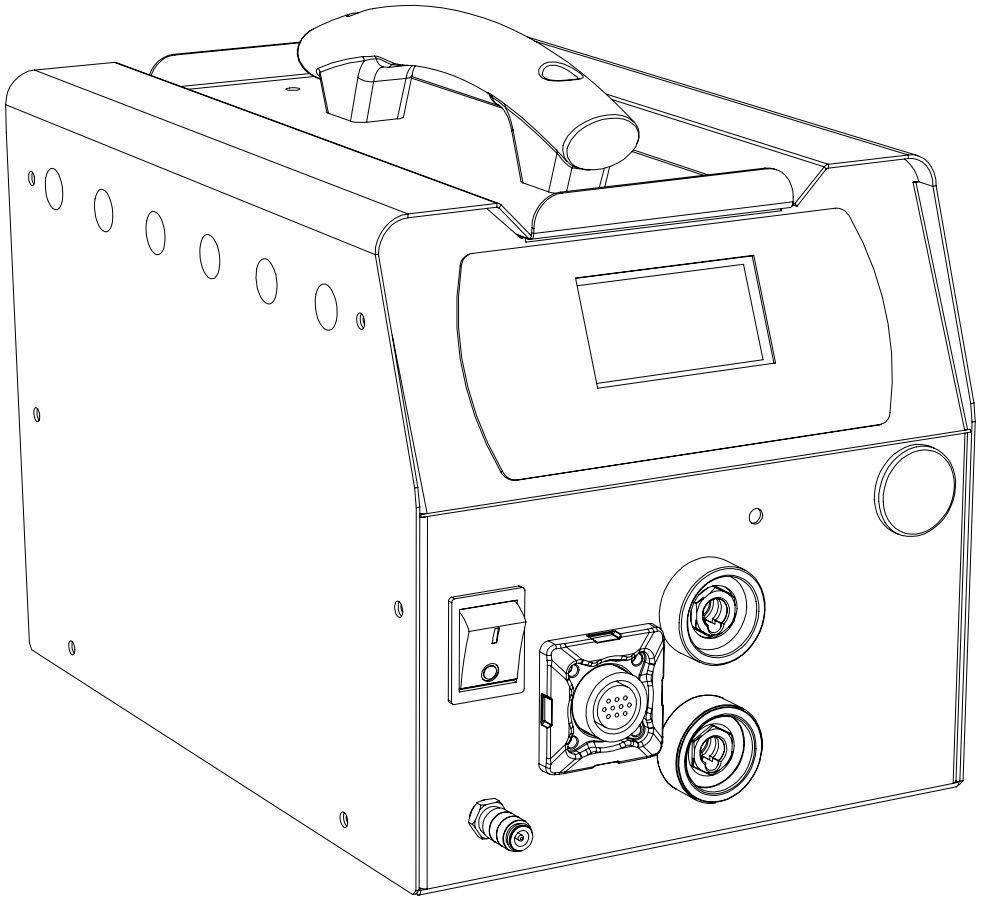


GYSPOT ARCPULL 200

FIG I / ABB. 1 / AFBEELDING I

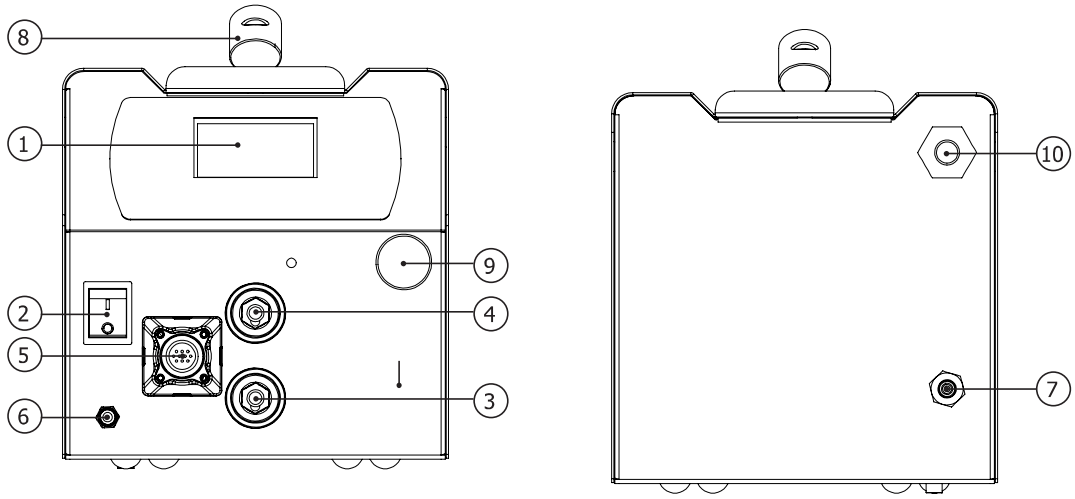


FIG I - PISTOLET / ABB. 1 - SCHWEISSPISTOLE / FIG I - PISTOLA / FIG I - ПИСТОЛЕТ / AFBEELDING I - PISTOOL / FIG I - PISTOLA

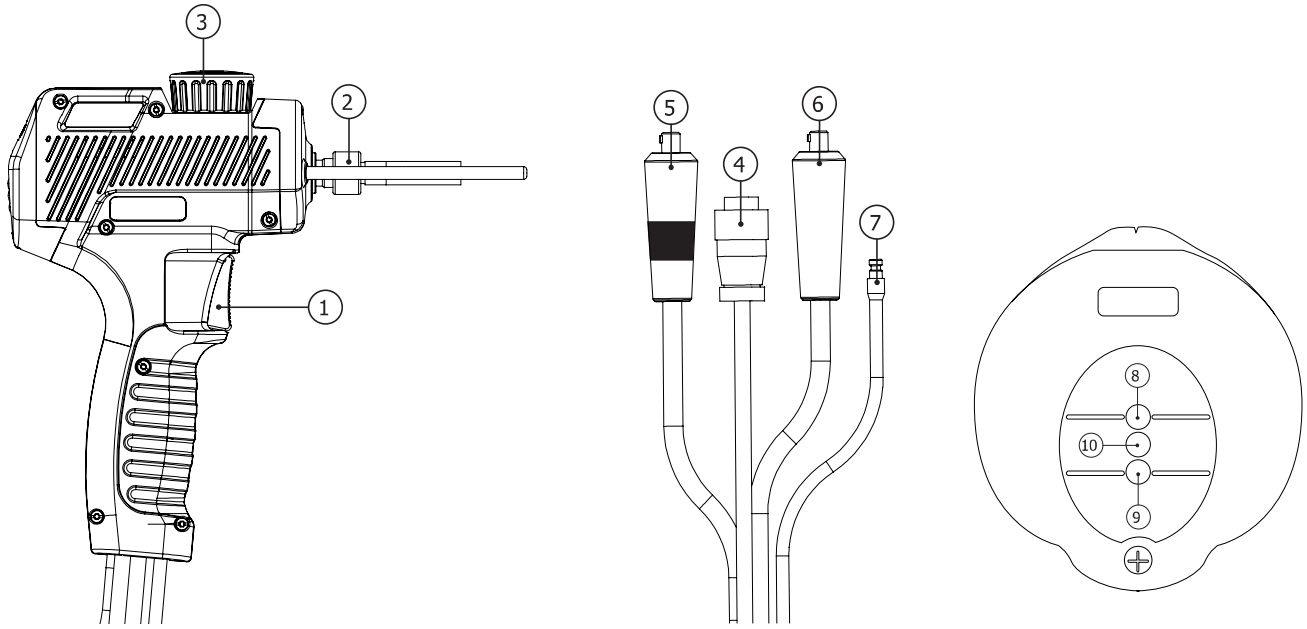
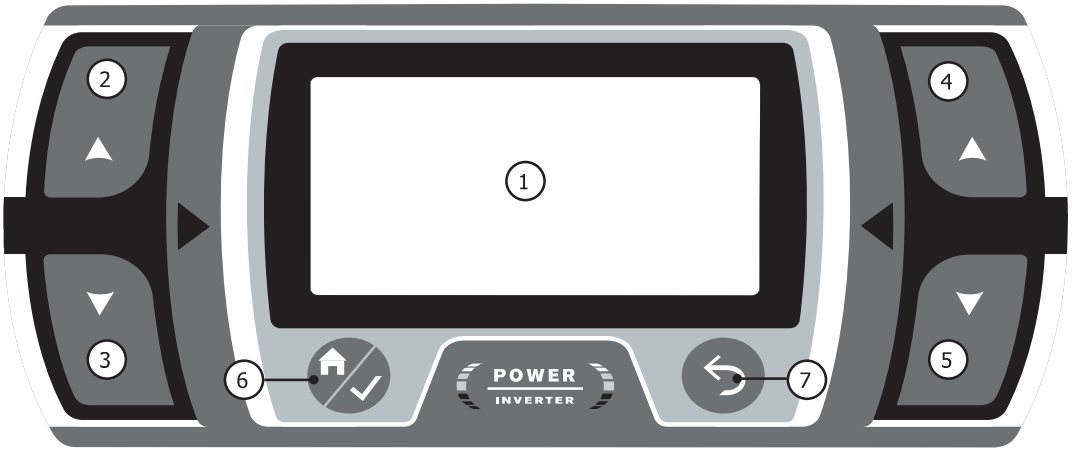


FIG II - INTERFACE / ABB. II - BEDIENFELD / FIG II - INTERFAZ / FIG II - ИНТЕРФЕЙС / AFBEELDING II - BEDIENINGSDISPLAY / FIG II - INTERFACCIA



⚠ WARNING - SAFETY RULES

GENERAL INSTRUCTIONS

Read and understand the following safety recommendations before using or servicing the unit.
Any change or servicing that is not specified in the instruction manual must not be undertaken.

The manufacturer is not liable for any injury or damage caused due to non-compliance with the instructions featured in this manual .
In the event of problems or uncertainties, please consult a qualified person to handle the installation properly.

ENVIRONMENT

This equipment must only be used for welding operations in accordance with the limits indicated on the descriptive panel and/or in the user manual. The operator must respect the safety precautions that apply to this type of welding. In case of inedaquate or unsafe use, the manufacturer cannot be held liable for damage or injury.

This equipment must be used and stored in a place protected from dust, acid or any other corrosive agent. Operate the machine in an open, or well-ventilated area.

Operating temperature:
Use between -10 and +40°C (+14 and +104°F).
Store between -20 and +55°C (-4 and 131°F).
Air humidity:
Lower or equal to 50% at 40°C (104°F).
Lower or equal to 90% at 20°C (68°F).
Altitude:
Up to 1000 meters above sea level (3280 feet).

INDIVIDUAL PROTECTIONS AND OTHERS

Arc welding can be dangerous and can cause serious and even fatal injuries.
Welding exposes the user to dangerous heat, arc rays, electromagnetic fields, noise, gas fumes, and electrical shocks.
People wearing pacemakers are advised to consult with their doctor before using this device.
To protect oneself as well as the other, ensure the following safety precautions are taken:

In order to protect you from burns and radiations, wear clothing without cuffs. These clothes must be insulated, dry, fireproof and in good condition, and cover the whole body.

Wear protective gloves which guarantee electrical and thermal insulation.

Use a helmet or protection goggles with a shade between 5 and 9. Protect the eyes during cleaning operations. Do not operate whilst wearing contact lenses.

Ensure ear protection is worn by the operator if the work exceeds the authorised noise limit (the same applies to any person in the welding area).

Stay away from moving parts (e.g. engine, fan...) with hands, hair, clothes etc...
Never remove the safety covers from the cooling unit when the machine is plugged in - The manufacturer is not responsible for any accident or injury that happens as a result of not following these safety precautions.

The pieces that have just been welded are hot and may cause burns when manipulated. During maintenance work on the torch or the electrode holder, you should make sure it's cold enough and wait at least 10 minutes before any intervention. The cooling unit must be on when using a water cooled torch in order to ensure that the liquid does not cause any burns.
ALWAYS ensure the working area is left as safe and secure as possible to prevent damage or accidents.

WELDING FUMES AND GAS

The fumes, gases and dust produced during welding are hazardous. It is mandatory to ensure adequate ventilation and/or extraction to keep fumes and gases away from the work area. An air fed helmet is recommended in cases of insufficient air supply in the workplace.
Check that the air intake is in compliance with safety standards.

Care must be taken when welding in small areas, and the operator will need supervision from a safe distance. Welding certain pieces of metal containing lead, cadmium, zinc, mercury or beryllium can be extremely toxic. The user will also need to degrease the workpiece before welding.
Gas cylinders must be stored in an open or ventilated area. The cylinders must be in a vertical position secured to a support or trolley.
Do not weld in areas where grease or paint are stored.

FIRE AND EXPLOSIONS RISKS

Protect the entire welding area. Compressed gas containers and other inflammable material must be moved to a minimum safe distance of 11 meters.
A fire extinguisher must be readily available.

Be careful of spatter and sparks, even through cracks. It can be the source of a fire or an explosion.
Keep people, flammable objects and containers under pressure at a safe distance.
Welding of sealed containers or closed pipes should not be undertaken, and if opened, the operator must remove any inflammable or explosive materials (oil, petrol, gas...).
Grinding operations should not be directed towards the device itself, the power supply or any flammable materials.

GAS BOTTLE

Gas leaking from the cylinder can lead to suffocation if present in high concentrations around the work area.
Transport must be done safely: Cylinders closed and product off. Always keep cylinders in an upright position securely chained to a fixed support or trolley.
Close the bottle after any welding operation. Be wary of temperature changes or exposure to sunlight.
Cylinders should be located away from areas where they may be struck or subjected to physical damage.
Always keep gas bottles at a safe distance from arc welding or cutting operations, and any source of heat, sparks or flames.
Be careful when opening the valve on the gas bottle, it is necessary to remove the tip of the valve and make sure the gas meets your welding requirements.

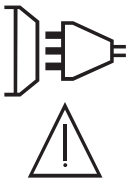
ELECTRIC SAFETY

The machine must be connected to an earthed electrical supply. Use the recommended fuse size.
An electrical discharge can directly or indirectly cause serious or deadly accidents .

Do not touch any live part of the machine (inside or outside) when it is plugged in (Torches, earth cable, cables, electrodes) because they are connected to the welding circuit.
Before opening the device, it is imperative to disconnect it from the mains and wait 2 minutes, so that all the capacitors are discharged.
Do not touch the torch or electrode holder and earth clamp at the same time.
Damaged cables and torches must be changed by a qualified and skilled professional. Make sure that the cable cross section is adequate with the usage (extensions and welding cables). Always wear dry clothes in good condition, in order to be insulated from the electrical circuit. Wear insulating shoes, regardless of the environment in which you work in.

EMC CLASSIFICATION

These Class A devices are not intended to be used on a residential site where the electric current is supplied by the public network, with a low voltage power supply. There may be potential difficulties in ensuring electromagnetic compatibility on these sites, because of the interferences, as well as radio frequencies.



Provided that the impedance of the low-voltage public electrical network at the common coupling point is less than Zmax = 0.45 Ohms, this equipment complies with IEC 61000-3-11 and can be connected to public low-voltage electrical mains. It is the responsibility of the installer or user of the equipment to ensure, in consultation with the distribution netwtork operator if necessary, that the network impedance complies with the impedance restrictions.

EN 61000-3-12 This equipment complies with the IEC 61000-3-12 standard.

ELECTROMAGNETIC INTERFERENCES

The electric currents flowing through a conductor cause electrical and magnetic fields (EMF). The welding current generates an EMF field around the welding circuit and the welding equipment.

The EMF fields may disrupt some medical implants, such as pacemakers. Protection measures should be taken for people wearing medical implants. For example, access restrictions for passers-by or an individual risk evaluation for the welders.

All welders should take the following precautions in order to minimise exposure to the electromagnetic fields (EMF) generated by the welding circuit::
- position the welding cables together – if possible, attach them;
- keep your head and torso as far as possible from the welding circuit;
- never enroll the cables around your body;
- never position your body between the welding cables. Hold both welding cables on the same side of your body;
- connect the earth clamp as close as possible to the area being welded;
- do not work too close to, do not lean and do not sit on the welding machine
- do not weld when you're carrying the welding machine or its wire feeder.

People wearing pacemakers are advised to consult their doctor before using this device.
Exposure to electromagnetic fields while welding may have other health effects which are not yet known.

RECOMMENDATIONS TO ASSESS THE WELDING AREA AND WELDING INSTALLATION

Overview

The user is responsible for installing and using the arc welding equipment in accordance with the manufacturer's instructions. If electromagnetic disturbances are detected, it is the responsibility of the user of the arc welding equipment to resolve the situation with the manufacturer's technical assistance. In some cases, this remedial action may be as simple as earthing the welding circuit. In other cases, it may be necessary to construct an electromagnetic shield around the welding power source and around the entire piece by fitting input filters. In all cases, electromagnetic interferences must be reduced until they are no longer bothersome.

Welding area assessment

Before installing the machine, the user must evaluate the possible electromagnetic problems that may arise in the area where the installation is planned.
. In particular, it should consider the following:
a) the presence of other power cables (power supply cables, telephone cables, command cable, etc...)above, below and on the sides of the arc welding machine.
b) television transmitters and receivers ;
c) computers and other hardware;
d) critical safety equipment such as industrial machine protections;
e) the health and safety of the people in the area such as people with pacemakers or hearing aids;
f) calibration and measuring equipment
g)The isolation of the equipment from other machinery.
The user will have to make sure that the devices and equipments that are in the same room are compatible with each other. This may require extra precautions;
h) make sure of the exact hour when the welding and/or other operations will take place.

The surface of the area to be considered around the device depends on the the building's structure and other activities that take place there. The area taken in consideration can be larger than the limits determined by the companies.

Welding area assessment
Besides the welding area, the assessment of the arc welding systems intallation itself can be used to identify and resolve cases of disturbances. The assessment of emissions must include in situ measurements as specified in Article 10 of CISPR 11. In situ measurements can also be used to confirm the effectiveness of mitigation measures.

RECOMMENDATION ON METHODS OF ELECTROMAGNETIC EMISSIONS REDUCTION

a. National power grid: The arc welding machine must be connected to the national power grid in accordance with the manufacturer's recommendation. If interferences occur, it may be necessary to take additional preventive measures such as the filtering of the power suplly network. Consideration should be given to shielding the power supply cable in a metal conduit. It is necessary to ensure the shielding's electrical continuity along the cable's entire length. The shielding should be connected to the welding current's source to ensure good electrical contact between the conduct and the casing of the welding current source.
b. Maintenance of the arc welding equipment: The arc welding machine should be be submitted to a routine maintenance check according to the manufacturer's recommendations. All accesses, service doors and covers should be closed and properly locked when the arc welding equipment is on.. The arc welding equipment must not be modified in any way, except for the changes and settings outlined in the manufacturer's instructions. The spark gap of the arc start and arc stabilization devices must be adjusted and maintained according to the manufacturer's recommendations.
c. Welding cables: Cables must be as short as possible, close to each other and close to the ground, if not on the ground.
d. Electrical bonding : consideration shoud be given to bonding all metal objects in the surrounding area. However, metal objects connected to the workpiece increase the riskof electric shock if the operator touches both these metal elements and the electrode. It is necessary to insulate the operator from such metal objects.
e. Earthing of the welded part : When the part is not earthed - due to electrical safety reasons or because of its size and its location (which is the case with ship hulls or metallic building structures), the earthing of the part can, in some cases but not systematically, reduce emissions It is preferable to avoid the earthing of parts that could increase the risk of injury to the users or damage other electrical equipment. If necessary, it is appropriate that the earthing of the part is done directly, but in some countries that do not allow such a direct connection, it is appropriate that the connection is made with a capacitor selected according to national regulations.
f. Protection and plating : The selective protection and plating of other cables and devices in the area can reduce perturbation issues. The protection of the entire welding area can be considered for specific situations.

TRANSPORT AND TRANSIT OF THE WELDING MACHINE

The machine is fitted with handle(s) to facilitate transportation. Be careful not to underestimate the machine's weight. The handle(s) cannot be used for slinging. Do not use the cables or torch to move the machine. The welding equipment must be moved in an upright position.
Do not place/carry the unit over people or objects. Never lift the machine while there is a gas cylinder on the support shelf. A clear path is available when moving the item.

EQUIPMENT INSTALLATION

• Put the machine on the floor (maximum incline of 10°.)
• The machine must be placed in a sheltered area away from rain or direct sunlight.
• The equipment has a protection degree of IP33, meaning :
- protection against access to dangerous parts of solid bodies of diameter >2.5 mm and,
- protection against rain directed at 60° from the vertical.
This equipment can therefore be used outdoors in accordance with the IP33 protection rating.
- The power, extension and welding cables must be completely unwound to avoid overheating.

The manufacturer does not incur any responsability regarding damages to both objects and persons that result from an incorrect and/or dangerous use of the machine.

MAINTENANCE / RECOMMENDATIONS

• Maintenance should only be carried out by a qualified person. Annual maintenance is recommended.
• Ensure the machine is unplugged from the mains, and wait for two minutes before carrying out maintenance work. DANGER High Voltage and Currents inside the machine.
• Regularly check the condition of the power supply cable. If the power cable is damaged, it must be replaced by the manufacturer, its after sales service or an equally qualified person.
• Do not use this equipment to thaw pipes, to charge batteries, or to start any engine.

INSTALLATION – PRODUCT OPERATION

EQUIPMENT DESCRIPTION (FIG-1)

The GYSpot ArcPull 200 is a single-phase inverter welding machine with arc-pull technology making is suitable to weld welding parts(threaded studs, insulation nails, pulling rings) on steel or aluminium based materials. It has a synergic mode and a manual mode.

Power source GYSPOT ARCPULL 200

1- Keypad
2- On/Off switch
3- Positive dinse connector for gun cable
4- Negative dinse connector for gun cable
5- Base for gun control cable connector
6- Gas outlet for gun cable
7- Gas input connected to the bottle (15 l/min) (G1/4 D6)
8- Transport handle
9- USB port protection cap
10 - Power supply cable

Automatic gun GYSPOT ARCPULL 200

1- Trigger
2- Electrode holder locking nut
3- Studs locking scrollwheel
4- Gun control cable connector
5- Positive dinse
6- Negative dinse
7- Gas connector
8- LED ON (green)
9- LED contact (blue)
10- LED fault (red)

INTERFACE (HMI) (FIG-2)

1- Display
2- Button G+
3- Button G
4- Button D+
5- Button D
6- Button Menu/Validate
7- Return button

POWER SUPPLY AND POWER UP

This machine is fitted with a 16A socket type CEE7/7 which must be connected to a single-phase 230V (50 - 60 Hz) power supply fitted with three wires and one earthed neutral. The GYSpot ArcPull is equipped with «Flexible voltage» technology, needs to be installed on a electrical installation with earth, between 110V and 240V (50-60Hz) The absorbed current (I1eff) is indicated on the device, for its maximum setting. Check that the power supply and its protection (fuse and/or circuit breaker) are compatible with the current needed by the machine. This equipment is designed to operate on an electrical installation equipped with a 16A curve C, D or K curve circuit breaker.
In some countries, it may be necessary to change the plug to allow the use at maximum settings. The user has to make sure that the plug can be reached.
• The device is switched on by pressing the « I » on/off button
• The device turns into protection mode if the power supply tension is over 265V. If this is the case, the machine displays POWER DEFAULT Normal functioning comes back once the power supply is under 265V.

WORKING OFF A GENERATOR

The machine can work with generators as long as the auxiliary power matches these requirements:
• The voltage must be AC, always set as specified, and the peak voltage below 400 V.
• The frequency must be between 50 and 60 Hz.
• The power must be at least 7kVA.
It is imperative to check these requirements as many generators generate high voltage peaks that can damage the machine.

USE OF EXTENSION LEAD

This equipment can be connected to the electrical installation with an extension lead as long as it matches the following requirements:
• Single-phase extension lead with earth conductor.
• The length must not exceed 10 m.
• The cable cross-section must not be less than 2.5 mm².

GAS PROTECTION

Depending on the material to be welded, gas protection may be necessary.

The gas flow must be set between 10 and 12L/min.

The following table lists the gases required depending on the inserts to be welded and their material. This table is given as an indication, pre-weld tests are recommended.

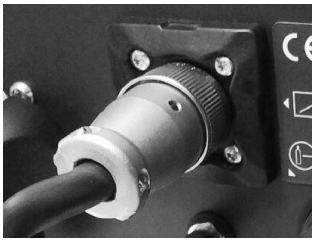
Insert to be welded	Gas	No gas
Alu pulling ring	Argon	Not recommended
Steel pulling ring	$ArCO^2$ 8%	Possible
Pulling rivet rods	$ArCO^2$ 8%	Not recommended
"Threaded stud, threaded insert stud, steel insulation nail, etc."	$ArCO^2$ 8%	Possible
"Threaded stud, threaded insert stud, aluminium insulation nail, etc."	ArHe 30%	Not recommended

Do not set the torque over 5N.m when tightening the gas input coupling.

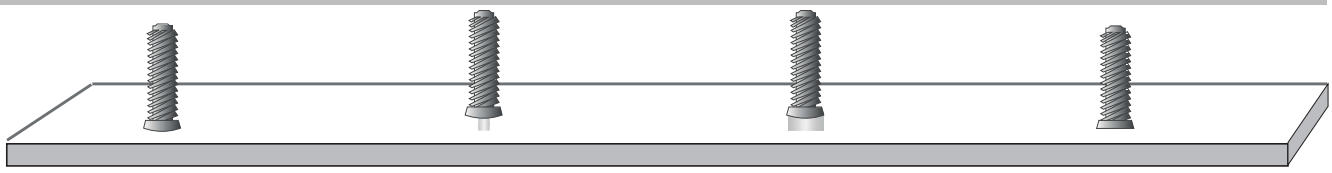
CONNECTING THE GUN TO THE POWER SOURCE

The connection and disconnection of the gun control connector to the power source socket must only be done with the power source switched off.

The ring of the gun control connector must always be properly screwed to the power source socket before starting the product.



PROCESS FOR WELDING AN INSERT WITH DRAWN ARC



Phase	Arcing	Penetration and cleaning	Arc	Attachment
T (ms)		0 to 200 ms	10 to 500 ms	0 to 50 ms
I (A)	≈80-150 A	10 to 60 A	0 to 200 A*	≈80-150 A

* Arc current is limited to 100A when the product is connected to a 110Vac 50Hz/60Hz power supply.

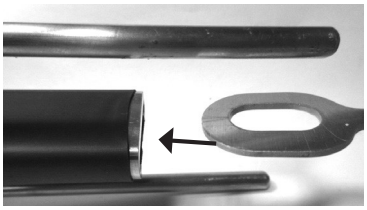
Arcing: the insert (pulling ring, threaded stud, etc.) is short-circuited. Pressing the trigger starts the welding process: the gun slightly lifts the insert, an electric arc is created.

Cleaning phase : the low intensity electric arc cleans the sheet metal. The heat generated by the arc removes impurities (grease, oils, protection zing, etc.) from the sheet.

The arc: the arc current creates a weld pool on the support sheet metal and melts the tip of the insert.
Attachment: the gun positions the insert into the weld pool.

Note: The thickness of the support sheet metal must not be less than ¼ of the diameter of the steel insert, and ½ of the diameter of the aluminium insert.

DRAWN ARC WELDING WITH THE ARCPULL 200



- Clean and remove grease from the welding zone.
- Mount the appropriate tool on the gun (ring holder, threaded stud holder, etc.).. If necessary, mount the pad and its protective cap at the end of the rods, as well as the barrel and its nozzle.
- Place an insert (pulling ring, threaded studs, etc.) in the gun tool.

Check the polarity of the gun dinse cables:

Insert to be welded	Connection of the positive cable (red)	Negative dinse cable
Alu pulling ring	Negative dinse connector (-)	Positive dinse connector (+)
Steel pulling ring	Positive dinse connector (+)	Negative dinse connector (-)
Stud, steel insulation nail, etc.	Positive dinse connector (+)	Negative dinse connector (-)
Threaded stud, alu insulation nail, etc.	Positive dinse connector (+)	Negative dinse connector (-)

Locking scrollwheel for earth rods:

- Modify the welding settings if necessary (synergic mode or manual mode)
- Unlock the earth rods using the scrollwheel.
- Place the gun on the sheet.
- Create a contact between the insert and the sheet metal. As soon as the gun creates a «beep» or that the LED contact (blue) is switched on, lock the earth rods using the scrollwheel.
- Press the trigger.
- Once the welding is complete, raise the gun to release the electrode (ring or threaded stud).

Note 1: It is imperative that the ring weld be carried out with new rings.

Note 2: To ensure the correct positioning of the weld, draw a perpendicular cross on the support sheet metal and make it coincide with the external markings of the pad.

Note 3: Stud welding must be done horizontally.

Do not over-tighten the gun studs locking scrollwheel of the gun.

PRODUCT OPERATION

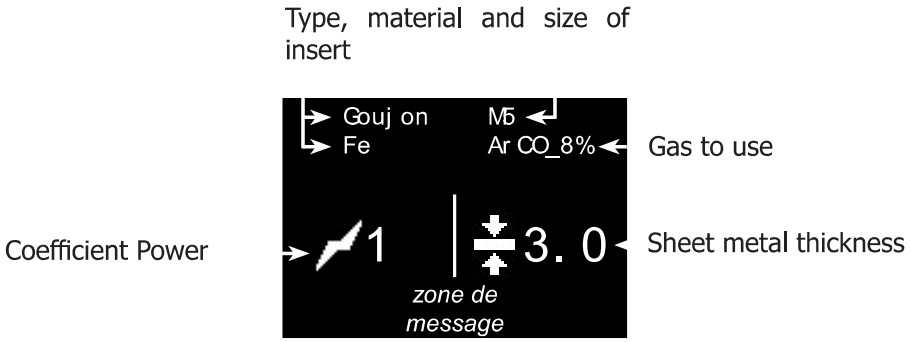
When the product is switched on, it always starts in synergistic mode.
Changing the mode (Manual or Synergic) is done via the Main Menu.

WELDING IN MANUAL MODE

In Synergic Mode, the arc height, times and currents for the different phases are selected automatically by the machine. The type of gas to be used is displayed on the screen. If the polarity of the gun is wrong, a message appears on the display and the fault LED (red) of the gun flashes.

The different welding parameters are established for the inserts sold by GYS.
These synergies remain valid for longer inserts (≤45mm) as long as they are of the same type and material as those sold by GYS.

It is recommended to make some preliminary welding tests if other consumables are used.



Thickness of the support sheet metal (value)

To increase or decrease the sheet metal thickness to which the insert will be welded use keys D+ and D-.
If the thickness of the sheet metal is less than that shown on the display, a marking on the rear of the weld may appear.
When the station displays « > », the sheet thickness is high enough so that it is not marked on the back while having an optimal weld.
If this pictogram does not appear, then the maximum sheet metal thickness has been reached. Beyond this thickness, the welding of the insert is no longer guaranteed.

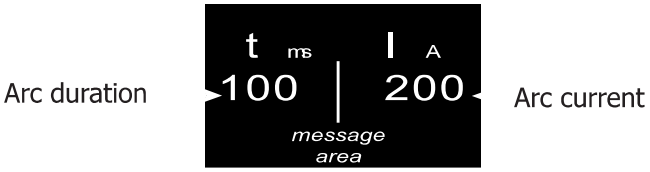
Power coefficient (value)
The Power coefficient is used to adjust the ignition current, the arc energy (current, time) and the attachment current. Power can be adjusted between -10 and +10. To increase or decrease this coefficient press keys G+ and G-.
Note: Weld synergies are optimized with a default Power coefficient value of 0.

Power	Action on the product	Influence on the weld
+1 point	• Increase the ignition current • 2% increase in arc current up to 200A, then 3% increase in arc time up to 500ms. • Increase the attachment current.	• Better arc ignition on poorly degreased sheet metal.. • Better ignition in cold weather (<5°C). • 2% increase of arc energy.
-1point	• Decrease the ignition current • 2% reduction of the arc current. • Decrease of the attachment current."	• Reduced risk of sticking during ignition. • Suitable ignition in hot weather (>35°C). • 2% decrease of arc energy.

To change the other synergistic welding parameters (materials, type and size of insert, gas) refer to the chapter «Synergistic Settings».

WELDING IN MANUAL MODE

In Manual Mode, times,currents, coefficients for the different welding phases and the lifting height of the insert need to be set by the user.

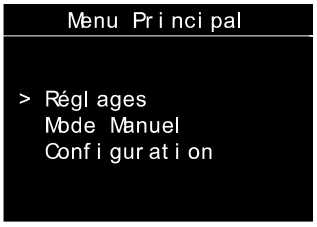


To increase or decrease the arc duration (value t ms), use the keys G+ and G-.

To increase or decrease the arc current (value I A), use the keys D+ and D-.
To change the other synergistic welding parameters (materials, type and size of insert, gas) refer to the chapter «Manual Settings».

MAIN MENU

To access the Main Menu from the Synergic or Manual modes, press the button Menu/Validate

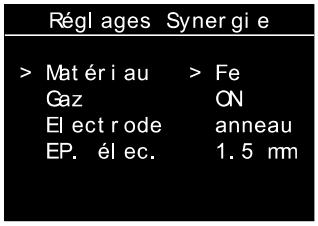


Press the keys G+ and G- to move the section cursor. Select the section by pressing the button Menu/Validate .

•« Settings » access the welding settings (synergic or manual).
• « Manual Mode » / « Synergic Mode» change the welding mode on the machine (synergic mode <-> manual mode)
• « Configuration » gives access the advanced settings on the machine (language, gas options, information, etc.)

Press the return button to return to the welding screen.

SYNERGIC SETTINGS

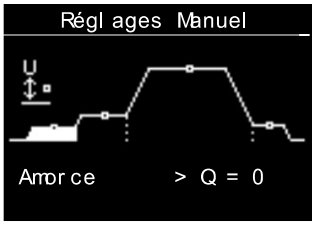


Press the keys G+ and G- to move the left cursor (Material, Gas, Type and thickness of the insert). Press the keys D+ and D- to modify the values of each item.

Pressing the Menu/Validate button confirms the synergy settings and returns the machine to the synergy welding screen.

Press the return button to ignore the settings and return to the Main Menu.

MANUAL SETTINGS



Press the keys G+ and G- to browse the different values (arcing and attachment coefficients, duration, currents, height) of the drawn arc process (see chapter «Drawn arc welding process»).

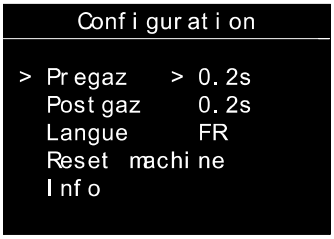
Press the keys D+ and D- to modify the values (coefficients, duration, current, height).

Pressing the Menu/Validate button confirms the manual settings and returns the machine to the manual welding screen.

Press the return button to ignore the settings and return to the Main Menu.

	Range of settings for the manual mode	Comment
Arcing	-10 to 10 (default value 0)	"The default value is set to ensure optimal arcing and stop the arc from breaking up when pulling the insert while limiting the short-circuit current. Slightly increase the ignition in case of repeated arcing failures. "
Penetration and cleaning	10 to 60 A	
	0 to 200 ms	
Arc	0 to 200 A	Limited to 100A if product is connected to a 110Vac ±15% power supply
	0 to 500 ms	
Attachment	-10 to 10 (default value 0)	The default value is set to ensure optimal attachment of the electrode onto the metal support.
	0 to 50 ms	
Height	0.5 mm to 5 mm	

CONFIGURATION



Press the keys G+ and G- to move the left cursor (Pregas, Postgas, Language, Reset machine, Info).

When the items Pregas, Postgas or Language are highlighted, press the keys D+ and D- to modify their value.

	Range of settings	Comment
Pregas	NoGas then from 0.2s to 3s	To weld using a gas coating, it is recommended to have a minimum pre-gas setting of 0.2s with a flow rate between 10 and 12L/min.
Postgas	NoGas or from 0.2s to 3s	To weld using a gas coating, it is recommended to have a minimum postgas setting of 0.2s.
Language	FR, GB, DE, NL, ES, IT, RU	

Push the return button to return to the Main Menu

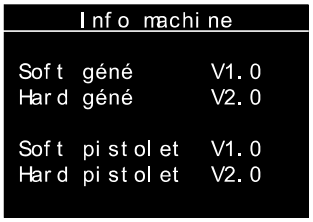
Reset machine

When the «Reset Machine» is selected from the Configuration menu, pressing menu/validate opens the reset machine sub-menu.

Press menu/validate for 3 seconds to confirm product reset.

Push the return button to return to the Configuration menu and cancel product reset.

Information panel



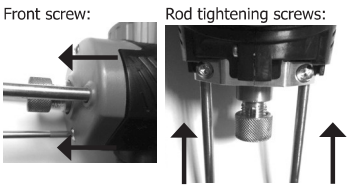
The information panel provides information on software versions and hardware of the generator and gun (if it is connected).

GUN TOOLS

CHANGE THE GUN EARTH RODS

Removal of the rods

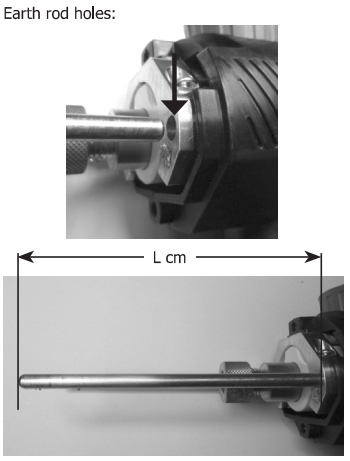
• Unscrew the two front screws in order to slightly release the case towards the front of the gun.
• Slightly unscrew the two screws used to hold the rods.
• Pull the rods up to remove them.



Repositioning of the rods

• Insert the rods into their compartment.
• Adjust the length of the rods between their end and base according to the type of parts to weld.

Insert to be welded	L (mm)
Threaded stud, insulation nail, pulling ring	120



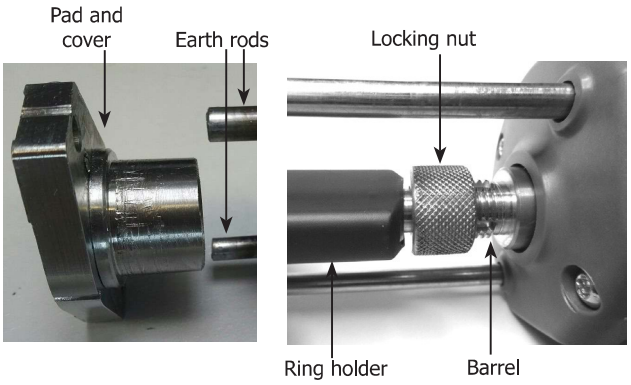
• Tighten up the two screws holding the rods.
• Reposition the hood
• Screw the front screws back on.

Note : When doing this, it is recommended to remove the electrode holder by loosening the locking nut.

CHANGING THE ELECTRODE HOLDER

Removing the electrode holder

• If necessary, remove the pad and the cover of the earth rods.
• Unscrew and release the locking ring with the ring holder or threaded stud holder.



Repositioning of ring holder

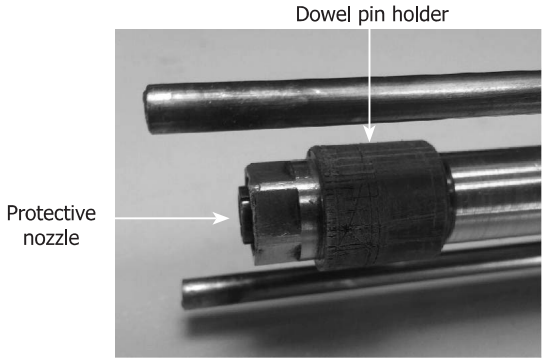
• Place the electrode holder in the gun barrel.
• Screw the locking nut back on and check that the ring holder does not move.

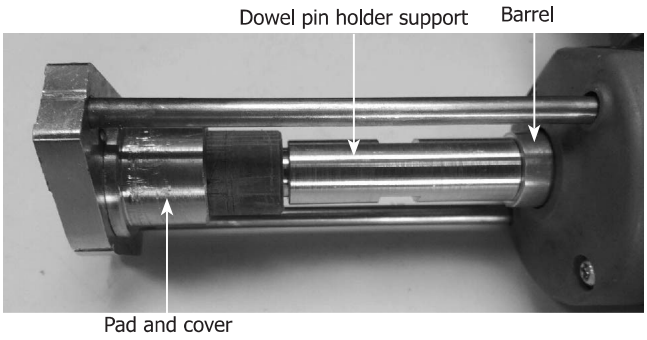
The locking nut must be tightened by hand. Do not use a clamp.

Repositioning of a dowel pin holder

• Position and screw thedowel pin holder into the barrel of the gun.
Put the protection nozzle on the dowel pin support and tighten slightly.
• Put the dowel pin holder previously set int protection nozzle.
• Screw on the protective nozzle.
• Reposition and screw the pad and the cover onto the earth rod.

Note: When screwing on the various components, the gun barrel must always be tightened/locked with a spanner.





Adjusting a dowel pin holder

• Unscrew the bolt and nut of the dowel pin holder.
• Insert the dowel pin in the nut holder.
• Aim at the screw of the dowel pin holder to obtain 5mm between its extremity and the thread of the insert (threaded stud)
• Block the nut.

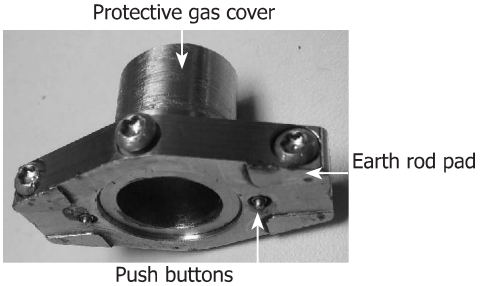
Note: It is possible to weld inserts up to 45mm long. Above 30mm long, it may be necessary to unscrew completely and reverse the direction of the dowel pin holder adjustment screw.

Note : If the stud weld shows the marks of the stud holder at the weld, adjust the stud holder screw to pull the stud out of the stud holder a little more.

Marks

Installation of the earth rods pad and the protective gas cover:

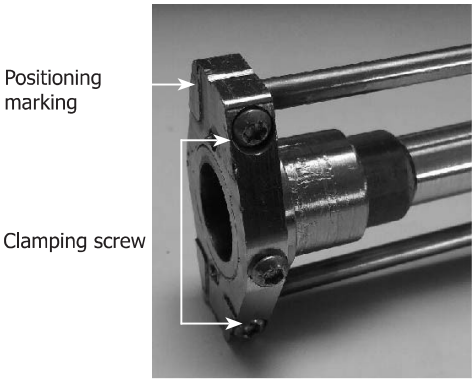
• Insert the protective gas cover into the earth rod pad and lock it with the screw.



It is imperative that the cover is placed on the other side of the pad pushbuttons.

The gas protection cover must not be mounted on the ground pad when welding without gas protection.

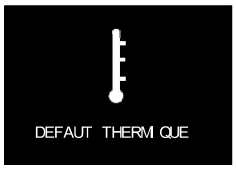
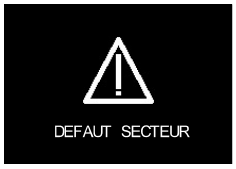
• Put the pad (equipped with its cover) at the end of the earth rods and screw in the 2 clamping screws. It is recommended to place the pad with the clamping screws pointing down to the bottom of the gun to keep the positioning markings clearly visible.



Note: The use of the gas protective pad and earth rods is not necessary when welding a pull ring.

ERROR MESSAGE, ANOMALIES, CAUSES, SOLUTIONS

This device integrates a default management system. In the event of a default, error messages may be displayed.

Error code	Meaning	Causes	Solutions
	Generator thermal protection	Maximum duty cycle reached.	Wait for the indicator to turn off before resuming welding operations.
	Mains voltage default.	Mains power is out of range or one phase is missing.	Have your electrical installation checked by a qualified person. The voltage between phase and neutral must be between 100V and 127Vac on a 110V supply network or between 200V and 265Vac on a 230Vac supply network.
	Keypad fault	A key on the keypad is pushed when the machine is switched on.	Ask a qualified person to check the keypad.
	Communication fault with the gun	Communication between the gun and the power source is not working.	Reconnect the gun and switch the machine back on. If the fault remains, ask a qualified person to check the product.
	Gun thermal protection.	Maximum duty cycle reached.	Wait for the indicator to turn off before resuming welding operations.
	Gun motor fault.	Gun mechanism is blocked.	Reconnect the gun and switch the machine back on. If the fault remains, ask a qualified person to check the product.

All operations requiring the removal of the machine's cover and checking the electrical systems must be done by a qualified technician.

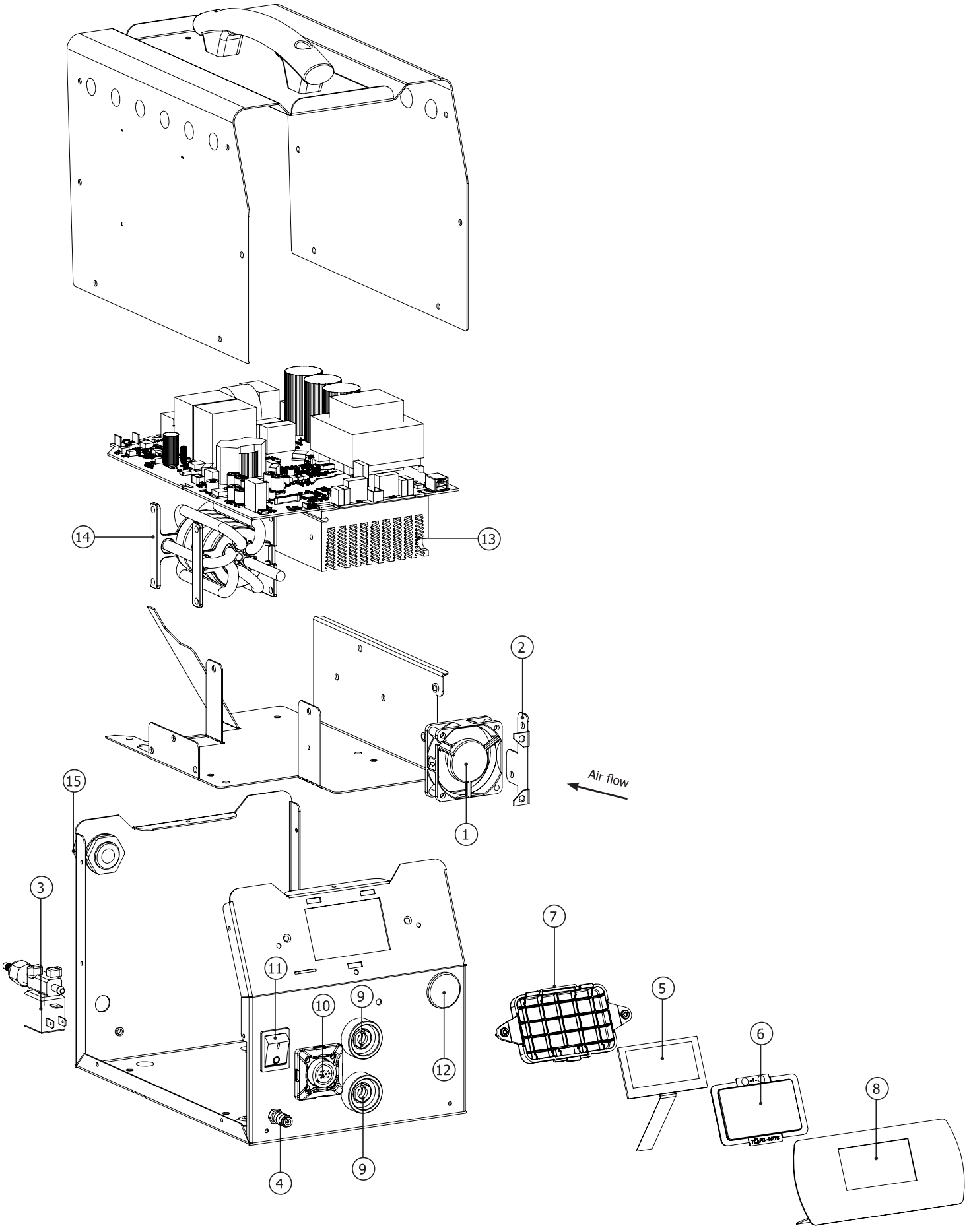
WARRANTY

The warranty covers faulty workmanship for 2 years from the date of purchase (parts and labour).

The warranty does not cover:
• Transit damage.
• Normal wear of parts (eg. : cables, clamps, etc..).
• Damages due to misuse (power supply error, dropping of equipment, disassembling).
• Environment related failures (pollution, rust, dust).

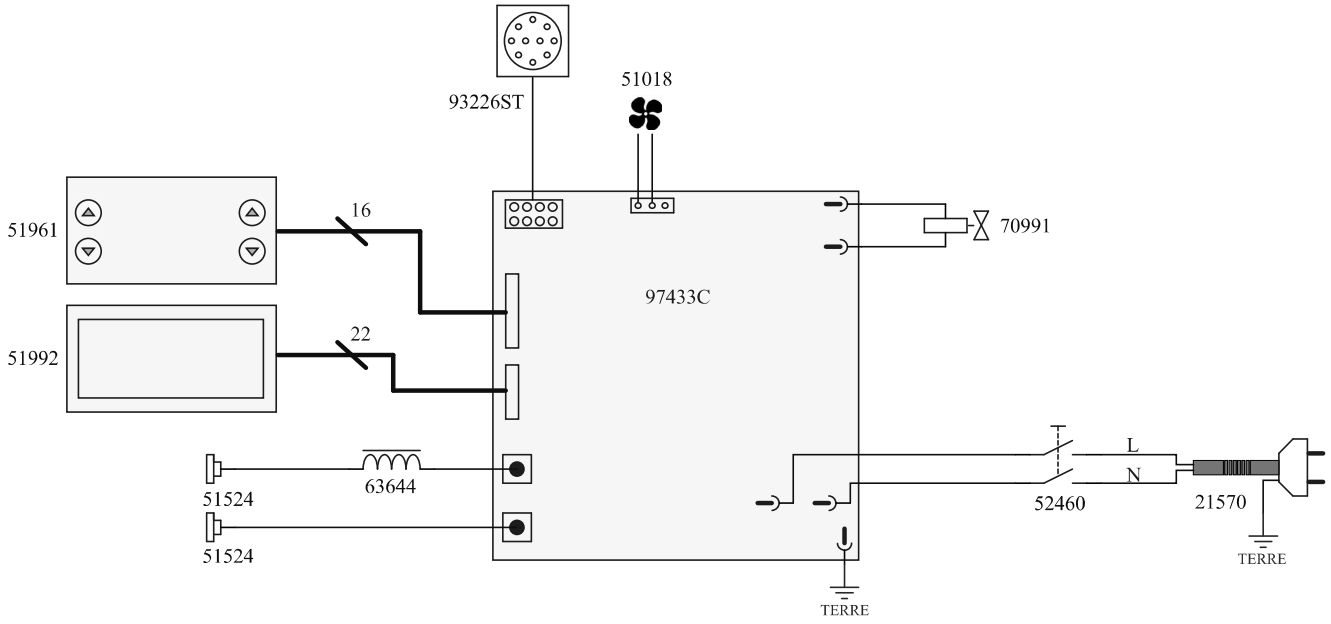
In case of failure, return the unit to your distributor together with:
- The proof of purchase (receipt etc ...)
- A description of the fault reported

PIÈCES DE RECHANGE / SPARE PARTS / ERSATZTEILE / PIEZAS DE REPUESTO / ЗАПАСНЫЕ ЧАСТИ / RESERVE ONDERDELEN / PEZZI DI RICAMBIO

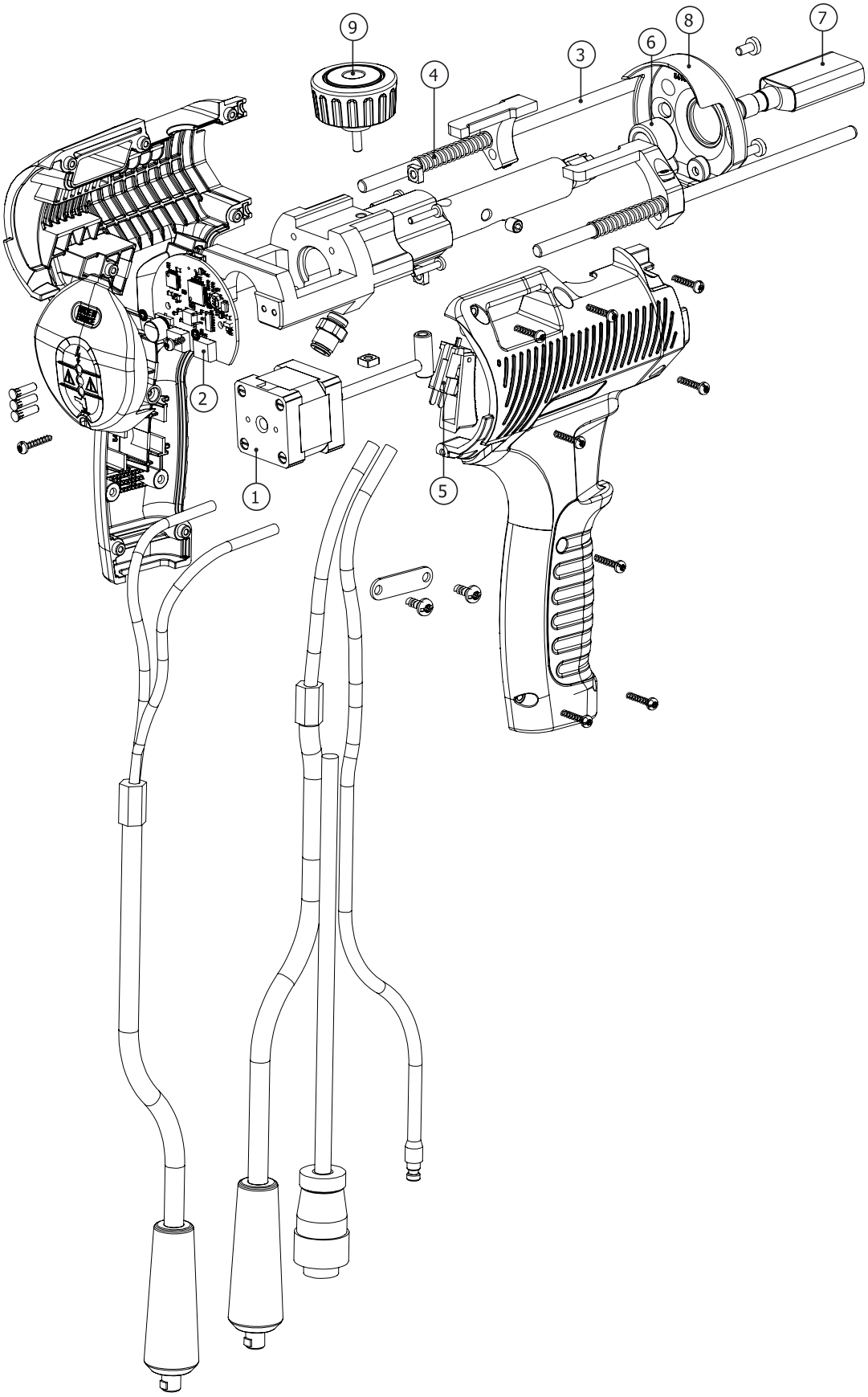


1	Ventilateur 24V / 24V fan / Ventilator 24 V / Ventilador 24V / Ventilator 24V / Вентилятор 24В / Ventilatore 24V	51018
2	Support ventilateur ARCPULL / Fan support ARCPULL / Halterung Lüfter ARCPULL / Soporte ventilador ARCPULL / Держатель вентилятора ARCPULL / steun voor ventilator ARCPULL / Supporto ventilatore ARCPULL	98050
3	Electrovanne 2 voies 24V / 2-way solenoid valve 24V / Magnetventil, 2 Wege, 24 V / Двойной электромагнитный клапан 24В / Magneetventiel 2-voudig 24V / Solenoide 2 vie 24V	70991
4	Coupleur gaz BSP20 / Gas coupler BSP20 / Gasanschluss BSP20 / Electroválvula 2 vías 24V / Соединитель для газа BSP20 / Gaskoppeling BSP20 / Accoppiatore gas BSP20	C31322
5	Ecran graphique / Graphic card / Grafikdisplay / Pantalla gráfica / Acople gas BSP20 / Графический экран / Grafisch scherm / Schermo grafico	51992
6	Protection écran / Screen protection / Displayschutz / Protección de pantalla / Screen protector / Защитная крышка экрана / Protezione schermo	56175
7	Support écran / Screen support / Displayhalter / Soporte pantalla / Основание, на котором крепится экран / Screen support / Supporto schermo	56172
8	Clavier / Keypad / Bedienfeld / Teclado / Панель управления / Bedieningspaneel / Tastiera	51961
9	Embase texas femelle 25 / Female dinse connector 25 / Texasbuchse 25 / Conector Texas hembra 25 / Гнездо Texas 25 / Texas aansluiting, vrouwelijk 25 / Colletto texas femmina 25	51524
10	Connecteur pistolet / Gun connector / Pistolenanschluss / Conector pistola / Коннектор для пистолета / Aansluiting pistool / Connettore pistola	93226ST
11	Interrupteur M/A / ON/OFF switch / Einschalter / Interruptor M/A / Прерыватель Вкл/ Выкл/ Schakelaar ON/OFF / Interruttore M/A	52460
12	Capuchon de protection / Protection cap / Schutzkappe / Tapa de protección / Защитная крышка / Beschermkapje / Coperchio di protezione	43124
13	Carte électronique / Electronic board / Platine / Placa electrónica / Электронная плата / Printplaat / Scheda elettrica	97433C
14	Self de sortie / Output capacitor / Ausgangsdrossel / Inductancia de salida/ Выходной дроссель / Inductor uitgang / Self di uscita	63644
15	Cordon secteur 3P + Terre 1.5 mm² / Power supply cable 3P + Earth 1.5 mm² / Netzleitung 3P + PE 1,5 mm²/ Cable electrico 3P + Tierra 1.5 mm² / Сетевой шнур 3 фазы + Земля 1.5мм²/ Netsnoer 3P + Aarde 1.5 mm² / Cordone presa 3P + Terra 1.5 mm²	21570

SCHÉMA ÉLECTRIQUE / CIRCUIT DIAGRAM /SCHALTPLAN/ DIAGRAMA ELECTRICO /ЭЛЕКТРИЧЕСКАЯ СХЕМА / ELEKTRISCHE SCHEMA / SCEMA ELETTRICO

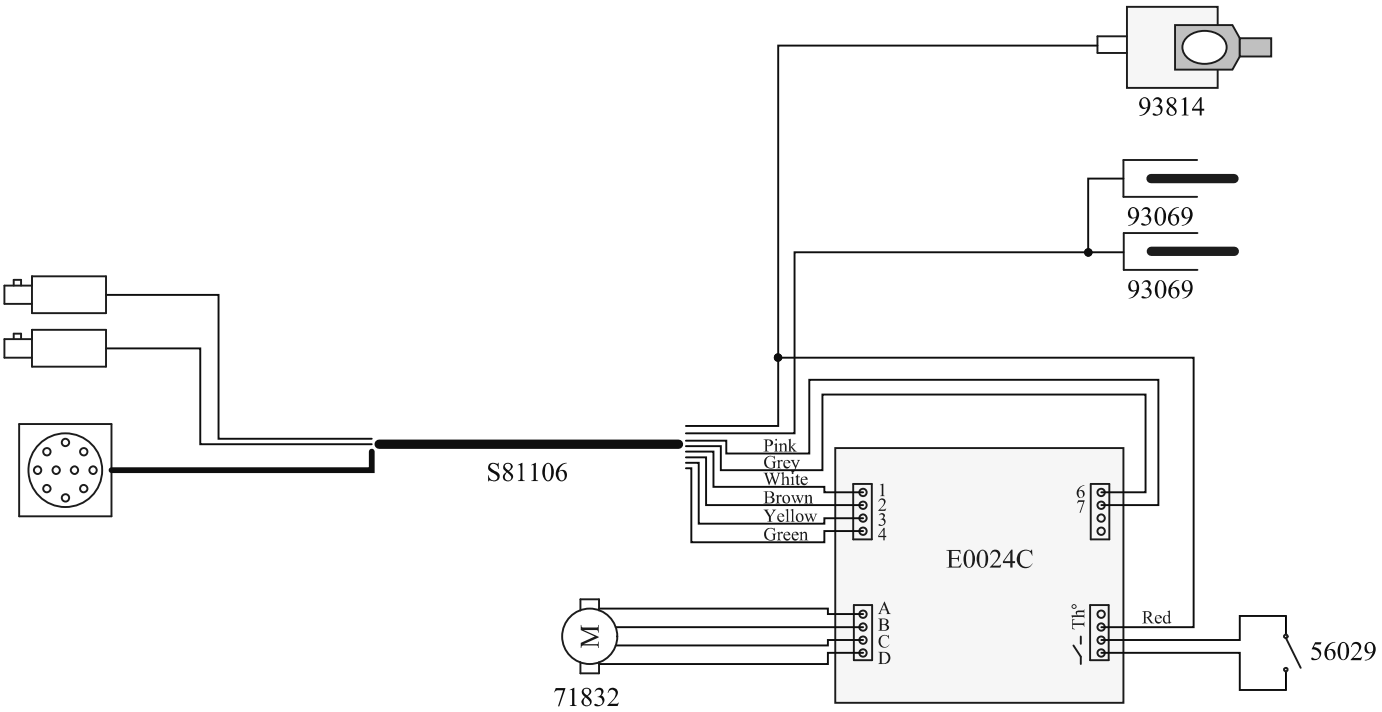


PIÈCES DE RECHANGE / SPARE PARTS / ERSATZTEILE / PIEZAS DE REPUESTO / ЗАПАСНЫЕ ЧАСТИ / RESERVE ONDERDELEN / PEZZI DI RICAMBIO

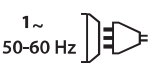


1	Moteur / Motor / Motore / Мотор		71832
2	Carte électronique / Electronic board / Steuerplatine / Placa electrónica / Электронная плата / Printplaat / Scheda elettrica	Si fabrication **avant** 02/2020 If manufactured **before** 02/2020	97458C + S81111
		Si fabrication **après** 02/2020 If manufactured **after** 02/2020	E0024C
		Si fabrication **pendant** 02/2020 If manufactured **during** 02/2020	consulter SAV consult SAV
3	Tiges de retour de masse / Earth rods / Massekontaktstifte / Varillas de retorno de masa/ Стержни заземления / Massa-pinnen / Asta di ritorno di massa		93069
4	Ressort de tiges / Rod spring / Feder für Massekontaktstift / Muelles de varillas / Пружина штырей / Veer / Molla fissa aste		55224
5	Gâchette / Trigger / Schalter / Gatillo / Триггер/ Auslöser / Pulsante di avanzamento		56029
6	Bague de vérouillage / Locking nut / Verriegelungsring / Anilla de bloqueo / Кольцо блокировки / Vergrendelring / Anello di blocco		90598
7	Porte anneau / Ring holder / Aufnahme / Porta anillas / Держатель для колец / Houder trekoog / Porta anello		93814
8	Face avant / Front case / Frontabdeckung / Frontal / Voorzijde / Frontale		56188
9	Molette de verrouillage des tiges / Earth rods locking wheel / Feststellknopf / Ruedecilla de bloqueo de varillas / Передняя панель Колесико блокировки штырей / Vergrendelwieltje pinnen / Manopola di blocco aste		56159
-	Faisceau complet / Complete cable / Anschlusskabel / Cable completo / Кабель в сборе / Complete kabel / Fasciocavi completo		93026

SCHÉMA ÉLECTRIQUE / CIRCUIT DIAGRAM /SCHALTPLAN/ DIAGRAMA ELECTRICO /ЭЛЕКТРИЧЕСКАЯ СХЕМА / ELEKTRISCHE SCHEMA / SCEMA ELETTRICO



ICÔNES / SYMBOLS / ZEICHENERKLÄRUNG / SÍMBOLOS / СИМВОЛЫ / PICTOGRAMMEN / ICONA

	- Attention ! Lire le manuel d'instruction avant utilisation. - Caution ! Read the user manual. - Achtung! Lesen Sie die Betriebsanleitung. - Cuidado, leer las instrucciones de utilización. - Внимание ! Читайте инструкцию по использованию. - Let op! Lees voorzichtig de gebruiksaanwijzing. - Attenzione! Leggere il manuale d'istruzioni prima dell'uso.
	Source de courant de technologie onduleur délivrant un courant continu. - Undulating current technology based source delivering direct curent. - Invertergleichstromquelle. - Fuente de corriente de tecnología ondulador que libera corriente continua. - Источник тока с технологией преобразователя, выдающий постоянный ток. - Stroombron met UPS technologie, levert gelijkstroom. - Fonte di corrente con tecnologia inverter che rilascia una corrente continua.
	- Soudage à arc tiré - Drawn arc welding - Booglassen - Saldatura ad arco tirato
	- Convient au soudage dans un environnement avec risque accru de choc électrique. La source de courant elle-même ne doit toutefois pas être placée dans de tels locaux. - Adapted for welding in environments with increased risk of electrical shock. However, the welding machine should not be placed in such places. - Geeignet für Schweißarbeiten im Bereich mit erhöhten elektrischen Risiken. Trotzdem sollte die Schweißquelle nicht unbedingt in solchen Bereichen betrieben werden. - Adaptado a la soldadura en un entorno que comprende riesgos de choque eléctrico. La fuente de corriente ella misma no debe estar situada dentro de tal locales. - Подходит для сварки в среде с повышенной опасностью удара электрическим током. Тем не менее не следует ставить источник тока в такие помещения. - Geschikt voor het lassen in een ruimte met verhoogd risico op elektrische schokken. De voedingsbron zelf moet echter niet in dergelijke ruimte worden geplaatst. - È consigliato per la saldatura in un ambiente con grandi rischi di scosse elettriche. La fonte di corrente non deve essere localizzata in tale posto.
	Courant de soudage continu - Welding direct current - Gleichschweissstrom - La corriente de soldadura es continua - Сварка на постоянном токе - Continue lasstroom -Corrente di saldatura continua
Uo	Tension assignée à vide - Rated no-load voltage - Leerlaufspannung - Tensión asignada de vacío - Напряжение холостого хода -Nullastspanning - Tensione nominale a vuoto
X(40°C)	Facteur de marche selon la norme EN60974-1 (10 minutes – 40°C). - Duty cycle according to standard EN 60974-1 (10 minutes – 40°C). - Einschaltdauer: 10 min - 40°C, richtlinienkonform EN60974-1. - Ciclo de trabajo según la norma EN60974-1 (10 minutos – 40°C). - ПВ% согласно норме EN 60974-1 (10 минут – 40°C). - Inschakelduur volgens de norm EN60974-1 (10 minuten – 40°C). - Ciclo di lavoro conforme alla norma EN60974-1 (10 minuti – 40°C).
I2	I2 : courant de soudage conventionnnel correspondant - I2 : corresponding conventional welding current - I2 : entsprechender Schweißstrom - I2 : Corrientes correspondientes - I2 : Соответствующий условный сварочный ток - I2 : overeenkomstige conventionele lasstroom - I2 : corrente di saldatura convenzionale corrispondente
A	Ampères - Amps - Ampere - Amperio - Ампер - Ampère - Amper
U2	U2 : Tensions conventionnelles en charges correspondantes - U2 : conventional voltages in corresponding load - U2 : entsprechende Arbeitsspannung - U2 : Tensiones convencionales en carga - U2 : Соответствующие условные напряжения под нагрузкой - U2 : conventionele spanning in corresponderende belasting - U2 : Tensioni convenzionali in cariche corrispondenti
V	Volt - Volt - Volt - Voltios - Вольт - Volt - Volt
Hz	Hertz - Hertz - Hertz - Hertz - Герц - Hertz - Hertz
	- Alimentation électrique monophasée 50 ou 60Hz - Single phase power supply 50 or 60Hz - Einphasige Netzversorgung mit 50 oder 60Hz - Alimentación eléctrica monofásica 50 o 60 Hz - Однофазное напряжение 50 или 60Гц - Enkel fase elektrische voeding 50Hz of 60Hz - Alimentazione elettrica monofase 50 o 60Hz
U1	Tension assignée d'alimentation - rated supply voltage - Netzspannung - Tensión de la red - Напряжение сети - Nominale voedingsspanning - Tensione nominale d'alimentazione
I1max	- Courant d'alimentation assigné maximal (valeur efficace) - Rated maximum supply current (effective value) - Maximaler Versorgungsstrom (Effektivwert) - Corriente maxima de alimentacion de la red - Максимальный сетевой ток (эффективная мощность) - Maximale nominale voedingsstroom (effectieve waarde) - Corrente d'alimentazione nominale massima (valore effettivo)
I1eff	- Courant d'alimentation effectif maximal - Maximum effective supply current - Maximaler tatsächlicher Versorgungsstrom - Corriente de alimentación efectiva maxima - Максимальный эффективный сетевой ток - Maximale effectieve voedingsstroom - Corrente di alimentazione massima effettiva
	- Appareil conforme aux directives européennes. La déclaration de conformité est disponible sur notre site internet. - The device complies with European Directive. The certificate of compliance is available on our website. - Gerät entspricht europäischen Richtlinien. Die Konformitätserklärung finden Sie auf unsere Webseite. - El aparato está conforme a las normas europeas. La declaración de conformidad está disponible en nuestra página Web. - Устройство соответствует европейским нормам. Декларация соответствия есть на нашем сайте. - Het toestel is in overeenstemming met de Europese richtlijnen. De conformiteitsverklaring is te vinden op onze internetsite. - Dispositivo in conformità con le norme europee. La dichiarazione di conformità è disponibile sul nostro sito internet.
	- Matériel conforme aux normes Marocaines. La déclaration C_{ρ} (CMIM) de conformité est disponible sur notre site (voir à la page de couverture). - Equipment in conformity with Moroccan standards. The declaration C_{ρ} (CMIM) of conformity is available on our website (see cover page). - Das Gerät entspricht die marokkanischen Standards. Die Konformitätserklärung C_{ρ} (CMIM) ist auf unserer Webseite verfügbar (siehe Titelseite). - Equipamiento conforme a las normas marroquíes. La declaración de conformidad C_{ρ} (CMIM) está disponible en nuestra página web (ver página de portada). - Товар соответствует нормам Марокко. Декларация C_{ρ} (CMIM) доступна для скачивания на нашем сайте (см на титульной странице). - Dit materiaal voldoet aan de Marokkaanse normen. De verklaring C_{ρ} (CMIM) van overeenstemming is beschikbaar op onze internet site (vermeld op de omslag). - Materiale conforme alle normative marocchine. La dichiarazione C_{ρ} (CMIM) di conformità è disponibile sul nostro sito (vedi scheda del prodotto).
EN60974-1 EN60974-10 Class A	- L'appareil respecte les normes EN60974-1, EN60974-10 et Class A - The device complies with EN60974-1, EN60974-10, Class A standard relative to welding units - Das Gerät entspricht der Norm EN60974-1, EN60974-10, Class A für Schweißgeräte - El aparato está conforme a la norma EN60974-1, EN60974-10, Class A referente a los aparatos de soldadura - Аппарат соответствует европейской норме EN60974-1, EN60974-10, Class A - Dit toestel voldoet aan de EN60974-1, EN60974-10, Class A norm. - Il dispositivo rispetta la norma EN60974-1, EN60974-10, Class A.
	- Ce matériel faisant l'objet d'une collecte sélective selon la directive européenne 2012/19/UE. Ne pas jeter dans une poubelle domestique ! - This hardware is subject to waste collection according to the European directives 2012/19/EU. Do not throw out in a domestic bin ! - Für die Entsorgung Ihres Gerätes gelten besondere Bestimmungen (sondermüll) gemäß europäische Bestimmung 2012/19/EU. Es darf nicht mit dem Hausmüll entsorgt werden! - Este material requiere una recogida de basuras selectiva según la directiva europea 2012/19/UE. ¡No tirar este producto a la basura doméstica! - Это оборудование подлежит переработке согласно директиве Евросоюза 2012/19/UE. Не выбрасывать в общий мусоросборник! - Afzonderlijke inzameling vereist volgens de Europese richtlijn 2012/19/UE. Gooi het apparaat niet bij het huishoudelijk afval ! - Questo materiale è soggetto alla raccolta differenziata seguendo la direttiva europea 2012/19/UE. Non smaltire coni rifiuti domestici!

	- Produit recyclable qui relève d'une consigne de tri - This product should be recycled appropriately - Produkt muss getrennt ensorgt werden. Werfen Sie das Gerät nicht in den Hausmüll. - Producto reciclable que requiere una separación determinada. - Этот аппарат подлежит утилизации - Product recyclebaar, niet bij het huishoudelijk afval gooien - Prodotto riciclabile che assume un ordine di smistamento
EAC	- Marque de conformité EAC (Communauté économique Eurasienne) - Conformity mark EAC (Eurasian Economic Commission) - EAC-Konformitätszeichen (Eurasische Wirtschaftsgemeinschaft) - Marca de conformidad EAC (Comunidad económica euroasiática) - Маркировка соответствия EAC (Евразийское экономическое сообщество) - EAC (Euraziatische Economische Gemeenschap) merkteken van overeenstemming. - Marca di conformità EAC (Comunità Economica Eurasiatica)
UK CA	- Matériel conforme aux exigences britanniques. La déclaration de conformité britannique est disponible sur notre site (voir à la page de couverture). - Equipment in compliance with British requirements. The British Declaration of Conformity is available on our website (see home page). - Das Gerät entspricht den britischen Richtlinien und Normen. Die Konformitätserklärung für Grossbritannien ist auf unserer Internetseite verfügbar (siehe Titelseite). - Equipo conforme a los requisitos británicos. La Declaración de Conformidad Británica está disponible en nuestra página web (véase la portada). - Материал соответствует требованиям Великобритании. Заявление о соответствии для Великобритании доступно на нашем веб-сайте (см. главную страницу). - Materiaal conform aan de Britse eisen. De Britse verklaring van overeenkomt is beschikbaar op onze website (zie omslagpagina). - Materiale conforme alla esigenze britanniche. La dichiarazione di conformità britannica è disponibile sul nostro sito (vedere pagina di copertina).
	- Information sur la température (protection thermique) - Thermal protection information - Information zur Temperatur (Thermoschutz) - Información de la temperatura (protección térmica) - Информация по температуре (термозащита) - Informatie over de temperatuur (thermische beveiliging) - Informazione sulla temperatura (protezione termiche)
	- Entrée de gaz - Gas inlet - Gaseinlass - Entrada de gas - газа на входе - Gasinlaat - Ingresso gas
	- Sortie de gaz - Gas outlet - Gasaustritt - Salida de gas - выпуск газа - Gasuitlaat - Uscita del gas
	Commande à distance - Remote control - Fernregler - Control a distancia - Дистанционное управление - Afstandsbediening - Telecomando a distanza.

ACCESSOIRES / ACCESSORIES / ZUBEHÖR / ACCESORIOS / АКСЕССУАРЫ / ACCESSORI

Porte-annneau / Ring holder / Ösenträger - für Pistole SPOT ARCPULL / Porta anillas / Держатель для колец / Trekoog-houder / Porta-anello

059610

Support porte-goujon / threaded studs holder support / Gewindebolzenanschweißaufsatz / Soporte de pernos / Опора для держателя глазка / Deuvelhoudersteun / Supporto porta vite /

059634

Buse et coiffe de protection gaz + patin pour pistolet spot arcpull / Gas protection nozzle + pad for spot arcpull / Tobera de protección gas + soporte para pistola spot arcpull / Газозащитное сопло + подушка для точечной дуговой завесы / Gasbeschermingsmondstuk + pad voor spot arcpull / Ugello protezione gas + pattino per pistola spot arcpull /

059641

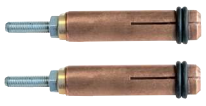
Mandrin porte clou isolation Ø2mm / Chuck for insulating nail / Aufnahme für Nagelhalter - Isolierung / Pinza de clavos aislada / Geïsoleerde spijkerhouder / Изолированный патрон для ногтей / Mandrino porta chiodo isolazion

Ø2mm

064065

Mandrins porte goujons / Stud chucks / Bolzenfutter / Portaestandartes / патрона для жеребцов / Stoeterijhouders / Mandrini autocentranti

M4 - Ø4mm x2



049000

M5 - Ø5mm

048157

M6 - Ø6mm

048164

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