Solcore®

Electric Tankless Water Heater

K24 Three-phase (INVERTER)



10
Years non-corrosion Warranty

Ca
0% Scale

ECO

Installation Instructions & User's Manual

1) Water heater



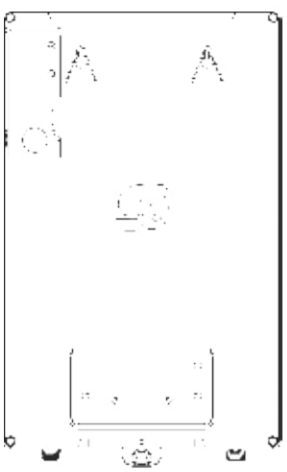
2) Set of mounting screws & plugs



3) Set of cable gland



4) Mounting template



- Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.
- The appliance must not be supplied through an external switching device, such as a timer, or be connected to a circuit that is regularly switched on and off by the utility, in order to avoid a hazard from inadvertent resetting of the thermal cut-out.

Before gaining access to the terminals, all supply circuits must be disconnected.

Note: The terminals used for connection to the mains are marked as follows:

Terminals intended only for the neutral conductor are marked with the letter **N**.

Terminals intended only for the phase conductor are marked with the letter **L**.

Three-phase connection: **L1, L2, L3** = phase 1, phase 2, phase 3.

Protective earth terminals are marked with the symbol: ⏚.

Note: The various positions of the switches and of the control devices on the appliance are indicated by figures and letters.

- For maintenance work, follow the instructions given on the next pages.
- Do not switch on the appliance if there is a possibility that the water in the heater is frozen.
- If the supply cable is damaged, it must be replaced by the manufacturer, its authorised representative or a similarly qualified person, in order to avoid a hazard.
- The appliance must be installed on the structural elements of the building in a permanent and reliable way, using the screws and wall plugs supplied with the appliance. Do not use adhesives (glue) to mount the appliance, because they are not a reliable means of fixing.
- For correct operation of the appliance:
  - The maximum permitted inlet water pressure must not exceed 1.0 MPa
  - The minimum permitted inlet water pressure must not be lower than 0.05 MPa

1. GENERAL INFORMATION

The **K24** water heater is manufactured in accordance with the following European technical harmonisation directives:

2014/35/EU relating to electrical equipment designed for use within certain voltage limits.

2014/30/EU on the approximation of the laws of the Member States relating to electromagnetic compatibility.

2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

The appliance bears the **CE** marking in a visible place, as required by the legislation in force which permits the free circulation of appliances within the Member States of the European Union only if they have been checked - certified - and bear the **CE** marking.

These instructions for use were written for the correct and safe operation of the appliance. You must observe what is specified in them, together with all relevant national and European regulations, consult them for every action concerning the use of the appliance, and keep them carefully, bearing in mind that you may need to consult them in the future.

These instructions are an integral part of the appliance. They must always be available to the qualified person who undertakes the installation, maintenance and use of the appliance.

These instructions are addressed to the installer, the maintainer and the user of the appliance.

Before installing the appliance, the installer must be informed of the requirements - instructions - restrictions of this manual. Before each operation of the appliance, the operator must be informed of the requirements - instructions - restrictions of this manual.

Before carrying out any maintenance work, the qualified personnel must be informed of the requirements - instructions - restrictions of this manual. Only with full knowledge of this manual can mistakes be avoided and the trouble-free operation of the product be guaranteed.

The company **K. & A. KALATOUDIS O.E.** accepts no responsibility for the operation of the appliance beyond its intended use, nor in cases where the conditions - requirements specified in this technical manual are not met.

IN ANY CASE OF CONTACT, QUOTE THE TYPE AND SERIAL NUMBER OF THE APPLIANCE.

2. PACKAGING, TRANSPORT, STORAGE & INSTALLATION

2.1 Delivery

The appliance is delivered packaged, with all the accessories needed for safe mounting on the structural elements of the building where it is to be installed.

The correct operation of the appliance depends on the position it takes during installation. Before putting the appliance into operation, make sure that it has been installed in a vertical position.

The appliance must be used only after it has been installed and checked in accordance with the following paragraphs of this manual.

Technically, the appliance is absolutely safe for its intended use. To maintain this condition and ensure safe use, what is specified in these instructions for use must be observed.

2.2 Handling

The shape and weight of the appliance allow it to be carried by hand, without the need for lifting equipment.

2.3 Storage

If storage is necessary, take care that the appliance is stored in a place protected from weather conditions and where access is allowed only to authorised persons.

Before storing the appliance, make sure that you have hermetically closed the water ports (inlet and outlet), so that no dust or dirt can enter that could cause problems during operation of the appliance.

2.4 Installation

The appliance is equipped with suitable means that ensure its reliable fixing to the structural elements of the installation site. The support of the appliance must be independent. The appliance must not be supported by its connections to the water pipes.

The appliance is intended for installation in any indoor space (domestic or professional).
⚠ The appliance must not be installed in places exposed to weather phenomena. The space must meet the specifications and requirements set by national legislation (building regulations, fire-safety regulations, etc.). The connection of the appliance to the electrical network, as well as the electrical installation, must comply with the obligations set out in standard HD 384 and/or the regulations for internal electrical installations.

***REQUIRED:* the water heater must be connected to a power supply that is linked to an electrical distribution board with a residual-current device (RCD).**

⚠ The appliance must not be installed for operation in an explosive environment.
⚠ No flammable or explosive substances or materials may be present in contact with any part of the appliance, or around it.

For the hydraulic installation, take special care with the connections so that no leaks are possible. The use of a spiral hose under pressure is recommended. If different metals are used in the hydraulic installation (e.g. copper pipes and iron fittings), an anode must be used to avoid electrolysis. In this case an annual periodic inspection is required.

For safe operation, make sure that the supply voltage and the frequency of the current have the same value as that stated on the technical data plate on the frame of the appliance.

The K24 water heater has a pre-installed four-core power cable (L1 = Black, L2 = Blue or Grey, L3 = Brown and earth = Yellow) for connection to the three-phase power supply.

The appliance must be installed in such a way that the power supply cable is protected from possible damage (e.g. sharp edges, friction, abrasion, etc.).

On the **K24** the electrical connection can also be made through a four-pole terminal block, which can be fitted in the upper right corner inside the appliance (**fig. 2, p. 7**).

On the free sockets of the terminal block you can fit a flexible power supply cable (*see Chapter 3.2, p. 8, for choosing the correct cross-section of the supply cable*), which is connected to an electrical panel through a residual-current device (RCD).

⚠ **Note:** The appliance must be installed in such a way that the marking placed on the appliance can still be read easily after installation.

2.4.1 Preparing the fixing

To fix the appliance to the structural elements of the installation site, follow the steps below:

- Choose the point where you wish to fix the appliance. Mark it using the mounting template, drill with a Ø8 drill bit and insert the corresponding plastic wall plugs (figure 1).
- Screw suitable screws into the 2 upper holes so that the heads protrude 6 mm - 8 mm from the mounting surface (figure 2).
- Continue with the electrical connection (p. 7) before the final fixing.
- Hang the appliance and fasten it with a suitable screw at the bottom of the appliance for the final fixing (figure 3).

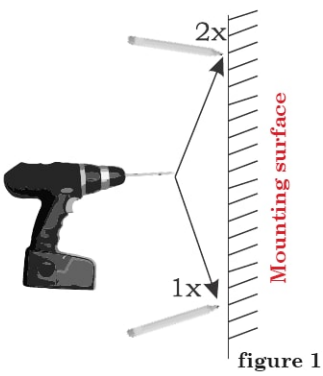


figure 1

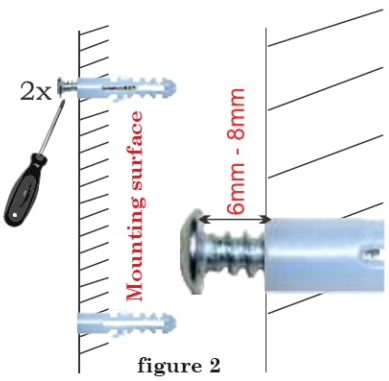


figure 2

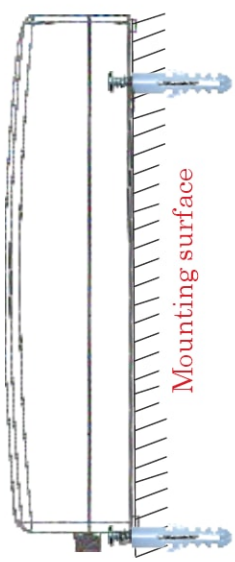


figure 3

2.4.2 Electrical connection

⚠ The electrical connection must be made by a competent person / licensed installer of the relevant specialty.

- ***The K24 water heater has a pre-installed four-core power cable (L1 = Black, L2 = Blue or Grey, L3 = Brown and earth = Yellow) for connection to the three-phase power supply.***
- On the **K24** the electrical connection can also be made through a four-pole terminal block, which can be fitted in the upper right corner inside the appliance (**fig. 2**).
- Unscrew the screws at the bottom of the appliance (**fig. 1**) and carefully remove the cover.
- Pass the cable for the electrical connection through the cable gland, in the upper right corner inside the appliance, and secure it with the cable clamp (**fig. 2**).
- **CAUTION**: At the point where the terminal block is fitted there is a marking for the intended connection of the ends of the power cable (**L1 = phase 1, L2 = phase 2, L3 = phase 3, earth**), which is to be connected to an electrical panel through a residual-current device (RCD).
- Before the final fixing, break the membrane that covers the notch* and bend the flexible cable into it.
- For the final fixing see (**p. 6 - figure 3**).

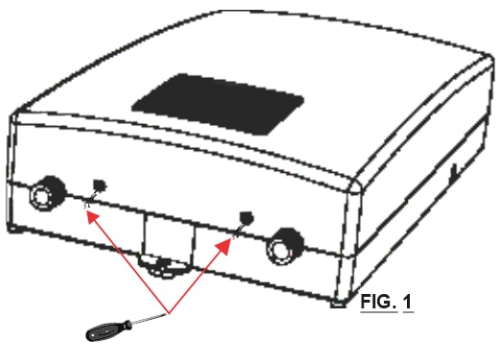


FIG. 1

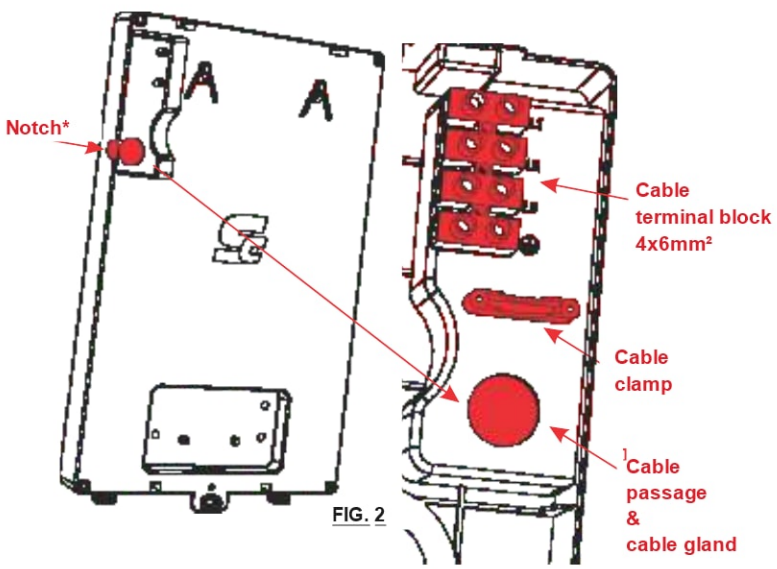


FIG. 2

3. TECHNICAL DESCRIPTION

3.1 Intended use

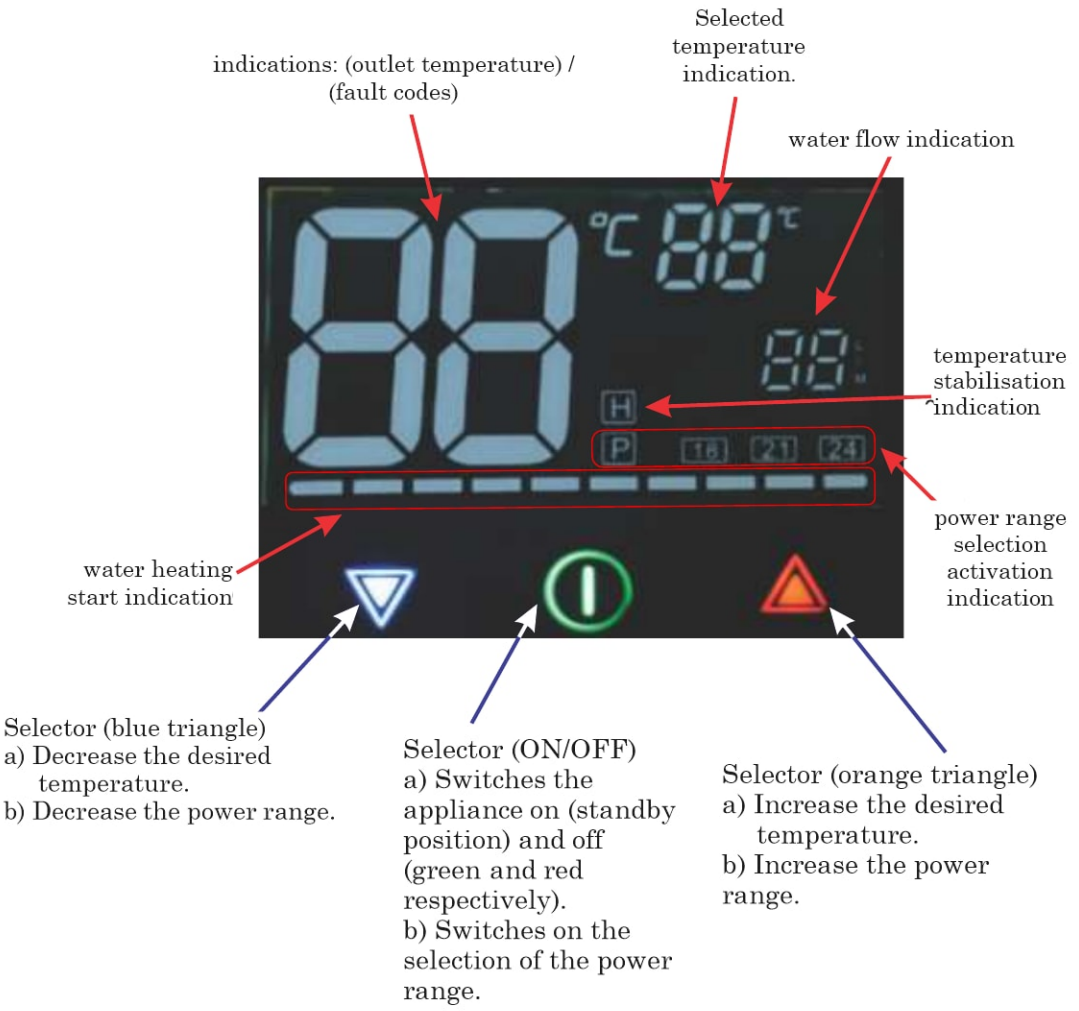
The **K24** appliance was designed and manufactured exclusively for the immediate production of hot water in any closed domestic or professional space.

⚠ **PROHIBITED:** *using the appliance to heat any liquid other than water.*

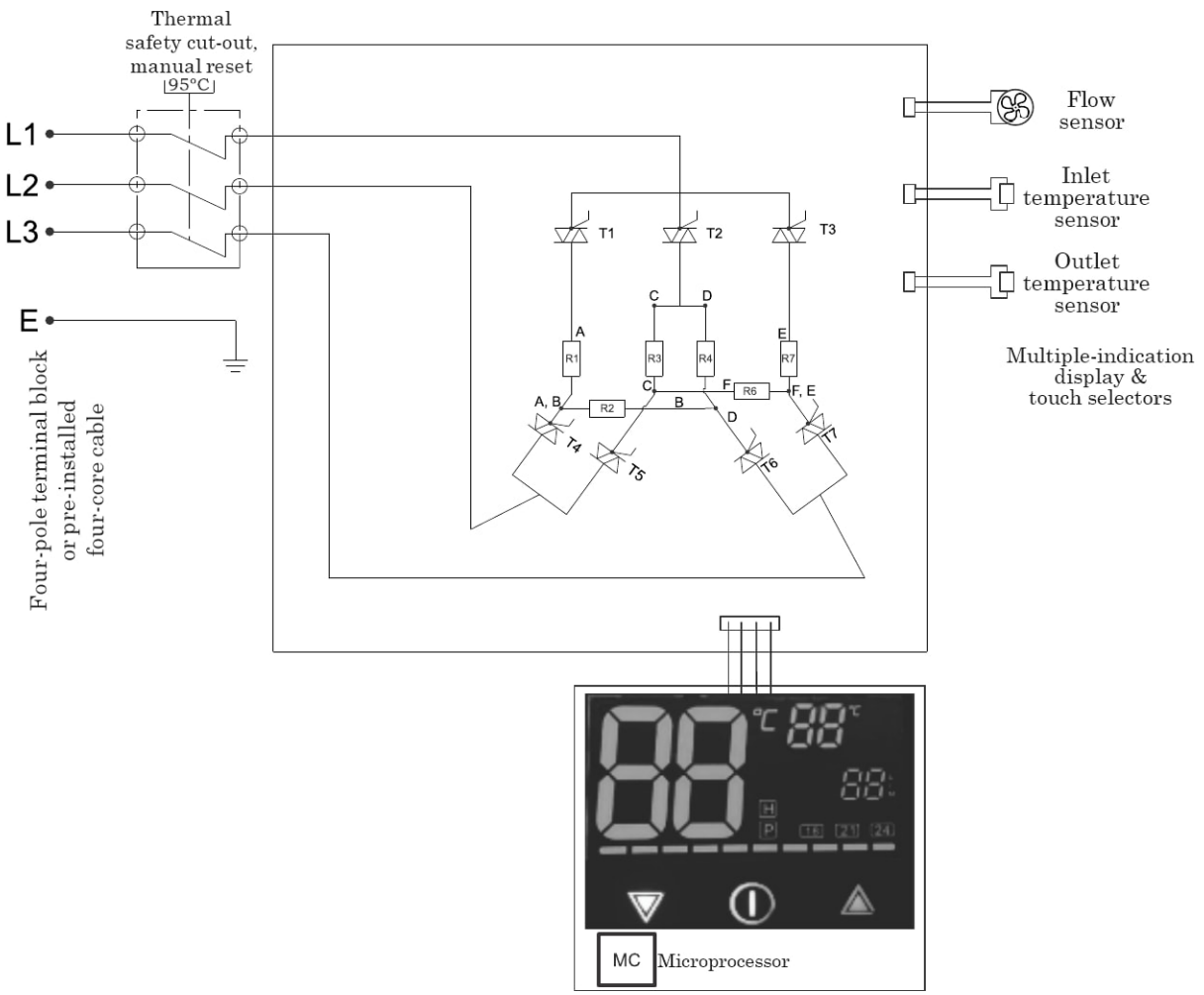
3.2 Description - Technical characteristics

Model	**K24**
Voltage	400V 50Hz
Maximum power	24000 Watt
Maximum current	34.6A
Operating pressure	0.1MPa - 0.7MPa (*Max. permitted 1.0 MPa*)
Ingress protection rating	IP 24
Electronic overheat protection temperature	70°C
Mechanical overheat protection temperature	95°C
Hydraulic connection type	G1/2" Male
Minimum flow rate for heating element activation	1.2 - 1.5 Litres / Minute
Maximum water flow	10 - 13 Litres / Minute
Appliance dimensions	432mm * 275mm * 116mm
Net weight of appliance	5.75 Kg

3.3 Display with multiple indications and touch selectors



3.4 Wiring diagram



4. Operating instructions

After the electrical and hydraulic connection, the appliance is ready to be put into operation. The **K24** has an LED display with multiple indications and touch selectors (page **9**).

1) Before powering the appliance, open the water and let it run for a few seconds with the flow regulator fully open.

2) Switch on the circuit breaker (automatic fuse) at the panel to supply power to the water heater. You hear a characteristic sound and at the same time all the digits and symbols of the display light up, together with the three touch selectors. Then the selected power range appears (factory pre-selection 24 kW) and afterwards everything goes out, except the red light of the (ON / OFF) selector and of the two triangles, blue and orange respectively.

3) Lightly touch the (ON / OFF) selector, which will change to green. The display lights up and shows the outlet temperature indication, the selected temperature indication and the letter "H" (inverter operation).

4) Select the desired temperature by lightly touching the left blue triangle to decrease it and the right orange triangle to increase it. The temperature you select will flash three times and will then be stored and stay visible. The range of choices is limited from 30 °C to 60 °C, in steps of 1 °C. *(It is recommended that the temperature of use does not exceed 45 °C.)*

5) Open the water flow according to the hydraulic installation. *(At the first operation, or after a power cut* or switching off the power at the electrical panel*, the appliance will start to heat the water after a delay of three (3) seconds.)* At the temperature selection position the symbol "H" appears, together with bars that rotate. This means that the appliance has started to heat the water. If the displayed temperature is not the desired one, slowly and steadily reduce the water flow with the flow regulator until the temperature stabilises at the desired value. The temperature stays constant despite any changes in the flow or in the temperature of the water entering the appliance.

6) The **K24** water heater has a function that limits the range of the maximum power (smart power). You can choose between three levels, 18 kW, 21 kW and 24 kW, which is also the maximum power produced by the heating elements.

Follow the procedure below to select the maximum power range:

a) Make sure that there is no water flow and that the appliance is switched off. Only the (ON / OFF) touch selector must be lit, in red.

b) Place your finger on the (ON / OFF) touch selector and hold it until you hear a short sound and the letter (P) lights up together with one of the following numbers (18 or 21 or 24), which stand for the corresponding power in kW. Choose the desired power with the right or the left triangle, then wait three (3) seconds until you hear a short sound, the selection is stored and the letter (P) goes out. The appliance stays switched off. *Then follow the instructions in paragraphs 3), 4) and 5).*

* *The appliance has a memory function: after any interruption of the power supply, when the power is restored it returns to its last state (switched off or standby) and its last settings.*

4.1 Troubleshooting table

Problem	Cause	Solution
Water leak at the inlet / outlet	Poor connection of the hoses, or worn-out rubber washers	Tighten the hoses or replace the washers
No indication on the display	No electric current reaches the appliance	Check the wiring / the circuit breaker at the electrical panel
	The display is faulty	**Call +30 2310923130**
Low or no water flow	The water supply from the mains has been interrupted or stopped	Wait until normal flow is restored
	Wrong hydraulic connection	Check the hydraulic connection and carry out repairs if necessary
	The water flow is lower than 2 L/min	Wait until normal flow is restored
	Flow obstructed by clogged filters (shower head - filter or flow regulator)	Clean the filters
	Flow obstructed by a clogged hand shower	Clean the hand shower
The water does not get hot	The heating elements are faulty	Contact SOLCORE
	The thermal safety cut-out has been activated	
	No electric current	Check the power supply
	The residual-current protection device has been activated	**Call +30 2310923130**
The heater does not switch on while water is running and the display is lit	The magnetic flow sensor is faulty	**Call +30 2310923130**
Water temperature too low	Water flow too high	Reduce the flow with the flow regulator
Water temperature too high	Water flow too low	Increase the flow with the flow regulator
The automatic switch at the electrical panel trips	The power supply has a short circuit or there is a current leakage	**Call +30 2310923130**
Fault indication "E1"	**Outlet temperature sensor fault**	**Call +30 2310923130**
Fault indication "E2"	**Inlet temperature sensor fault**	
Fault indication "E3"	**Appliance overheating**	

Whenever a fault or uncertainty arises, act as follows:

1. *Switch the appliance off at the electrical panel.*
2. *Call a specialised technician approved by the manufacturer, or call the manufacturer's representative.*

5. “Maintenance – Repair” instructions

Any maintenance or repair work must be carried out only by a specialised technician approved by the manufacturer or by its representative. Any spare parts that may need to be used must have been approved by the manufacturing company.

In every case of malfunction or damage to the appliance, refer to a specialised technician who has been approved by the manufacturer or by its representative.

Before carrying out any work to replace gaskets and clean the filters, make sure that you have isolated the appliance from the water supply network. Disconnect the appliance from the power outlet and/or switch off the circuit breaker at the electrical panel. The work must be assigned to a competent person, or may be carried out by the user provided that they have the relevant experience.

5.1 End of life cycle

The appliance must not be disposed of together with household waste at the end of its life cycle. It contains electronic components and recyclable materials which can be recovered by approved waste management companies.

Please contact either the dealer from whom you bought the appliance or the local authority (municipality) to receive the appropriate guidance on when and how to dispose of the appliance.

DECLARATION OF CONFORMITY

MANUFACTURER:	K&A KALATOUDIS O.E.
MANUFACTURER'S ADDRESS:	147 K. KARAMANLI AVE., 542 49, THESSALONIKI
NAME & ADDRESS OF THE AUTHORISED PERSON WHO COMPILED THE TECHNICAL FILE:	KALATOUDIS - 147 K. KARAMANLI AVE., THESSALONIKI TEL. +30 2310923130, FAX +30 923131
PRODUCT:	ELECTRIC TANKLESS WATER HEATER
TYPE:	**K24**
SERIAL NUMBER:	
YEAR OF MARKING:	2023
EU DIRECTIVES:	2014/35/EU, 2014/30/EU, 2013/812/EU, 2013/814/EU, 2011/65/EU
HARMONISED STANDARDS:	EN 60335-1:2012+A11:2014+A13:2017+A1:2019 +A14:2019+A2:2019+A15:2021 EN 60335-2-35:2016+A1:2019+A2:2021 EN 62233:2008 EN IEC 55014-1:2021; EN IEC 55014-2:2021; EN IEC 61000-3-11:2019; EN 61000-3-12:2011 EN50193-1:2016+A1:2020

We hereby declare, under our sole responsibility, that the above appliance has been designed and manufactured in accordance with the requirements of the above EU DIRECTIVES and continues to comply with these requirements as long as it is used in accordance with the accompanying instructions and/or the restrictive rules.

SOLCORE
Κ. & Α. ΚΑΛΑΤΟΥΔΗΣ Ο.Ε.
ΕΜΠΟΡΙΑ ΤΑΧΥΘΕΡΜΑΝΤΗΡΩΝ
Κ. ΚΑΡΑΜΑΝΛΗ 147, Τ.Κ. 542 49 - ΘΕΣΣΑΛΟΝΙΚΗ
ΤΗΛ.: 2310 92.31.30 FAX: 2310 92.31.31
ΑΦΜ: 997810178 - ΔΟΥ: Η' ΘΕΣ/ΝΙΚΗΣ

Warranty Certificate

The company **SOLCORE** guarantees the good operation of the appliance accompanied by this warranty.

The warranty is valid for **Two (2) Years** and a special warranty of **Ten (10) Years*** is provided only for possible water leaks caused by perforation due to corrosion in the aluminium heating system.

The warranty is valid from the date of purchase of the water heater, from **SOLCORE** or from a cooperating store, and must in every case be accompanied by the purchase document (receipt/invoice).

For the warranty to be valid, you must fill in all the blank fields in the **"Warranty Slip"** and send it to **"SOLCORE"** within **Ten (10) Days** of the purchase of the water heater.

This warranty fully covers the spare parts and the labour during the period of the **Two (2) Years**, with the aim of restoring the water heater to good working order, or of replacing it completely if this is considered necessary by the technical support department.

*The special **Ten (10) Year** warranty, which applies only to the aluminium heating system, covers only its replacement cost (spare set and labour). All other parts of the water heater that need replacing, and whose wear and malfunction is not related to the aluminium heating system but to other causes, and which have exceeded the **Two (2) Years** of operation, are charged normally together with the labour for replacing them.

The transport of the water heater from the installation site to the repair site and back is at the owner's responsibility and expense.

Warranty Slip

Please fill in and send this warranty slip to our company within TEN (10) days of the purchase of the appliance.

Appliance type: ..... Serial number (S/N): .....

Date of purchase: .....

Customer name: .....

Address: .....

Telephone: ..... Mobile: .....

Place of purchase: ..... Installer details: .....

Customer signature **Installer signature**

--- ---

The customer and the installer confirm with their signatures that the appliance works properly.

Warranty Terms

THIS WARRANTY DOES NOT COVER:

- Damage due to incorrect installation.
- Damage due to misuse.
- Any damage during transport.
- Damage due to frost.
- Damage due to intervention by a person not authorised by "SOLCORE".

The warranty also loses its validity in cases where there are visible signs of violation of the components that make up the appliance (scratches on the electronic boards, twisted contacts or connections, etc.), or if the identification label on the side is removed.





"SOLCORE" K&A Kalatoudis O.E.

147 K. Karamanli Ave., 542 49

Thessaloniki

Tel: 2310 923130

Fax: 2310 923130

e-mail: info@solcore.eu