IMPORTANT:
YOU ARE ADVISED TO READ THIS MANUAL, PAYING PARTICULAR ATTENTION TO THE SAFETY REGULATIONS, BEFORE INSTALLING, USING OR CARRYING OUT ANY MAINTENANCE ON THE UNIT. IF YOU DO NOT FULLY UNDERSTAND THESE INSTRUCTIONS, CONTACT YOUR SUPPLIER.

1 SAFETY REGULATIONS

1.1 INTRODUCTION

Before use, all persons authorized to operate, repair or inspect the unit must read the following safety and operating instructions.
Remember: YOUR SAFETY DEPENDS ON YOU!
The operator is responsible for his own safety, and for that of other persons in the working area. He must therefore be aware of, and respect, all safety regulations.
NOTHING CAN REPLACE COMMON SENSE!

2 GENERAL DESCRIPTION

2.1 SPECIFICATIONS

This apparatus is a self-contained cooling unit, designed to cool the torches used in TIG, MIG, MAG welding and plasma cutting equipments.

2.2 EXPLANATION OF TECHNICAL DATA

<table>
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<tr>
<th>N°</th>
<th>U₁ ~ 1x - V 50/60 Hz</th>
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N° Serial number which must be stated for any demands relating to the machine.
U₁ Rated supply voltage.
1x Single-phase power supply.
50/60 Hz Frequency.
I₁ Maximum input current.
IP21 Grade of protection of the body.

2.3 DESCRIPTION OF PROTECTIONS

2.3.1 Electric protection.
The cooling unit is protected against overload by means of a fuse.

2.3.2 “Coolant pressure” protection.
This protection is created by a pressure switch, fitted on the coolant delivery circuit, which controls a microswitch fitted.
N.B.: To use this protection, connector (E) must be inserted in the welding or cutting generator’s special socket.

2.4 DESCRIPTION OF THE APPARATUS

A) ON/OFF switch (I/O).
B) Tank cap.
C) Slot for checking the coolant level.
D) Mains lead.
E) “Coolant pressure” protection connector.
F) Fuse holder.
G) Rapid fittings for the torch cooling tubes.

Cool water outlet
Warm water inlet

3 INSTALLATION

3.1 SETTING UP
Place the apparatus according to the instructions given in the manual of the machine with which it is to be used.

3.2 INSTALLATION
The unit must be installed by qualified personnel. All connections effected must comply with the current standards and with the law on safety at work.
Before connecting up the mains lead, ensure that the hoses are already connected, the power supply voltage corresponds to that indicated on the technical data plate, and the earth plug is efficient.
The cooling unit is supplied without coolant. To fill the tank, unscrew the cap (B) and pour in approximately 4 litres of coolant. Connect the welding torch and all of the connecting hoses, set the switch (A) to the ON position so that the coolant begins to circulate, then top up the tank to the “max.” level. It is important to keep the tank filled to the “max.” level during use. This ensures improved performance. You should therefore regularly check the level through slot (C). The coolant should be of the type used for cooling circuits in the automobile sector. This is obtained by mixing water (preferably deionized) with a glycol-based antifreeze, in quantities which depend on the ambient conditions. To facilitate this operation, follow these indications:

- 20% antifreeze when the ambient temperature is -9°C
- 30% antifreeze when the ambient temperature is -17°C
- 40% antifreeze when the ambient temperature is -26°C
- 50% antifreeze when the ambient temperature is -38°C

**Important:** This mixture not only maintains the fluidity of the coolant at extremely low temperatures, but also prevents the formation of chalky deposits from hard water which would compromise the life of the system, in particular of the pump. For this reason, you are advised to use antifreeze even during the summer.

**Warning:** Prolonged dry operation of the pump may compromise its functionality and life.

To protect the torch, a pressure switch which controls delivery pressure has been fitted at the pump outfeed. If the pressure drops due to the absence of coolant or a blockage in the pump, the pressure switch (through connector E) causes the generator to stop. This fault is often indicated by a special light located on the generator.

Remember to switch off the apparatus when you have finished welding or cutting.

### 4 MOTOR PUMP TECHNICAL SPECIFICATIONS

- \( U_1 = 230\text{V} \)
- Frequency = 50 Hz
- Input power = 200 W
- Input current = 1 A
- Motor revolutions = 2850 rpm
- Max. capacity = 7 liters/min.
- Max. head = 3 Bar

- Frequency = 60 Hz
- Input power = 270 W
- Input current = 1.2 A
- Motor revolutions = 3300 rpm
- Max. capacity = 8.5 liters/min.
- Max. head = 4 Bar

### 5 MAINTENANCE

Disconnect the mains lead before any internal inspection of the unit. Regularly remove any dust and extraneous materials from the inside of the unit, and in particular the radiator. Check that all of the hose tightening clips are closed, that the fittings are in perfect condition, and the coolant is at the correct level.

**5.1 PROCEDURES TO FOLLOW WHEN REPAIRS HAVE BEEN MADE**

After making repairs, ensure that the wiring is arranged in such a way as to guarantee the insulation of parts connected to the supply circuit from those connected to the low tension circuit. Make sure that the wires cannot come into contact with moving parts, or any parts which heat up during operation. Replace all clips, as on the original machine, so that if a lead accidentally breaks or is disconnected, a contact between the supply circuit and the low tension circuits is impossible.