

PROJECT 1800 HF



Operator's manual

READ CAREFULLY



**WELDING
TOGETHER**

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Introduction

Thank you for buying our product.

In order to get the best performance out of the plant and ensure the maximum lifespan of its parts, the use and maintenance instructions contained in this manual must be read and strictly complied with, as well as **the safety instructions contained in the relevant folder**. If repairs to the plant are required, we recommend that our clients contact our service centre work-shops, as they have the necessary equipment and personnel that are specifically trained and constantly updated.

All our machines and equipment are constantly developed and so changes may be made in terms of their construction and features.

Description

The **PROJECT 1800 HF** is the latest evolution of direct current welding generators, using INVERTER technology. This powerful generator, based on latest generation IGBT, can be used for TIG welding of all metals, excepting aluminium and its alloys. **PROJECT 1800 HF**, also excellent for electrode welding, with its lightness and compactness and first-rate welding characteristics, is ideal for using for maintenance, erection and light steel structural works.

Main features are:

- Precise and efficient TIG arc striking by high frequency.
- High performance on thin metal sheets.
- Automatic compensation for mains voltage within.
- Low energy consumption and high efficiency.
- The inverter resists ample current variations and can be utilized with very long electric cables.
- Innovative and compact design.
- Load bearing structure in impact-resistant material.
- Control panel protected against accidental impact.
- Robust handle integrated into the chassis.
- Neck strap built into the equipment.
- Clearly visible front panel from any angle, for easy reading and setting of parameters.
- Reduced weight and dimensions, easy-to-carry.
- The generator also conforms to all European Union standards and directives in force.

Technical data

The general technical data of the system are summarized in table 1.

Table 1

| Model | PROJECT 1800 HF | |
|--|--|-----------------------|
| | TIG DC | MMA |
| Single-phase power supply 50/60 Hz | V | 230 |
| Mains supply: Z_{max} (*) | Ω | 0,22 |
| Power input @ I_2 Max | kVA | 6 8,3 |
| Delayed fuse (I_2 @ 100%) | A | 16 |
| Power factor / $\cos\phi$ | | 0,66 / 0,99 |
| Maximum efficiency degree | η | 0,82 0,84 |
| Open circuit voltage | V | 62 |
| Current range | A | 5÷180 5÷160 |
| Duty cycle @ 100% (40°C) | A | 100 |
| Duty cycle @ 60% (40°C) | A | 125 |
| Duty cycle @ X% (40°C) | A | 180 (25%) 160 (30%) |
| Standards | IEC 60974-1 IEC 60974-3 IEC 60974-10 CE S | |
| Insulation class | IP 23 S | |
| Protection class | F | |
| Dimensions  | mm | 385-230-140 |
| Weight | kg | 8 |

(*) Mains supply Z_{max} : maximum impedance value allowed for the grid according to the EN/IEC 61000-3-11 standard.

WARNING: This equipment does not comply with EN/IEC 61000-3-12. If it is connected to a public low voltage system, it is the responsibility of the installer or user of the equipment to ensure, by consultation with the distribution network operator if necessary, that the equipment may be connected.

Usage limits (IEC 60974-1)

The use of a welder is typically discontinuous, in that it is made up of effective work periods (welding) and rest periods (for the positioning of parts, the replacement of wire and underflushing operations etc. This welder is dimensioned to supply a I_2 max nominal current in complete safety for a period of work of 25% of the total usage time. The regulations in force establish the total usage time to be 10 minutes. The work cycle is considered to be 25% of this period of time. If the permitted work cycle time is exceeded, an overheat cut-off occurs to protect the components around the welder from dangerous overheating. Intervention of the overheat cut-off is indicated by the lighting up of yellow thermostat LED. After several minutes the overheat cut-off rearms automatically (and the yellow LED turns itself off) and the welder is ready for use again. This generator is constructed in compliance with the IP 23 S protection level, meaning:

- That it is protected against the penetration of solid foreign bodies with diameters in excess of \varnothing 12 mm.
- That it is protected against water spray hitting the surface with an angle of incidence up to 60°.
- That the welding machine has been tested for withstanding harmful effects due to water getting in when the moving parts on the equipment are moving.

Installation

The installation site for the system must be carefully chosen in order to ensure its satisfactory and safe use.

The user is responsible for the installation and use of the system in accordance with the producer's instructions contained in this manual.

Before installing the system the user must take into consideration the potential electromagnetic problems in the work area. In particular, we suggest that you should avoid installing the system close to:

- Signalling, control and telephone cables.
- Radio and television transmitters and receivers.
- Computers and control and measurement instruments.
- Security and protection instruments.

Persons fitted with pace-makers, hearing aids and similar equipment must consult their doctor before going near a machine in operation. The equipment's installation environment must comply to the protection level of the frame i.e. IP 23 S (IEC 60529 publication). The system is capable of working in environments where working conditions are particularly hard. This system is cooled by means of the forced circulation of air, and must therefore be placed in such a way that the air may be easily sucked in and expelled through the apertures made in the frame.

Connection to the electrical supply

Before connecting the welder to the electrical supply, check that the machine's plate rating corresponds to the supply voltage and frequency and that the line switch of the welder is in the "O" position.

Use the welder's own plug to connect it up to the main power supply. Proceed as follows if you have to replace the plug:

- 2 conducting wires are needed for connecting the machine to the supply
- The third, which is YELLOW GREEN in colour is used for making the "EARTH" connection.

PROJECT 1800 HF works with circuit breaker or fusible power switches.

Table 2 shows the recommended load values for retardant supply fuses.

Table 2

| Model | PROJECT 1800 HF | |
|------------------------------|--------------------|-------------------------|
| | TIG DC | MMA |
| Power input @ I_2 Max | kVA | 6 8,3 |
| Delayed fuse (I_2 @ 100%) | A | 16 |
| Duty cycle @ X% (40°C) | A | 180 (25%)* 160 (30%)* |
| Supply connection cable | | |
| Length | m | 3 |
| Section | mm ² | 2,5 |
| Earth cable | | |
| Section | mm ² | 16 |

* Factor of efficiency

NOTE 1: Any extensions to the power cable must be of a suitable diameter, and absolutely not of a smaller diameter than the special cable supplied with the machine.

NOTE 2: It is not advisable to plug up the welder to motor-driven generators, as they are known to supply an unstable voltage.

Usage norms

CONTROL APPARATUS (Fig. A)

- Pos. 1 Supply switch. In the "O" position the welder is off.
- Pos. 2 Weld gas inlet coupling.
- Pos. 3 Welder cable.
- Pos. 4 Fast coupling TIG torch gas tube .
- Pos. 5 Fast coupling reverse polarity .
- Pos. 6 TIG connector torch button.
- Pos. 7 Fast coupling straight polarity.

FRONT PANEL (Fig. B)

- Pos. 1 Welding current adjust potentiometer:
 - MMA = 5÷160 A
 - TIG = 5÷180 A
- Pos. 2 Potentiometer, for regulating the following parameters:
 - **MMA**
ARC FORCE setting for better dynamic characteristics of the welding arc.
The HOT START function is a default setting in the equipment. This increases the welding current, in percentage terms, for a time interval that can be set at the start of the welding process, thereby reducing the risk of poor fusion at the start of the joint.
 - **TIG**
Time adjustment for the SLOPE DOWN (0÷10 sec).
- Pos. 3 Selector:
 - 2 strokes TIG
 - 4 strokes TIG
 - MMA ELECTRODE
- Pos. 4 "TIG welding process" selector:
 - TIG "HF" for TIG weld with high frequency arc strike.
 - "Lift" type TIG for "Lift" type TIG weld without high frequency.
- Pos. 5 Yellow THERMOSTAT LED. When this LED switches on it indicates that the trip switch has tripped because you are working beyond the work cycle. Wait for a few minutes before starting to weld again. This LED also switches on in the following cases:
 - Under voltage. Power supply voltage too low.
 - Over voltage. Power supply voltage too high.
 - Over current. Welding current too high.
- Pos. 6 White LED POWER ON. When this LED is on, it means that the power supply to the welding machine is on, and it is ready to work.



FIG. A

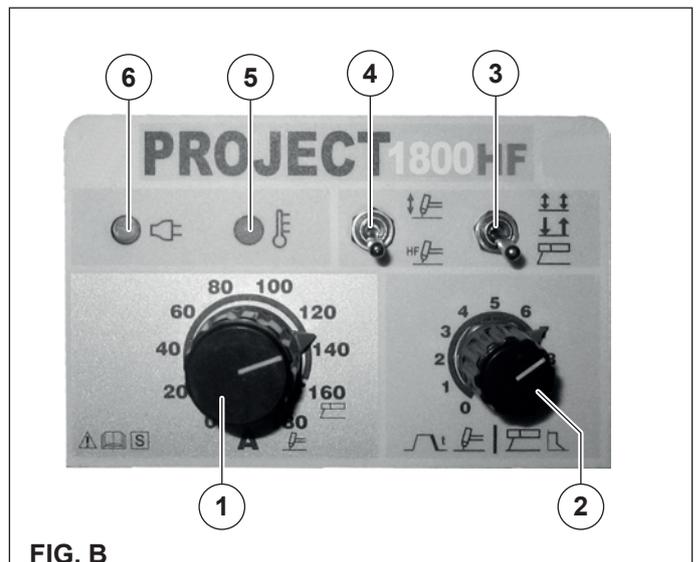


FIG. B

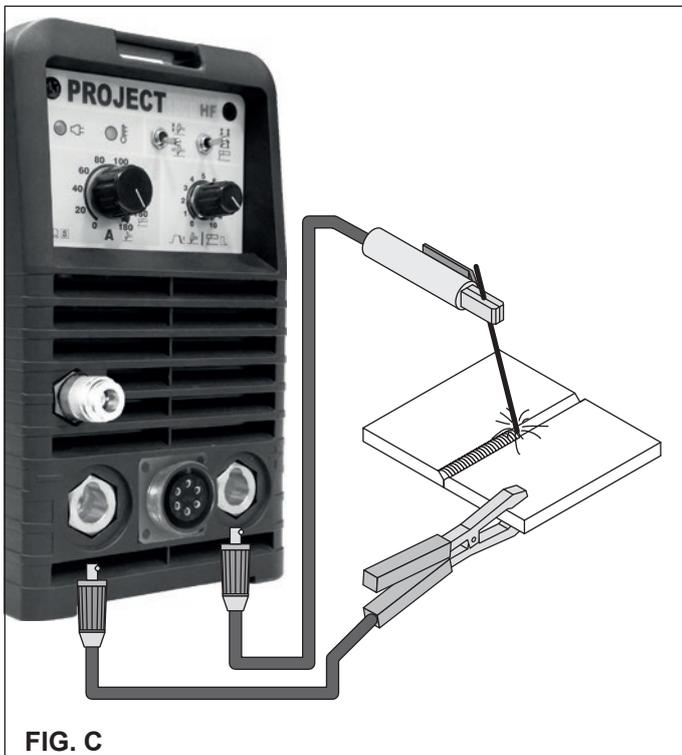


FIG. C

MMA electrode welding (Fig. C)

Electrode welding is used to weld most metals (different types of steel, etc.) using coated rutilic and basic electrodes with diameters ranging from Ø 1.6 mm to Ø 4 mm.

- 1) Connecting the welding cables:
Disconnect the machine from the mains power supply and connect the welding cables to the output terminals (Positive and Negative) of the welding machine, attaching them to the clamp and earth with the polarity specified for the type of electrode being used (Fig. C). Always follow the electrode manufacturer's instructions. The welding cables must be as short as possible, they must be near to one another, positioned at or near floor level.
- 2) Adjust the welding current using the potentiometer (Pos. 1, Fig. B).
- 3) Turn the process selector (Pos. 3, Fig. B) to the ELECTRODE position.
- 4) Start the welding machine by selecting position 1 on the line switch (Pos. 1, Fig. A).
- 5) The white LED (Pos 6, Fig. B) shows that the power supply to the welding machine is on, and it is ready to work.
- 6) Carry out welding by moving the torch to the workpiece. Strike the arc (press the electrode quickly against the metal and then lift it) to melt the electrode, the coating of which forms a protective residue. Then continue welding by moving the electrode from left to right, inclining it by about 60° compared with the metal in relation to the direction of welding.
- 7) The dynamic characteristic of the welding arc can be refined, using the ARC FORCE potentiometer (Pos. 2, Fig. B).

WARNING: During the welding time, if the electrode adheres to the workpiece for longer than 2 seconds, the welding current automatically drops to 0A.

PART TO BE WELDED

The part to be welded must always be connected to earth in order to reduce electromagnetic emission. Much attention must be afforded so that the earth connection of the part to be welded does not increase the risk of accident to the user or the risk of damage to other electric equipment. When it is necessary to connect the part to be welded to earth, you should make a direct connection between the part and the earth shaft. In those countries in which such a connection is not allowed, connect the part to be welded to earth using suitable capacitors, in compliance with the national regulations.

WELDING PARAMETERS

Table 3 shows some general indications for the choice of electrode, based on the thickness of the parts to be welded. The values of current to use are shown in the table with the respective electrodes for the welding of common steels and low-grade alloys. These data have no absolute value and are indicative data only. For a precise choice follow the instructions provided by the electrode manufacturer.

Table 3

| WELDING THICKNESS (mm) | Ø ELECTRODE (mm) |
|------------------------|------------------|
| 1,2 ÷ 2 | 1,6 |
| 1,5 ÷ 3 | 2 |
| 3 ÷ 5 | 2,5 |
| 5 ÷ 12 | 3,2 |
| ≥ 12 | 4 |

The current to be used depends on the welding positions and the type of joint, and it increases according to the thickness and dimensions of the part.

The current intensity to be used for the different types of welding, within the field of regulation shown in table 4 is:

- High for plane, frontal plane and vertical upwards welding.
- Medium for overhead welding.
- Low for vertical downwards welding and for joining small pre-heated pieces.

Table 4

| Ø ELECTRODE (mm) | CURRENT (A) |
|------------------|-------------|
| 1,6 | 30 ÷ 60 |
| 2 | 40 ÷ 75 |
| 2,5 | 60 ÷ 110 |
| 3,2 | 95 ÷ 140 |
| 4 | 140 ÷ 190 |

A fairly approximate indication of the average current to use in the welding of electrodes for ordinary steel is given by the following formula:

$$I = 50 \times (\text{Ø}e - 1)$$

Where:

I = intensity of the welding current

Øe = electrode diameter

Example:

For electrode diameter 4 mm

$$I = 50 \times (4 - 1) = 50 \times 3 = 150A$$

TIG welding (Fig. D-E-F-G)

In the TIG process welding is achieved by melting the two metal pieces to be joined, with the possible addition of material from the outside, using an arc ignited by a tungsten electrode. The molten bath and the electrode are protected by an inert gas (e.g. Argon, and a flow rate of around 8-14 litres per minute). If necessary, to complete the welded joint, suitable additional material is added. The type of additional material and welding current are determined according to the type of thickness of the base material, the shape of the joint, and the position of the weld.

- 1) Connecting the welding cables (Fig. D):
 - Connect the gas hose to the Argon cylinder.

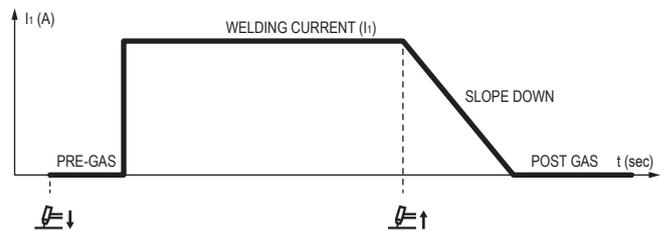


FIG. D

- With the machine switched off:
 - Connect the ground cable to the snap-on connector marked + (positive) (Pos. 5, Fig. A).
 - Connect the relative ground clamp to the workpiece or to the workpiece support in an area free of rust, paint, grease, etc..
 - Connect the TIG torch power cable to the snap-on connector marked - (negative).
 - Connect the torch gas tube to the connection (Pos. 4, Fig. A).
 - Insert the torch button connector in the 6 poles holder (Pos. 6, Fig. A).

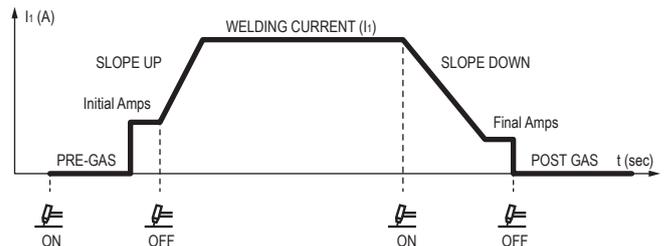
- 2) Switch the welding machine on by moving the power supply switch to I (Pos. 1, Fig. A).
- 3) The white LED (Pos. 6, Fig. B) shows that the power supply to the welding machine is on, and it is ready to work.
- 4) Adjust the welding current using the potentiometer (Pos. 1, Fig. B).
- 5) Set the arc switch-off time using the potentiometer (Pos. 2, Fig. B).
- 6) Select TIG welding mode (Pos. 3, Fig. B) in the following positions:

2 stroke - TIG welding takes place as follows:



The post gas flow time is determined in proportion to the welding current level.

4 stroke - TIG welding takes place as follows:

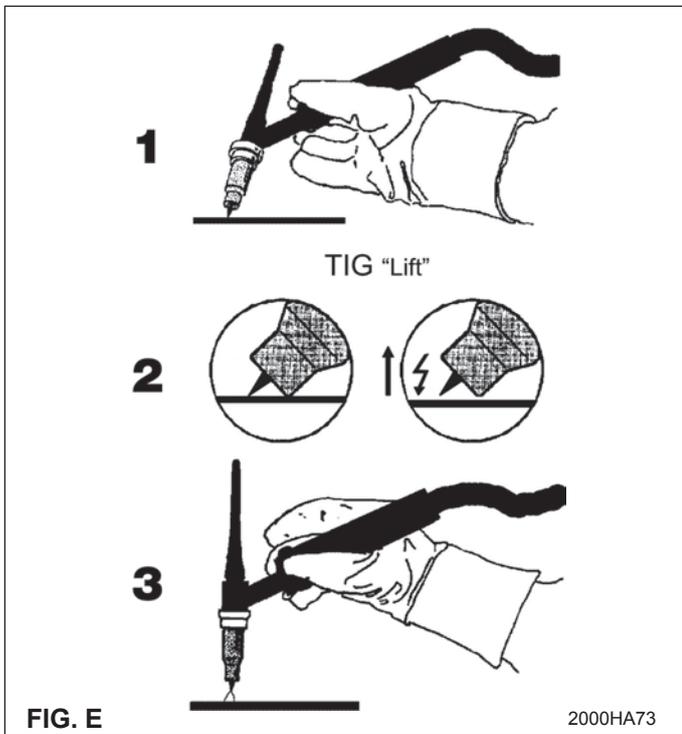


The post gas flow time is determined in proportion to the welding current level.

- 7) Select the TIG welding process (Pos. 4, Fig. B) required:
 - TIG LIFT for TIG welding without high frequency.
 - TIG HF for TIG welding with high frequency ignition.
 In particular, proceed as indicated below.

TIG WELDING WITH "Lift" TYPE STRIKING

- 8) Open the gas cylinder and flow regulator (8-14 l/min).
- 9) Put the electrode at the point at which welding is to begin, put the TIG torch at an angle so that the edge of the gas nozzle is not on top of the piece to be welded, keeping contact between the point of the electrode and the piece to be welded (Fig. E-1).
- 10) Press the torch button.
- 11) The "Lift" function strikes the arc when the TIG torch electrode comes into contact with the workpiece and is then removed (Fig. E-2).
- 12) Carry out TIG welding (Fig. E-3).
 - To end welding:
 - Release the torch button.
 - The welding machine follows an automatic down slope along with extinguishing of the arc.
- 13) When finished welding remember to shut off the gas cylinder.



TIG WELDING WITH HIGH FREQUENCY STRIKING (HF)

- 8) Open the gas cylinder and flow regulator (8-14 l/min).
- 9) Put the electrode at the point at which welding is to begin, put the TIG torch at an angle so that the edge of the gas nozzle is not on top of the piece to be welded, keeping a 2-3 mm gap between the point of the electrode and the piece to be welded (Fig. F-1).
- 10) Press the torch button.
- 11) The voltaic arc strikes even without contact between the TIG torch electrode and the workpiece (Fig. F-2).
- 12) To continue welding put the torch back in its normal position (Fig. F-3).
- 13) When finished welding remember to shut off the gas cylinder.

IMPORTANT: The high frequency switches off automatically after switching on.

AUTOMATIC GAS TEST FUNCTION

During the TIG welding process, when the welding machine is switched on using the power switch (Pos. 1, Fig. A), the gas will flow out of the torch automatically for a period of about 10 seconds to allow the gas flow to be regulated. (8 - 14 lit/min).

TUNGSTEN ELECTRODE PROTECTION

If the electrode touches the piece being welded for a prolonged time during the TIG welding process, in order to avoid tungsten being included in the welding pool the current is reduced automatically, to below a preset safe value.

PART TO BE WELDED

The part to be welded must always be connected to ground in order to reduce electromagnetic emission. Much attention must be afforded so that the ground connection of the part to be welded does not increase the risk of accident to the user or the risk of damage to other electric equipment. When it is necessary to connect the part to be welded to ground, you should make a direct connection between the part and the ground shaft. In those countries in which such a connection is not allowed, connect the part to be welded to ground using suitable capacitors, in compliance with the national regulations.

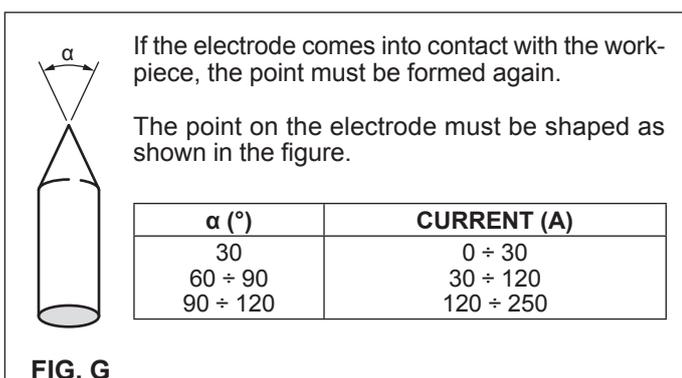
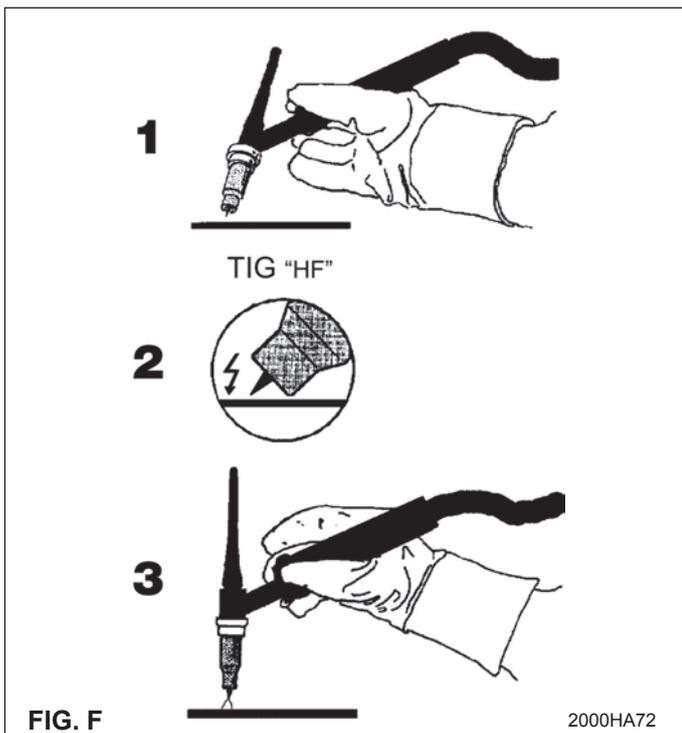
WELDING PARAMETERS

Table 5 shows the currents to use with the respective electrodes for TIG welding. This input is not absolute but is for your guidance only; read the electrode manufacturers' instructions for a specific choice. The diameter of the electrode to use is directly proportional to the current being used for welding.

Table 5

| Ø ELECTRODE (mm) | CURRENT (A) |
|------------------|-------------|
| 1,2 | 10 ÷ 80 |
| 1,6 | 70 ÷ 150 |
| 2,4 | 140 ÷ 250 |
| 3,2 | 225 ÷ 400 |
| 4,0 | 300 ÷ 500 |

Before use, sharpen the tungsten electrode, forming a tip about 1,5 times its diameter.



Maintenance

WARNING: *Before doing any inspection of the inside of the generator, disconnect the equipment's power supply and wait for about 5 minutes before working on the inside of the equipment, in order to allow the capacitive voltages to drop below the safe electric threshold.*

SPARE PARTS

Original spare parts have been specially designed for our equipment. The use of non-original spare parts may cause variations in performance or reduce the foreseen level of safety. We decline all responsibility for the use of non-original spare parts.

GENERATOR

As these systems are completely static, proceed as follow:

- Periodic removal of accumulated dirt and dust from the inside of the generator, using compressed air. Do not aim the air jet directly onto the electrical components, in order to avoid damaging them.
- Make periodical inspections in order to individuate worn cables or loose connections that are the cause of overheating.

The pointing out of any difficulties and their elimination

WARNING: *Before doing any inspection of the inside of the generator, disconnect the equipment's power supply and wait for about 5 minutes before working on the inside of the equipment, in order to allow the capacitive voltages to drop below the safe electric threshold.*

The supply line is attributed with the cause of the most common difficulties. In the case of breakdown, proceed as follows:

- 1) Check the value of the supply voltage.
- 2) Check that the power cable is perfectly connected to the plug and the supply switch.
- 3) Check that the power fuses are not burned out or loose.
- 4) Check whether the following are defective:
 - The switch that supplies the machine.
 - The plug socket in the wall.
 - The generator switch.

NOTE: *Given the required technical skills necessary for the repair of the generator, in case of breakdown we advise you to contact skilled personnel or our technical service department.*

See the troubleshooting table if simple bothersome events arise involving the welding equipment.

Troubleshooting table

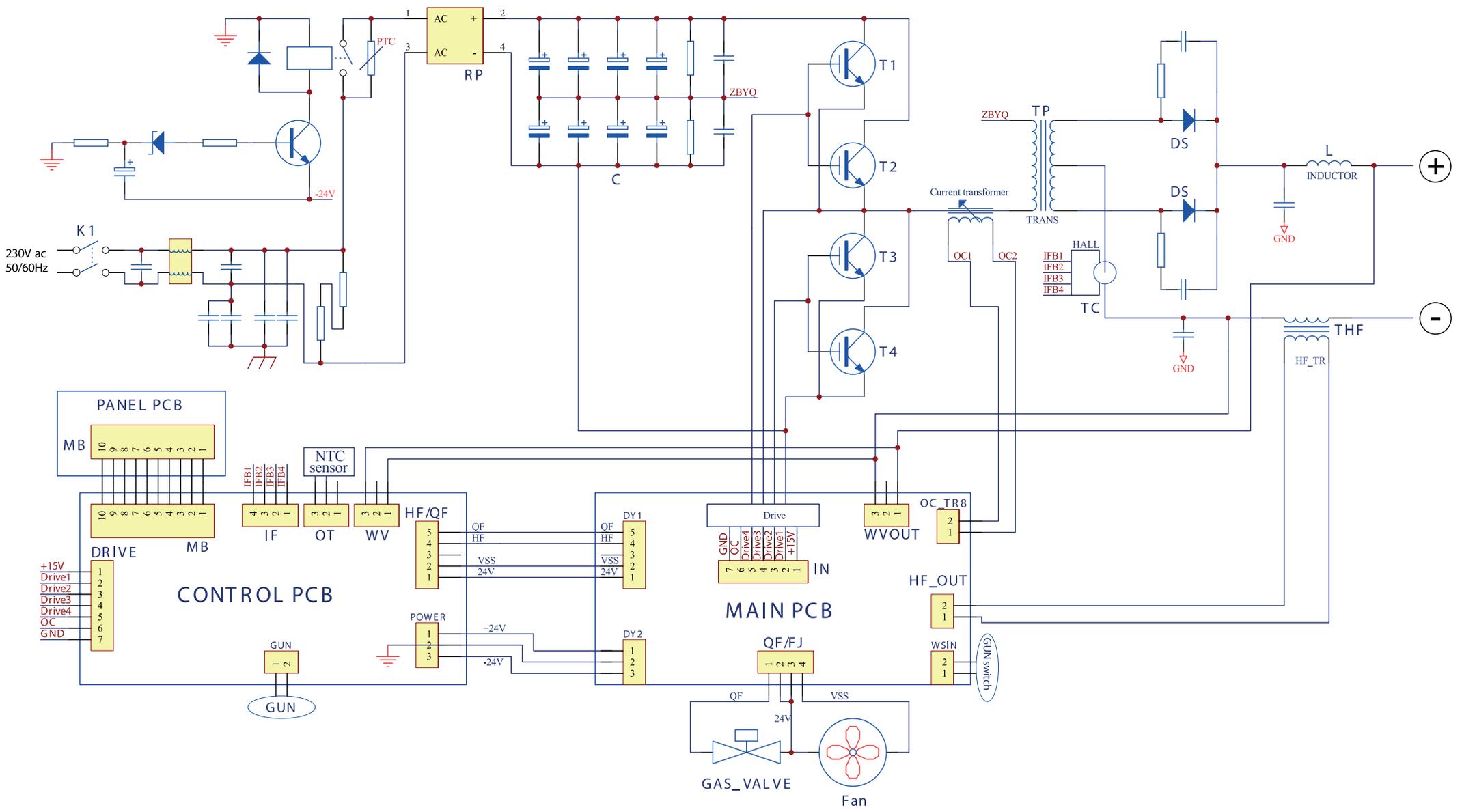
| Trouble | | Reasons | Solution |
|--|---|--|--|
| Turn on the power source, and fan works, but the power light is not on | | The power light damaged or connection is not good | Test and repair the inside circuit of power light |
| | | The transformer of power is broken | Repair or change the transformer |
| | | Control PCB failures | Repair or change the control PCB |
| Turn on the power source, and the power light is on, but fan doesn't work | | There is something in the fan | Clear out |
| | | The start capacitor of fan damaged | Change capacitor |
| | | The fan motor damaged | Change fan |
| Turn on the power source, and the power light is not on and fan doesn't work | | No power supply input | Test the power supply input |
| | | The fuse on the rear panel is broken | Change the fuse (3A) |
| No no-load voltage output (MMA) | | The machine is damaged | Check the main circuit and the PCBs |
| Arc can not be ignited (TIG) | There is spark on the HF igniting board | The welding cable is not connected with the two output of the welder | Connect the welding cable to the welder's output |
| | | The welding cable damaged | Repair or change it |
| | | The earth cable connected unstably | Check the earth cable |
| | | The welding cable is too long | Use an appropriate welding cable |
| | | There is oil or dust on the workpiece | Check and remove it |
| | | The distance between tungsten electrode and workpiece is too long | Reduce the distance (about 3 mm) |
| | | The distance between the discharger is too short | Adjust this distance (about 0.7 mm) |
| | | The malfunction of the welding gun switch. | Check the welding gun switch, control cable and aero socket |
| HF striking arc can not be stopped | Control PCB broken | Repair or change it | |
| No gas flow (TIG) | | Gas cylinder is close or gas pressure is low | Open or change the gas cylinder |
| | | No controlling electromagnetic valve signal | Repair or change the pulse board |
| | | Something in the valve | Remove it |
| | | Electromagnetic valve is damaged | Change it |
| When welding, it is hard to strike arc or easy to stick.(MMA) | | Connector is loose or connection is not good | Check and screw it |
| | | There is oil or dirty on the workpiece | Check and clear it |
| The welding current can not be adjusted | | The welding current potentiometer on the front panel connection is not good or damaged | Repair or change the potentiometer |
| | | The control signal of the pulse board is wrong | Repair or change the pulse board |
| The penetration of molten pool is not enough | | The welding current is adjusted too low | Increase the welding current |
| | | The arc is too long in the welding process | Use the short-arc operation |
| Arc deflection | | Air interference | Keep out air |
| | | Electrode deflection | Change new electrode |
| | | | Adjust another angle to weld |
| | | Magnetic field | Use the short-arc operation |
| | | | Change the position of earth cable Change welding direction |
| The alarm light on the front panel is on | Over heat protection | Two much welding current | Reduce the welding current output |
| | | Working time too long | Reduce the duty cycle (work intervally) |
| | Over-voltage protection | Power supply fluctuates | Using the stable power supply |
| | Low-voltage protection | Power supply fluctuates | Using the stable power supply |
| | | Too many machines using power supply in the same time | Reduce the machines using power supply in the same time |
| | Over-current protection | Unusual current in the main circuit | Check and repair the main circuit and drive PCB |

Meaning of graphic symbols on machine

| | |
|---|---------------------------------|
|  | Power supply switch |
|  | MMA welding |
|  | TIG welding |
|  | 4 strokes TIG welding |
|  | 2 strokes TIG welding |
|  | TIG welding SLOPE DOWN time |
|  | MMA ELECTRODE welding ARC FORCE |
|  | Equipment power supply |
|  | Thermostat |
|  | TIG torch pushbutton connector |

| | |
|---|---|
|  | Fast coupling TIG torch gas tube |
|  | Positive pole snap-in connector |
|  | Negative pole snap-in connector |
|  | Grounding |
|  | Danger! High voltage |
|  | Warning! |
|  | System for use in environments with increased risk of electroshock |
|  | Product suitable for free circulation in the European Community |
|  | Special disposal |
|  | Before using the equipment you should carefully read the instructions included in this manual |

Wiring diagram



PROJECT 1800 HF

| | | |
|-----------|---------------------------------------|---|
| IT | <i>Lista ricambi</i> | LEGGERE ATTENTAMENTE |
| EN | <i>Spare parts list</i> | READ CAREFULLY |
| FR | <i>Liste pièce de rechange</i> | LIRE ATTENTIVEMENT |
| DE | <i>Ersatzteilliste</i> | SORGFÄLTIG LESEN |
| ES | <i>Lista repuestos</i> | LEER ATENTAMENTE |
| NL | <i>Onderdelenlijst</i> | EERST GOED DOORLEZEN |
| PT | <i>Lista de peças de substituição</i> | LER ATENTEMENTE |
| SV | <i>Reservdelslista</i> | LÄS NOGAS |
| N | <i>Reservedelliste</i> | LES NØYE |
| RU | <i>Список запасных частей</i> | ПЕРЕД НАЧАЛОМ РАБОТЫ ВНИМАТЕЛЬНО ПРОЧИТИТЕ ИНСТРУКЦИЮ |



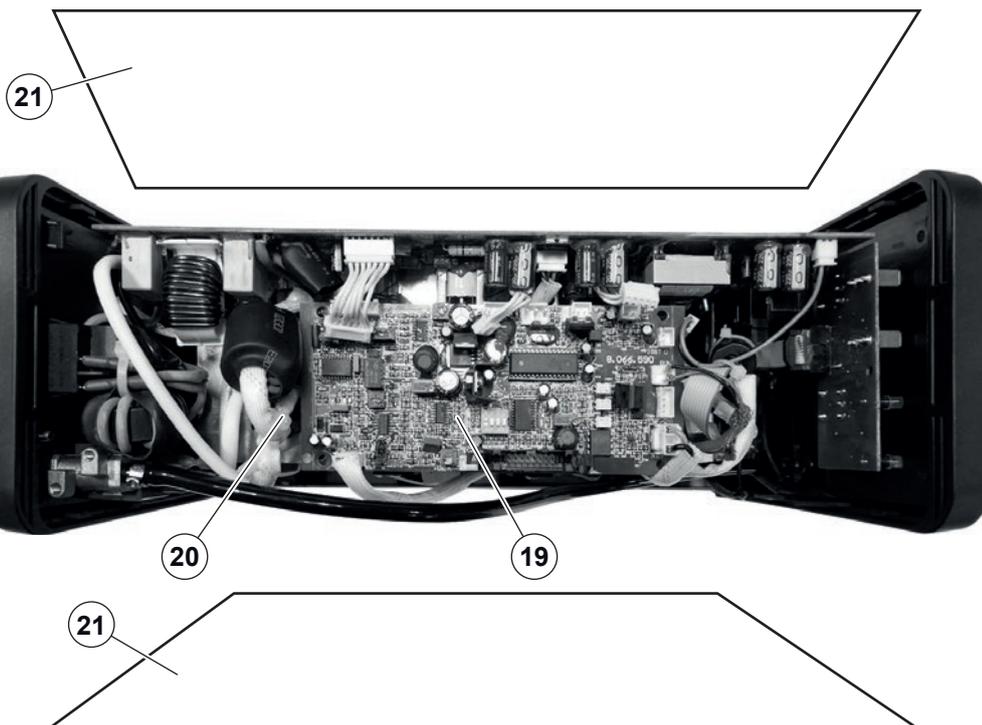
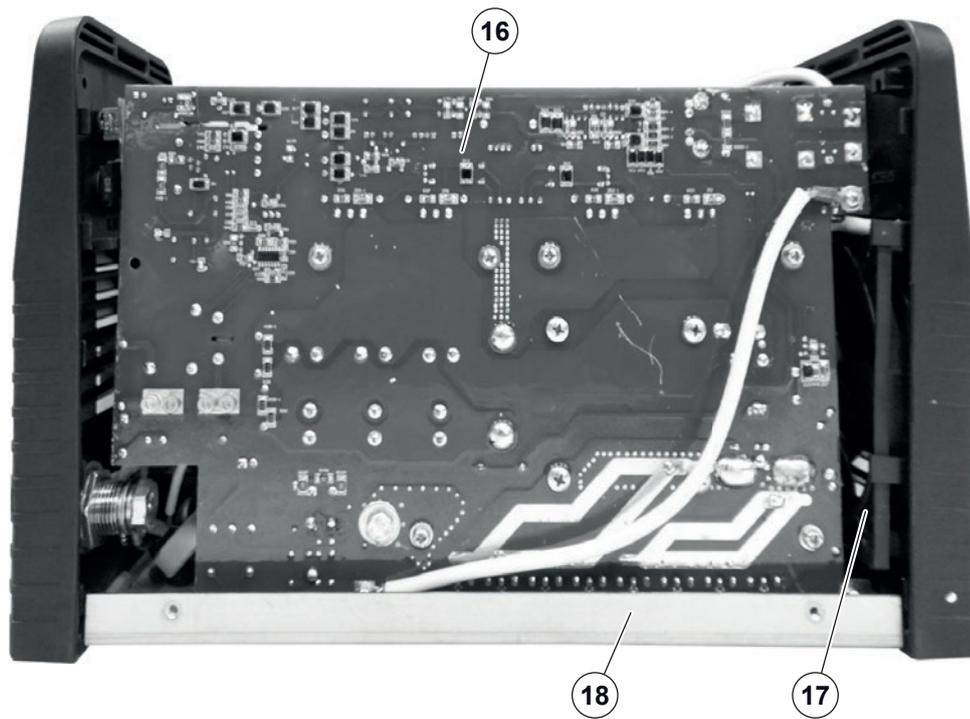
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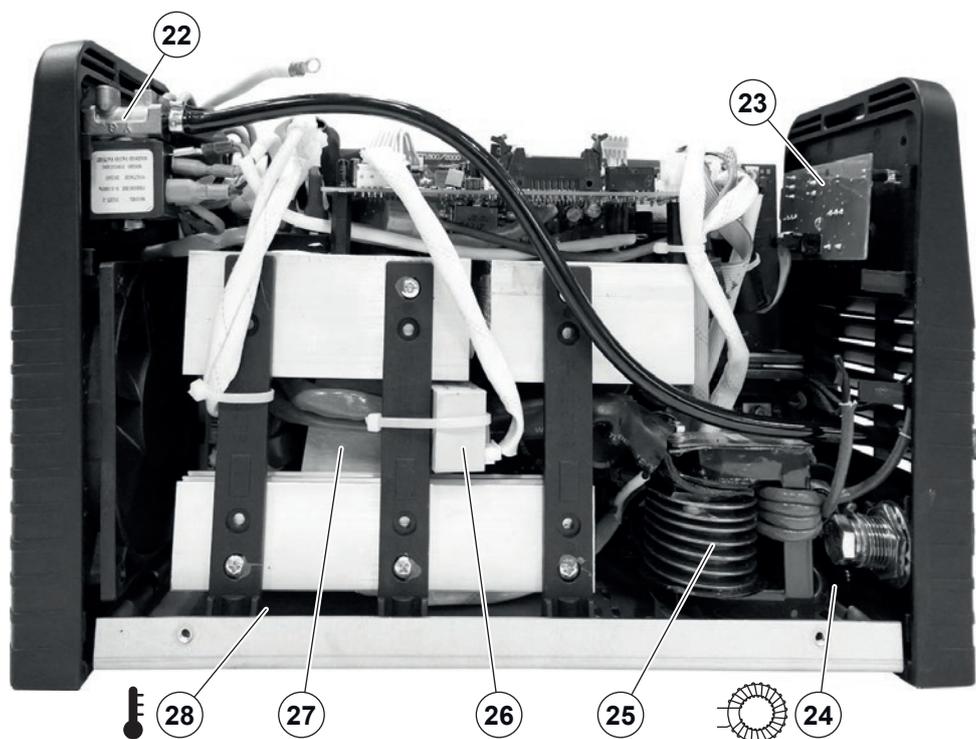
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E-mail: cea@ceaweld.com - web: www.ceaweld.com



| Pos. | Cod. | Descrizione | Description |
|------|--------|-----------------------------------|---------------------------------|
| 1 | 415369 | Cinghia tracolla | Carrying belt |
| 2 | 438122 | Maniglia | Handle |
| 3 | 466864 | Adesivo rack | Rack sticker |
| 4 | 438837 | Manopola corrente | Current knob |
| 5 | 438838 | Manopola slope down | Slope down knob |
| 6 | 403635 | Attacco rapido gas | Quick gas nipple |
| 7 | 403606 | Attacco rapido 50mm2 | 50mm2 quick connection |
| 8 | 419050 | Connettore 6 poli pulsante torcia | 6 poles torch switch connection |
| 9 | 352380 | Pannello frontale | Front panel |
| 10 | 235945 | Cavo linea | Main cable |
| 11 | 352379 | Pannello posteriore | Rear panel |
| 12 | 435365 | Interruttore alimentazione | Main switch |
| 13 | 485040 | Tubo del gas | Gas hose |
| 14 | 468704 | Adesivo logo CEA | CEA logo sticker |
| 15 | 420593 | Coperchio | Steel cover |



| Pos. | Cod. | Descrizione | Description |
|------|--------|-------------------------------|-----------------------|
| 16 | 241268 | Assieme gruppo inverter | Inverter assembly pcb |
| 17 | 444504 | Ventilatore | Fan |
| 18 | 404907 | Basamento | Steel base |
| 19 | 377188 | Scheda controllo | MCU control pcb |
| 20 | 455500 | Raddrizzatore primario | Primary rectifier |
| 21 | 353056 | Isolamento laterale coperchio | Cover insulation |



| Pos. | Cod. | Descrizione | Description |
|------|--------|---------------------------|--------------------------|
| 22 | 425938 | Elettrovalvola del gas | Solenoid valve |
| 23 | 377189 | Scheda rack frontale | Rack pcb |
| 24 | 240248 | Induttore | Inductor |
| 25 | 481417 | Trasformatore HF | HF transformer |
| 26 | 481949 | Trasformatore di corrente | Hall current transformer |
| 27 | 481444 | Trasformatore principale | Main transformer |
| 28 | 478777 | Termostato | Thermostat |

IT Ordinazione dei pezzi di ricambio

Per la richiesta di pezzi di ricambio indicare chiaramente:

- 1) Il numero di codice del particolare
- 2) Il tipo di impianto
- 3) La tensione e la frequenza che rileverete dalla targhetta dei dati posta sull'impianto
- 4) Il numero di matricola

ESEMPIO

N° 2 pezzi, codice n. 425938 - per l'impianto PROJECT 1800 HF - 230 V - 50/60 Hz - Matricola n°

EN Ordering spare parts

To ask for spare parts clearly state:

- 1) The code number of the piece
- 2) The type of device
- 3) The voltage and frequency read on the rating plate
- 4) The serial number of the same

EXAMPLE

N. 2 pieces code n. 425938 - for PROJECT 1800 HF - 230 V - 50/60 Hz - Serial number

FR Commande des pièces de rechange

Pour commander des pièces de rechange indiquer clairement:

- 1) Le numéro de code de la pièce
- 2) Le type d'installation
- 3) La tension et la fréquence que vous trouverez sur la petite plaque de données placée sur l'installation
- 4) Le numéro de matricule de la même

EXEMPLE

N. 2 pièces code 425938 - pour l'installation PROJECT 1800 HF - 230 V - 50/60 Hz - Matr. Numéro

DE Bestellung Ersatzteile

Für die Anforderung von Ersatzteilen geben Sie bitte deutlich an:

- 1) Die Artikelnummer des Teiles
- 2) Den Anlagentyp
- 3) Die Spannung und Frequenz, die Sie auf dem Datenschild der Anlage finden
- 4) Die Seriennummer der Schweißmaschine

BEISPIEL

2 Stück Artikelnummer 425938 - für Anlage PROJECT 1800 HF - 230 V - 50/60 Hz - Seriennummer

ES Pedido de las piezas de repuesto

Para pedir piezas de repuesto indiquen claramente:

- 1) El número de código del particular
- 2) El tipo de instalación
- 3) La tensión y la frecuencia que se obtiene de la chapa datos colocada sobre la instalación
- 4) El número de matrícula de la soldadora misma

EJEMPLO

N. 2 piezas código 425938 - para instalación PROJECT 1800 HF - 230 V - 50/60 Hz - Matrícula N.

NL Bestelling van reserveonderdelen

Voor het bestellen van onderdelen duidelijk aangeven:

- 1) Het codenummer van het onderdeel
- 2) Soort apparaat
- 3) Spanning en frequentie op het gegevensplaatje te vinden
- 4) Het serienummer van het lasapparaat

VOORBEELD

N. 2 stuks code 425938 - voor apparaat PROJECT 1800 HF - 230 V - 50/60 Hz - Serie Nummer

PT Requisição de peças sobressalentes

Ao pedir as peças de substituição indique claramente:

- 1) O número de código da peça
- 2) O tipo de equipamento
- 3) A tensão e a frequência indicadas na la placa de dados do equipamento
- 4) O número de matrícula da própria máquina de soldar

EXEMPLO

N° 2 peças código n. 425938 - para o equipamento PROJECT 1800 HF - 230 V - 50/60 Hz

Matrícula n.

SV Beställning af reservdelar

Vid förfrågan av reservdelar ange tydligt:

- 1) Detaljens kodnummer
- 2) Typ av apparat
- 3) Spänning och frekvens - den står bland tekniska data på apparatens märkplåt
- 4) Svetsens serienummer

EXEMPEL

2 st. detaljer kod 425938 - för apparat PROJECT 1800 HF - 230 V - 50/60 Hz - Serienummer

N Bestilling av reservedeler

Ved bestilling av reservedeler må du oppgi:

- 1) Delenes kodnummer
- 2) Type apparat
- 3) Apparatets spenning og frekvens som finnes på merkeplaten for data på apparatet
- 4) Sveiseapparatets serienummer

EKSEMPEL

2 stk. kode 425938 - for apparat PROJECT 1800 HF - 230 V - 50/60 Hz - Serienummer.....

RU Заказ запасных частей

Для запроса запасных частей укажите точно:

- 1) код запчасти,
- 2) модель машины,
- 3) напряжение и частоту, написанные на пластине,
- 4) ее серийный номер.

ПРИМЕР

2 шт., код № 438401

n - штук деталей, код 425938, для сварочной машины PROJECT 1800 HF - 230 В - 50/60 Hz

Серийный номер



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