

**FR**

**2-4 / 5-16 / 86-92**

**EN**

**2-4 / 17-28 / 86-92**

**DE**

**2-4 / 29-40 / 86-92**

**ES**

**2-4 / 41-51 / 86-92**

**RU**

**2-4 / 52-63 / 86-92**

**NL**

**2-4 / 64-74 / 86-92**

**IT**

**2-4 / 75-85 / 86-92**

## **MULTIPEARL**

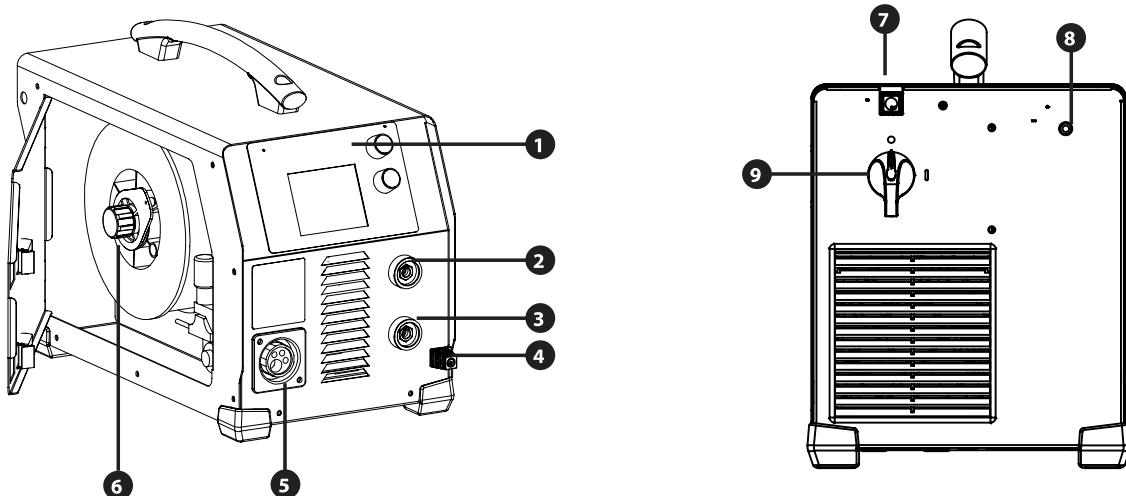
**210-2**

**210-4 XL**

**211-4**

FIG I

## MULTIPEARL 210-2



## MULTIPEARL 211-4/210-4 XL

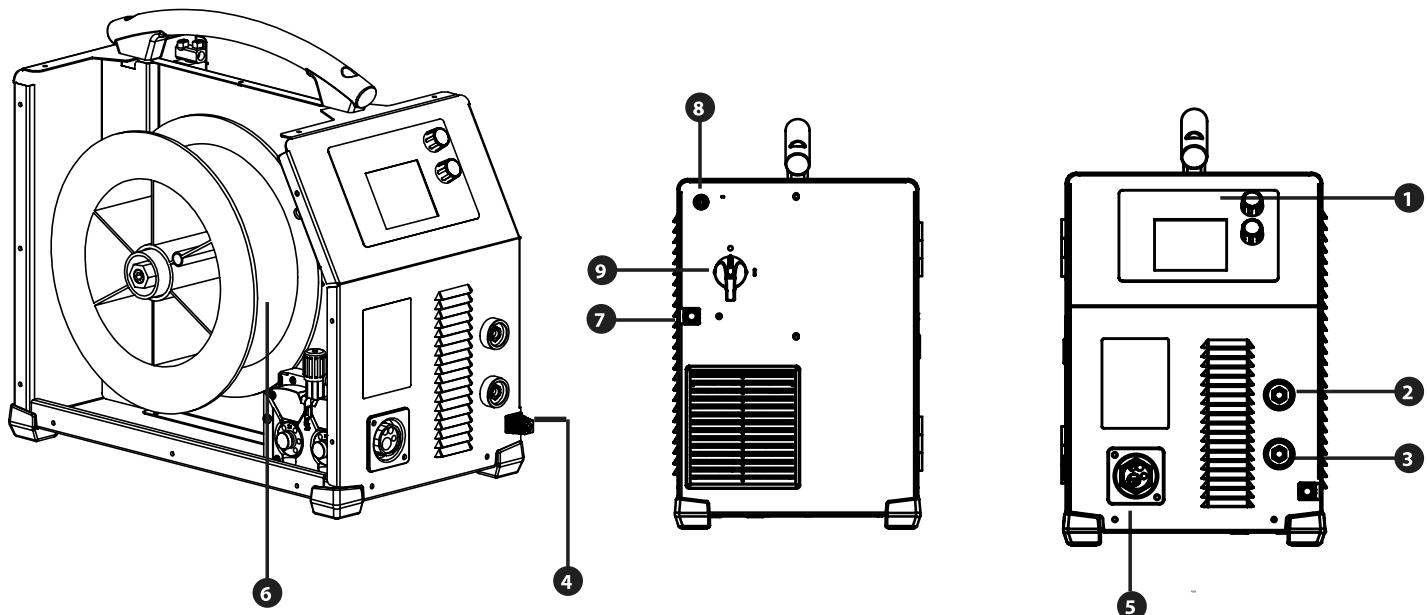
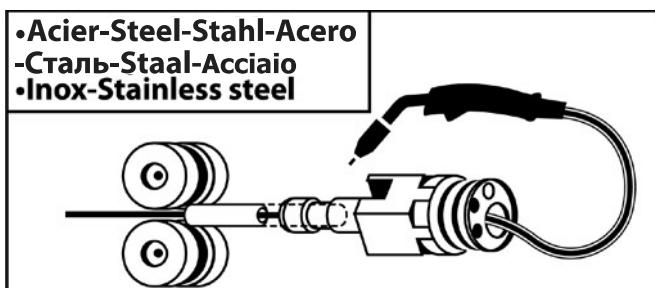


FIG II

A



B

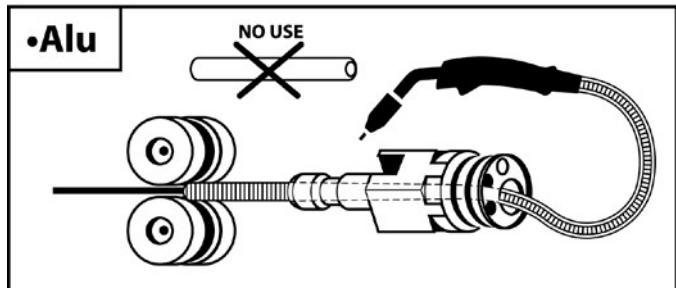


FIG III

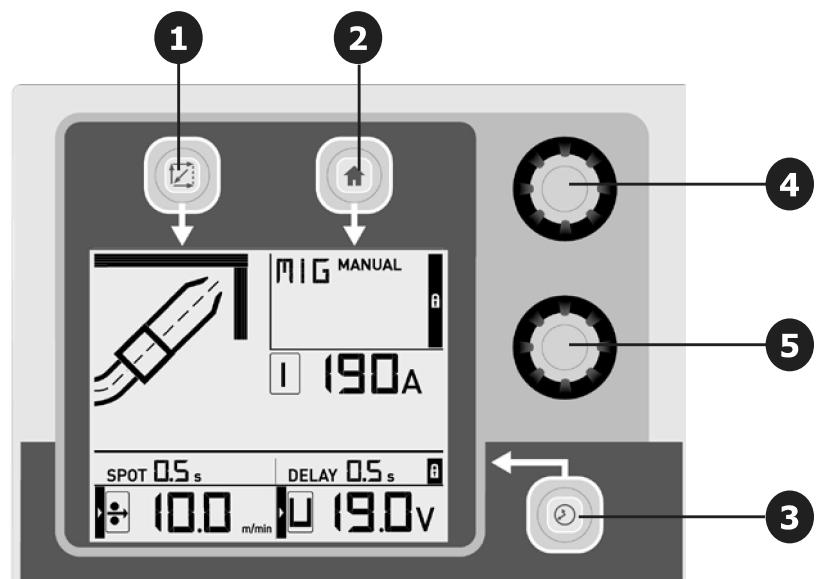
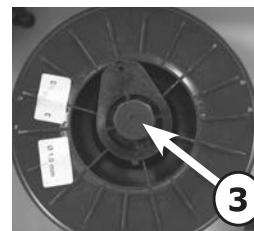
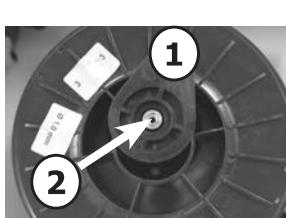
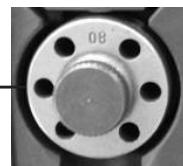


FIG IV

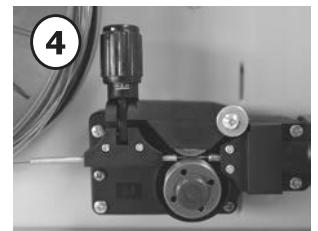
MULTIPEARL 210-2



A

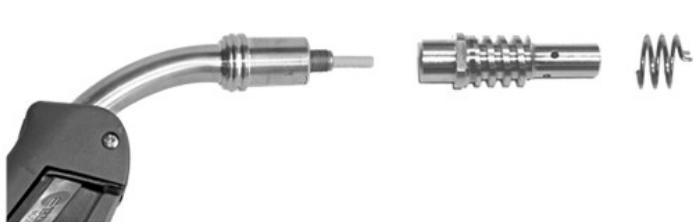
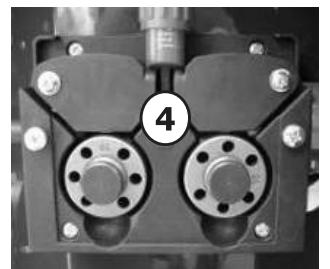
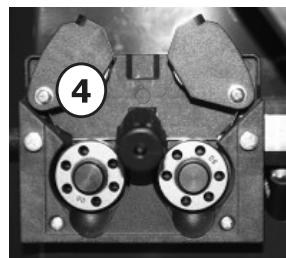


B



C

MULTIPEARL 210-4 XL / 211-4

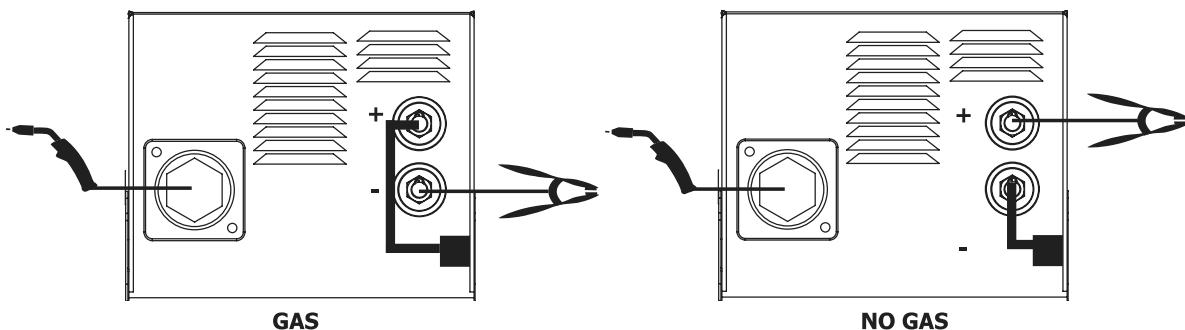


D

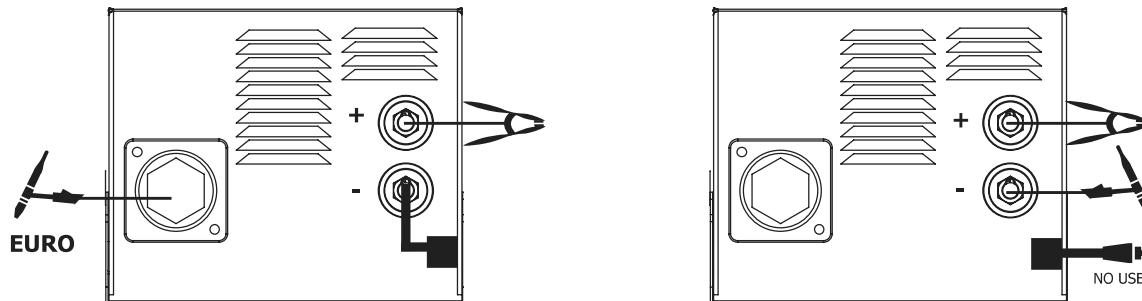


E

## MIG-MAG



## TIG



## MMA

FR - Vérifier la polarité de l'électrode sur l'emballage.

EN - Check the electrode polarity on the packaging.

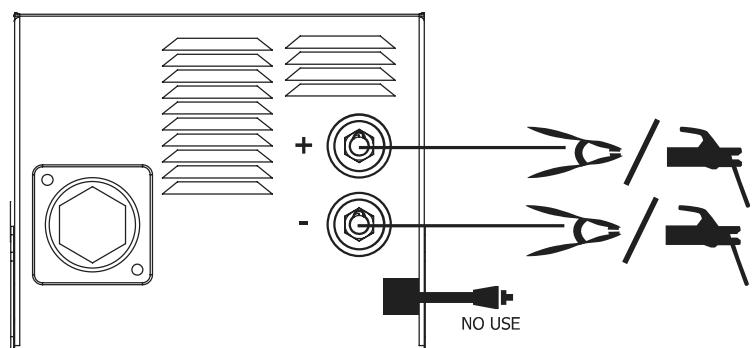
DE - Beachten Sie die auf der Elektrodenverpackung beschriebenen Angaben zur Polarität.

ES - Compruebe la polaridad del electrodo sobre el embalaje.

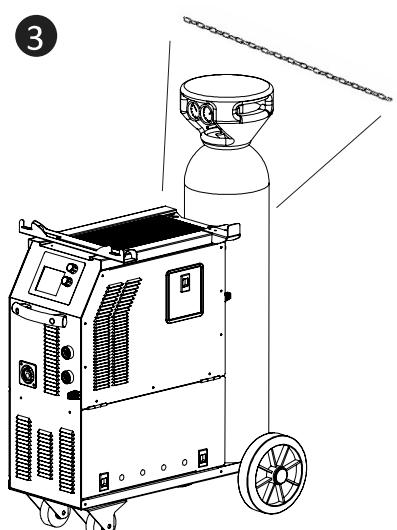
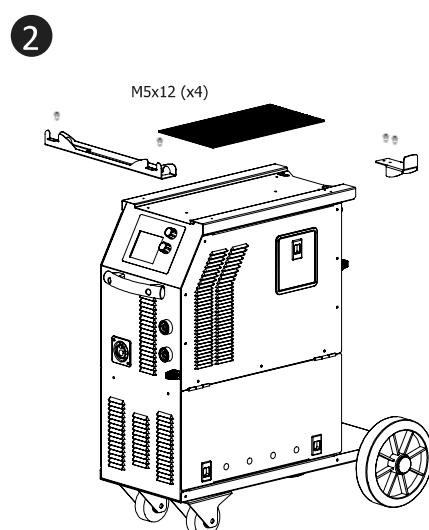
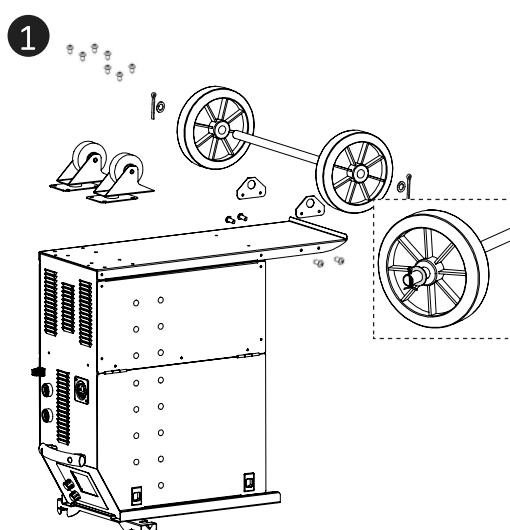
RU - Проверить полярность электрода на упаковке.

NL - Controleer de polariteit van de elektrode, zoals aangegeven op de verpakking.

IT - Controllare la polarità dell'elettrodo sulla confezione.



## FIG V



## STANDARD

### 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 inadequate 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).

### PROTECTION OF THE INDIVIDUALS

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 sufficient welding protective gear for the whole body: hood, gloves, jacket, trousers... (varies depending on the application/operation). Protect the eyes during cleaning operations. Do not operate whilst wearing contact lenses.

It may be necessary to install fireproof welding curtains to protect the area against arc rays, weld spatters and sparks.

Inform the people around the working area to never look at the arc nor the molten metal, and to wear protective clothes.



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 EXPLOSION 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.

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.

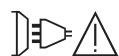
Do not touch the torch or electrode holder and earth clamp at the same time.

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.



This equipment complies with IEC 61000-3-11 if the power supply network's impedance at the electrical installation's connection point is inferior to the network's maximum admissible impedance  $Z_{max} = 0.186$  Ohms.

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.

## RECOMMANDATIONS TO ASSES THE 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: 2009. 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. The removal of the wire reel from the machine is recommended before undertaking any lifting operation.



Stray welding currents/voltages may destroy earth conductors, damage electrical equipment or cause components to warm up which may cause a fire.

- All welding connections must be firmly secured, check regularly !
- Check that the metal piece fixation is strong and without any electrical problems !
- Attach or hang all the electrically conductive elements, such as the trolley and slinging equipment, in order to insulate them
- Do not place any electrical equipment, such as drills or grinders, on top of the welding machine without insulating them !
- Always place welding torches or electrodes holders on an insulated surface when they're not in use !

## EQUIPMENT INSTALLATION

- Put the machine on the floor (maximum incline of 10°).
- Ensure the work area has sufficient ventilation for welding, and that there is easy access to the control panel.
- The machine must be placed in a sheltered area away from rain or direct sunlight.
- The machine must not be used in an area with conductive metal dusts.
- The machine protection level is IP21, which means :
  - Protection against access to dangerous parts from solid bodies of a ≥12.5mm diameter and,
  - Protection against vertically falling drops,
- The power cables, extensions and welding cables must be fully uncoiled to prevent overheating.



The manufacturer does not incur any responsibility 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.

- Remove the casing 2 or 3 times a year to remove any excess dust. Take this opportunity to have the electrical connections checked by a qualified person, with an insulated tool.
- 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.
- Ensure the ventilation holes of the device are not blocked to allow adequate air circulation.
- Do not use this equipment to thaw pipes, to charge batteries, or to start any engine.

## RISK OF INJURY DUE TO MOVING PARTS!



The wire feeders contain moving parts that may catch hand, hair, clothes or tools which can lead to injuries! Take extra care.

- Do not place your hand on mobile/pivoting/wire feeding parts of the machine!
- Make sure that all panels remain closed when in use !
- Do not wear gloves when feeding the wire through or changing reel.

Minimum and maximum filler metal diameter : 0,6 – 1,2 mm

Minimum and maximum wire speed: 1 m/min à 15 m/min

Maximum gas pressure : 0.5 MPa (5 bars).

## MANUAL

### DESCRIPTION

This manual contains safety and operating instructions. Read it carefully before using the device for the first time and retain for future reference.

MULTIPEARL 210-2 / 210-4 XL / 211-4 are multiprocess welding machines (MMA, TIG & MIG/MAG) with Synergy Technology for MIG/MAG. They are suitable for welding steel, stainless steel and aluminium. Easy and quick to set up thanks to the Synergic mode

It is recommended to use the welding cables supplied with the unit in order to obtain the optimum product settings..

### POWER SUPPLY

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 absorbed effective current (I<sub>1eff</sub>) is displayed on the machine, for optimal use. Check that the power supply and its protection (fuse and/or circuit breaker) are compatible with the current needed by the machine. In some countries, it may be necessary to change the plug to allow the use at maximum settings.

Do not use an extension cord with a cross-section of less than 2.5 mm<sup>2</sup>.

### MACHINE DESCRIPTION (FIG I)

- |                              |  |
|------------------------------|--|
| 1 - Control panel            | 6 - Reel adaptor 100/200mm (210-2) or 200/300mm (210-4 XL / 211-4) |
| 2 - Positive Dinze connector | 7 - Power lead (2.10 m)  |
| 3 - Negative Dinze connector | 8 - Quick release gas connector.                                   |
| 4 - Polarity reversal cable  | 9 - ON/OFF switch  |
| 5 - Euro torch connector     |  |

### DESCRIPTION IHM ( FIG III )

<b>1</b>	Adjusting the welding position	<b>4</b>	Upper knob
<b>2</b>	Setting the welding mode	<b>5</b>	Lower knob
<b>3</b>	Adjusting the flare management		

**SWITCHING ON**

The ON/OFF switch is located at the back of the machine. Turn the switch on the "I" position to start the generator. This switch must not be turned off (to "O") while welding.

**MIG MANUAL - FIG III**

• Selecting MIG manual mode	Keep button 2 pushed and at the same time turn the upper knob until the display shows MIG Manual. Release button 2 to validate this selection		
• Wire speed adjustment	Turn the upper knob to adjust the wire speed.		
• Arc voltage adjustment	Turn the lower knob to adjust the arc voltage.		
• Setting management torch in SPOT and DELAY mode	<ul style="list-style-type: none"> <li>Keep button 3 pushed to select normal mode.</li> <li>Keep pressing button 3 and at the same time turn the upper knob to select SPOT mode and to configure it. Adjustable between 0.5 to 5 sec.</li> </ul> In the same way turn the lower knob to configure the DELAY mode. Adjustable between 0 to 5 sec."		

**MIG SYNERGIC - FIG III**

• Selecting MIG Synergic mode	Keep button 2 pressed and at the same time turn the upper knob until "MIG Synergic" is displayed.		
• Selecting the type of wire	Keep button 2 pushed and at the same time press the lower knob to go to the wire type selection menu. Select the wire type with the upper knob.		
• Selecting the wire diameter	Keep the button 2 pushed and at the same time press the lower knob to go to the wire diameter selection menu. Select the diameter with the upper knob. Then release the button 2 to validate.		

Selecting the metal thickness to weld	Turn the upper knob to select the metal thickness to weld.		
• Selecting the arc length	Turn the lower knob to select the arc length. It gets longer (0 -> +9) or shorter (0 -> -9) enabling to more or less penetrate the metal. If you weld for the first time we recommend to set the arc length to 0.		
• Selecting the welding position	Keep button 1 pushed and turn both knobs to select the welding position.		
• Setting the management torch SPOT and DELAY mode	<ul style="list-style-type: none"> <li>Press button 3 repeatedly to select Normal mode.</li> <li>Still pressing the button 3, turn the upper knob to get to the SPOT mode. Adjustable between 0.5 to 5 sec.</li> </ul> <p>In the same way turn the lower knob to configure the DELAY mode. Adjustable between 0 to 5 sec.</p>		

## SECONDARY MENU

Pre-Gas	Hold down buttons 1 and 2 and use the upper knob to select «PEG». Use the lower knob to move the cursor to the setting. Use the upper knob again to set the pre-gas from 0 ms to 1000 ms (in 100 ms steps) The default setting is 0 ms.		
Creep Speed	Hold down buttons 1 and 2 and use the upper knob to select «CSP». Use the lower knob to place the cursor on the setting. Use the upper knob again to adjust the creep speed from 50% to 100% (in 10% steps). If the setpoint is 4m/min and the CSP is set to 50%, then the Creep Speed will be 2m/min. The default setting is 50%.		
Burn back	Hold down buttons 1 and 2 and use the upper knob to select «BUB». Use the lower knob to move the cursor to the setting. Use the upper knob again to adjust the Burn Back from 0 ms to 20 ms (in 1 ms steps). The default setting is 10 ms.		
Post - Gas	Hold down buttons 1 and 2 and use the upper knob to select «POG». Use the lower knob to move the cursor to the setting. Use the upper knob again to adjust the Post Gas from 0 ms to 1 000 ms (in 100 ms steps). The default setting is 300 ms.		

<b>Self</b>	Hold down buttons 1 and 2 and use the upper knob to select «SLF». Use the lower knob to move the cursor to the setting. Use the upper knob again to adjust the self from 10 to 90 (in 10 steps). The default setting is 50.		
<b>Reset</b>	Caution! The reset is activated by setting its value to ON. A countdown of 3s starts. Once it has reached 0, the reset takes place and the product is restarted. On the interface and the secondary menu, the default settings/values apply again.		

### SEMI-AUTOMATIC STEEL / STAINLESS STEEL WELDING (MAG)

The device is suitable for welding 0.6/0.8/1.0 steel wire and 0.8/1.0 stainless steel wire.

The device is delivered with contact tip, liner and a torch set up for 0.8 steel or stainless steel wire. For welding 0.6 wire use a torch no longer than 3m. To change the contact tip (see fig II A). The roller is reversible 0.8/1.0. The indication on the visible side of the roller is the diameter in use. For a 0.6 wire use the 0.6 groove.

Welding Steel or Stainless Steel requires using a specific gas mix - Argon + CO<sub>2</sub> (Ar + CO<sub>2</sub>). The proportion of CO<sub>2</sub> will vary depending on application. The gas flow for steel welding is between 8 and 12 L/min depending on the environment and experience of the welder. For specific requirements seek advice from your gas distributor.

For polarity see page 4.

### SEMI-AUTOMATIC ALUMINIUM WELDING (MIG)

This welding machine is suitable for welding 0.8 and 1mm aluminium wires .

To weld aluminium, neutral gas "Pure Argon" (AR) is required. For choosing gas, ask a gas distributor for advice. The gas flow for welding aluminium is between 15 and 25 L/min depending on the environment and experience of the welder.

Machine set-up for aluminium welding:

- Use specific rollers for Aluminium
- Set the pressure on the rollers to the minimum to avoid pinching the wire.
- Remove the capillary tube before connecting the aluminium torch with a teflon liner.
- When welding aluminium use a special aluminium torch with Teflon liner to reduce friction. Do not cut the liner near the connector! It is used to guide the wire from the rollers. (Fig II B)
- Contact Tip: Use a SPECIAL aluminium contact tip corresponding to the diameter of the wire.

For polarity see page 4.

### "NO GAS" WELDING

To set up the machine for "No Gas" see the instructions on page 4.

Welding cored wire with a standard nozzle can overheating and damage the torch. Use a nozzle special "No Gas" (ref. 041868) or remove the original nozzle (Fig III D).

For polarity see page 4.

### PROCEDURE FOR CHANGING REELS AND TORCH ASSEMBLY (FIG IV)

- Remove the nozzle from the torch (fig E) and the contact tip (fig D).
- Open the machine's side door.
- Place the reel on the driving pin (fig A) of the reel support. For a 200mm wire reel tighten the reel to the maximum. The adaptor (1) is only to be used for a 200mm reel.
- Adjust the reel brake (2) to avoid the reel inertia tangling the wire when welding stops. In general, do not over-tighten! Then screw in the reel support (3).
- Fit the roller(s) suitable for your application. The rollers supplied are double grooved rollers (0.8/1.0). The indication on the visible side of the roller is the diameter in use. For a 0.8 wire, use the 0.8 groove. For Aluminium or cored wire welding use the appropriate rollers (fig B)

To adjust the roller tension (fig C), process is as follows: loosen the tensioner to the maximum (4), start the motor by pressing the torch trigger, tighten the tensioner whilst pressing the trigger. Bend the wire where it comes out of the nozzle and hold it in place to stop its progress. The pressure adjustment is ideal when the guide roller slides over the wire even when it is blocked at the end of the torch.

**NB: for aluminium wire set the tension to the minimum not to pinch the wire.**

- Adjust the wire so 5cm protrudes from the torch then fit the contact tip (correct tip for the wire) (fig D) and the nozzle (fig E).

The device is designed with a quick release gas connection. Use the adaptor supplied with the machine.

Type of wire	FE	FE	AlMg 5	SS	FC	CuSi 3	CuAL 8	AlSi 5	AlSi 12
Process	MAG	MAG	MIG	MAG	MAG	MIG	MIG	MIG	MIG
Gas	Ar+CO <sup>2</sup>	CO <sup>2</sup>	Ar	Ar+CO <sup>2</sup> 2%	X	Ar	Ar	Ar	Ar
Ø available	0.6 - 0.8 - 1.0	0.6 - 0.8 - 1.0	0.8 - 1.0	0.8 - 1.0	0.6 - 0.9 - 1.2	0.8	0.8	1.0	1.0
Welding position	All	All	All	All	All	All	All	All	All

## MMA

• Selecting MMA mode	Keep button 2 pressed and at the same time turn the upper knob to select MMA mode.		
• Welding current adjustment	Turn the upper knob to select the welding current.		
• Arc Force adjustment	Turn the lower knob to adjust the Arc Force. Adjustable from 0 to 100%		
• Hot Start adjustment	Keep pressing button 3 and at the same time turn the upper knob to adjust the Hot Start. Adjustable from 0 to 100%		

## ELECTRODE WELDING

- The reverse polarity cable must be disconnected in MMA (stick welding) mode in order to connect the electrode holder and earth clamp. Connect the electrode holder and earth clamp as indicated on the electrode packaging.
- Respect the basic rules of welding
- This device has 3 features specific to Inverter machines :
  - Hot Start: Increases the current to assist the initial striking of the arc.
  - Arc Force: A punctual increase of current avoiding the electrode to be stuck in the welding pool.
  - Anti-Sticking: Enables easy removal of the electrode from the metal.

### TIPS :

Low Hot Start for thin metal sheet and high Hot Start for more difficult metal to weld (dirty metal or oxidised).

## TIG PRO (EURO TORCH)

• Selecting TIG Pro mode (Euro torch)	Keep button 2 pushed and at the same time turn the upper knob until «TIG Pro» is displayed.		
---------------------------------------	---	--	--

• Welding current adjustment	Use the upper knob.		
• Downslope adjustment	Use the lower knob.		
• Post gas adjustment	Keep button 3 pushed and at the same time use the upper knob to adjust the Post Gas.	+	

**TIG EASY (VALVE TORCH)**

• Entering in TIG EASY mode (valve torch)	Keep button 2 pushed and at the same time turn the upper knob until "TIG EASY" is displayed.	+	
• Welding current adjustment	Use the upper knob.		

**TIG LIFT WELDING**

DC TIG welding requires the use of gas (Argon). Connecting a valve torch will allow to manually adjust the supply of gas and connecting a EURO torch will also offer capability to adjust downslope and post gas settings.

For TIG welding please follow the stages below :

**TIG Lift Pro welding with a Euro torch**

- See connection page 4.
- Connect the gas hose to the back of the machine and to the gas bottle regulator.
- Adjust the gas flow on the gas bottle regulator.
- To strike an arc touch the piece of metal to weld and press the torch trigger.
- Downslope and Post-gas start automatically once the trigger is released. They can be adjusted on the device.

**TIG Lift EASY welding with a Valve torch**

- See connection page 4.
- Connect the gas hose from the torch to the gas bottle regulator.
- Adjust the gas flow on the gas bottle regulator and then open the torch valve.
- Striking :



Touch the piece of metal to weld with the electrode

- At the end of the weld :



Lift the electrode to between 2 to 5 mm from the metal.

Only stop the gas once the Tungsten electrode has cooled down.

**Adjustable Downslope (Euro torch only)**

Time needed to shift from welding current to minimum current. Avoids cracks and craters at the end of welding. By default this feature is set up at 0 sec.

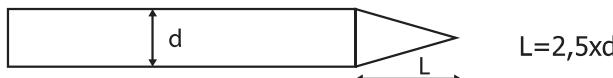
**Adjustable Post-Gas (Euro torch only)**

This parameter determines the time in which gas is released after the arc has stopped. It protects the weld pool and the electrode against oxidisation whilst the metal is cooling after welding.

**Recommended settings / Electrode grinding**

	Current (A)	Ø Electrode (mm) = Ø wire (filler rod)	Ø Nozzle (mm)	Flow (Argon L/min)
0,5-5	10-130	1,6	9,8	6-7
4-7	130-190	2,4	11	7-8

To optimise the welding process, it is recommended to grind the electrode prior to welding as described in the diagram below

**DUTY CYCLE AND WELDING ENVIRONMENT**

- The machine has a specification with a "dropping current output" (MMA & TIG). The machine has a specification with a "constant current output" (MIG). Its duty cycle following the norm EN60974-1 is indicated in the table below :

	X / 60974-1 @ 40°C (T cycle = 10 min)	I max	60% (T cycle = 10 min)	100% (T cycle = 10 min)
230V	MIG-MAG	200A @ 20%	130 A	110 A
	MMA	200A @ 18%	110 A	90 A
	TIG	200A @ 22%	135 A	115 A
110V	MIG-MAG	150A @ 22%	100 A	90 A
	MMA	130A @ 22%	90 A	75 A
	TIG	160A @ 20%	115 A	100 A

**THERMAL PROTECTION AND GUIDANCE**

While under intensive use (superior to the duty cycle) the thermal protection can activate, in that case, the arc switches off and the thermal protection indicator  switches on.

- Ensure the machine's vents are clear enabling air circulation.
- Leave the device plugged in after welding to enable cooling.

In general :

- Respect the basic rules of welding.
- Ensure the air circulation is good.
- Do not work in a wet area.

## TROUBLESHOOTING

	SYMPTOMS	POSSIBLE CAUSES	REMEDIES
MIG/MAG	The welding wire speed is not constant.	Cracklings block up the opening.	Clean out the contact batch or change it and replace the anti-adherence product. Ref.041806
		The wire skids in the rollers.	Control the roller pressure or replace it. Wire diameter non-consonant with roller. Covering Wire guide in the torch non-consonant.
	The unwinding motor doesn't operate.	Reel or roller brake too tight.	Release the brake and rollers.
		Electrical supply problem.	Check that the running button is on the position on.
	Bad wire unwinding.	Covering wire guide dirty or damaged.	Clean or replace
		Reel brake too tight	Release the brake
	No welding current	Bad connection to the main supply.	See the branch connection and look if the plug is fed by 3 phases.
		Bad earth connection.	Control the earth cable (connection and clamp condition).
		Power contactor inoperative.	Control the torch trigger.
	The wire rubs down after the rollers.	Covering wire guide crushed.	Check the covering and torch body.
		Locking of the wire in the torch	Clean or replace.
		No capillary tube.	Check the presence of capillary tube.
		Wire speed too fast	Reduce the wire speed
In general	The welding cord is porous	The gas flow rate is not sufficient.	Adjusting flow range 15 to 20 L / min. Clean the working metal.
		Gas bottle empty.	Replace it.
		Gas quality non-satisfying.	Replace it.
		Air flow or wind influence.	Avert air blast, protect welding area.
		Gas nozzle too full.	Clean or replace the gas nozzle.
		Bad wire quality.	Use adapted WIRE for MIG-MAG welding.
		Surface to weld in bad condition. (rust, etc, ...)	Clean the working parts before welding.
	Very important flashing particules.	Arc voltage too low or too high.	See welding settings.
		Bad earth connection.	Check and place the earth cable to have a better connection.
		Protecting gas insufficient.	Adjust the gas flow.
	No gas at the torch output.	Bad gas connection.	See if the gas coupling beside the engine is well connected. Check the flowmeter and the solenoid valves.
TIG	The machine does not deliver any current and the thermal overload indicator lamp lights up.	The welder thermal protection has turned on.	Wait for the end of the cooling time, around 2 minutes. The indicator lamp turns off.
	The display is on but the device does not deliver any current.	The cable of the earth clamp or electrode holder is not connected to the welder.	Check the connections.
	If, when the unit is on and you put your hand on the welding unit's body, you feel tingling sensation.	The welding unit is not correctly connected to the earth.	Check the plug and the earth of your electrical network.
	The display is on but the device does not deliver any current.	The cable of the earth clamp or electrode holder is not connected to the welder.	Check the connections.
	When starting up, the display indicates  .	The input voltage is outside of the range (230V + 15% for single phase or 400V + 15% for 3-phase).	Have the electrical installation checked.
	Instable arc	Default coming from the tungsten electrode	Use a tungsten electrode with the adequate size Use a well prepared tungsten electrode
		Too important gas flow rate	Reduce gas flow rate
The tungsten electrode gets oxidised and tern at the end of welding.	Welding zone		Protect welding zone against air flows
	Default coming from post-gas or the gas has been stopped prematurely.		Check and tighten all gas connections. Wait until the electrode cools down before stopping the gas.
The electrode melts	Polarity error		Check that the earth clamp is really connected to +

## **WARRANTY**

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

The warranty does not cover:

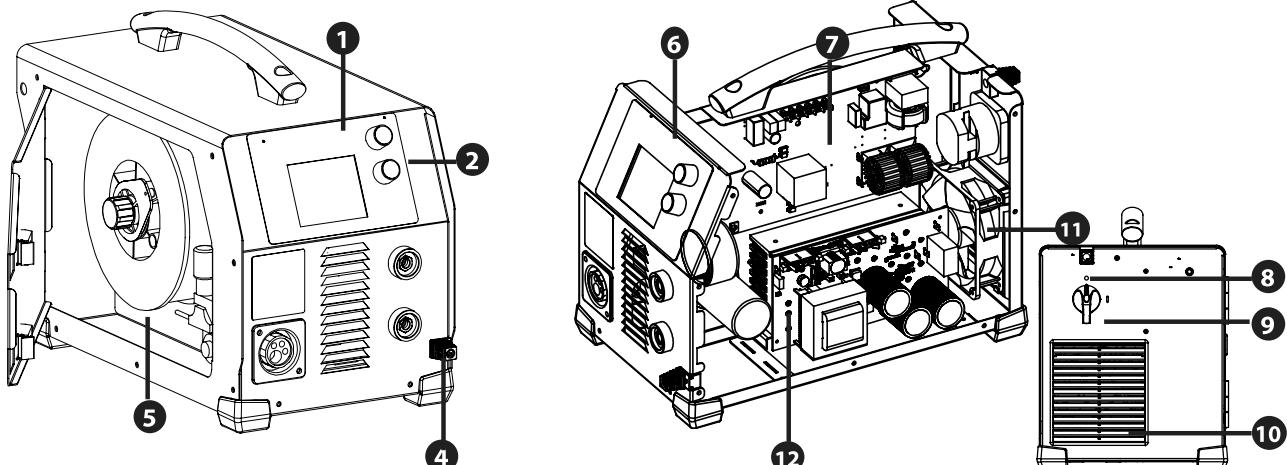
- Transit damage.
- Normal wear of parts (eg. : cables, clamps, etc..).
- Damages due to misuse (power supply error, dropping of equipment, disassembling).
- Environment related failures (pollution, rust, dust).

In case of failure, return the unit to your distributor together with:

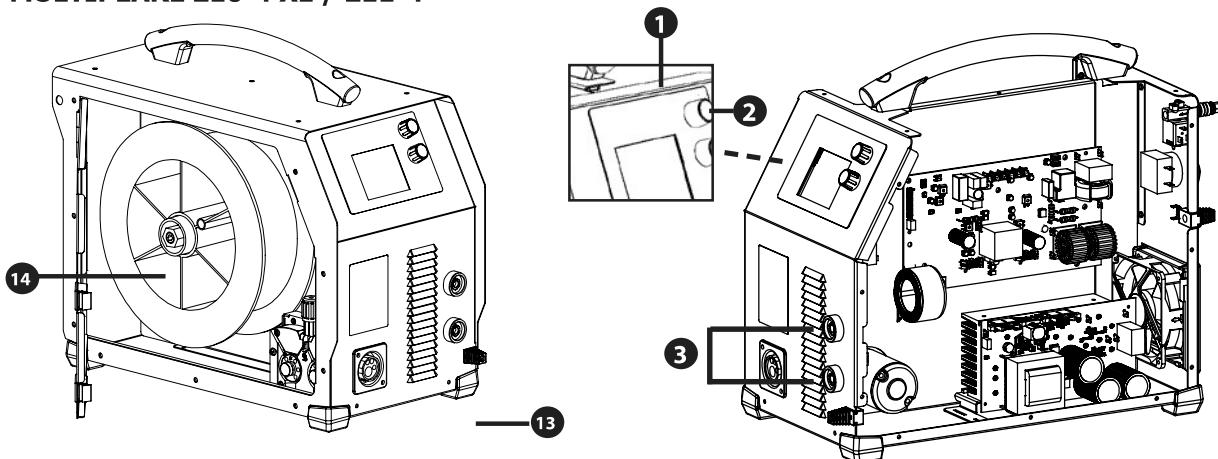
- The proof of purchase (receipt etc ...)
- A description of the fault reported

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

### MULTIPEARL 210-2

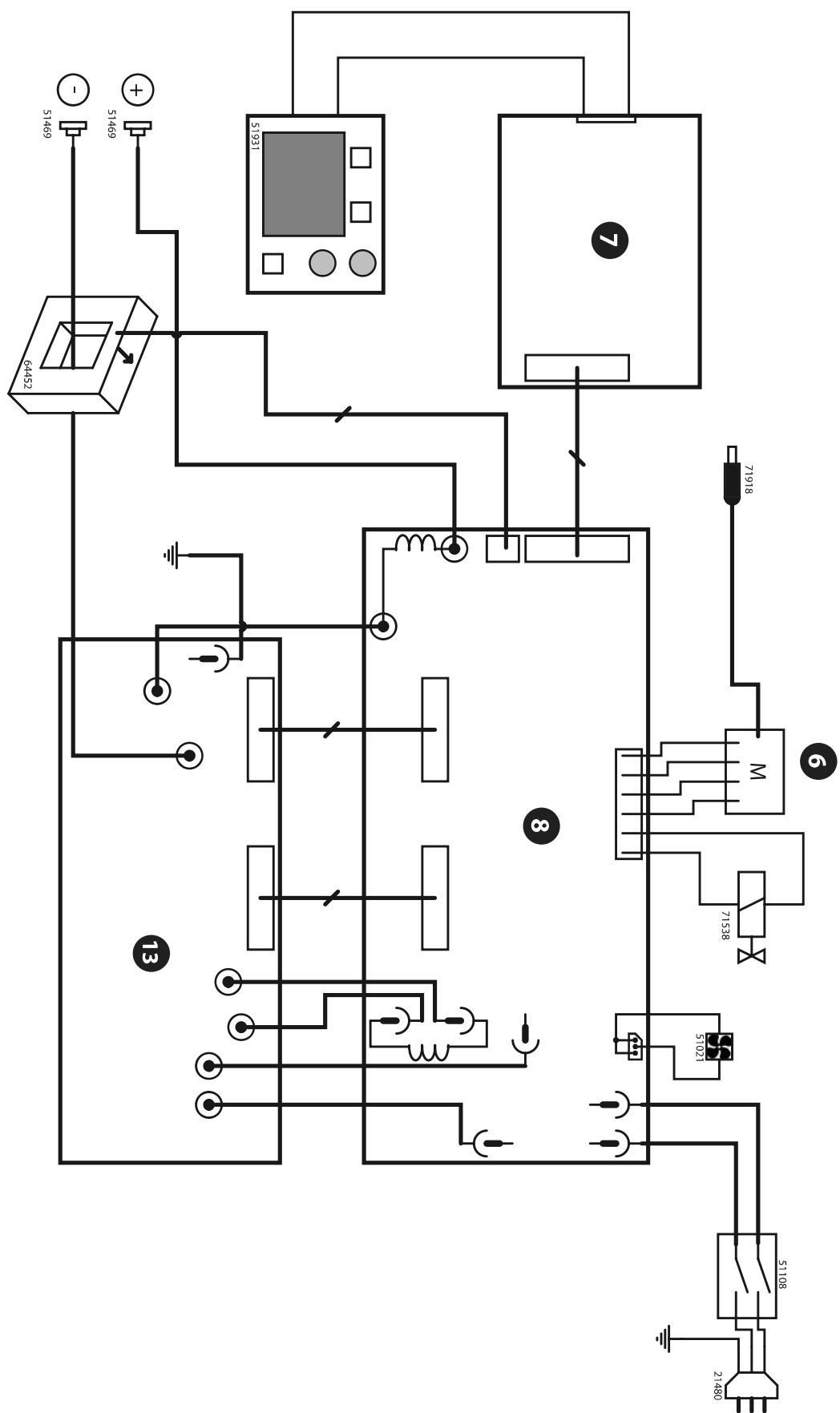


### MULTIPEARL 210-4 XL / 211-4



N°		210-2	210-4 XL	211-4
1	Clavier de commande / Control panel / Bedientastatur / Teclado de mando / Панель управления / Toetsenbord / Tastiera di comando			51931
2	Bouton noir / Black Button / schwarzer Poti / botón negro / Черная кнопка / Zwarte knop / Tasto nero			73012
3	Connecteur 1/4 cable de masse / Earth cable connector (1/4) / (+) und (-) Anschlussbuchsen / Conector cable de masa (1/4) / Коннектор (1/4) кабеля массы / Aansluiting 1/4 massa-kabel / Connettore 1/4 cavo di massa			51469
4	Câble d'inversion de polarité / Polarity reversal cable / Kabel Polaritätswechsel / cable de inversión de polaridad / Кабель инверсии полярности / Ompolingskabel / Cavo d'inversione di polarità			71918
5	Motodévidoir (sans galet) / Wire feeder (without roller) / Drahtvorschubantrieb (ohne Drahtrollen) / Devanadera (sin rodillos) / Подающий механизм (без ролика) / Draadaanvoer (zonder roller) / Trainafilo (senza rullo)	51254		51136
6	Carte affichage / Display card / Anzeigeplatine / Placa frontal (display) / Плата отображения на дисплее / Grafische kaart / Scheda display		E0059C	
7	Carte principale / Main circuit board / Hauptplatine / Tarjeta principal / Основная плата / Hoofdpaneel / Carta principale	E0020C		E0019C
8	Câble d'alimentation / Power lead / Netzstromkabel / Cable de alimentación / Шнур питания / Voedingskabel / Cavo di rifornimento			21464
9	Interrupteur / Switch / An/ Aus- Schalter / Interruptor / Переключатель / Schakelaar / Interruttore			51230
10	Grille de ventilateur / Fan grill / Eintrittsöffnung Kühlluft / Rejill / Решетка вентилятора / Rooster ventilator / Griglia del ventilatore			51010
11	Ventilateur / Fan / Ventilator / Ventilador / Вентилятор / Ventilator / Ventilatore			51021
12	Carte de puissance / Power circuit board / Leistungspatine Carta de potencia / Силовая плата / Vermogensprintplaat / Scheda di potenza			97807C
13	Pieds / Feet / Gerätefüße / Pies / Ножки / Voetjes / Piedi	56061		-
14	Adaptateur bobine / Coil wire adapter / Adapter spoel / Adattatore bobina / Адаптер катушки / Spoeladapter / Adattatore bobina	71601		71608

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



**SPÉCIFICATIONS TECHNIQUES / TECHNICAL SPECIFICATIONS / TECHNISCHE DATEN /  
ESPECIFICACIONES TÉCNICAS / ТЕХНИЧЕСКИЕ СПЕЦИФИКАЦИИ / TECHNISCHE GEGEVENS /  
SPECIFICHE TECNICHE**

MULTIPEARL 210-2 / 210-4 XL / 211-4						
Primaire / Primary / Primär / Primario / Первая / Primaria / Primario						
Tension d'alimentation / Power supply voltage / Versorgungsspannung / Tensión de red eléctrica / Напряжение питания / Voedingsspanning / Tensione di alimentazione	110V +/- 15%			230V +/- 15%		
Fréquence secteur / Mains frequency / Netzfrequenz / Frecuencia / Частота сети / Frequentie sector / Frequenza settore	50 / 60 Hz					
Fusible disjoncteur / Fuse / Sicherung / Fusible disyuntor / Плавкий предохранитель прерывателя / Zekering hoofdschakelaar / Fusibile disgiuntore	32 A			16 A		
Secondaire / Secondary / Sekundär / Secundario / Вторичка / Secondair / Secondario	<b>MMA</b>	<b>TIG</b>	<b>MIG-MAG</b>	<b>MMA</b>	<b>TIG</b>	<b>MIG-MAG</b>
Tension à vide / No load voltage / Leerlaufspannung / Tensión al vacío / Напряжение холостого хода / Nullaftspanning / Tensione a vuoto	75 V			76 V		
Courant de sortie nominal (I2) / Normal current output (I2) / nominaler Ausgangsstrom (I2) / Corrente di uscita nominale (I2) / Номинальный выходной ток (I2) / Corriente de salida nominal (I2) / Nominale uitgangsstroom (I2)	20 A - 130 A	20 A - 160 A	20 A - 150 A	20 A - 200 A	20 A - 200 A	20 A - 200 A
Tension de sortie conventionnelle (U2) / Conventional voltage output (U2) / entsprechende Arbeitsspannung (U2) / Tensión de salida convencional (U2) / Условное выходное напряжение (U2) / Conventionele uitgangsspanning (U2) / Tensione di uscita convenzionale (U2)	20,8 V - 25,2 V	10,8 V - 16,4 V	15V - 21,5V	20,8 V - 28 V	10,8 V - 18 V	15V - 24V
Facteur de marche à 40°C (10 min)* Norme EN60974-1. Duty cycle at 40°C (10 min)* Standard EN60974-1. Einschaltzeit @ 40°C (10 min) EN60974-1-Norm Ciclo de trabajo a 40°C (10 min)* Norma EN60974-1	ПВ% при 40°C (10 мин)* Норма EN60974-1. Inschakelduur bij 40°C (10 min)* Norm EN60974-1. Ciclo di lavoro a 40°C (10 min)* Norma EN60974-1.	Imax	22%	20%	22%	18%
		100%	75 A	100 A	90 A	115 A
		60%	90 A	115 A	100 A	135 A
						130 A
Température de fonctionnement / Functioning temperature / Betriebstemperatur / Temperatura de funcionamiento / Рабочая температура / Gebruikstemperatuur / Temperatura di funzionamento	-10°C → +40°C					
Température de stockage / Storage temperature / Lagertemperatur / Temperatura de almacenaje / Температура хранения / Bewaartemperatuur / Temperatura di stoccaggio	-25°C → +55°C					
Degré de protection / Protection level / Schutzzart / Grado de protección / Степень защиты / Bescherfungsklasse / Grado di protezione	IP21					
<b>MULTIPEARL 210-2</b>			<b>MULTIPEARL 210-4 XL</b>		<b>MULTIPEARL 211-4</b>	
Dimensions (Lxlxh) / Dimensions (LxWxH) / Abmessungen (Lxbxt) / Dimensiones (Lxlxh) / Размеры (ДхШхВ) / Afmetingen (Lxlxh) / Dimensioni (Lxlxh)	25 x 45 x 35 cm		27,5 x 55 x 44 cm		41 x 73 x 77 cm	
Poids / Weight / Bec / Peso / Gewicht / Peso	16 kg		20 kg		27 kg	

\*Les facteurs de marche sont réalisés selon la norme EN60974-1 à 40°C et sur un cycle de 10 min.

Lors d'utilisation intensive (> au facteur de marche) la protection thermique peut s'enclencher, dans ce cas, l'arc s'éteint et le témoin s'allume.  
Laissez l'appareil alimenté pour permettre son refroidissement jusqu'à annulation de la protection.  
L'appareil est de type «courant constant» (caractéristique tombante) en MMA et de type «tension constante» (caractéristique plate) en MIG.

\*The duty cycles are measured according to standard EN60974-1 à 40°C and on a 10 min cycle.

While under intense use (> to duty cycle) the thermal protection can turn on, which switches the arc off and the indicator switches on.  
Keep the machine's supply on, to enable cooling until protection cancellation.  
The machine has a specification with a "dropping current output" in MMA and with a "constant current output" in MIG/MAG.

\* Einschaltzeit gemäß EN 60974-1 (10 Minuten – 40°C).  
Bei sehr intensivem Gebrauch (> Einschaltzeit) kann der Thermoschutz ausgelöst werden. In diesem Fall wird der Lichtbogen abgeschaltet und die entsprechende Warnung erscheint auf der Anzeige.  
Das Gerät zum Abkühlen nicht ausschalten und laufen lassen bis das Gerät wieder bereit ist.  
Die Stromquelle besitzt im MMA-Modus eine fallende Ausgangskennlinie und im im MIG/MAG-Verfahren eine flache.

\*Los ciclos de trabajo están realizados en acuerdo con la norma EN60974-1 a 40°C y sobre un ciclo de diez minutos.

Durante un uso intensivo (> que el ciclo de trabajo), se puede activar la protección térmica. En este caso, el arco se apaga y el indicador se enciende.  
Deje el aparato conectado para permitir que se enfrie hasta que se anule la protección.  
El aparato es de tipo «corriente constante» (característica descendente) en MMA y de tipo «tensión constante» (característica plana) en MIG.

\*ПВ% указаны по норме EN60974-1 при 40°C и для 10-минутного цикла.

При интенсивном использовании (> ПВ%) может включиться тепловая защита. В этом случае дуга погаснет и загорится индикатор   
Оставьте аппарат подключенным к питанию, чтобы он остыл до полной отмены защиты.  
В режиме MMA аппарат имеет выходную характеристику типа «постоянный ток» (падающая характеристика), а в режиме MIG - типа «постоянное напряжение» (плоская характеристика).

\*I cicli di lavoro sono realizzati secondo la norma EN60974-1 a 40°C e su un ciclo di 10 min.

Durante l'uso intensivo (> al ciclo di lavoro) la protezione termica può attivarsi, in questo caso, l'arco si spegne e la spia si illumina.  
Lasciare il dispositivo collegato alla presa per permettere il suo raffreddamento fino all'annullamento della protezione.  
L'apparecchio è di tipo « corrente costante » (caratteristica descendente) in MMA e di tipo « tensione costante » (caratteristica piatta) in MIG.

\* De inschakelduur is gemeten volgens de norm EN60974-1 bij een temperatuur van 40°C en bij een cyclus van 10 minuten.

Bij intensief gebruik (superieur aan de inschakelduur) kan de thermische beveiliging zich in werking stellen. In dat geval gaat de boog uit en gaat het beveiligingslampje gaan branden.  
Laat het apparaat aan de netspanning staan om het te laten afkoelen, totdat de beveiliging afslaat.  
De vermogensbron beschrijft een dalende uitgangskarakteristiek in MMA en een vlakke uitgangskarakteristiek in MIG / MAG.

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

A	Ampères - Amps - Ampere - Amperos - Ампер - Amps - Ampere
V	Volt - Volt - Volt - Voltio - Вольт - Volt - Volt
Hz	Hertz - Hertz - Hertz - Hercio - Герц - Hertz
	- Soudage MIG/MAG (MIG: Metal Inert Gas / MAG: Metal Active Gas) - MIG/MAG Welding (MIG: Metal Inert Gas / MAG: Metal Active Gas) - MIG/MAG Schweißen (MIG: Metal Inert Gas/ MAG: Metal Active Gas) - Soldadura MIG/MAG (MIG: Metal Inert Gas / MAG: Metal Active Gas) - Сварка МИГ/МАГ (MIG: Metal Inert Gas / MAG: Metal Active Gas) - Saldatrice MIG/MAG (MIG: Metal Inert Gas / MAG: Metal Active Gas) - MAG / MAG lassen
	Soudage à l'électrode enrobée (MMA – Manual Metal Arc) Electrode welding (MMA) Schweißen mit umhüllter Elektrode (E-Handschweißen) Soldadura con electrodo revestido (MMA - Manual Metal Arc) Сварка электродом с обмазкой (MMA – Manual Metal Arc) Saldatura con elettrodo (MMA) Lassen met beklede elektrode - MMA (Manual Metal Arc)
	Soudage TIG (Tungsten Inert Gaz) TIG welding (Tungsten Inert Gas) WIG-Schweißen (Tungsten Inert Gas) Soldadura TIG (Tungsten Inert Gaz) Сварка ТИГ (Tungsten Inert Gaz) Saldatura TIG (Tungsten Inert Gas) TIG lassen (Tungsten Inert Gaz)
	- 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 environment with increased risks of electrical shock. However, the welding source must 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 para soldadura en lugar con riesgo de choque eléctrico. Sin embargo, la fuente eléctrica no debe estar presente en dichos lugares. - Подходит для сварки в среде с повышенным риском удара током. В этом случае источник тока не должен находиться в том же самом помещении. - Adatte per saldature in ambienti con rischi di scosse elettriche. Comunque, la sorgente di saldatura non deve essere posto in tali luoghi. - Geschikt voor het lassen in een ruimte met verhoogd risico op elektrische schokken. De voedingsbron zelf moet echter niet in dergelijke ruimte worden geplaatst.
IP21	- Protégé contre l'accès aux parties dangereuses avec un doigt, et contre les chutes verticales de gouttes d'eau - Protected against rain and against fingers access to dangerous parts - Geschützt gegen Berührung mit gefährlichen Teilen und gegen senkrechten Wassertropfenfall - Protegido contra el acceso a partes peligrosas con el dedo y contra las caídas verticales de gotas de agua - Защищен от доступа пальцев в опасные части, а также от попадания вертикальных капель воды - Protegido contra pioggia e contro l'accesso delle dita in parti pericolose
	- Courant de soudage continu. - Welding direct current. - Gleichschweißstrom. - Corriente de soldadura continua. - Постоянный сварочный ток. - Corrente di saldatura continua. - Gelijkstroom
	- Alimentation électrique monophasée 50 ou 60Hz - Single phase power supply 50 or 60Hz - Einphasige Netzversorgung mit 50 oder 60Hz - Alimentación electrica monofásica de 50 o 60Hz - Monoфазное электропитание 50 или 60Гц - Rete elettrica monofase 50 o 60Hz - Enkelfase elektrische voeding 50Hz of 60Hz.
U0	- Tension assignée à vide - Rated no-load voltage - Leerlaufspannung - - Tension assignée à vide - - Номинальное напряжение холостого хода - Tensione nominale senza voltaggio - Nulllastspannung
U1	Tension assignée d'alimentation. - rated supply voltage. - Netzspannung - Tensión asignada de alimentación eléctrica - Номинальное напряжение питания - Tensione nominale di alimentazione - Nominale voedingsspanning
I1max	- Courant d'alimentation assigné maximal (valeur efficace). - Rated maximum supply current (effective value). - Maximaler Versorgungsstrom (Effektivwert). - Corriente máxima asignada (valor eficaz). - Максимальный сетевой ток (эффективное значение). - Corrente nominale di alimentazione massima (valore effettivo) - Maximale nominale voedingsstroom (effectieve waarde)
I1eff	- Courant d'alimentation effectif maximal. - Maximum effective supply current. - Maximaler tatsächlicher Versorgungsstrom. - Corriente de alimentación eléctrica máxima. - Максимальная эффективная подача тока. - Corrente di alimentazione massima effettiva - Maximale effectieve voedingsstroom
IEC60 974-1 IEC60 974-10 Classe A	- La source de courant de soudage est conforme aux normes IEC et de classe A. - This welding machine is compliant with standard IEC of class A. - Die Stromquelle entspricht der Norm IEC. Gerät Klasse A. - El aparato es conforme a las normas IEC y de clase A. - Источник сварочного тока отвечает нормам IEC и относится к классу A. - De lasstroomvoorziening is conform aan de IEC en klasse A norm. - La fonte di corrente di saldatura è conforme alle norme IEC e di classe A.

	<ul style="list-style-type: none"> <li>- Transformateur-redresseur monophasé.</li> <li>- Rectifier-Single-phase converter</li> <li>- Einphasiger Trafo/Frequenzumwandler</li> <li>- Transformateur-redresseur monophasé.</li> <li>- Трансформатор-выпрямитель однофазный.</li> <li>- Convertitore rettificatore-monofase</li> <li>- Stroombron met UPS technologie, levert gelijkstroom.</li> </ul>
X(40°C)	<ul style="list-style-type: none"> <li>- Facteur de marche selon la norme EN 60974-1 (10 minutes – 40°C).</li> <li>- Duty cycle according to the standar EN 60974-1 (10 minutes – 40°C).</li> <li>- Einschaltdauer gemäß EN 60974-1 (10 Minuten – 40°C).</li> <li>- Ciclo de trabajo según la norma EN 60974-1 (10 minutos – 40°C).</li> <li>- ПВ% соответствует нормеEN 60974-1 (10 минут – 40°C).</li> <li>- Ciclo di lavoro secondo la norma EN 60974-1 (10 minuti - 40 ° C).</li> <li>- Inschakelduur volgens de norm EN60974-1 (10 minuten – 40°C).</li> </ul>
I2 	I2: courant de soudage conventionnel correspondant. - I2: corresponding conventional welding current. - I2: entsprechender Schweißstrom - I2: corriente de soldadura convencional correspondiente - I2: соответствующий номинальный сварочный ток. - I2: corrente di saldatura convenzionale corrispondente. - I2 : Correspondende conventionele lasstroom
U2 	<ul style="list-style-type: none"> <li>- U2: Tensions conventionnelles en charges correspondantes.</li> <li>- U2: conventional voltages in corresponding load.</li> <li>- U2: entsprechende Arbeitsspannung.</li> <li>- U2: Tensiones convencionales en cargas correspondientes.</li> <li>- U2: Номинальные напряжения при соответствующих нагрузках.</li> <li>- U2: tensioni convenzionali in carico corrispondente.</li> <li>- U2 : Conventionele spanning in corresponderende belasting</li> </ul>
	<ul style="list-style-type: none"> <li>- Appareil conforme aux directives européennes. La déclaration de conformité est disponible sur notre site internet.</li> <li>- The device complies with European Directive. The certificate of compliance is available on our website.</li> <li>- Gerät entspricht europäischen Richtlinien. Die Konformitätserklärung finden Sie auf unsere Webseite.</li> <li>- El aparato está conforme a las normas europeas. La declaración de conformidad está disponible en nuestra página Web.</li> <li>- Устройство соответствует европейским нормам. Декларация соответствия есть на нашем сайте.</li> <li>- Het toestel is in overeenstemming met de Europese richtlijnen. De conformiteitsverklaring is te vinden op onze internetsite.</li> <li>- Dispositivo in conformità con le norme europee. La dichiarazione di conformità è disponibile sul nostro sito internet.</li> </ul>
	<p>Matériel conforme aux normes Marocaines. La déclaration C<sub>o</sub> (CMIM) de conformité est disponible sur notre site (voir à la page de couverture). - Equipment in conformity with Moroccan standards. The declaration C<sub>o</sub> (CMIM) of conformity is available on our website (see cover page). - Das Gerät entspricht die marokkanischen Standards. Die Konformitätserklärung C<sub>o</sub> (CMIM) ist auf unserer Webseite verfügbar (siehe Titelseite). - Equipamiento conforme a las normas marroquíes. La declaración de conformidad C<sub>o</sub> (CMIM) está disponible en nuestra página web (ver página de portada). - Товар соответствует нормам Марокко. Декларация C<sub>o</sub> (CMIM) доступна для скачивания на нашем сайте (см на титульной странице). - Dit materiaal voldoet aan de Marokkaanse normen. De verklaring C<sub>o</sub> (CMIM) van overeenstemming is beschikbaar op onze internet site (vermeld op de omslag). - Materiale conforme alle normative marocchine. La dichiarazione C<sub>o</sub> (CMIM) di conformità è disponibile sul nostro sito (vedi scheda del prodotto)</p>
	<ul style="list-style-type: none"> <li>- Matériel conforme aux exigences britanniques. La déclaration de conformité britannique est disponible sur notre site (voir à la page de couverture).</li> <li>- Material complies with British requirements. The British Declaration of Conformity is available on our website (see cover page).</li> <li>- Die Ausrüstung entspricht den britischen Anforderungen. Die britische Konformitätserklärung ist auf unserer Website verfügbar (siehe Deckblatt).</li> <li>- El equipo cumple con los requisitos británicos. La Declaración de Conformidad del Reino Unido está disponible en nuestra página web (ver página de portada).</li> <li>- Материал соответствует требованиям Великобритании. Заявление о соответствии для Великобритании доступно на нашем веб-сайте (см. главную страницу).</li> <li>- De apparatuur voldoet aan de Britse eisen. De UK-verklaring van overeenstemming is beschikbaar op onze website (zie voorpagina).</li> <li>- L'attrezzatura soddisfa i requisiti britannici. La dichiarazione di conformità del Regno Unito è disponibile sul nostro sito web (vedi copertina).</li> </ul>
	<ul style="list-style-type: none"> <li>- Marque de conformité EAC (Communauté économique Eurasienne).</li> <li>- Conformity mark EAC (Eurasian Economic Commission).</li> <li>- EAC-Konformitätszeichen (Eurasische Wirtschaftsgemeinschaft).</li> <li>- Marca de conformidad EAC (Comunidad económica euroasiática).</li> <li>- Маркировка соответствия ЕАС (Евразийское экономическое сообщество).</li> <li>- Marchio conformità EAC (Commissione economica eurasiatica).</li> <li>- EAC (Euraziatische Economische Gemeenschap) merkteken van overeenstemming</li> </ul>
	<ul style="list-style-type: none"> <li>- L'arc électrique produit des rayons dangereux pour les yeux et la peau (protégez-vous!).</li> <li>- The electric arc produces dangerous rays for eyes and skin (protect yourself!).</li> <li>- Der elektrische Lichtbogen verursacht Strahlungen auf Augen und Haut (Schützen Sie sich!).</li> <li>- El arco eléctrico produce radiaciones peligrosas para los ojos y la piel. Protéjase.</li> <li>- Электрическая дуга дает излучение опасное для глаз и кожи (носите защитную одежду!).</li> <li>- L'arco elettrico produce raggi pericolosi per gli occhi e la pelle (proteggersi!).</li> <li>- Booglassen kan gevaarlijk zijn en ernstige en zelfs dodelijke verwondingen veroorzaken.</li> </ul>
	<ul style="list-style-type: none"> <li>- Attention, souder peut déclencher un feu ou une explosion.</li> <li>- Caution, welding can produce fire or explosion.</li> <li>- Achtung! Schweißen kann Feuer oder Explosion verursachen.</li> <li>- Atención, soldar puede iniciar un fuego o una explosión.</li> <li>- Внимание! Сварка может привести к пожару или взрыву.</li> <li>- Attenzione, saldare può provocare fiamme o esplosioni.</li> <li>- De elementen die net gelast zijn zijn heet en kunnen brandwonden veroorzaken bij het aanraken.</li> </ul>
	<ul style="list-style-type: none"> <li>- Attention ! Lire le manuel d'instruction avant utilisation.</li> <li>- Caution ! Read the user manual.</li> <li>- Achtung! Lesen Sie die Betriebsanleitung.</li> <li>- ¡Cuidado! Lea el manual de instrucciones antes de su uso.</li> <li>- Внимание! Прочтите инструкцию перед использованием.</li> <li>- Attenzione ! Leggere il manuale utente.</li> <li>- Let op! Lees aandachtig de handleiding.</li> </ul>

	<ul style="list-style-type: none"><li>- Produit faisant l'objet d'une collecte sélective - Ne pas jeter dans une poubelle domestique.</li><li>- Separate collection required, Do not throw in a domestic dustbin.</li><li>- Für die Entsorgung Ihres Gerätes gelten besondere Bestimmungen (Sondermüll). Es darf nicht mit dem Hausmüll entsorgt werden.</li><li>- Este producto es objeto de una colecta selectiva - Ne lo tire a la basura doméstica.</li><li>- Этот аппарат подлежит утилизации - Не выбрасывайте его в домашний мусоропровод.</li><li>- E' richiesta una raccolta differenziata, non gettare in un bidone della spazzatura domestica.</li><li>- Afzonderlijke inzameling vereist volgens de Europese richtlijn 2012/19/UE. Gooi het apparaat niet bij het huishoudelijk afval !</li></ul>
	<ul style="list-style-type: none"><li>- Information sur la température (protection thermique)</li><li>- Temperature information (thermal protection)</li><li>- Information zur Temperatur (Thermoschutz)</li><li>- Información sobre la temperatura (protección térmica)</li><li>- Информация по температуре (термозащита)</li><li>- Informazioni temperatura (protezione termica)</li><li>- Informatie over de temperatuur (thermische beveiliging)</li></ul>



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