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**IT** 38-43 / 56-64

**PL** 44-49 / 56-64

**CZ** 50-55 / 56-64

## **GYSARC 80 / 100 / 120 / 160 / 200**

Poste à souder MMA  
MMA (Arc) welding machine  
Elektroden-Schweissinverter (MMA)  
Equipo de soldadura MMA  
Сварочный аппарат MMA  
MMA Lasapparaat  
Dispositivo di saldatura MMA  
Stanowisko do spawania MMA  
Svářečka MMA

**⚠ WARNING - SAFETY RULES**

**GENERAL INSTRUCTIONS**



Read and understand the following safety instructions before use.

Any modification and maintenance not specified in the instructions manual should not be undertaken.

The manufacturer is not liable for any injury or damage 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. Safety instructions must be followed. In case of improper or unsafe use, the manufacturer cannot be held liable.

This equipment must be used and stored in a room free from dust, acid, flammable gas 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).

Storage 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 PROTECTION AND PROTECTION FOR OTHERS**

Arc welding can be dangerous and can cause serious injury or even death.

Welding exposes the user to dangerous heat, arc rays, electromagnetic fields, risk of electric shock, noise and gas fumes. People wearing pacemakers are advised to consult a doctor before using the welding machine.

To protect oneself as well otherS, ensure the following safety precautions are taken:



In order to protect yourself from burns and radiation, wear clothing without turn-up or cuffs. These clothes must be insulated, dry, fireproof, in good condition and cover the whole body.



Wear protective gloves to guarantee electrical and thermal insulation.



Wear sufficient welding protective gear for the whole body: hood, gloves, jacket, trousers... (varies depending on the application/operation). Protect the eyes during cleaning operations. Contact lenses are prohibited during use. It may be necessary to install fireproof welding curtains to protect the area against arc rays, weld spatter 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).

Keep hands, hair and clothes away from moving parts such as fans, and engines. Never remove the safety covers from the cooling unit when the machine is plugged in. The manufacturer is not liable for any injury or damage caused due to non-compliance with the safety precautions."

Parts that have previously been welded will be hot and may cause burns if 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. When using a water-cooled torch, make sure that the cooling unit is switched on to avoid any burns that could potentially be caused by the liquid. It is important to secure the working area before leaving to ensure the protection of property and the safety of others.



**WELDING FUMES AND GAS**

Fumes, gas and dust produced during welding are hazardous to health. It is mandatory to ensure adequate ventilation and/or extraction to keep fumes and gas away from the work area. Using an air fed welding helmet is recommended in case of insufficient ventilation in the workplace. Check that the air supply is effective by referring to the recommended safety regulations.

Precautions 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. They must be stored vertically and held by a support or trolley to limit the risk of falling. Do not weld in areas where grease or paint are stored.

**FIRE AND EXPLOSION HAZARDS**

Protect the entire welding area. Flammable materials must be moved to a minimum safe distance of 11 meters.

A fire extinguisher must be readily available near the welding operations.

Be careful of weld spatter and sparks, even through cracks. If not careful then this could potentially lead to a fire or an explosion.

Keep people, flammable materials/objects and containers that are under pressure at a safe distance.

Welding in closed containers or pipes should be avoided and, if they are opened, they must be emptied of any flammable or explosive material (oil, fuel, gas ...).

Grinding operations should not be carried out close to the power supply or any flammable materials.

**GAS CYLINDERS**

Gas leaking from the cylinders can lead to suffocation if present in high concentration around the work area (ventilation required).

Transport must be done safely: cylinders closed and welding machine switched off. They must be stored vertically and held by a support to limit the risk of falling.

Close the cylinder between two uses. Beware of temperature variations and sun exposure.

The cylinder must not be in contact with a flame, electric arc, torch, earth clamp or all other sources of heat.

Always keep gas cylinders away from electrical circuits, and therefore never weld a cylinder under pressure.

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.

**ELECTRICAL SAFETY**

The electrical mains used must have an earth terminal. Use the recommended fuse size.

An electric shock could cause serious injuries or potentially even 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.

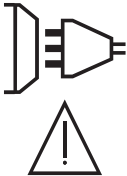
Do not touch the torch or electrode holder and the earth clamp at the same time.

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 which are in good condition in order to be isolated from the welding circuit. Wear insulated shoes, regardless of the workplace/environment in which you work in.

**EMC CLASSIFICATION**



This Class A machine is not intended to be used on a residential site where the electric current is supplied by the domestic low-voltage power grid. There may be potential difficulties in ensuring electromagnetic compatibility at these sites, due to conducted interferences as well as radiation.



GYSARC 80 / 100 / 120: This equipment does not comply with IEC 61000-3-12 and is intended to be connected to private low-voltage systems interfacing with the public power grid only at the medium- or high-voltage level. If it is connected to a public low-voltage power grid, the installer or user of the machine has to ensure, by checking with the network operator, that the device can be connected.

GYSARC 160 / 200: This equipment does not comply with IEC 61000-3-12 and is intended to be connected to private low-voltage systems interfacing with the public supply only at the medium- or high-voltage level. On a public low-voltage power grid, it is the responsibility of the installer or user of the device to ensure, by checking with the operator of the distribution network, which device can be connected.

GYSARC 80 / 100/120: This equipment complies with the IEC 61000-3-11 standard.

GYSARC 160 : Provided that the impedance of the low-voltage public electrical network at the common coupling point is less than  $Z_{max} = 0.427$  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 network operator if necessary, that the network impedance complies with the impedance restrictions.

GYSARC 200: Provided that the impedance of the low-voltage public electrical network at the common coupling point is less than  $Z_{max} = 0.270$  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 network operator if necessary, that the network impedance complies with the impedance restrictions.

**ELECTROMAGNETIC EMISSIONS**



The electric current flowing through any conductor causes electrical and magnetic fields (EMF). The welding current generates an EMF around the welding circuit and the welding equipment.

The EMF electromagnetic fields can interfere with certain medical implants, such as pacemakers. Protection measures must be taken for people with medical implants. For example, by restricting access to passers-by or conducting 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 wrap 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, 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 identified.

**RECOMMENDATIONS TO ASSESS THE WELDING AREA AND WELDING INSTALLATION**

**Overview**

The user is responsible for the installation and use of the arc welding equipment according to the manufacturer's instructions. If electromagnetic disturbances are detected, the user is responsible for resolving the situation with the manufacturer's technical assistance. In some cases, this corrective 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 inconvenient.

**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. The following elements should be taken into account:

- a) the presence (above, below and next to the arc welding machine) of other power cables, remote cables and telephone cables;
  - 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 other pieces of equipment which are in the same area.
- The user has to ensure that the devices and pieces of equipment used in the same area are compatible with each other. This may require extra precautions;
- h) the time of day during the welding or other activities have to be performed.

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

### Welding area assessment

Besides the welding area, the assessment of the arc welding systems installation 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. In case of interferences, it may be necessary to take additional precautions such as the filtering of the power supply network. Consideration should be given to shielding the power supply cable in a metal conduit or equivalent of permanently installed arc welding equipment. It is necessary to ensure the electrical continuity of the shielding along its 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 subject to a routine maintenance check according to the recommendations of the manufacturer. 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. Equipotential bonding:** consideration should be given to bonding all metal objects in the surrounding area. However, metal objects connected to the workpiece increase the risk of 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 shielding:** The selective protection and shielding 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 equipped with a top strap for easy transportation. Be careful not to underestimate the weight of the machine. The strap is not design to be use to hang the machine to something else. 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.

### INSTALLATION

- Put the machine on the floor (maximum incline of 10°).
- Provide an adequate area to ventilate the machine and access the controls.
- Do not use in an area with conductive metal dust.
- The machine must be placed in a sheltered area away from rain or direct sunlight.
- The machine protection level is IP21, which means :
  - Protection against access to dangerous parts from solid bodies of a  $\geq 12.5$ mm diameter and,
  - Protection against vertically falling drops.



The manufacturer does not accept any liability in relation to damages caused to objects or harm caused to people as the result of incorrect and/or dangerous use of the machine.

## MAINTENANCE / RECOMMENDATIONS



- Maintenance should only be carried out by a qualified person. A yearly maintenance is recommended.
- Ensure the machine is unplugged from the mains, and then wait 2 minutes before carrying out maintenance work. Inside, voltages and currents are high and dangerous.
- Remove regularly the casing and any excess of 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 to prevent danger.
- Ensure the vents 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.



## INSTALLATION – PRODUCT OPERATION

Only qualified personnel authorised by the manufacturer should perform the installation of the welding equipment. During the installation, the operator must ensure that the machine is disconnected from the mains. Connecting generators in serial or in parallel are forbidden.

### PRODUCT DESCRIPTION

The GYSARC are Inverter technology based welding machines, portable, single phase, fan cooled, for electrode welding (MMA) in direct current (DC). These machines can weld all types of electrodes : rutile, basic/low hydrogen, stainless and cast iron. It is recommended to use the welding cables supplied with the unit in order to obtain the optimum product settings.

### POWER SWITCH

- 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 ( $I_{1eff}$ ) is indicated 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.
- - For the GYSARC 160 and 200, preferably use a 32A socket protected by a 32A circuit breaker for use intensive. The appliance must be placed in such a way that the power plug is accessible.
- The GYSARC 200 is equipped with the Protec 400 (P400) function: the unit goes into protection (protection light flashes) if the supply voltage is higher than 265 V. Normal operation is resumed as soon as the supply voltage returns to its nominal range.
- To start the unit, press the on/off button located on the back of the device.

### CONNECTION TO A GENERATOR

These products are not protected against the regularly overvoltage provided by the power generator. It is therefore not recommended to connect them on this type of power supply.

### COATED ELECTRODE WELDING (MMA)

#### CONNECTIONS AND RECOMMENDATIONS

- Connect the cables, electrode holder and earth clamp to the connectors,
- Follow the welding polarities and power recommendations indicated on the electrode boxes.
- Remove the electrode from the electrode holder when the machine is not in use.
- The machine has 3 features exclusive to Inverters:

- The **Hot Start** creates an overcurrent at the beginning of the welding.
- The **Arc Force** creates an overcurrent which prevents the electrode from sticking to the weld pool.
- The **Anti-Sticking technology** makes it easier to unstick the electrode from the metal.

### TROUBLESHOOTING

Troubleshooting	Causes	Solutions
The 2 indicators are on, but the machine does not deliver any current.	The thermal protection has switched on.	Wait for the end of the cooling cycle.
	Current too high on the primary circuit.	Switch off the unit (with the on/off switch), then turn it on.
The green indicator is on, but the machine does not weld.	Fault with earth clamp/cable connection.	Check the connections
The product is under voltage, you are feeling tingling when touching the machine's body.	The earth contact is faulty.	Check the plug and the earth of your installation.
The machine welds poorly.	Polarity error (+/-).	Check the polarity (+/-) recommended on the electrode box.

### WARRANTY

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

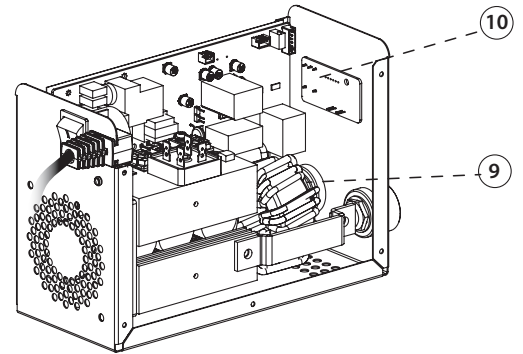
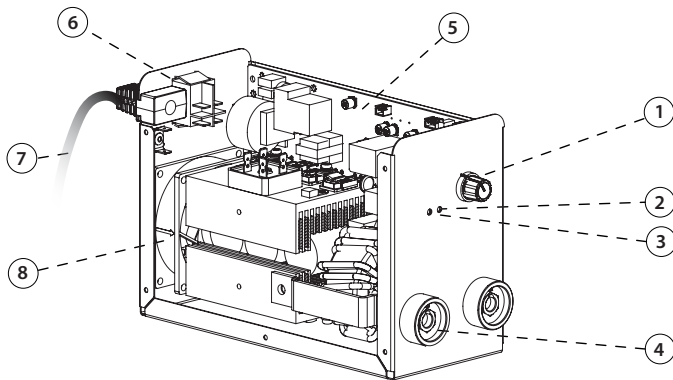
The warranty does not cover:

- 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

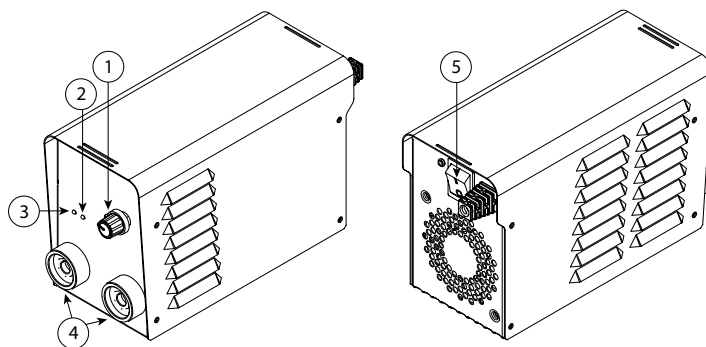
**PIÈCES DE RECHANGE / SPARE PARTS / ERSATZTEILE / PIEZAS DE RECAMBIO / ЗАПЧАСТИ / RESERVE ONDERDELEN / PEZZI DI RICAMBIO / CZĘŚCI ZAMIENNE / NAHRÁDNÍ DÍLY**



		GYSARC				
		80	100	120	160	200
1	Bouton de potentiometre / Potentiometer button / Drehreglerknopf / Botón de potenciómetro / Кнопка потенциометра / Draaiknop / Pulsante del Potenziometro / Przycisk potencjometru / Knoflík potenciometru	73099				
2	Indicateur /Warning Indicator / Warnungsindikator / Indicador de advertencia / Индикатор предупреждения / Waarschuwingindicator / Indicatore di avvertimento / Wskaźnik / Indikátor	C13203				
3	Indicateur d'alimentation / Power Indicator / Leistungsanzeige / Indicador de potencia / Индикатор мощности / Vermogensindicator / Indicatore di potenza / Wskaźnik zasilania / Indikátor napájení	C13201				
4	Douilles / Sockets / Hülsen / Conectores / Гнезда / Fitting / Boccole / Gniazda / Zásuvky	C31312				
5	Carte électronique / Electronic board / Stuerplatine / Tarjeta electrónica / Электронная плата / Print plaat / Scheda elettrica / Karta elektroniczna / Hlavní deska	B4121	B4124	53543	53545	B4152
6	Bouton marche/arrêt / On/off switch / Schalter Start/Stop / Botón Encendido/Apagado / Кнопка ВКЛ/ВЫКЛ / Knop aan/uit / Pulsante avvio/stop / Przycisk włącznik/wyłącznik / Vyrínač	C51504		52460	53546	C51524
7	Cordon secteur / Power supply cable / Netzleitung / Cable de conexión eléctrica / Сетевой шнур / Elektrische netsnoer / Cavo corrente / Główny kabel / Napájecí kabel	21468				21480
8	Ventilateur / Fan / Lüfter / Ventilador / Вентилятор / Ventilator / Ventilatore / Wentylator / Ventilátor	53544			51032	C16545
9	Transformateur / Main transformer / Haupttransformator / Transformador principal / Главный трансформатор / Hoofdtransformator / Trasformatore principale / Transformator / Transformátor	C32576IND2		C32545	C32556	C32588
10	Panneau PCB / Panel PCB / Panel-PCB / Panel PCB / панельная PCB / Paneel-PCB / Pannelo PCB / Panel PCB / PCB ovládání	B4120		-		B4120



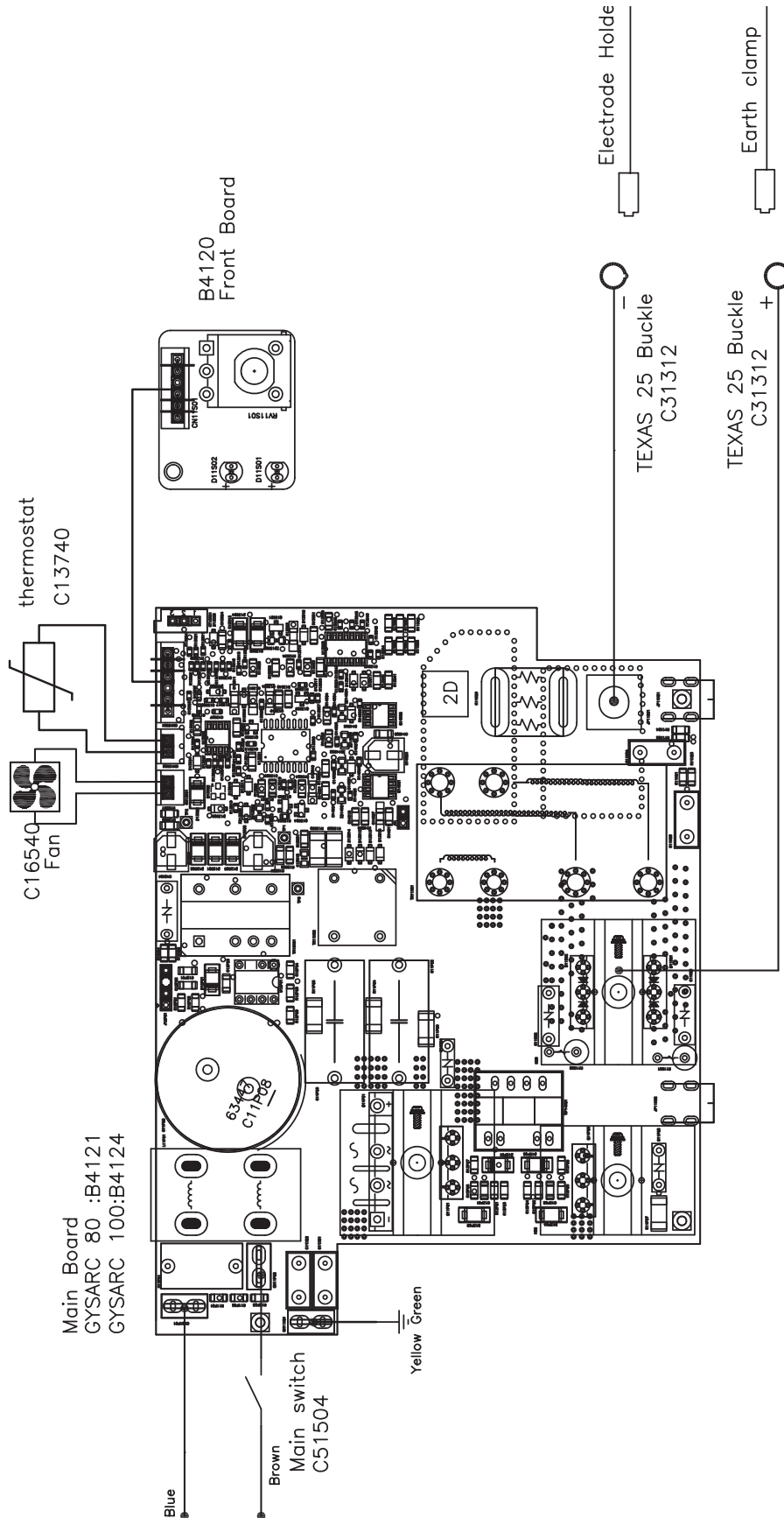
**INTERFACE / INTERFACE / BEDIENFELD / INTERFAZ / ИНТЕРФЕЙС / INTERFACE / INTERFACCIA / INTERFEJS / OVLÁDACÍ PANEL**



- |   |  |
|---|--|
| ① | Potentiomètre de réglage courant / Current setting potentiometer / Drehregler / Potenciómetro de ajuste de corriente / Потенциометр настройки тока / Stroom instelling draaiknop / Potenziometro di regolazione di corrente / Potencjometr regulacji prądu. / Potenciometr nastavení proudu  |
| ② | Voyant jaune de protection thermique et surintensité / Yellow indicator for thermal protection and overcurrent / Gelbe Thermoschutzanzeige / Indicador amarillo de protección térmica y sobrecarga. / Желтый светодиод-индикатор термозащиты и сверхтока / Gele lampje voor thermische beveiliging en overbelasting / Spia gialla di protezione termica e sovrainsensità / Żółta kontrolka zabezpieczenia termicznego i przetężenia / Žlutá kontrolka tepelné a nadproudové ochrany  |
| ③ | Voyant vert de fonctionnement / Green indicator (operation) / Grüne Betriebsanzeige / Indicador verde de funcionamiento / Зеленый светодиод-индикатор работы / Groene «aan» lampje / Spia verde di funzionamento / Zielona kontrolka działania / Zelená kontrolka provozu  |
| ④ | Connecteur de raccordement pour porte-électrode et pince de masse / Earth clamp and electrode holder connectors / Steckverbindung für Elektrodenhalter und Masseklemme / Conector para conexión de portaelectrodos y pinza de masa / Коннектор подключения для электрододержателя и зажима массы / Aansluiting voor de elektrodehouder en de aardingsklem / Connettore di collegamento per porta elettrodo e morsetto di terra / Złącze przedłużenia uchwytu elektrody i zacisku uziemienia / Připoj držáku elektrody a zemního kabelu |
| ⑤ | Interrupteur / Switch / Netzschalter / Interruptor / Выключатель / Schakelaar / Interruttore / Wyłącznik / Spínač zap./vyp.  |

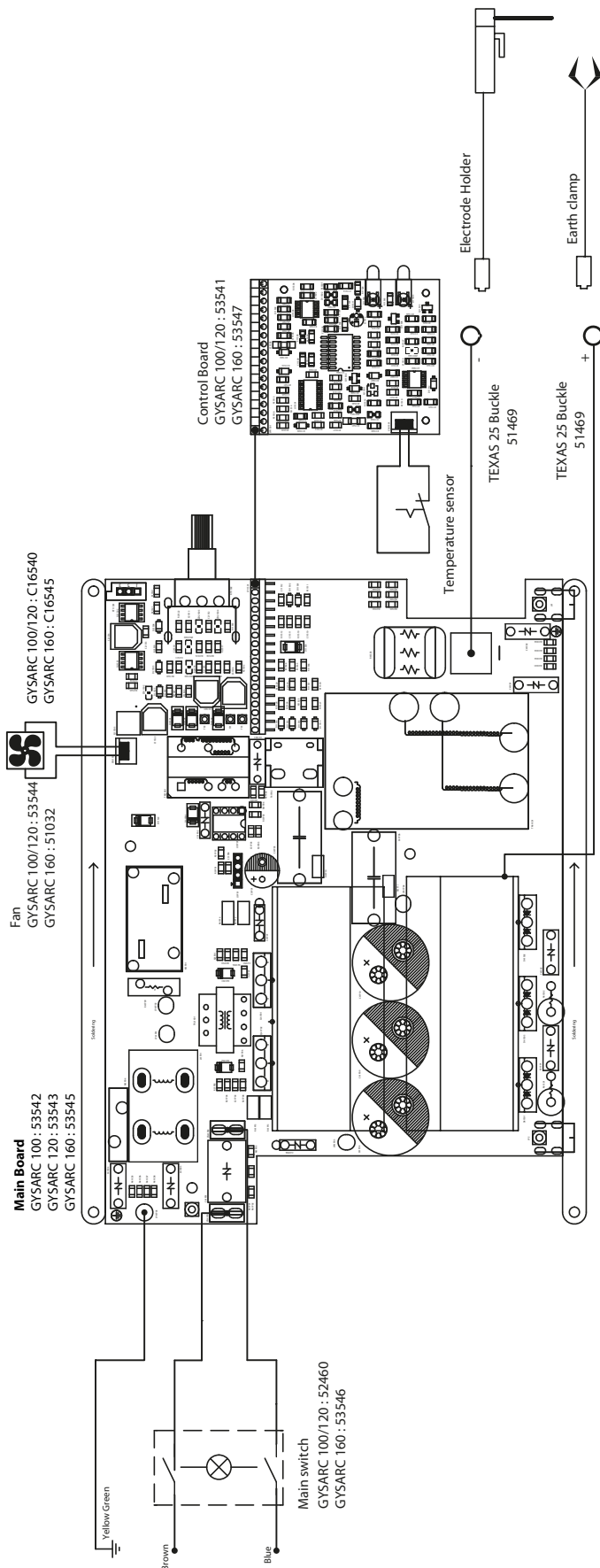
**SCHÉMA ÉLECTRIQUE / CIRCUIT DIAGRAM / STROMLAUFPLAN / ESQUEMA ELÉCTRICO /  
ЭЛЕКТРИЧЕСКАЯ СХЕМА / ELEKTRISCH SCHEMA / SCHEMA ELETTRICO / SCHEMAT ELEKTRYCZNY /  
ELEKTRICKÁ SCHÉMA**

GYSARC 80 / 100



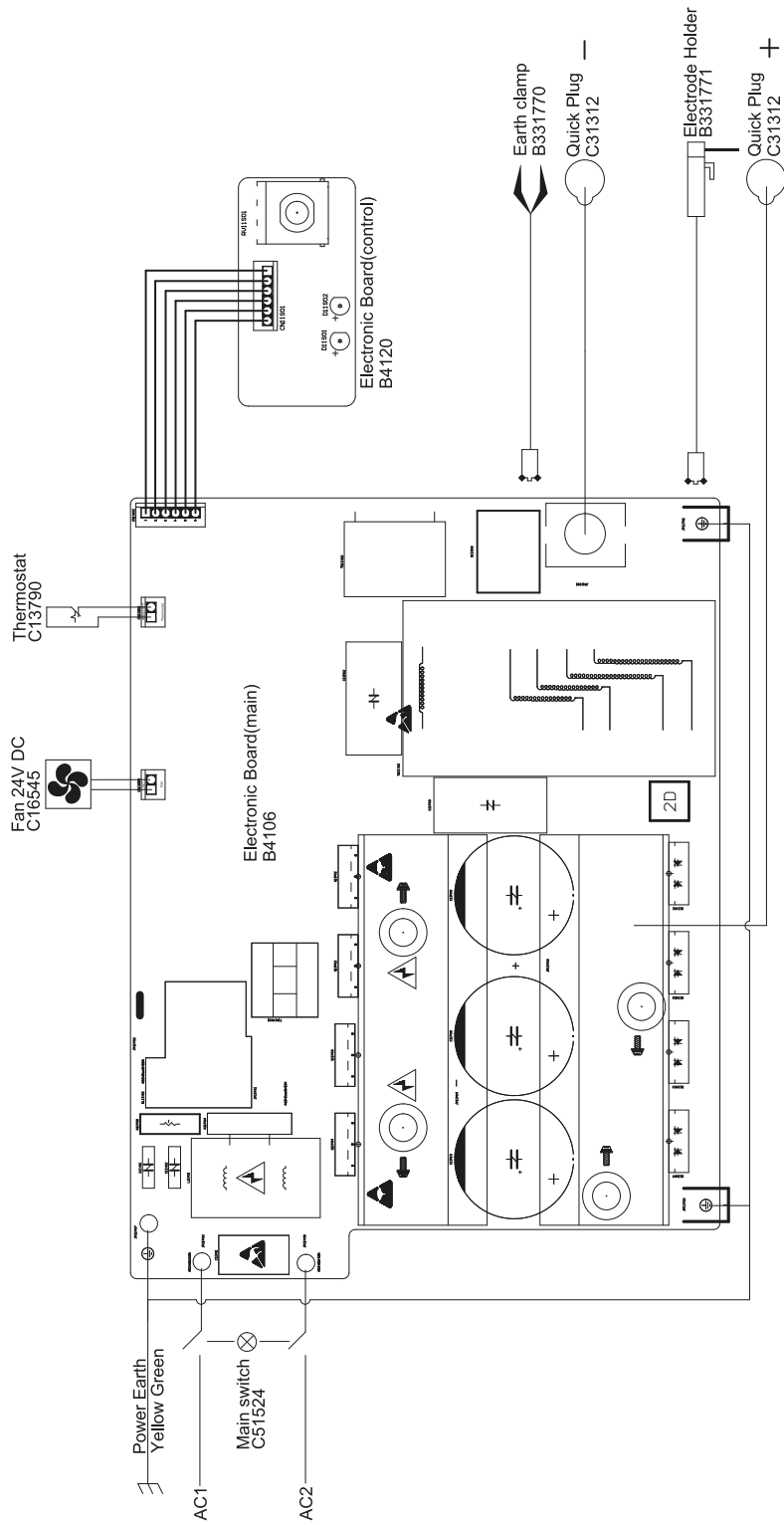
**SCHÉMA ÉLECTRIQUE / CIRCUIT DIAGRAM / STROMLAUFPLAN / ESQUEMA ELÉCTRICO / ЭЛЕКТРИЧЕСКАЯ СХЕМА / ELEKTRISCH SCHEMA / SCHEMA ELETTTRICO / SCHEMAT ELEKTRYCZNY / ELEKTRICKÁ SCHÉMA**

GYSARC 120 / 160



**SCHÉMA ÉLECTRIQUE / CIRCUIT DIAGRAM / STROMLAUFPLAN / ESQUEMA ELÉCTRICO / ЭЛЕКТРИЧЕСКАЯ СХЕМА / ELEKTRISCH SCHEMA / SCHEMA ELETTRICO / SCHEMAT ELEKTRYCZNY / ELEKTRICKÁ SCHÉMA**

GYSARC 200




**SPÉCIFICATIONS TECHNIQUES / TECHNICAL SPECIFICATIONS / TECHNISCHE DATEN /  
 ESPECIFICACIONES TÉCNICAS / ТЕХНИЧЕСКИЕ СПЕЦИФИКАЦИИ / TECHNISCHE GEGEVENS /  
 SPECIFICHE TECNICHE / DANE TECHNICZNE / TECHNICKÉ VLASTNOSTI**

	80	100	120	160	200		
Primaire / Primary / Primär / Primario / Первичка / Primaire / Primario / Podstawowy							
Tension d'alimentation / Power supply voltage / Stromversorgung / Tensión de red eléctrica / Напряжение питания / Voedingsspanning / Tensione di alimentazione / Napięcie zasilania	230 V +/- 15%						
Fréquence secteur / Mains frequency / Netzfrequenz / Frecuencia / Частота сети / Freqventie sector / Frecuenza settore / Częstotliwość sieci zasilania	50 / 60 Hz						
Nombre de phases / Number of phases / Anzahl der Phasen / Número de fases / Количество фаз / Aantal fasen / Numero di fase / Liczba faz	1						
Fusible disjoncteur / Fuse / Sicherung / Fusible disyuntor / Fusible disyuntor / Плавкий предохранитель прерывателя / Zekering hoofdschakelaar / Fusibile disgiuntore / Wyłącznik bezpieczników	10 A	16 A	16 A	16 A	32 A		
Courant d'alimentation effectif maximal I <sub>1eff</sub> / Maximum effective supply current I <sub>1eff</sub> / Corriente de alimentación efectiva máxima I <sub>1eff</sub> / Maximale effectieve voedingsstroom I <sub>1eff</sub> / Corrente di alimentazione effettiva massima I <sub>1eff</sub> / Maksymalny efektywny prąd zasilania I <sub>1eff</sub>	7 A	7 A	10 A	14.5 A	15 A		
Courant d'alimentation maximal I <sub>1max</sub> / Maximum supply current I <sub>1max</sub> / Corriente de alimentación máxima I <sub>1max</sub> / Maximale voedingsstroom I <sub>1max</sub> / Corrente di alimentazione massima I <sub>1max</sub> / Maksymalny prąd zasilania I <sub>1max</sub>	16 A	19 A	23 A	34 A	44 A		
Section du cordon secteur / Mains cable section / Sectie netsnoer / Sección del cable de alimentación / Sezione del cavo di alimentazione / Odcinek przewodu zasilającego	3 x 1.5 mm <sup>2</sup>	3 x 1.5 mm <sup>2</sup>	3 x 1.5 mm <sup>2</sup>	3 x 1.5 mm <sup>2</sup>	3 x 2.5 mm <sup>2</sup>		
Puissance active maximale consommée / Maximum active power consumed / Consumo máximo de energía activa / Maximale actieve verbruikte vermogen / Potenza attiva massima consumata / Maksymalny pobór mocy czynnej	2192 W	2747 W	3506 W	5053 W	6531 W		
Consommation au ralenti / Idle consumption / Consumo en ralentizado / Stationair verbruik / Consumo al mínimo / Zużycie na biegu jałowym	30 W	35 W	50 W	48 W	49 W		
Rendement à I <sub>2max</sub> / Efficiency at I <sub>2max</sub> / Eficiencia a I <sub>2máx</sub> / Rendement bij I <sub>2max</sub> / Eficiencia a I <sub>2max</sub> / Sprawność przy I <sub>2max</sub>	84.6 %	87.3 %	84.8 %	83.5 %	84.73 %		
Facteur de puissance à I <sub>2max</sub> (λ) / Power factor at I <sub>2max</sub> (λ) / Factor de potencia a I <sub>2max</sub> (λ) / Inschakelduur bij I <sub>2max</sub> (λ) / Ciclo di potenza a I <sub>2max</sub> (λ) / Współczynnik mocy przy I <sub>2max</sub> (λ)	0.62	0.62	0.63	0.63	0.64		
Classe CEM / EMC class / Classe CEM / Klasse CEM / Classe CEM / Klasa EMC	A						
Secondaire / Secondary / Sekundär / Secundario / Вторичка / Secondair / Secundario / Zapasowy							
Tension à vide / No load voltage / Leerlaufspannung / Tensión al vacío / Напряжение холостого хода / Nulllastspanning / Tensione a vuoto / Napięcie próżniowe	63 V	63 V	63 V	63 V	64 V		
Nature du courant de soudage / Type of welding current / Tipo de corriente de soldadura / Type lasroom / Tipo di corrente di saldatura / Rodzaj prądu spawania	DC	DC	DC	DC	DC		
Modes de soudage / Welding modes / Modos de soldadura / Lasmodules / Modalità di saldatura / Tryby spawania	MMA	MMA	MMA	MMA	MMA		
Courant de soudage minimal / Minimum welding current / Corriente mínima de soldadura / Minimale lasroom / Corrente minima di saldatura / Minimalny prąd spawania	10	10	10	10	20		
Courant de sortie nominal (I <sub>2</sub> ) / Normal current output (I <sub>2</sub> ) / nominaler Ausgangsstrom (I <sub>2</sub> ) / Corriente de salida nominal (I <sub>2</sub> ) / Номинальный выходной ток (I <sub>2</sub> ) / Nominale uitgangsstroom (I <sub>2</sub> ) / Corrente di uscita nominale (I <sub>2</sub> ) / Nominalny prąd wyjściowy (I <sub>2</sub> )	10 → 80 A	10 → 100 A	10 → 120 A	10 → 160 A	20 → 200 A		
Tension de sortie conventionnelle (U <sub>2</sub> ) / Conventional voltage output (U <sub>2</sub> ) / entsprechende Arbeitsspannung (U <sub>2</sub> ) / Tensión de salida convencional (U <sub>2</sub> ) / Условное выходные напряжения (U <sub>2</sub> ) / Conventionele uitgangsspanning (U <sub>2</sub> ) / Tensione di uscita convenzionale (U <sub>2</sub> ) / Konwencjonalne napięcie wyjściowe (U <sub>2</sub> )	20.4 → 23.2 V	20.4 → 24 V	20.4 → 24.8 V	20.4 → 26.4 V	20.8 → 28 V		
Facteur de marche à 40°C (10 min)* Norme EN60974-1. Duty cycle at 40°C (10 min)* Standard EN60974-1. Einschaltdauer @ 40°C (10 min)* EN60974-1 -Norm. Ciclo de trabajo a 40°C (10 min)* Norma EN60974-1	PВ% при 40°C (10 мин)* Norma EN60974-1. Inschakelduur bij 40°C (10 min)* Norm EN60974-1. Ciclo di lavoro a 40°C (10 min)* Norma EN60974-1. Cykl pracy w 40°C (10 min)* Norma EN60974-1.	I <sub>max</sub> 60%	20 % 50 A	14 % 50 A	20 % 70 A	10 % 85 A	10 % 90 A
	100%	35 A	35 A	55 A	70 A	80 A	
Température de fonctionnement / Functioning temperature / Betriebstemperatur / Temperatura de funcionamiento / Рабочая температура / Gebruikstemperatuur / Temperatura di funzionamento / Temperatura urządzenia podczas pracy	-10°C → +40°C						
Température de stockage / Storage temperature / Lagerungstemperatur / Temperatura de almacenaje / Температура хранения / Bewaartemperatuur / Temperatura di stoccaggio / Temperatura przechowywania	-20°C → +55°C						
Degré de protection / Protection level / Schutzgrad / Grado de protección / Степень защиты / Beschermingsklasse / Grado di protezione / Stopień ochrony	IP21	IP21	IP21	IP21	IP21		
Classe d'isolation minimale des enroulements / Minimum coil insulation class / Clase mínima de aislamiento del bobinado / Minimale isolatieklasse omwikkelingen / Classe minima di isolamento degli avvolgimenti / Minimalna klasa izolacji okablowania	F	F	F	F	F		
Dimensions (Lxlxh) / Dimensions (Lxlxh) / Abmessung (LxBxH) / Dimensiones (Lxlxh) / Размеры (ДхШхВ) / Afmetingen (Lxlxh) / Dimensioni (Lxlxh) / Wymiary (DxSxW)	21 × 13 × 10 cm		23 × 15 × 10 cm		27 × 11 × 16.5 cm		
Poids / Weight / Gewicht / Peso / Bec / Gewicht / Peso / Waga	2 kg		2.7 kg	2.9 kg	3.6 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 le matériel alimenté pour permettre son refroidissement jusqu'à annulation de la protection.  
 La source de courant de soudage décrit une caractéristique de sortie tombante.


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

While under intensive use (> to duty cycle) the thermal protection can turn on, in that case, the arc switches off and the indicator  switches on. Keep the machine's power supply on to enable cooling until thermal protection cancellation. The welding power source describes an external drooping characteristic.


\*Einschaltdauer gemäß EN60974-1 (10 Minuten - 40°C).

Bei sehr intensivem Gebrauch (>Einschaltdauer) 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. Das Gerät entspricht in seiner Charakteristik einer Spannungsquelle mit fallender Kennlinie.


\*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 (superior al 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 enfríe hasta que se anule la protección. La fuente de corriente de soldadura posee una salida de tipo corriente constante.


\*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. Источник сварочного тока описывает падающую внешнюю характеристику.


\*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. Het beschreven lasapparaat heeft een output karakteristiek van «constante flat» type.


\*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. Lasciate il dispositivo collegato per permettere il suo raffreddamento fino all'annullamento della protezione. La fonte di corrente di saldatura presenta una caratteristica di uscita spiovente.






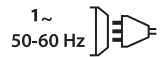
\*Te cykle robocze wykonane są zgodnie z normą EN60974-1 w temperaturze 40°C i w cyklu 10 min.

Przy intensywnym użytkowaniu (> cykl pracy) może włączyć się ochrona termiczna, w tym przypadku, wyłącza się łuk i zapala się kontrolka . Należy pozostawić urządzenie podłączone do prądu w celu umożliwienia jego schłodzenia, aż do momentu, gdy wyłączy się zabezpieczenie / ochrona termiczna. Źródło prądu spawania opisuje spadającą charakterystykę wyjściową.

\* Pracovní cykly jsou realizovány podle normy EN60974-1 při 40 ° C a v cyklu 10 min.

V případě intenzivního používání (> pracovní cyklus) může dojít k aktivaci tepelné ochrany, v takovém případě se oblouk vypne je zhasnuta a  rozsvítí se lampa. Nechte přístroj připojený, aby se mohl ochladit, až kontrolka zhasne. Zdroj s klesající výstupní charakteristikou.

## ICÔNES / SYMBOLS / ZEICHENERKLÄRUNG / SÍMBOLOS / СИМВОЛЫ / PICTOGRAMMEN / ICONA / IKONY / VYSVĚTLENÍ SYMBOLŮ

	- 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. - Uwaga! Przed użyciem należy dokładnie zapoznać się z instrukcją obsługi. - Pozor! Přečtete si prosím pozorně tento návod k obsluze před použitím.
	- Convertisseur monophasé - Single phase inverter, converter-rectifier - Einphasiger statischer Frequenzumformer/ Trafo/ Gleichrichter - Convertidor monofásico transformador-rectificador - Однофазный преобразователь, трансформатор-выпрямитель - Enkel fase omvormer - Trasformatore monofase - Jednofázový transformátor/frekvenční měnič
	- Soudage à l'électrode enrobée (MMA – Manual Metal Arc) - Electrode welding (MMA – Manual Metal Arc) - Schweißen mit umhüllter Elektrode (E-Handschiessen) - Soldadura con electrodo revestido (MMA - Manual Metal Arc) - Ручная дуговая сварка (MMA – Manual Metal Arc) - Booglassen met beklede elektrode (MMA – Manual Metal Arc) - Saldatura ad elettrodo rivestito (MMA – Manual Metal Arc) - Spawanie elektrodami otulonymi (MMA - Manual Metal Arc) - Svařování obalenou elektrodou (MMA - Manual Metal Arc)
	- 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. - Nadaje się do spawania w środowisku o zwiększonym ryzyku porażenia prądem. Samo źródło prądu nie może jednak być umieszczone w tego typu pomieszczeniach. - Vhodné pro svařecké práce v oblasti se zvýšenými elektrickými riziky. Nicméně by zdroj nemusel být nutně provozován v těchto oblastech.
	Courant de soudage continu - Welding direct current - Gleichschweisstrom - La corriente de soldadura es continua - Сварка на постоянном токе - Continue lasroom - Corrente di saldatura continua - Staly prąd spawania - Stejnoseměrný svařecí proud
U0	Tension assignée à vide - Rated no-load voltage - Leerlaufspannung - Tensión asignada de vacío - Напряжение холостого хода - Nulllastspanning - Tensione nominale a vuoto - Znamionowe napięcie próżniowe - Napětí naprázdno
X(40°C)	X : Facteur de marche à ...% - X : duty cycle at ...% - X : Einschaltdauer ...% - X : Factor de funcionamiento de ...% - X : Продолжительность включения ...% - X : Inschakelduur bij ...% - X : Ciclo di lavoro a ...% - X : Cykl pracy wynosi...% - X : Pracovní cyklus při ...%
I2	I2 : courant de soudage conventionnel correspondant - I2 : corresponding conventional welding current - I2 : entsprechender Schweißstrom - I2 : Corrientes correspondientes - I2 : соответствующий условный сварочный ток - I2 : overeenkomstige conventionele lasroom - I2 : corrente di saldatura convenzionale corrispondente - Odpowiedni prąd spawania konwencjonalnego - I2 : odpowiadający konwenčni svařovací proud
A	Ampères - Amps - Ampere - Amperio - Ампер - Ampère - Amper - Amperey - Ampér
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 - Napięcia konwencjonalne przy odpowiednich obciążeniach - U2 : Příslušné svařovací napětí
V	Volt - Volt - Volt - Voltios - Вольт - Volt - Volt - Volt - Volt
Hz	Hertz - Hertz - Hertz - Hertz - Герц - Hertz - Hertz - Herc - 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 - Zasilanie jednofazowe 50 lub 60Hz - Jednofázové napájení 50 nebo 60Hz

<p>U1</p>	<p>Tension assignée d'alimentation - rated supply voltage - Netzspannung - Tensión de la red - Напряжение сети - Nominale voedingsspanning - Tensione nominale d'alimentazione - Napięcie znamionowe zasilania - Konvenční napájecí napětí</p>
<p>I1max</p>	<p>- Courant d'alimentation assigné maximal (valeur efficace) - Rated maximum supply current (effective value) - Maximaler Versorgungsstrom (Effektivwert) - Corrente massima de alimentacion de la red - Максимальный сетевой ток (эффективная мощность) - Maximale nominale voedingsstroom (effectieve waarde) - Corrente d'alimentazione nominale massima (valore effettivo) - Maksymalny prąd znamionowy zasilania (wartość skuteczna) - Maximální napájecí proud (efektivní hodnota)</p>
<p>I1eff</p>	<p>- 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 - Maksymalny skuteczny prąd zasilania - Maximální skutečný napájecí proud</p>
<p>CE</p>	<p>- 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 internet site. - Dispositivo in conformità con le norme europee. La dichiarazione di conformità è disponibile sul nostro sito internet. - Urządzenie spełnia wymagania dyrektyw Unii Europejskiej. Deklaracja zgodności dostępna jest na naszej stronie internetowej. - Zařízení odpovídá evropským směrnicím. Prohlášení o shodě je dostupné na našich webových stránkách</p>
<p>EN60974-1 EN60974-10 Class A</p>	<p>- 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. - Urządzenie to jest zgodne z normą EN60974-1, EN60974-10 i Klasą A. - Zařízení splňuje normy EN60974-1, EN60974-10 a třídu A</p>
	<p>- Produit faisant l'objet d'une collecte sélective- Ne pas jeter dans une poubelle domestique ! - Separate collection required - Do not throw in a domestic dustbin - Getrennt entsorgen. Nicht mit Hausmüll entsorgen. - Este aparato es objeto de una recolección selectiva. No debe ser tirado en un cubo doméstico. - Продукт требует специальной утилизации. Не выбрасывать с бытовыми отходами. - Afzonderlijke inzameling vereist. Gooi niet in het huishoudelijk afval. - Prodotto soggetto alla raccolta differenziata - Non buttare nei rifiuti domestici. - Produkt należy oddać do utylizacji sprzętu elektronicznego - Nie wyrzucać do zwykłego kosza! - Produkty pro tříděný sběr odpadu- Nelikvidujte toto zařízení do domácího odpadu.</p>
<p>EAC</p>	<p>- 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 (Euraziatiscche Economische Gemeenschap) merktken van overeenstemming. - Marca di conformità EAC (Comunità Economica Eurasiatica) - Znak zgodności EAC (Eurozajtyckiej wspólnoty Gospodarczej) - V souladu s normou EAC.</p>
	<p>- 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) - Informacja o temperaturze (ochrona termiczna) - Informace o teplotě (teplná ochrana)</p>
	<p>- Produit recyclable qui relève d'une consigne de tri - This product should be recycled appropriately - Produkt muss getrennt entsorgt 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. - Produkt nadaje się do recyklingu zgodnie z instrukcjami sortowni - Produkty pro tříděný sběr odpadu</p>
	<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) - Urządzenie zgodne z standardami marokańskimi. Deklaracja zgodności C<sub>o</sub> (CMIM) jest dostępna na naszej stronie internetowej (patrz strona tytułowa). - Materiál v souladu s marockými normami. Prohlášení o shodě C<sub>o</sub> (CMIM) je k dispozici na našich webových stránkách (viz titulóvní strana).</p>
<p>UK CA</p>	<p>- Matériel conforme aux exigences britanniques. La déclaration de conformité britannique est disponible sur notre site (voir à la page de couverture). - Material complies with British requirements. The British Declaration of Conformity is available on our website (see cover page). - Die Ausrüstung entspricht den britischen Anforderungen. Die britische Konformitätserklärung ist auf unserer Website verfügbar (siehe Deckblatt). - El equipo cumple con los requisitos británicos. La Declaración de Conformidad del Reino Unido está disponible en nuestra página web (ver página de portada). - Материал соответствует требованиям Великобритании. Заявление о соответствии для Великобритании доступно на нашем веб-сайте (см. главную страницу) - De apparatuur voldoet aan de Britse eisen. De UK-verklaring van overeenstemming is beschikbaar op onze website (zie voorpagina). - L'attrezzatura soddisfa i requisiti britannici. La dichiarazione di conformità del Regno Unito è disponibile sul nostro sito web (vedi copertina). - Sprzęt spełnia wymagania brytyjskie. Brytyjska deklaracja zgodności jest dostępna na naszej stronie internetowej (patrz strona tytułowa). - Materiál odpovídá požadavkům Spojeného království. Prohlášení o shodě Spojeného království je k dispozici na našich webových stránkách (viz hlavní strana).</p>
<p>X (Gys)</p>	<p>Nombre d'électrodes normalisées soudables en 1 heure en continu, avec 20 secondes entre chacune, divisé par le nombre d'électrodes soudables dans les mêmes conditions sans disjonction thermique. / Number of standard electrodes that can be welded continuously in 1 hour, with a 20s stop time between each electrode, divided by the number of weldable electrodes under the same conditions without any thermal protection activating. / Anzahl an Elektroden, die innerhalb einer Arbeitsstunde verschweißt werden können, geteilt durch Elektroden- Anzahl die tatsächlich verschweißt wurden (Abkühlphasen des Geräts). / Número de electrodos que se pueden soldar en una hora con un tiempo de pausa de 20s entre cada electrodo dividido por el número de electrodos soldables en las mismas condiciones sin disyunción térmica. / Нормализованное количество использованных электродов за 1 час, с перерывом на 20 сек между электродами, разделенное на количество электродов использованных при таких же условиях без включения защиты от перегрева. / Aantal gestandaardiseerde elektroden lasbaar in 1 uur continu, met 20 seconden tussen elke elektrode, gedeeld door het aantal elektroden lasbaar bij dezelfde omstandigheden zonder thermische uitschakeling. / Numero di elettrodi alla norma saldabili in 1 ora continuata, con 20 secondi di pausa fra ogni elettrodo, diviso per il numero di elettrodi saldabili nelle stesse condizioni senza arresto termico. / Liczba standardowych elektrod, które można zgrzać w ciągu 1 godziny w sposób ciągły, z 20 sekundową przerwą między kolejnymi, podzielona przez liczbę elektrod, które można zgrzać w tych samych warunkach bez rozłączenia termicznego. / Počet standardních elektrod, se kterými lze svařovat za jednu hodinu s přestávkami 20 sekund mezi každou elektrodou, vydělený počtem elektrod, se kterými bylo skutečně svařováno bez fáze chlazení zařízení.</p>
<p># Electrodes</p>	<p>Nombre d'électrodes normalisées soudables en 1 heure, à 20°C, avec un temps d'arrêt de 20 s. entre chaque électrode. / Number of standard electrodes that can be welded in 1 hour, at 20°C, with a 20s stop time between each electrode. / Anzahl der Standard-Elektroden, die in 1 Stunde bei 20°C verschweißt werden können mit einer Pause von 20s zwischen jeder Elektrode. / Número de electrodos que se pueden soldar en una hora a 20°C de temperatura con un tiempo de pausa de 20s entre cada electrodo. / Нормализованное количество использованных электродов за 1 час при 20°C с перерывом на 20 сек между электродами. / Aantal gestandaardiseerde elektroden lasbaar in 1 uur, bij 20°C, met een pauze van 20 s. tussen iedere elektrode. / Numero di elettrodi a norma saldabili in 1 ora, a 20°C, con un intervallo di 20 s. tra ogni elettrodo. / Liczba możliwych do zgrzania elektrod standardowych w ciągu 1 godziny, w temperaturze 20°C, z 20-sekundowym czasem przerwy pomiędzy każdą elektrodą. / Počet normalizovaných elektrod, které lze svařit za 1 hodinu při 20 °C s dobou prodlevy 20 sekund mezi jednotlivými elektrodami.</p>



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