



# MSA 4.0 covers your needs today and in future

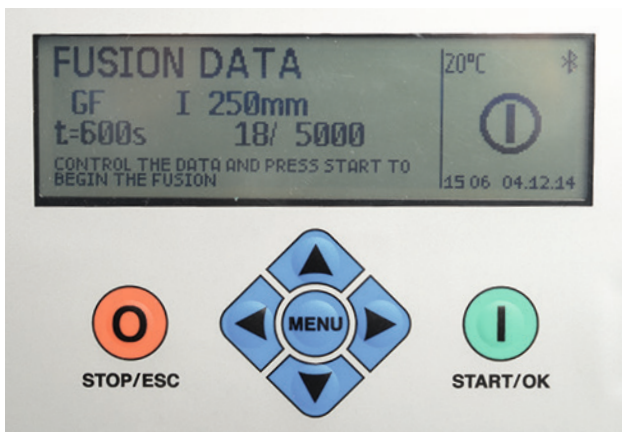
Gas and water companies as well as installers are becoming more demanding. The MSA 4.0 electrofusion unit offers a flexible and open platform which can be upgraded to cope with future challenges.

## + Full of values



# The cutting-edge electrofusion solution: MSA 4.0 adapts to any situation

## + User-friendly and flexible



### User-friendly

- Large graphical display, big fonts and intuitive icons keep the user interface readable even from 3 meters
- Integrated online help gives advice during the welding process and in case of drawbacks
- Long distance scanner and START/STOP commands on a badge to interact from 3 meters without going up and down of the ditch
- Clear traceability of actions, error messages and audible signals

### Connected

- GPS to allow trench localization and automatic map creation in combination with the mini MSA Welding Book application included
- Fast USB port to save recorded protocols, upgrade languages and change and save workflow configuration
- Bluetooth interface to connect to wireless devices

### Flexible

- Selection of barcode readers offers a perfect balance between costs and benefits for each installer. Traditional 1D scanner or 2D wired scanner to read both existing barcodes and QR codes; wireless scanner 1D/2D to minimize the cables
- Easy set up in the configuration menu via USB encrypted file to suit all customer needs
- Manual and automatic input of the operator code, job and sketch number, fusion and traceability data to comply to ISO standard, enabling the entering of custom data by the installation company

### Powerful


- High power efficiency, thanks to the inverter technology inside, for welding in combination with small power generators
- Up to 3.6kW of true power supplied to the fitting, also for welding big couplers
- Unique air flow system design, to improve the heat dissipation for welding in series without stopping to cool the machine down

# We complement your work


MSA 4.0 are not just electrofusion units: they are a system in the trench. These units encompass all the features to support you in making a fast, safe, high quality and reliable joint. They keep it terrifically simple and flexible.

- Advanced features comply with most sophisticated requirements in gas and water applications. The traceability data (ISO 12176-4/5) of fittings, pipes and tools can be saved into the fusion record, as well as the GPS coordinates of the weld position.
- Adaptive workflow: a configuration file downloaded via USB memory stick enables the tracking of the information required by the job, like operator code (ISO 12176-3), job and sketch number. This allows the installation company to instantly switch from one grid owner to another, with different procedures in place.
- Operations on site are guided from preparation to finalization of the fusion process. At the end of the welding process, all the recorded data are saved into a high capacity internal memory and can be easily transferred via USB to a personal computer for printing, investigation and digital archive.
- The user is free to retrieve the fusion records in a native PDF format or in an encrypted format and use them in data and network management systems. In both cases, the protocols contain the richest fusion information set available today.


**OPERATOR IDENTIT.** | 22°C

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**JOB NUMBER** | 22°C

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**TRACEAB. FITTING** | 22°C

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**GPS DATA** | 22°C

LONG:011°30.59867E

LATIT:45°30.63511N

NUMBER OF SATELLITES ON VIEW: 08

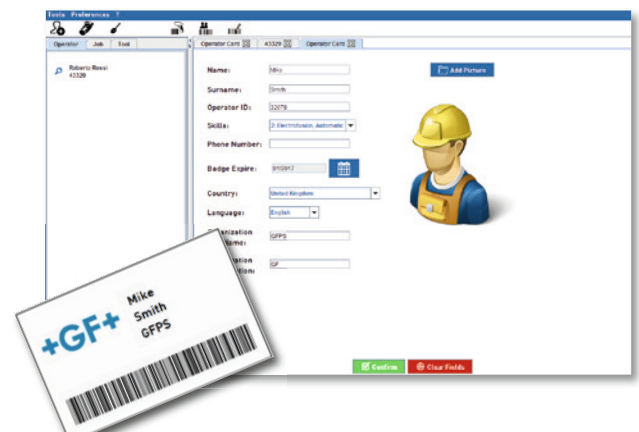
QUALITY OF SIGNAL: 2 HDOP: 1.44

  
09:16 11.03.14

- Traceability is managed at its best: on top of usual data (ISO 12176-4) the QR code, available on ELGEF products, can be captured to uniquely identify each fitting and link directly to GF Piping Systems online services.
- Photos and videos can be taken during the job: this complementary data can be merged automatically with the recorded fusion protocols in the mini MSA Welding Book.
- The mini MSA Welding Book offers you more opportunities to make your job perfect: based on data collected by the MSA 4.0, it supplies a map of the site you worked in, specific notes concerning the welding, photo zooming and collages of protocols belonging to multiple machines.



+GF+ FUSION RECORD			
2013.08.01 - 12.06.43			
<b>GENERAL</b>			
Order Number :	LABO TEST +GF+		
Identity Card :	00T1961220056GF00202		
Date of installation :	08/08/14		
Time :	13:58		
Fusion Number :	0010		
Depth :	-m		
<b>FITTING DATA</b>			
Manufacturer :	GF		
Fitting Type :	Ø : Not defined		
Dimension :	63 mm		
Programmed/Measured Resistance :	2.25 OHM / 2.24 OHM		
<b>FUSION DATA</b>			
Manufacturer :	MGM		
Fusion Voltage :	40.0 V 39.9 V		
Fusion Time :	72 s 72 s		
Fusion Energy :	35.1 kJ		
Cooling Time :	10 min		
<b>ENVIRONMENTAL DATA</b>			
Ambient Temperature :	23 °C		
Mains Voltage :	Min : 237 V -- Average : 238 V -- Max : 239 V		
Mains Frequency :	50 Hz		
Error Notice :	0: Fusion process in order		
Pipes Prepared :	Scraped and Cleaned		
Data Input :	Barcode		
<b>GPS COORDINATES</b>			
GPS Coordinates :	50°49.51234N - 004°18.55642E		
Address :	Digue du Canal 112, 1070 Anderlecht, Belgium		
<b>CONTROL UNIT DATA</b>			
Manufacturer :	+GF+		
Model :	MSA 4.0		
Serial Number :	S156C6404008		
Next Revision Date :	05/2016		
<b>TRACEABILITY DATA</b>			
	FITTING	ELEMENT 1	ELEMENT 2
Manufacturer :	GF		
Component Type :	Socket		
Dimension :	063 mm		
Product Batch :	201212/05		
SIR :	11		
Material Status :	VERGIN		
PE :	MATERIAL		
MFR :	PE100		
WELDING NOTE :	10-MFR-15		



**+GF+ Mike Smith GPPS**

# Your challenges drive our MSA 2

Customers are asking for high efficiency, low cost of ownership, low weight and ease of use. These requirements have driven our engineering team in designing the MSA 2 family. The MSA 2.0 and MSA 2.1 electrofusion units are the general versions. The MSA 2 MULTI and MSA 2 COOL-FIT are the other members, at 230V and 115V respectively, tailored for GF special fittings, on top of the standard ones.

## + Strong in details

Comfortable, display anti-shock plastic handle with hooks to quickly wrap the cables

Functional graphical display

Emergency switch, to interrupt the on-going process in case of problems (MSA 2.1 and MSA 2 CF)

Long lasting and easy-to-operate keypad

Remote control via Bluetooth communication interface (MSA 2.1)

Fast USB port for software updates and protocols export

Sturdy aluminum die-cast housing to protect the unit against dust, splash and spray water

Plastic feet to keep the electronic core out of mud and dust

Self-protected from accidental damage during the fusion process, thanks to sensors for controlling the internal heating

Active cooling, with radial air flow solution to keep the unit safer



# MSA 2 makes your job easy: time and again

All is meant to simplify the job: the barcode scanner, for long distance reading, the cooling system to joint in series, the icons look and feel, to keep the interaction between user and machine very intuitive. The installer has just to connect the leads to the fitting, scan the fusion parameters and leave the control to the machine.

## + Intuitive and complete



### Easy of use

The unit is intuitive thanks to its User Interface based on icons and international signs. The large graphical display provides an excellent visibility from far: the relevant information are in big chars and the steps of the workflow are always shown to the operator to guide him and minimize mistakes.



### Comfortable

The superior barcode reader, with green spot confirmation and acoustic tones, improves further the communication with the operator, who can additionally use the START/STOP badge to remotely command the unit, without moving forth and back.

The mechanical design ensures a perfect balance in weight, while the compact housing facilitates the usage in cramped spaces. Cables wound on top, speeds up the wrapping/unwrapping when moving from joint to joint.

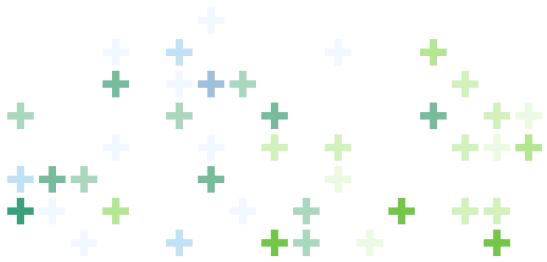


### Fusion data recording

The machine saves all fusion information automatically in its FLASH memory. Fusion records can be browsed in field by just pressing MENU and the arrow buttons, or easily copied on a standard USB memory stick for further investigation at the office.

Data collected can be included in a digital archive on a PC, thanks to the WeldinOne. With such application the user may prepare extended PDF files, in different languages, made of protocols belonging to many electro-fusion units and pictures taken during the pipe preparation process.

# At a glance



Technical specifications	MSA 2.0 230V	MSA 2.1 230V	MSA 2 MULTI 230V	MSA 2 CF 115V	MSA 4.0 230V
<b>Operating conditions</b>					
Working temperature range (min/max)	-20 °C/+50 °C	-20 °C/+50 °C	-20 °C/+50 °C	-20 °C/+50 °C	-20 °C/+50 °C
<b>Electrical data</b>					
Input voltage range (Vac)	190 – 265	190 – 265	190 – 265	90 - 135	190 – 265
Frequency range (Hz)	50 – 60	50 – 60	50 – 60	50 – 60	50 – 60
Current consumption (Max, A)	16 A	16 A	16 A	32 A	16 A
Output voltage (V ac)	8 – 42 (48)	8 – 42 (48)	8 – 42 (48)	8 – 42	8 - 48
Output current (max, A)	90	90	90	90	110
Input power (KW)	3.5	3.5	3.5	3.2	3.5
Emergency switch		✓		✓	✓
Type of protection	IP65	IP65	IP65	IP65	IP65
Protection class	I	I	I	I	I
Unit fuse	20A slow	20A slow	20A slow	32A slow	20A slow
<b>Operating procedures check</b>					
Automatic ambient temperature compensation	✓	✓	✓	✓	✓
Fusion current monitoring (short/interrupt)	✓	✓	✓	✓	✓
<b>Fusion data input</b>					
Operator code/job number		✓		✓	✓
Barcode scanner (ISO 13950 format)	✓	✓	✓	✓	✓, optional 2D
Manual fusion input	✓	✓	✓	✓	✓
<b>Data recording</b>					
Data recording capacity (Number of protocols)	350	1000	500	1000	5000
Documentation of fusion (PDF, BIN)		✓	✓	✓	✓
Fusion protocol export via USB		✓	✓	✓	✓
Welding Book Software		✓	✓	✓	✓
<b>Operator interface</b>					
Communication port	USB Type A	USB Type A	USB Type A	USB Type A	USB Type A
Buttons	5+Start+Stop	5+Start+Stop	5+Start+Stop	5+Start+Stop	5+Start+Stop
Display	graphical LCD	graphical LCD	graphical LCD	graphical LCD	graphical LCD
Bluetooth connectivity		✓			✓
External dongle Bluetooth compatibility	✓			✓	
GPS					✓
<b>Mechanical data</b>					
Dimensions (mm)	280x480x220	280x480x220	280x480x220	280x480x220	280x480x220
Weight (Kg)	11.9	11.9	11.9	12.5	12.5
Mains cable length	4 m	4 m	4 m	4 m	4 m
Fusion cable length	3 m	4 m	3 m	4 m	4 m
Mains plug	Schuko 16A	Schuko 16A	Schuko 16A	NEMA 32A	Schuko 16A
Connectors	4 mm	4 mm	4 mm	4 mm	4 m
Adapters (90°)	4.0 mm	4.0 mm/4.7 mm	4.0 mm	4.0 mm/4.0 long	4.0 mm/4.7 mm
<b>Norms compliance</b>					
EMC (EN61000)	✓	✓	✓	✓	✓
Safety (EN60335)	✓	✓	✓	✓	✓
ISO12176-2	✓	✓	✓	✓	✓
ISO12176-3		✓		✓	✓
ISO12176-4					✓

## Local support around the world

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[www.gfps.com/our-locations](http://www.gfps.com/our-locations)



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