

High tech, high yield

Electrofusion Units
MSA 4.0 and MSA 4.1



We cover your needs today and in future

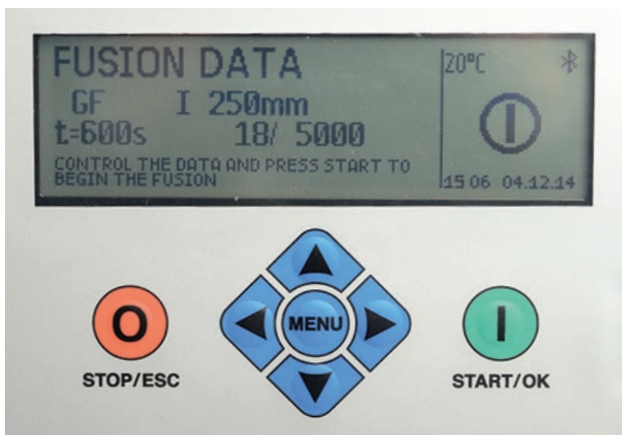
Gas and water companies as well as installers are becoming more demanding. The MSA 4.0 and MSA 4.1 electrofusion units offer a flexible and open platform which can be upgraded to cope with future challenges.

+ Full of values



The cutting-edge electrofusion solutions: they adapt 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 (MSA 4.1)
- HSPA+ mobile telecommunication network to enable the connectivity to the company office/servers (MSA 4.1)



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
- Ready for online services: upgradeable with Android apps (MSA 4.1), useable in combination with software applications on Windows platform

Weld and track under any site conditions

+ Powerful, safe, durable and ergonomic



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

Safe

- Continuously monitored welding process to stop promptly, if the fitting, generator or ambient conditions are not suitable
- Electrical ON/OFF switch in the upper part of the unit to turn off the machine in case of problems
- Unique protection against dust and water, for a safe work under harsh conditions
- Electronic sensors react in case of emergency and protect the machine

Durable

- Sturdy die-cast aluminum housing combines a lot of advantages such as thermal exchange, shock absorption and long work life span
- Special designed feet to keep the electronic core out the mud and improve the stability on uneven ground
- Stored in a professional transport box, with ventilation gutter, to let the humidity go away, when the machine is stored in the warehouse

Ergonomic


- Light weight design with comfortable plastic handle to ensure ergonomic handling and transportation
- Compact housing to facilitate the usage in cramped spaces and when working at height
- Cables wound on separate sides of the machine to be quickly wrapped when moving from joint to joint

We complement your work


MSA 4.0 and MSA 4.1 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) 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

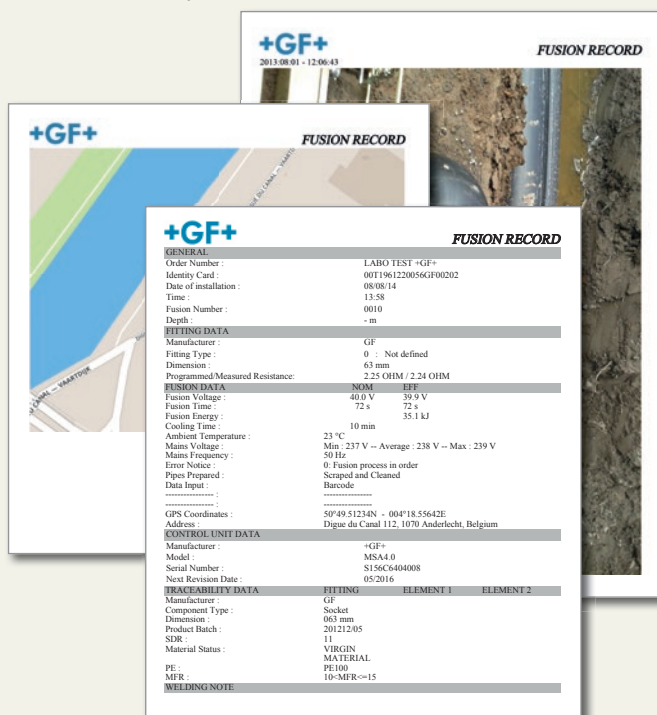
LATIT:45°30.63511N

NUMBER OF SATELLITES ON VIEW: 08

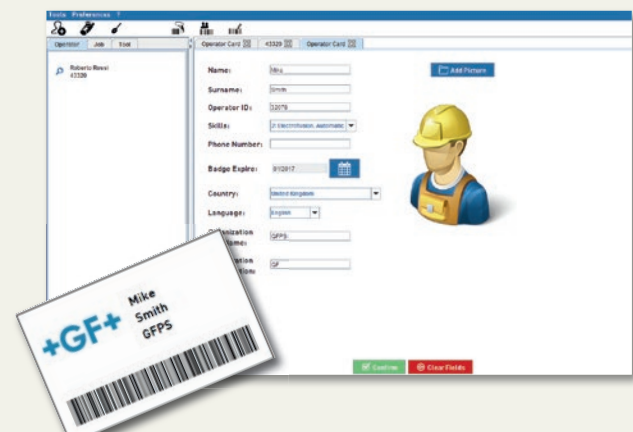
QUALITY OF SIGNAL: 2 HDOP: 1.44


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 family, 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.



GENERAL		
Order Number :	LABO TEST "+GF+"	
Identity Card :	00T1961220056GF00202	
Date of installation :	08/08/14	
Time :	13:58	
Fusion Number :	0010	
Depth :	- m	
FITTING DATA		
Manufacturer :	GF	
Fitting Type :	0 : Not defined	
Dimension :	63 mm	
Programmed Measured Resistance :	2.25 OHM / 2.24 OHM	
RESISTANCE DATA		
	NOM	REF
Fusion Voltage :	40.0 V	39.9 V
Fusion Time :	72 s	72 s
Fusion Energy :		35.1 kJ
Cooling Time :		10 min
Ambient Temperature :	23 °C	
Mains Voltage :	Min : 237 V -- Average : 238 V -- Max : 239 V	
Mains Frequency :	50 Hz	
Error Notices :	0: Fusion process in order	
Pipes Prepared :	Scraped and Cleaned	
Data Input :	Barcode	
GPS Coordinates :	50°49'51234N - 004°18'55642E	
Address :	Digue du Canal 112, 1070 Anderlecht, Belgium	
CONTROL UNIT DATA		
Manufacturer :	+GF+	
Model :	MSA4.0	
Serial Number :	S156C640408	
New Revision Date :	05/2016	
TRACEABILITY DATA		
	FITTING	ELEMENT 1
Manufacturer :	GF	
Component Type :	Socket	
Dimension :	063 mm	
Product Batch :	20121205	
SDR :	11	
Material Status :	VIRGIN	
MATERIAL :	MATERIAL	
PE :	PE100	
MFR :	10-MFR=15	
WELDING NOTE		



+GF+ Mike Smith GFPS

Overview

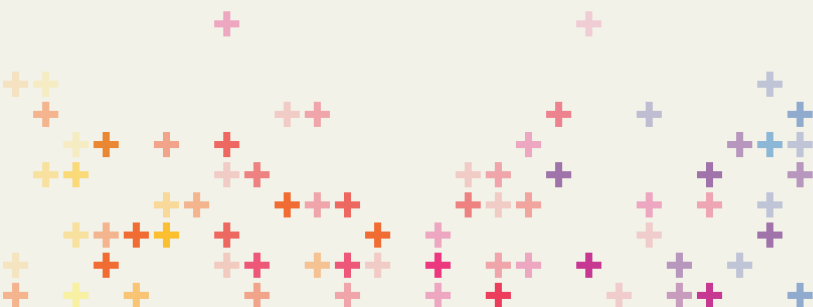
The MSA 4 family allows you to choose the right model for your daily business and upgrade on request.



MSA 4 Family Overview	MSA 4.0	MSA 4.1
Fittings dimension range (Ø mm)	20 – 1400	20 – 1400
Multiple weldings in sequence	✓	✓
Operating procedures check		
Automatic ambient temperature compensation	✓	✓
Fusion current monitoring (short/interrupt)	✓	✓
Fusion data		
Barcode scanner (ISO 13950 format)	✓	✓
Manual fusion input	✓	✓
Traceability		
Operator code/job number/sketch number	✓	✓
Fittings and pipes traceability (ISO 12176-4)	✓	✓
Global positioning coordinates	✓	✓
QR code	optional	✓
Scraping/aligner tools traceability	✓	✓
GF online services		✓
Data recording		
Documentation of fusion (PDF, BIN, CSV)	✓	✓
Fusion protocol export via USB	✓	✓
mini MSA Welding Book Software	✓	✓
Photos and videos captured by the unit		✓
MSA WeldinOne Software	optional	optional
Operations control		
Display brightness configurable	✓	✓
Configurable languages	up to 32	up to 32
Acoustic alert	✓	✓
Serviceability		
Programmable maintenance interval	✓	✓
Programmable rental time	✓	✓
Software/languages upload via USB memory stick	✓	✓
Usability		
Problem recognition (fittings, generators)	✓	✓
Clear messages to the operator in the display, including help	✓	✓
Remote command via barcode scanner	✓	✓
User configurable workflow	✓	✓
Indication of energy, fusion and cooling time	✓	✓
Different levels of access (admin/user)	✓	✓
Transport box	✓	✓

Specifications

Engineering at its best: High-quality components and materials combined with effective work flow.



Technical specifications	MSA 4.0	MSA 4.1
Operating conditions		
Working temperature range	min. -20 °C, max. +50 °C	min. -20 °C, max. +50 °C
Electrical data		
Input voltage range (Vac)	190 – 265	190 – 265
Frequency range (Hz)	40 – 70	40 – 70
Current consumption (Max, A)	16 A	16 A
Output voltage (V ac)	8 – 48	8 – 48
Output current (max, A)	110	110
Input power (kW)	3.5	3.5
Type of protection	IP65	IP65
Protection class	I	I
Electrical switch	√	√
Unit fuse	20A slow blow	20A slow blow
Data and operation control		
Data recording capacity (Number of protocols)	5000	5000
Buttons	5+Start+Stop	5+Start+Stop
Display	graphical LCD	graphical LCD
Barcode scanner	1D, optional 2D	wireless, 2D
Connectivity		
GPS Accuracy	3m	3m
Bluetooth coverage		10m
Mobile network		LTE
Communication port	USB Type A	USB Type A
Mechanical data		
Dimensions (mm)	280x280x420	280x280x420
Weight (Kg)	12.5	12.5
Case material	Aluminum	Aluminum
Mains cable length	4 m	4 m
Fusion cable length	4 m	4 m
Mains plug	Schuko 16A	Schuko 16A
Connectors	4 mm	4 mm
Adapters (90°)	4.0 – 4.0 mm/4.0 – 4.7 mm	4.0 – 4.0 mm/4.0 – 4.7 mm
Norms compliance		
EMC (EN61000)	√	√
Safety (EN60335)	√	√
ISO13950	√	√
ISO12176-2/3/4	√	√

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