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Käyttöohje • Suomi
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Operating manual • English
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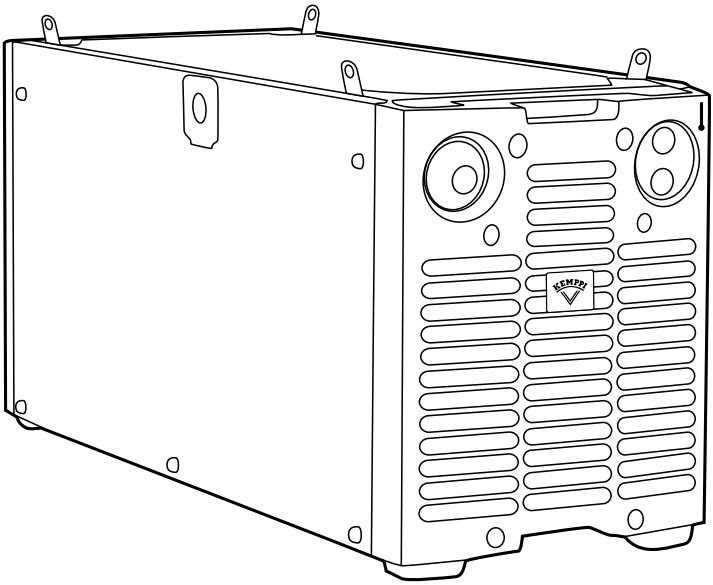
Manuel d'utilisation • Français
Manual de instrucciones • Español
Instrukcja obsługi • Polski
Инструкции по эксплуатации • По-русски

KempArc™

COOL 10



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KEMPPI
The Joy of Welding

www.kemppi.com

OPERATING MANUAL

English

CONTENTS

1. PREFACE

1.1 GENERAL

Congratulations on your choice of the Kemparc™ Cool 10 cooling unit. Reliable and durable, Kemppi products are affordable to maintain, and they increase your work productivity.

This user manual contains important information on the use, maintenance and safety of your Kemppi product. The technical specifications of the device can be found at the end of the manual. Please read the manual carefully before using the equipment for the first time. For your safety and that of your working environment, pay particular attention to the safety instructions in the manual.

For more information on Kemppi products, contact Kemppi Oy, consult an authorised Kemppi dealer, or visit the Kemppi Web site at www.kemppi.com.

The specifications presented in this manual are subject to change without prior notice.

NOTE! Items in the manual that require particular attention in order to minimise damage and personal harm are indicated with this symbol. Read these sections carefully and follow their instructions.

1.2 SAFETY INSTRUCTIONS

Kemppi welding devices conform to international safety standards. Safety is an important issue in equipment design and manufacturing. Therefore, Kemppi welding solutions are unparalleled in safety. There are, however, always certain hazards involved in using welding equipment. Therefore, to ensure your personal safety and the safety of your working environment, carefully read the safety instructions below and respect them.

Use of personal protective equipment

- The arc and its reflecting radiation damage unprotected eyes. Shield your eyes and face appropriately before you start welding or observe welding. Also note the different requirements for the darkness of the screen in the mask as the welding current changes.
- The arc radiation and spatters burn unprotected skin. Always wear protective gloves, clothing and footwear when welding.
- Always wear hearing protection if the ambient noise level exceeds the allowable limit (e.g., 85 dB).

General operating safety

- Exercise caution when handling parts heated in welding. For example, the tip of the welding torch, the end of the welding rod and the work piece will heat during gouging to a burning temperature.
- Never wear the device on the shoulder during welding and never suspend it by the carrying strap during welding.
- Do not expose the machine to high temperatures, as this may cause damage to the machine.
- Keep the torch cable and earthing cable as close to each other as possible throughout their length. Straighten any loops in the cables. This minimises your exposure to harmful magnetic fields, which may interfere with a pacemaker, for example.
- Do not wrap the cables around the body.
- In environments classified as dangerous, only use S-marked welding devices with a safe idle voltage level. These work environments include, for example, humid, hot or small spaces where the user may be directly exposed to the surrounding conductive pieces.

Spatter and fire safety

- Welding is always classified as hot work, so pay attention to fire safety regulations during welding and after it.
- Remember that fire can break out from sparks even several hours after the welding work is completed.
- Protect the environment from welding spatter. Remove flammable materials, such as flammable fluids, from the welding vicinity and supply the welding site with adequate fire fighting equipment.
- In special welding jobs, be prepared for hazards such as fire or explosion when welding container-type work pieces.
- Never direct the spark spray or cutting spray of a grinder toward the welding machine or flammable materials.
- Beware of hot objects or spatter falling on the machine when working above the machine.
- Welding in flammable or explosive sites is absolutely forbidden.

General electric safety

- Only connect the welding machine to an earthed electric network.
- Note the recommended mains fuse size.
- Do not take the welding machine inside a container, vehicle or similar work piece.
- Do not place the welding machine on a wet surface and do not work on a wet surface.
- Do not allow the mains cable to be directly exposed to water.

- Ensure cables or welding torches are not squashed by heavy objects and that they are not exposed to sharp edges or a hot work piece.
- Make sure that faulty and damaged welding torches are changed immediately as they can be lethal and may cause electrocution or fire.
- Remember that the cable, plugs and other electric devices may be installed or replaced only by an electrical contractor or engineer authorised to perform such operations.
- Turn off the welding machine when it is not in use.

Welding power circuit

- Insulate yourself from the welding circuit by using dry and undamaged protective clothing.
- Never touch the work piece and welding rod, welding wire, welding electrode or contact tip at the same time.
- Do not put the welding torch or ground cable on the welding machine or other electric equipment.

Welding fumes

- Ensure proper ventilation and avoid inhaling the fumes.
- Ensure sufficient supply of fresh air, particularly in closed spaces. You can also ensure the supply of clean and sufficient breathing air by using a fresh-air mask.
- Take extra precautions when working on metals or surface-treated materials containing lead, cadmium, zinc, mercury or beryllium.

Transportation, lifting and suspension

- Never pull or lift the machine by the welding torch or other cables. Always use the lift points or handles designed for that purpose.
- Only use a transport unit designed for the equipment.
- Try to transport the machine in an upright position, if possible.
- Never lift a gas cylinder and the welding machine at the same time. There are separate provisions for gas cylinder transportation.
- Never use a welding machine when suspended unless the suspension device has been designed and approved for that particular purpose.
- Do not exceed the maximum allowed load of suspension beams or the transportation trolley of welding equipment.
- It is recommended that the wire coil be removed during lifting or transportation.

Environment

- Protect welding machines from heavy rain and direct sunshine even if it were suitable for outdoor use.
- Always store the machine in a dry and clean space.
- Protect the machine from sand and dust during use and in storage.
- The recommended operating temperature range is -20 to +40 °C. The machine's operation efficiency decreases and it becomes more prone to damage if used in temperatures in excess of 40 °C.
- Place the machine so that it is not exposed to hot surfaces, sparks or spatter.
- Make sure the airflow to and from the machine is unrestricted.
- This electromagnetic compatibility (EMC) of professional equipment is usually designed for industrial use. Such class-A equipment is not intended for use in residential locations where the electrical power is provided by the public low-voltage supply system. The machine may interfere with sensitive home electronic devices.

Gas bottles and pneumatic devices

- Adhere to the instructions for handling pneumatic devices and gas bottles.
- Make sure that gas bottles are used and stored in properly ventilated spaces. A leaking gas bottle may replace the oxygen in the inhaled air, causing suffocation.
- Before use, make sure that the gas bottle contains gas suitable for the intended purpose.
- Always fix the gas cylinder securely in an upright position, against a cylinder wall rack or purpose-made cylinder cart.
- Never move a protective gas bottle when the flow adjuster is in place. Put the valve cover in place during transportation.
- Close the cylinder valve after use.

2. INSTALLATION

2.1 REMOVAL FROM PACKAGING

The equipment is packed in durable packages specially designed for them. Check the equipment before taking it into use, to make sure that the equipment or a part of it have not got damaged during the transportation. Also check that the delivery corresponds your order and that you have received all the necessary instructions for installing and operating the equipment. The packaging material can be recycled.

2.2 LOCATING THE MACHINE

Place the machine on a horizontal, stable and clean ground. Protect the machine from heavy rain and burning sunshine. Check that there is enough space for cooling air circulation in front of and behind the machine.

2.3 SERIAL NUMBER

The serial number of the machine is marked on the machine CE-marking. Identificating the serial number is the only proper means of maintaining and identifying parts for a specific product. It is important to make correct reference to the serial number of the product when making repairs or ordering spare parts.

2.4. INSTALLATION AND MAIN PARTS

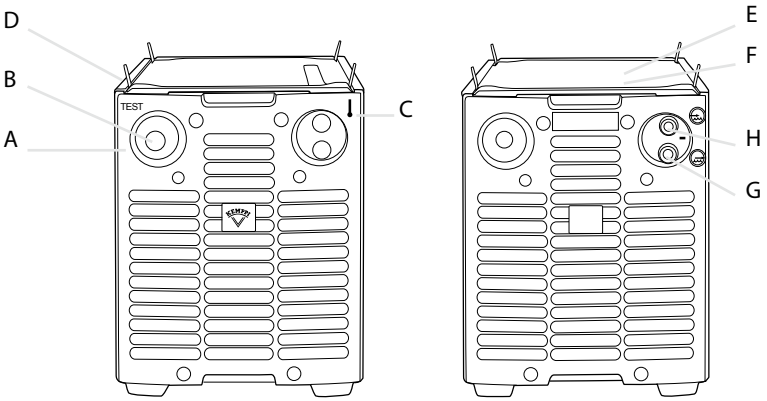
2.4.1 Assembling the equipment

The equipment is assembled in the following order:

1. Transport unit PM500 6185291
2. Cooling unit KempArc Cool 10 620810001

Assembly the transport unit according to the instructions in the package. Fasten the cooling unit to the transport unit by using the screws and bolts delivered with the equipment.

2.4.2 Main parts of cooling unit



Front machine

A Housing
B Test switch
C Overheat control lamp
D Filling hole

Back side

E Mains voltage connection cable
F Control cable
G Cooling water output hose
H Cooling water input hose

2.5 PREPARING FOR OPERATION

NOTE! Cooling liquid is injurious! Avoid also contact with skin or eyes. In case of injury, seek for medical advice.

See also 2.4.2. Main parts of cooling unit.

1. Connect the mains voltage and control connectors of the cooler unit to the corresponding connectors on the base of the power supply. The connection can be established through the base of the power supply when the devices are separated or through the right side of the KempArc™ Cool 10 cooler by removing the right side plate.
2. Attach the power supply on the KempArc™ Cool 10 cooler.

3. Connect the cooling water hoses with the wire feed unit, follow colour markings.
4. Fill the reservoir with a 40 - 20 % mixture of etanol and water, or with any other suitable antifreeze agent. The capacity of the reservoir is 3 litres.
5. Switch on the power supply.
6. Press and hold down the test switch until the torch hoses are filled with liquid.
7. Device is ready to weld.

2.6 COOLER OPERATION

See also 2.4.2. Main parts of cooling unit

KempArc™ Cool 10 operation is controlled by the microprocessor of the power supply. The cooler pump starts to operate when the welding begins. After the welding has stopped, the pump will operate 1 to 5 minutes longer depending on the welding time. During this time the liquid will cool down to the surrounding temperature. If the pump is stopped, the need for maintenance of the cooler will be reduced.

Check the tank liquid level regularly and fill in liquid, if necessary.

If the liquid flow is blocked, a hose is blocked or folded, or the container has ran out of liquid the welding is stopped and error code, Err 5, appears on the KempArc panel.

2.7 OVERHEAT SIGNAL LAMP

The overheat signal lamp is lighting when temperature control of the machine has detected cooling water overheat. The ventilator cools down the machine and when the lamp goes out welding can be started again.

2.8 STORAGE

The machine must be stored in a clean and dry room. Protect the machine from rain and keep it away from direct sunshine in places where temperature exceeds +25 °C. Check that there is free space in front of and behind the machine for air circulation.

3. MAINTENANCE

NOTE! Watch out for mains voltage when handling electric cables!

In planning product maintenance machine utilization degree and circumstances should be considered. Careful use and preventive maintenance help to avoid unnecessary production disturbances and breaks.

3.1 DAILY MAINTENANCE

The following maintenance opeations should be carried out daily:

- Check water level and input flow, add liquid if needed.
- Check cables and connections. Tighten, if necessary and replace defect parts

3.2 REGULAR MAINTENANCE

Make sure that the machine receives regular and appropriate maintenance. Authorised Kemppi service agents perform regular maintenance by agreement. For more information on regular maintenance, contact a Kemppi representative.

3.2.1 Every sixth months

The following maintenance opeations should be carried out at least every sixth months:

- Clean off dust and dirt. Change the cooling liquid and wash up the pipes and water reservoir with pure water.
- Check seals, cables and connections. Tighten, if necessary and replace defect parts.

3.2.2 Maintenance by agreement

Authorised Kemppi service agents perform regular maintenance by agreement. During the maintenance the machine is cleaned and checked for faults. The functionality of all parts is tested and the possible faults are repaired.

3.3 DISPOSAL OF THE MACHINE

Do not dispose of electrical equipment with normal waste!

In observance of European Directive 2002/96/EC on waste electrical and electronic equipment, and its implementation in accordance with national law, electrical equipment that has reached the end of its life must be collected separately and taken to an appropriate environmentally responsible recycling facility.

The owner of the equipment is obliged to deliver a decommissioned unit to a regional collection centre, per the instructions of local authorities or a Kemppi representative. By applying this European Directive you will improve the environment and human health.

4. TROUBLE SHOOTING

See also 2.7. Overheat signal lamp.

Overheat signal lamp is lit.

The unit is overheated.

- Check water circulation.
- Check that there is enough free space behind the machine for cooling air circulation.

Error code Err 5 on the KempArc panel

- Check the liquid hoses for damages.
- Remove any hose blockages.
- Check water circulation, add liquid if needed.

For further information and assistance, contact your nearest Kemppi service workshop.

5. TECHNICAL DATA

Cooling unit KempArc™ Cool 10		
Connection voltage		24 V DC
Connection capacity	100 % ED	50 W
Cooling power		1 kW
Start pressure, max.		450 kPa
Cooling liquid		20 % - 40 % etanol/water
Reservoir volume		ca. 3 l
Overall dimension:	length	570 mm
	width	230 mm
	height	280 mm
Weight		11 kg
Operating temperature range		-20 … +40 °C
Storage temperature range		-40 … +60 °C
Degree of protection		IP 23 S
The products meet the conformity requirements of CE-marking.		

6. WARRANTY POLICY

Kemppi Oy provides a warranty for products manufactured and sold by the company if defects in materials or workmanship occur. Warranty repairs are to be carried out only by an authorised Kemppi Service Agent. Packing, shipping, and insurance are at the orderer's expense.

The warranty starts on the date of purchase. Spoken promises not included in the terms of warranty are not binding on the warrantor.

Limitations of the warranty

The following conditions are not covered under the terms of warranty: defects arising from normal wear and tear, non-compliance with operation and maintenance instructions, overloading, negligence, connection to incorrect or faulty supply voltage (including voltage surges outside equipment specifications), incorrect gas pressure, anomalies or failures in the electric network, transport or storage damage, and fire or damage due to forces of nature. This warranty does not cover direct or indirect travel costs, daily allowances, or accommodation related to warranty service.

The warranty does not cover welding torches and their consumables, feeder drive rolls, and feeder guide tubes. Direct or indirect damage caused by a defective product is not covered under the warranty.

The warranty becomes void if modifications are made to the machine that are not approved by the manufacturer or if non-original spare parts are used in repairs. The warranty is also voided if repairs are carried out by a repair agent not authorised by Kemppi.

Undertaking warranty repairs

Warranty defects must be reported to Kemppi or an authorised Kemppi Service Agent without delay.

Before a warranty repair is undertaken, the customer must present proof of warranty or otherwise prove the validity of the warranty in writing. The proof must indicate the date of purchase and the manufacturing number of the unit to be repaired. The parts replaced under the terms of this warranty remain the property of Kemppi and must be returned to Kemppi if requested.

After a warranty repair, the warranty of the machine or equipment, repaired or replaced, shall be continued to the end of the original warranty period.