

**USER'S MANUAL**



**AUXILIARY ELECTRIC HEATER  
FOR MONOBLOCK UNITS**

EH-SMH



# 1. SAFETY INSTRUCTIONS

## WARNING



**Please read this manual carefully before installing this device!**

- This device is not intended to be used for other purposes than those described below.
- Before commissioning, please check the range of operating conditions of the given installation.
- The EH-SMH may be installed only by a company that has the relevant qualification and is authorized by the manufacturer.
- This product is not intended to be operated by
  - a) persons (including children) with reduced physical, sensory or mental capabilities, or
  - b) persons with insufficient knowledge and experience, unless being supervised by a responsible person or have not been properly trained.
- The manufacturer reserves the right to modify the product.
- Cleaning and maintenance may only be performed by persons with suitable qualification. Otherwise, personal injury or property damage may occur. Do not dismantle or repair the device.
- Disconnect the device from the power supply before cleaning or maintenance. Otherwise, an electric shock may occur.
- Damaged power cables must be replaced by the manufacturer, authorized service centre or appropriately qualified person.
- Do not repair the device yourself. Otherwise, electric shock or damage to the device may occur. Contact your dealer, if you need to repair the device.
- Immediately turn off the device and disconnect it from the power supply, if any of the following conditions occur. Then ask your dealer or an authorized service centre for repair. If you let the device run under these conditions, this may cause a malfunction, electric shock or fire.
  - The power cord overheats or it is damaged.
  - An abnormal noise during operation.
  - An upstream breaker repeatedly trips.
  - The device smells like something is burning.

## 2. PRODUCT SPECIFICATIONS

### FUNCTION DESCRIPTION

The bivalent source for the heat pump with cascade control is designed as an additional heating device to the heat pump, i.e. as a bivalent heat source to ensure thermal comfort and in case of need as a substitution of the heat pump when it fails. The water is heated by a tubular heating element. A safety thermostat sensor is inserted in the socket. The water temperature should be controlled by the heat pump control unit. In case of overheating, the safety thermostat disconnects all poles of the power supply at a temperature of 79–85 °C.

### INSTRUCTION TO CONSUMER

We recommend measuring the insulation resistance before commissioning the heater. Both electrical and water installations must follow and comply with the requirements and regulations in the country of use.

### DIMENSIONS OF THE HEATER

The bivalent source consists of the electric heating element with a connection thread G 1" (see Fig. 1). The electrical cable for the power supply connection and the cable for the thermal fuse control are lead out with a length of approximately 1.5 m.

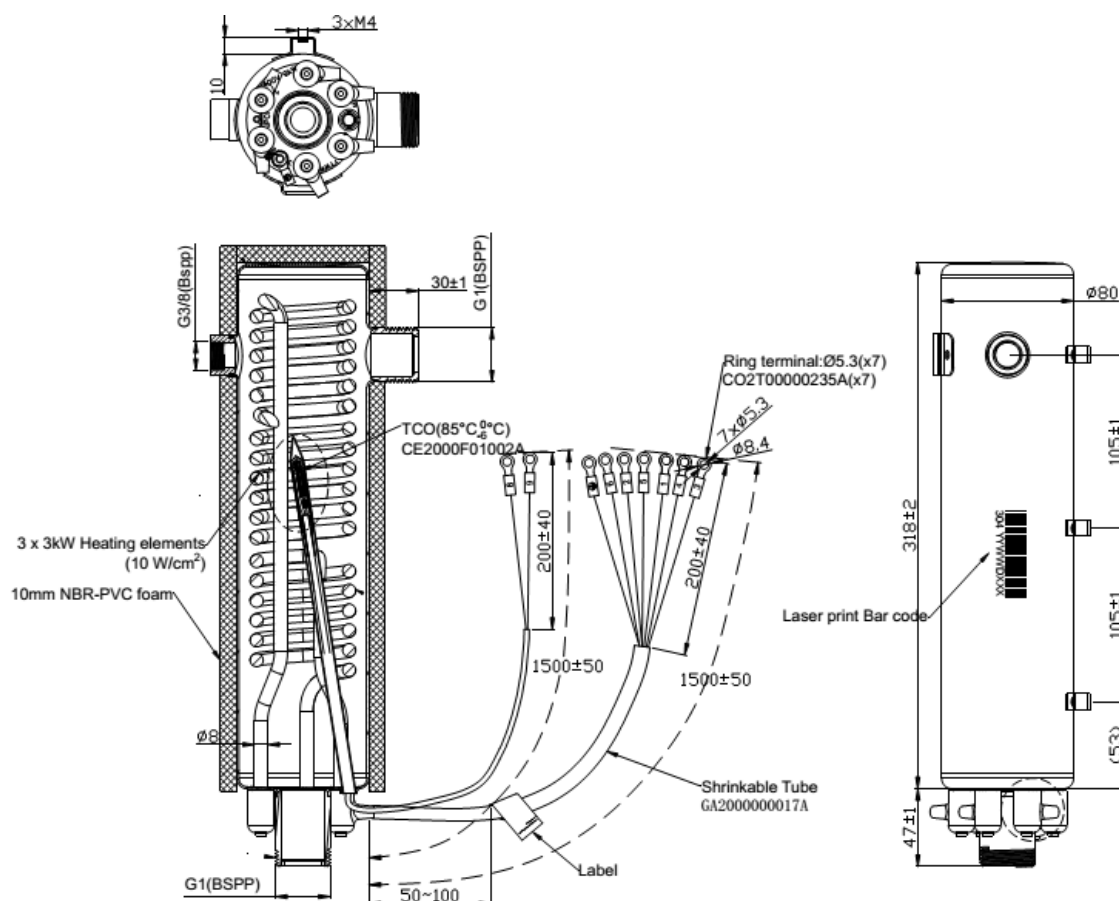


Fig. 1

### 3. INSTALLATION

The bivalent source is to be built into the heating circuit of the heat pump at the hot water outlet position.

It has a G 1" inlet and outlet for water connection; a G 3/8" opening can be used for venting and can be fitted with a vent valve. Possible connection methods with the marked water flow directions are shown below (Fig. 2).

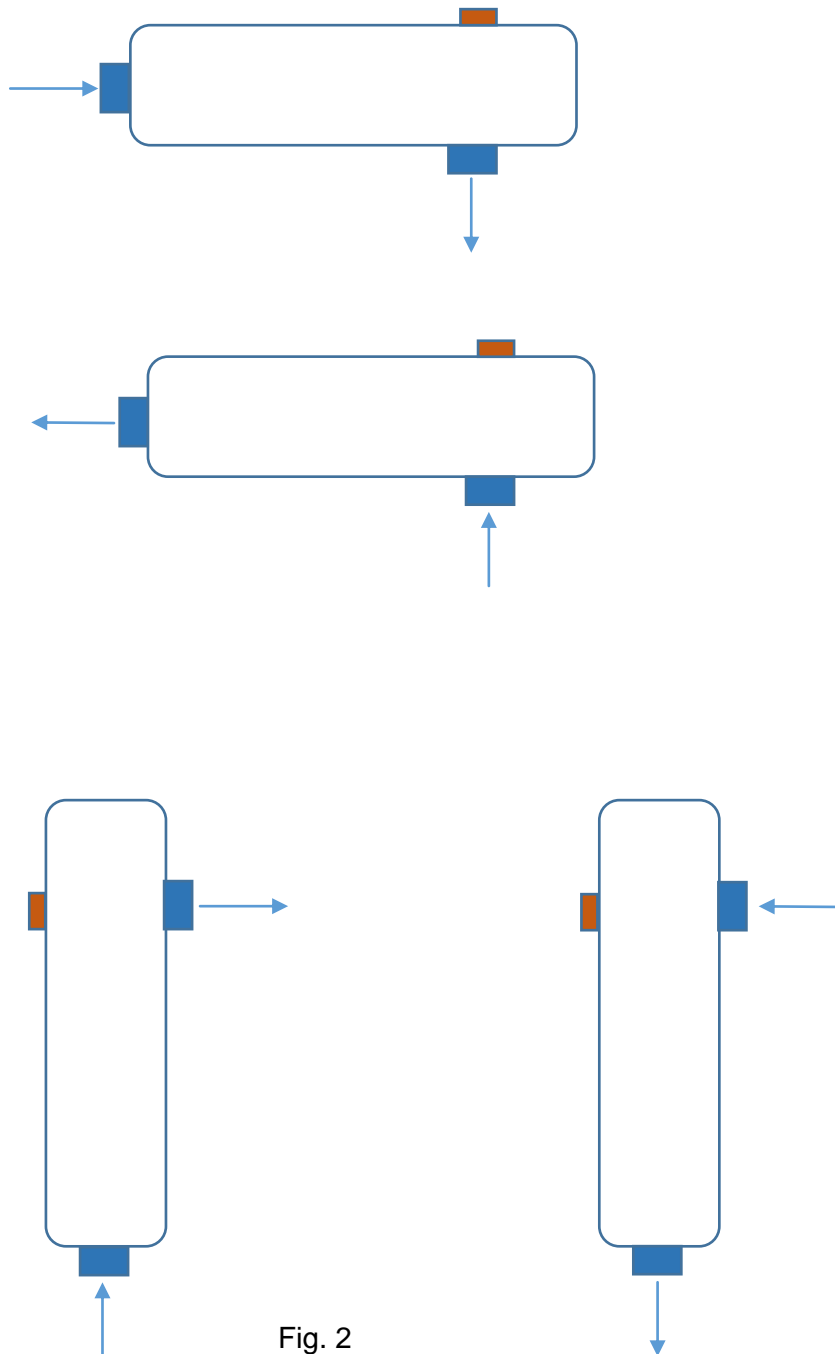


Fig. 2

## 4. WIRING

Connect the power supply cable and, if necessary, the thermal fuse control cable according to the wiring diagram below (Fig. 3). The device is to be connected to the 400 V / 50 Hz mains using a fixed connection of the wires with the appropriate cross-section and with the appropriate fuse for the power rating of the heater.

Warning: The main switch must be installed in the power supply wiring to disconnect all poles of the mains supply.

The installation must be carried out by the applicable EN standards.

The installation can use a 3×3 kW/400 V delta connection (L1: contact 1, 4; L2: contact 2, 5; L3: contact 3, 6) or a 3×2 kW/400 V star connection (L1: contact 1; L2: contact 2; L3: contact 3, connect contact 4, 5, 6). Always connect the earthing (protective) wire PE.

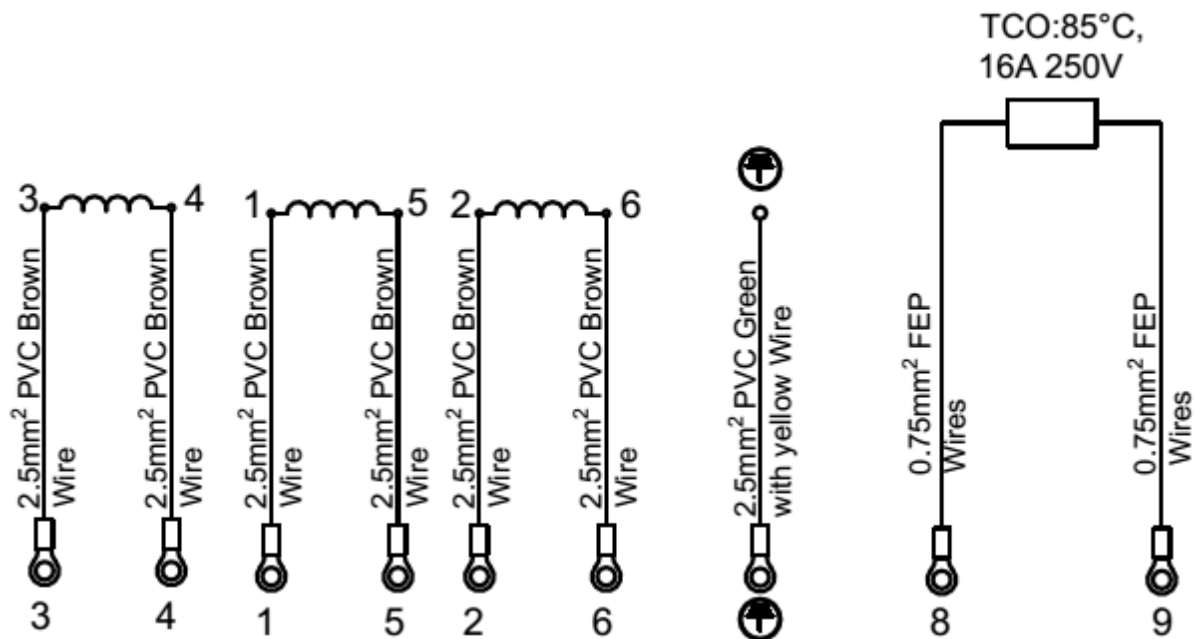


Fig. 3

## **5. MAINTENANCE AND INSPECTION**

Maintenance involves the descaling of the heating element at intervals chosen according to the hardness of water at the point of use, especially if untreated heating water is used in the system. Damage to the heating element due to limescale deposits is not recognised by the manufacturer as a reason for the complaint.

## **6. FAULTS AND CAUSES**

The bivalent source does not heat – If the safety thermostat is still switched off after overheating and cooling, it must be replaced by a professional company.

Heating element failure - If the safety thermostat is switched on but the bivalent source is not heating, it means a heating element failure. Have the heating element repaired by a professional service.

Do not attempt to fix the fault yourself. Contact a professional company.

## **7. INSTALLATION REGULATIONS**

Each heat source must be fitted with a non-lockable safety device.

In operation, the heating element and sensor housing must be sufficiently surrounded by water on all sides.

The thermal flow of water must not be inhibited.

The maximum pressure in the vessel is 10 bar.

The minimum flow rate for the safe operation of the bivalent source is 0,6 m<sup>3</sup>/h.

Due to the type of insulation, the bivalent source is not suitable for a common heating and cooling circuit with a temperature below the dew point (15 °C).

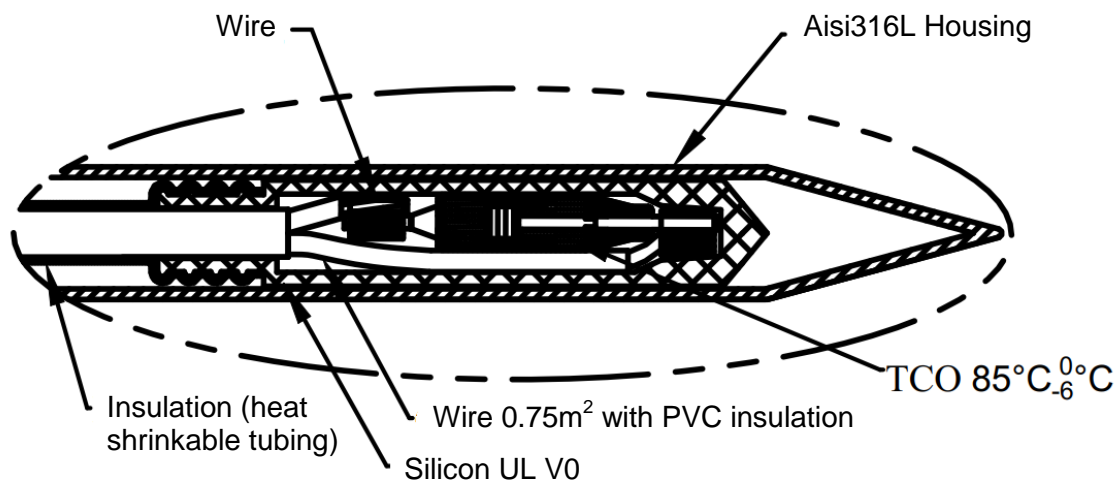
## 8. TEMPERATURE SENSOR – SPARE PART

**Manufacturer:** Emerson

**Type:** TCO +85°C



**Description:** Temperature sensor – overtemperature protection

**Drawing:**



**Part number:** 9BBSI102ANEP002C

## 9. RATING LABEL

<b>sinclair®</b> ELECTRICAL HEATER	
<b>Model</b>	<b>EH-SMH</b>
<b>Rated Voltage</b>	<b>400 V~</b>
<b>Rated Frequency</b>	<b>50 Hz</b>
<b>Heating Capacity</b>	<b>9.00 kW</b>
<b>Power Input</b>	<b>9000 W</b>
<b>Protecting Rating</b>	<b>I P45</b>
<b>Weight</b>	<b>3,13 kg</b>
<b>Maximum Pressure</b>	<b>1 MPa</b>
 Producer: SINCLAIR CORP. Ltd, 1-4 Argyll St., London, UK Representative: SINCLAIR Global Group s.r.o., Purkynova 45, 612 00, Brno, CZ	
 	

# NOTE CONCERNING PROTECTION OF ENVIRONMENT

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This product must not be disposed of via normal household waste after its service life, but must be taken to a collection station for the recycling of electrical and electronic devices. The symbol on the product, the operating instructions or the packaging indicate such disposal procedures. The materials are recyclable in accordance with their respective symbols. By means of re-use, material recycling or any other form of recycling old appliances you are making an important contribution to the protection of our environment. Please ask your local council where your nearest disposal station is located.

## PRODUCER

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SINCLAIR CORPORATION Ltd.  
1-4 Argyll St.  
London W1F 7LD  
Great Britain

[www.sinclair-world.com](http://www.sinclair-world.com)

This product was manufactured in China (Made in China).

## REPRESENTATIVE

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SINCLAIR Global Group s.r.o.  
Purkynova 45  
612 00 Brno  
Czech Republic

## TECHNICAL SUPPORT

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SINCLAIR Global Group s.r.o.  
Purkynova 45  
612 00 Brno  
Czech Republic

Tel.: +420 800 100 285  
Fax: +420 541 590 124

[www.sinclair-solutions.com](http://www.sinclair-solutions.com)  
[info@sinclair-solutions.com](mailto:info@sinclair-solutions.com)

