0.80 x 1.67 m	1.20 x 1.51 x 1.55 m
–	–	1.20 x 0.83 x 1.07 m	
	DVS 2007-6, DVS 2203-1		
2006/42/EC (MD), 2014/30/EU (EMC), 2011/65/EU (RoHS)	2006/42/EC (MD) + 2004/108/EC (EMC)		
	Designed for industrial applications and clean room conditions		
790182001 working table included and CONNECT box	790164001 working table included	790165001 working table included	790166001 rental-only working table included

Performance assured, for your peace of mind

The pioneer in IR fusion

GF is the pioneer in cutting-edge Infrared (IR) fusion technology, tailored to meet the demands of industrial applications and cleanroom environments. Our versatile range of IR fusion machines caters to a broad spectrum of dimensions and materials, ensuring precision and reliability.

Advantages of IR fusion

- Contactless fusion: No contamination and sticking of material to heater plate.
- Short welding time: Increased efficiency compared to conventional methods.
- Minimally defined bead: The process produces a minimally defined bead, ensuring a clean and seamless finish.
- High reproducibility and reliability: Reduces the likelihood of errors.
- Minimized thermo-stress: Heat transfer by thermal radiation to reduce the risk of weak points in the joint.
- Long-lasting joints: IR fusion creates durable joints that can withstand long-term use and environmental stressors, providing a reliable and long-lasting solution for plastic piping systems.
- Umatched precision: Enabling accurate prefabrication and easy installation.

WBI Tool

The Weld-Bead Inspection (WBI) Tool from GF assesses the quality of infrared-weld beads more reliably than ever. It provides information about the geometry of the outer weld bead at the inspected points. Every element has been designed to be intuitive and efficient. No misinformation or falsification, the WBI Tool automatically documents facts of bead shapes for both traceability and accurate accountability.

Materials:

PVDF SYGEF (Standard/Plus/Select), PP-H PROGEF (Standard/Plus), ECTFE SYGEF, PE100 ecoFit.

Portfolio	Order number
WBI-63 Tool: d20 - 63 mm	790 170 001
WBI-225 Tool: d20 - 225 mm	790 170 002

Seamless digital fusion documentation

Embark on a revolutionary journey in welding data management with our new business service CONNECT Welding Data. Join us in redefining how you document your welds and manage inspections.

IR-225 M FUSION PROTOCOL

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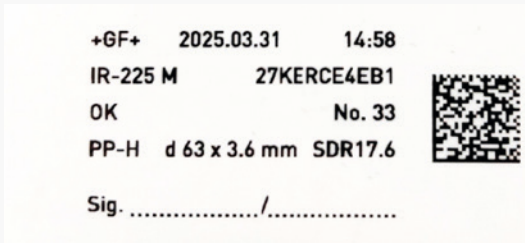
MACHINE		
Machine type		IR-225 M
Serial number		27KERCE4EB1
Software version		1.5.8.7664045
Service status		OK
Service due date		2026.09.16
Remaining weldings		2481
GENERAL		
Date		2025.03.31
Time		14:58
Worksite		--
Welder		tk
Isometric		
Info 1		
Info 2		
PIPE DATA		
Material		PP-H PROGEF
Diameter		d 63 mm (2")
Wall thickness		3.6 mm (0.142")
Nominal pressure [bar]		PN6
SDR		SDR17.6
PROCESS DATA	Set value	Actual value
Ambient temperature	5 - 40 °C	21 °C
Component temperature		21 °C
Heater temperature	358 - 366 °C	362 °C
Zero face check	-0.07 - 0.07 mm	0.03 mm
Number of refacings		0
Insert time	max. 5 s	1 s
Heating time	65 - 66 s	65 s
Changeover time	0.5 - 4 s	2.1 s
Overlap distance	0.30 - 2.10 mm	1.03 mm
Fusion force		OK
Cooling time	140 s	140 s
RESULTS		
Fusion number		33
Fusion status		OK

NOTES

Verify correct handling and visual control!

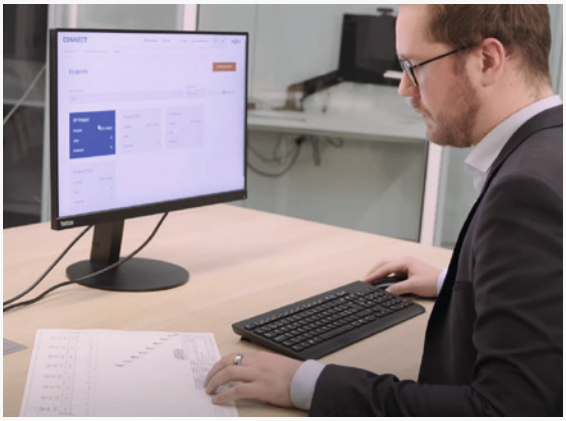
SIGNATURE WELDER SIGNATURE SUPERVISOR

IR-225 M Fusion Label



CONNECT Welding Data and fusion documentation

With the Connectivity Box, your machine links effortlessly to GF's CONNECT Welding Data, giving your organization a dedicated space on our secure, centralized platform. Welding protocols are automatically transferred and stored, with each fusion clearly identified by its own welding label—making protocol retrieval fast and easy via the unique welding ID. Enhance your documentation by attaching relevant data such as isometric drawings, weld bead images, and inspector assessments—directly linked to each weld for complete traceability. Together with our trusted platform partners, we ensure the highest standards of data security. For added flexibility, fusion data can also be exported via USB—no additional software required—or printed manually using a printer connected to the 230 V power outlet.



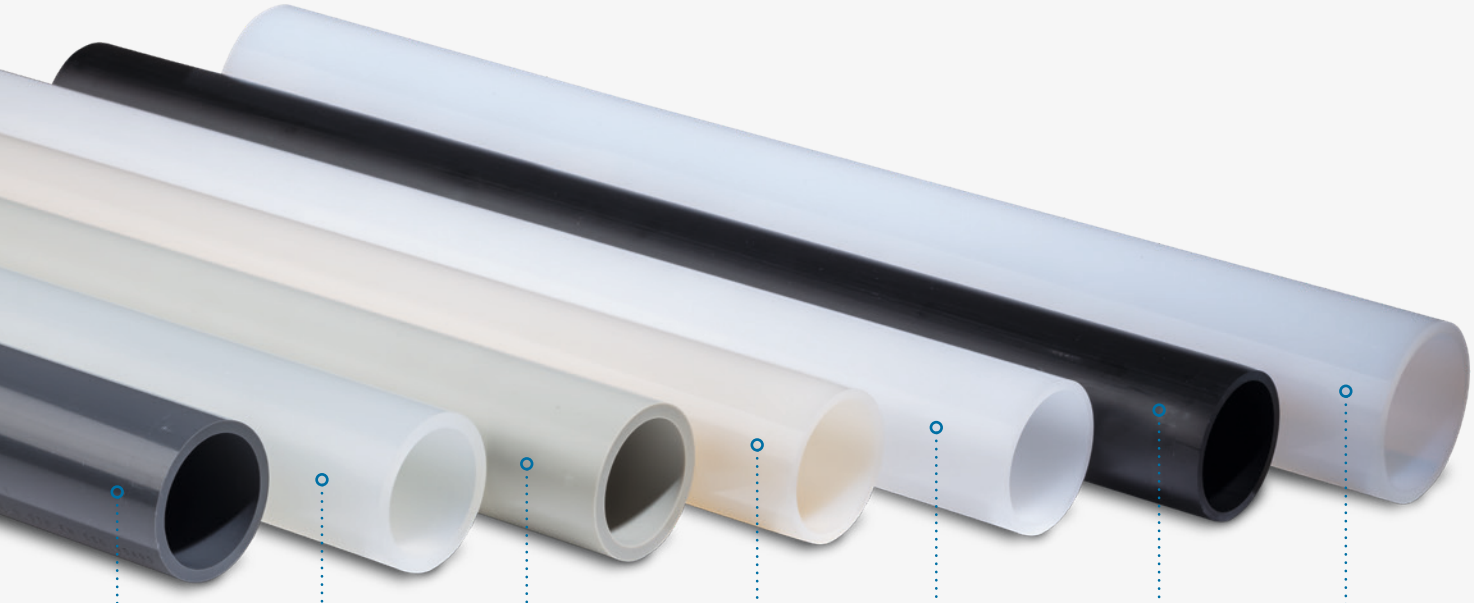
CONNECT

Start now and experience perfectly documented welding procedures that are accessible anytime and anywhere.

Learn more:
marketplace.connect.gfps.com/p/welding

Redefined options

GF offers a comprehensive range of industrial piping systems designed to meet the highest standards of safety, efficiency, and sustainability. Serving a wide array of industries, GF's solutions are engineered for easy installation, low maintenance, and long-term performance. These solutions help customers reduce downtime and ensure reliable fluid handling in demanding environments.



PVC-U
metric

PP-n
PROGEF
Natural

PP-H
PROGEF
Standard/Plus

ECTFE
SYGEF

PVDF
SYGEF
Standard/Plus/
Select

PE100
ecoFIT

PFA
inch

Application areas

IR fusion technology is incredibly versatile and meets the requirements for a wide range of industrial applications and clean room conditions. While it is the preferred choice in the following examples, its potential extends far beyond these industries.

Microelectronics

Our comprehensive solutions help the industry manufacture advanced technologies, while also prioritizing environmental impact minimization.

Data center

Our expertise allows us to deploy solutions in the world's top-tier data centers, where we cool the chips that our clients manufacture with our products.

Chemical process industry

Our comprehensive portfolio of corrosion-free piping systems is at the base of cost-effective processes, while also fulfilling key environmental, social and governance targets.

Water treatment

To solve issues facing the modern industrial water treatment industry, plastic piping systems offer significant benefits of being corrosion-resistant, requiring reduced maintenance and prolonged lifespan.

Energy

The combination of our modular piping solutions and engineering capabilities enable enhanced battery energy storage solution through advanced thermal management and efficient electrolyte distribution.

Life science

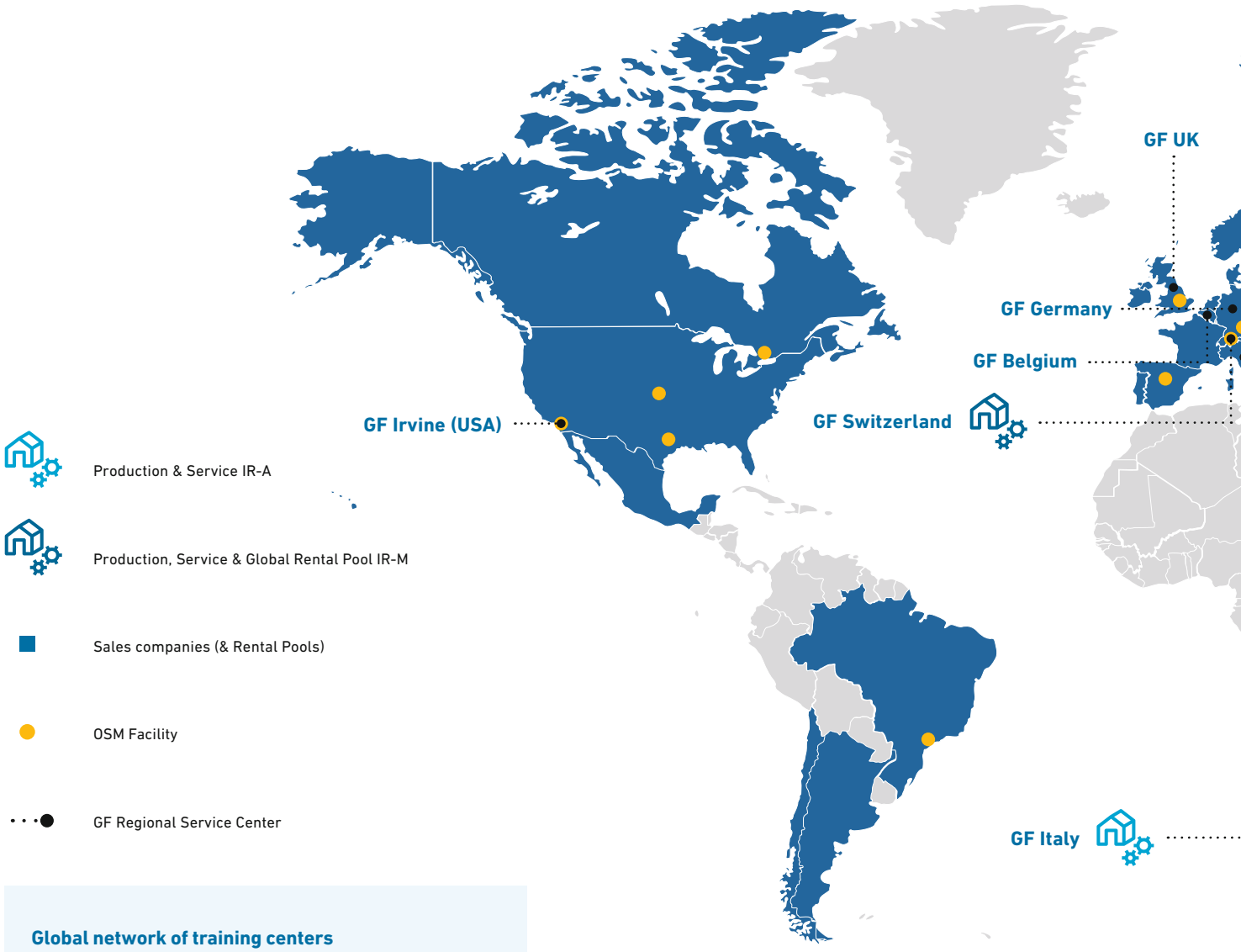
We are the only manufacturer offering a full range of thermoplastic piping systems, serving as a single-source solution for laboratory special waste, process water, and process cooling water management.

Hydrogen

We offer corrosion-free polymer solutions across the hydrogen value chain for seamless and efficient integration into your applications, supporting hydrogen as a key enabler of decarbonization.

Global reach, local support

Worldwide presence for IR fusion machines



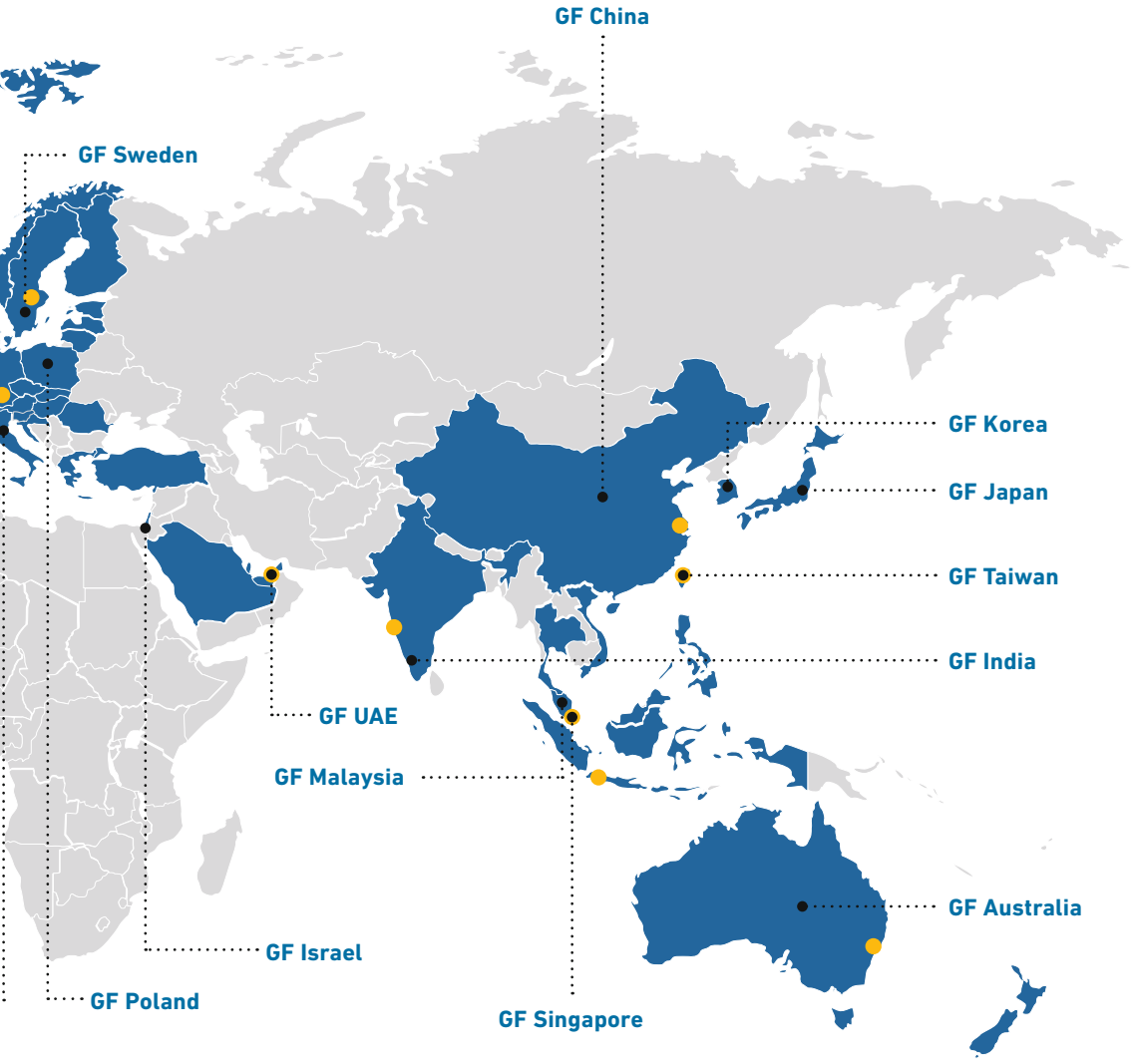
Global network of training centers

Our experts are at your side wherever you are and conduct hands-on training sessions providing you with an in-depth understanding of IR-welding. Through the specialized education, we empower you to prevent damage before it happens. Graduates of our training programs earn professional certificates from one of our training centers worldwide, ensuring they meet the highest standards of quality and expertise.

Learn more:
http://www.gfps.com/academy

Comprehensive service for lasting performance

With a presence in roughly 50 countries and a network of certified and dedicated Infrared service centers, we deliver global expertise with localized support. Our regional centers specialize in maintenance and calibration, ensuring optimal performance and extended machine lifespan. Regular servicing prevents costly downtime, keeping operations smooth and reliable. You can rely on our expert support whenever you need it.



Rental pool and production facility

For individual projects, immediate access to high-quality IR fusion machines ensures efficiency and flexibility. In addition to local rental pools operated by the sales companies, our global rental service provides well-maintained, ready-to-use equipment exactly when and where you need it.

As the pioneer and leader in IR fusion technology for over 30 years, we offer unmatched expertise and reliability, ensuring seamless operations and maximum performance for your installations.

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

More about IR-225 M:
www.gfps.com/ir225m

Excellence in Flow

Visit our webpage to get in touch with your local specialist:
www.gfps.com/our-locations

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GFDO_BR_00128_EN(06/2025)