



**ELECTRIC HEATER
FOR BATHHOUSES
AND SAUNAS**

**ELECTRIC HEATER
«PARIZHAR»
WITH AN INTEGRATED
ELECTRIC SUPERHEATED
STEAM GENERATOR**



**Electrical power
4,25; 6,25; 10,0; 12,0; 16,0;
18,0; 20,0; 22,0; 24,0 kW**

USER'S MANUAL

ATTENTION!



Before starting installation and operation of the electric heater, carefully read this manual. It is strictly forbidden to leave a working heater without supervision. In order to avoid a fire, it is forbidden to cover the heater with any objects or materials.

This User's manual is a document containing information on the design, characteristics and instructions for the proper installation, connection, safe operation, maintenance, transportation and storage of the electric heater.

Due to the continuous improvement of the design and manufacturing technology of the heater, this manual may contain separate discrepancies between the device and its description, which do not affect its performance and do not impair its technical characteristics.

TABLE OF CONTENTS

| | |
|--|-----------|
| 1. DESCRIPTION AND FUNCTIONS | 6 |
| 1.1 Intended purpose | 6 |
| 1.2 Technical data | 7 |
| 1.3 Components | 8 |
| 1.4 Design and functions | 9 |
| 1.5 Instrumentation | 15 |
| 1.6 Marking and sealing | 16 |
| 1.7 Packing | 16 |
| 2. APPLICATION | 21 |
| 2.1 Preparation for use | 21 |
| 2.1.1 Safety precautions | 21 |
| 2.1.2 Mains connection and preparation for operation | 23 |
| 2.1.3 Stone facing assembly (for stone-faced heaters only) | 28 |
| 2.2 Operation | 32 |
| 2.2.1 Safety precautions | 32 |
| 2.2.2 Operation procedure | 33 |
| 2.2.3 Recommendation for steam generator descaling | 35 |
| 2.2.4 Emergency actions | 37 |
| 2.2.5 Possible faults and troubleshooting | 38 |
| 3. MAINTENANCE | 39 |
| 4. STORAGE AND TRANSPORTATION | 39 |
| 5. DISPOSAL | 40 |
| 6. WARRANTY | 40 |
| 7. WARRANTY CARD | 42 |

With a steady-state boiling water, so-called saturated steam is formed, that is, a steam-water mixture, a «fog», in which part of the water remains in an unevaporated, micro-droplet, suspended state. Such steam is condensed not only on the skin of a person who has not even managed to sweat, but also in the respiratory organs, causing a feeling of short of breathing, «suffocation».

«Light steam» is really materially light steam, due to the absence of suspended, microscopic, heavy drops of water. Such a steam is considered to be the right one for the bath and is appreciated by its experts. To determine the overall comfort of the microclimate in the steam room, there is a complex theoretical relationship between temperature and humidity, this relationship is not linear, it is impossible to remember it. And, probably it is not necessary. Each person has the right to determine this ratio in accordance with his own personal preferences.

Single additions of water even on rather hot stones of a typical electric heater leads only to insignificant short-term increases in humidity of the steam room and fundamentally do not solve the problem of creating a general, long-term and comfortable temperature and humidity regime.

A prolonged and frequent pouring of stones with water leads to their accelerated cooling and, accordingly, to a decrease in the quality of the steam. Moreover, such intensive watering without a doubt reduces the electrical safety of the product in use.

In view of the foregoing, the LLC «Inzhkomtsentr VVD» developed, designed and produced steam thermal electric heaters of various electrical power and modifications, the construction of which not only to determine the parameters of the temperature and humidity conditions, but also provides the technical ability to do this easily, simply and conveniently. The basis of these products is a fundamentally new electric generator of superheated steam (EGSS).

By installing in your Bathhouse (exactly THE Bathhouse, and not the sauna) a steam-thermal electric heater of sufficient power, and it is determined by the previous-known ratio of parameters - one kW per cubic meter, you get a real opportunity to control the temperature in the steam room in automatic mode in accordance with the set parameters on the control panel (CP), and humidity in the manual mode, also set on the CP. The duration of the steam mode generation ensures the humidity level in the room in accordance with your personal feelings and preferences.

The absence of any particularly complex automatic devices, the general simplicity and safety of the steam generation scheme guarantee the reliability and stability of the entire system. And the presence in the design of the steam-thermal heater of the zone of a standard electric heater, decorated with heating elements and stones for steam formation, gives the user possibility of obtaining typical emissions of steam in the «adding» mode.

Our Company also produces autonomous electric superheated steam generators (AESSG) from 2.25 to 18 kW in various cases and designs depending on power, with a temperature of superheated steam at the outlet from 300 to 330 C. AESSGs can be installed in ready-made equipped and designed baths and saunas in addition to the electric or wood-burning stoves already installed in the steam rooms to ensure comfortable humidity parameters. In this case, their operation is provided through an individual control panel with the «ON-OFF» function.

When AESSG is installed in steam rooms autonomously, stable temperature and humidity ratios are ensured, both in the "Russian bath" modes and at lower and higher temperature conditions, at the user's request, including the soft, low temperature and high humidity, delicate Turkish bath mode called «Hamam».

The temperature is set, as in typical electric heater, using an external control panel, and the humidity corresponding to this temperature is provided by the AESSG technical parameters set by the manufacturer.

An additional opportunity to gain saturated steam in the operating mode ensures effective aromatization of steam rooms and steaming brooms when installing a phyto-isolation device or a broom steamer, also produced by LLC «Inzhkomsentr».

1. DESCRIPTION AND FUNCTIONS

1.1 Intended purpose

1.1.1 The steam thermal electric heater PARiZHAR with an integrated electric superheated steam generator is used to develop and maintain required temperature and humidity conditions in a sweating room.

1.2 Technical data

| Parameter | Meas. unit | Norms, parameters | | | | | | | | |
|---|-----------------|-------------------|----------|-------------|------------|----------|-------------|----------|----------|----------|
| | | 4,25 | 6,25 | 10,0 | 12,0 | 16,0 | 18,0 | 20,0 | 22,0 | 24,0 |
| Rated power consumption* | kW | 4,25 | 6,25 | 10,0 | 12,0 | 16,0 | 18,0 | 20,0 | 22,0 | 24,0 |
| Including power of integrated ESSG | kW | 2,25 | 2,25 | 4 | 4 | 6 | 6 | 6 | 6 | 6 |
| Recommended heated room volume («Dry sauna» / «Russian bath» regimes) | m ³ | 3/3-5 | 5/5-8 | 8/8-13 | 10/10-15,5 | 12/12-20 | 14/14-23 | 16/16-27 | 18/18-30 | 20/20-31 |
| Supply voltage | V | 380\220 | | | 380 | | | | | |
| Recommended rated current of protective circuit breaker (380/220 V) | A | 16\ 25 | 16\ 40 | 25 | 25 | 40 | 40 | 40 | 50 | 50 |
| Section of power and ground wires (380/220 V) | mm ² | 2,5\ 4,0 | 2,5\ 4,0 | 2,5 | 2,5 | 4,0 | 4,0 | 6,0 | 6,0 | 10 |
| ESSP performance (water consumption) | l/ hour | 1,35 | | 2,5 | | 3,6 | | 3,9 | | |
| Water tank volume | l | 12,0 | | 14,5 | | 14,5 | | 21,5 | | |
| Overall dimensions (Width, Depth, Height) | mm | 380x520x635 | | 545x520x760 | | | 610x620x745 | | | |
| Heater weight | kg | 33 | | 50 | | | 82 | | | |
| Stone facing weight** | | 26,7 | | 38 | | | 61,8 | | | |
| Recommended weight of stones | kg | 35 | | 66 | | | 95 | | | |
| Type of current | | Alternate | | | | | | | | |
| Operation | | Continuous | | | | | | | | |
| Electric shock protection class | | 01 | | | | | | | | |
| Protection grades | | IP24 | | | | | | | | |
| Version according to mounting method | | Floor-standing | | | | | | | | |

* The specified power is sufficient for heating of a room of the corresponding volume provided it is effectively heat-insulated and the supply voltage is at least equal to the rated voltage.

** For stone-faced heaters only.

1.3 Components

Possible configuration options: 1.1 or 1.2.

| SI No. | Name | Meas. unit | Number | | |
|--------|---------------------|---|------------|-------|-------|
| | | | 4,25; 6,25 | 10-16 | 18-24 |
| 1 | 1.1 | Metal-enclosed steam thermal electric heater PARIZHAR | | | |
| | | Heater | pcs. | 1 | |
| | 1.2 | Stone-faced steam thermal electric heater PARIZHAR | | | |
| | | Heater | pcs. | 1 | |
| | | Metal inserts | pcs. | 15 | 18 |
| | Stone facing panels | pcs. | 24 | 30 | 38 |
| 2 | Control panel * | pcs. | 1 | | |
| 3 | User's manual | pcs. | 1 | | |
| 4 | Packaging | pcs. | 1 or 2* | | |

Note:

* - At extra charge.

1.4 Design and operation

1.4.1 Electric heater is used to develop and maintain required temperature and humidity conditions in a bath or sauna sweating room.

Electric heater allows to:

- Heat air in the bath (sauna) room to a set temperature
- Heat a stone mass to an optimum temperature for steam generation
- Continuously (upon enabled steam generator) generate an air-steam mixture of 300-330 °C.

1.4.2 Appearance and design of the Electric heater are shown in Fig. 1-4.

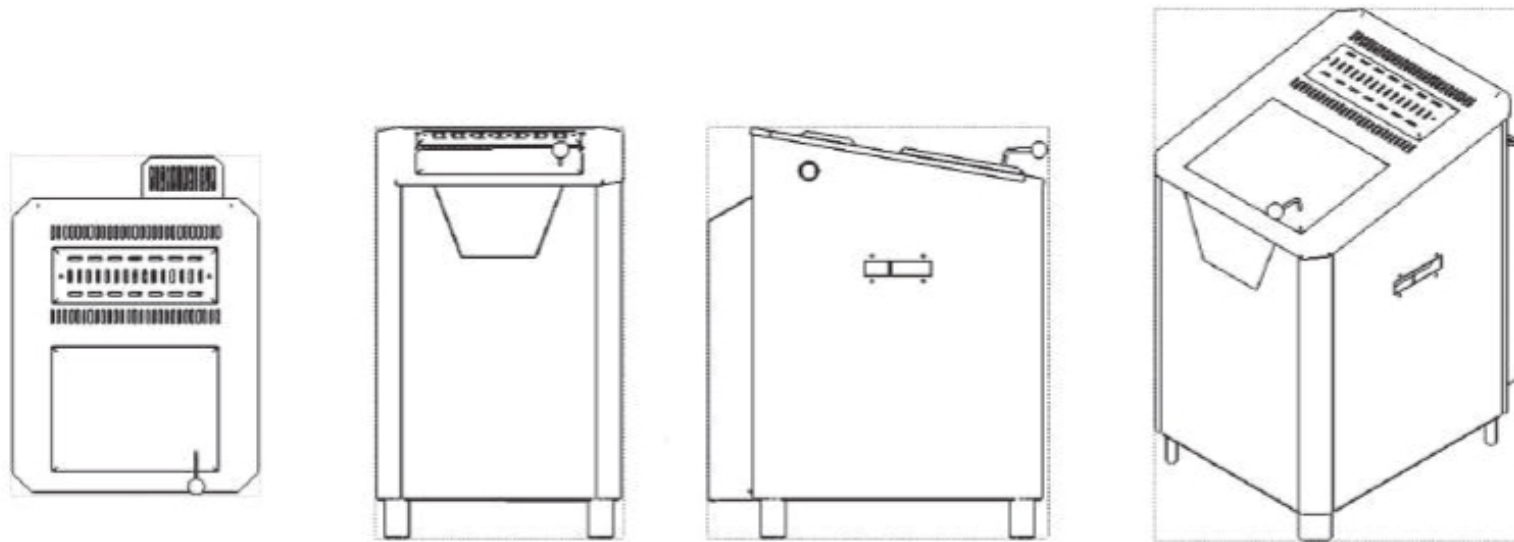


Fig. 1.1 Appearance of heater 4.25; 6.25 kW

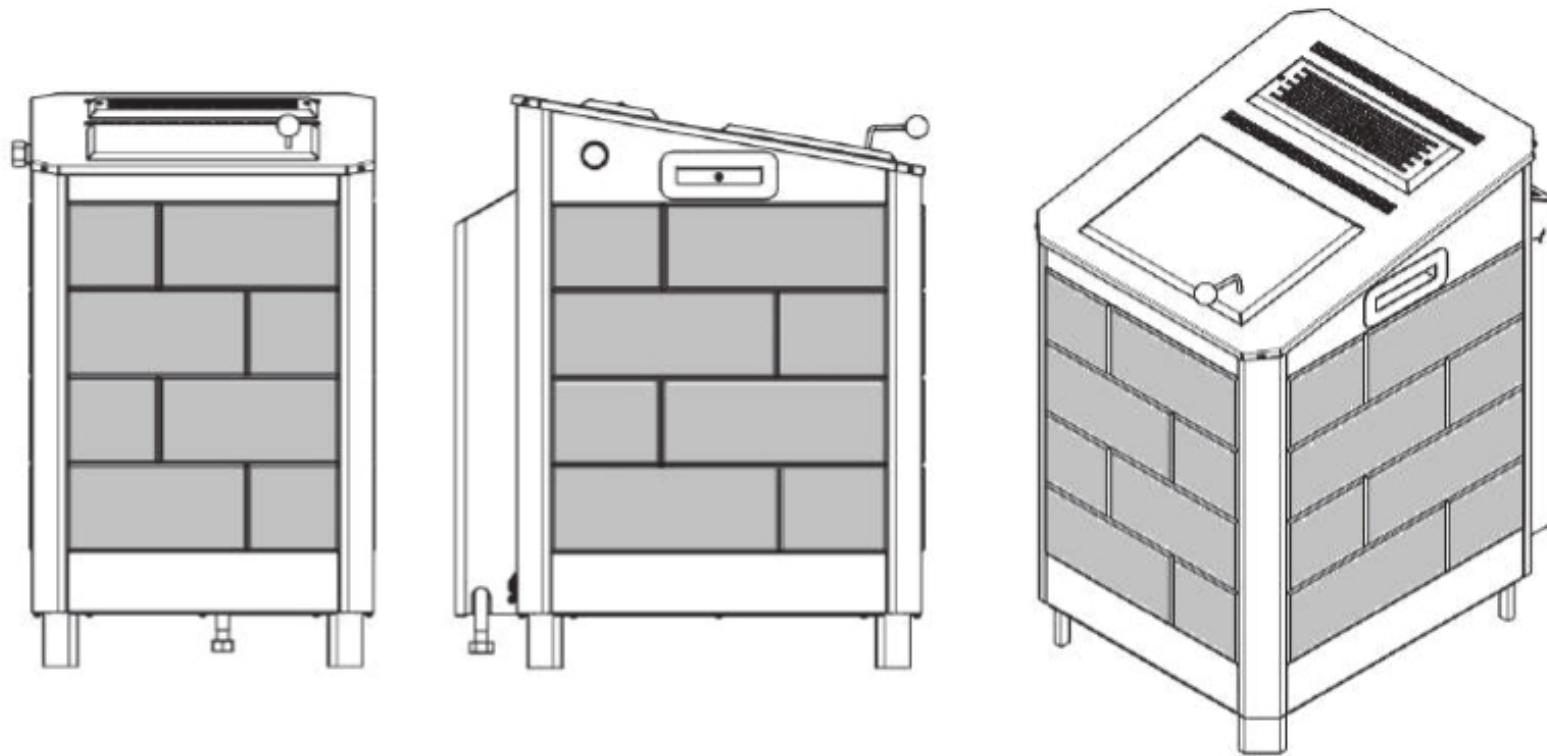


Fig. 1.2 Appearance of stone-faced heaters 4.25; 6.25 kW
Heaters 10-16 kW and 18-24 kW are similar

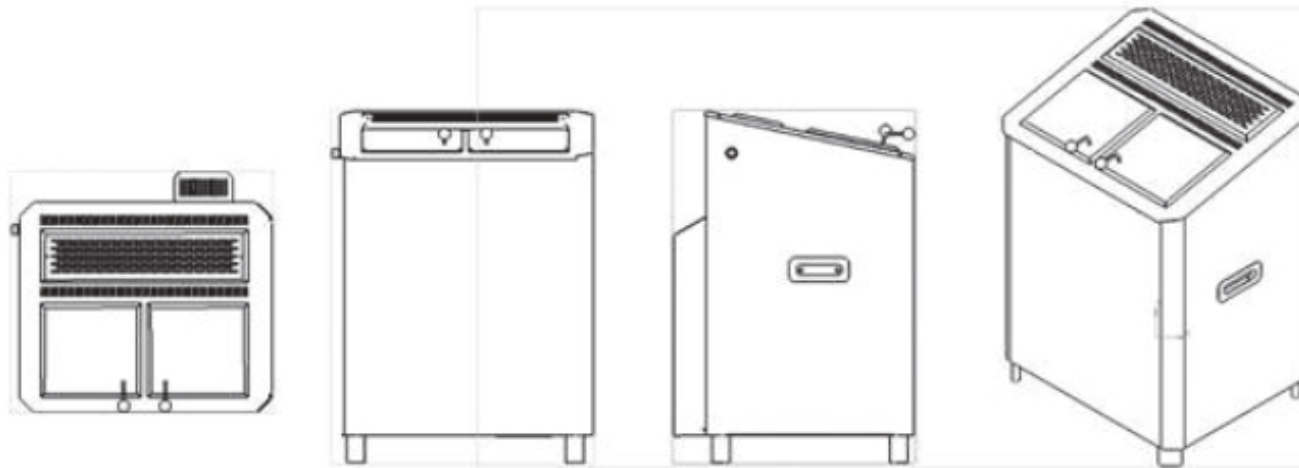


Fig. 2.1 Appearance of heater 10.0; 12.0; 16.0 kW

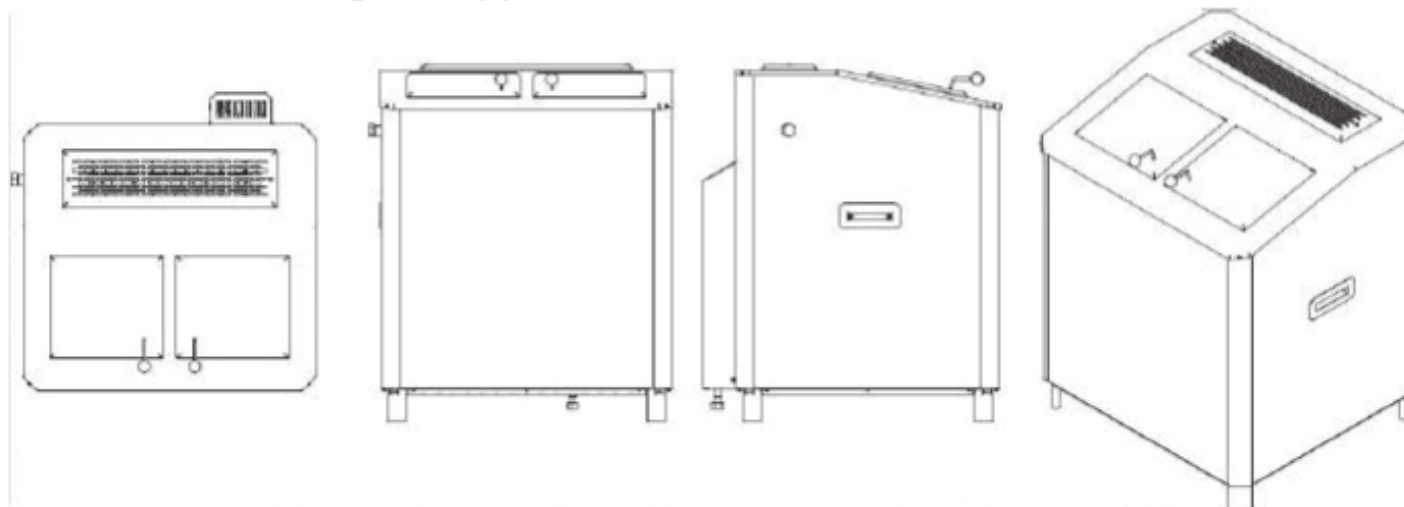


Fig. 2.2 Appearance of heater 18.0; 20.0; 22.0; 24.0 kW

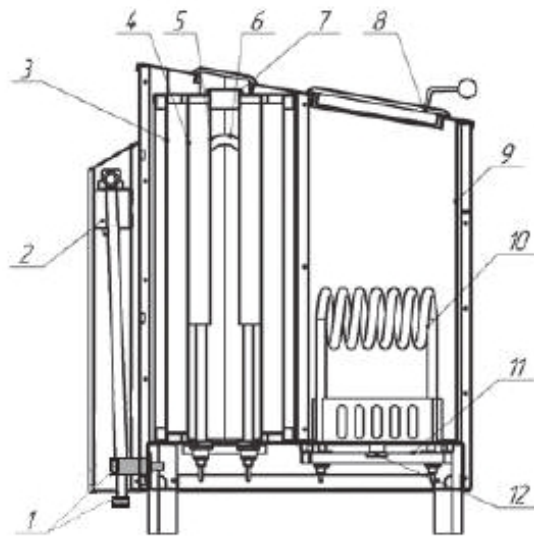


Fig. 3 Design of heater
4,25; 6,25 kW

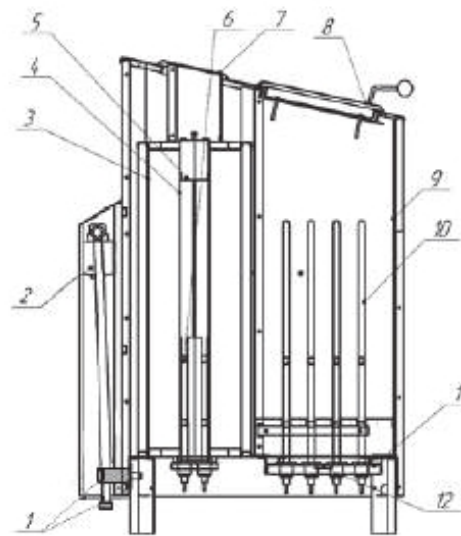


Fig. 4.1 Design of heater
10,0; 12,0; 16,0 kW

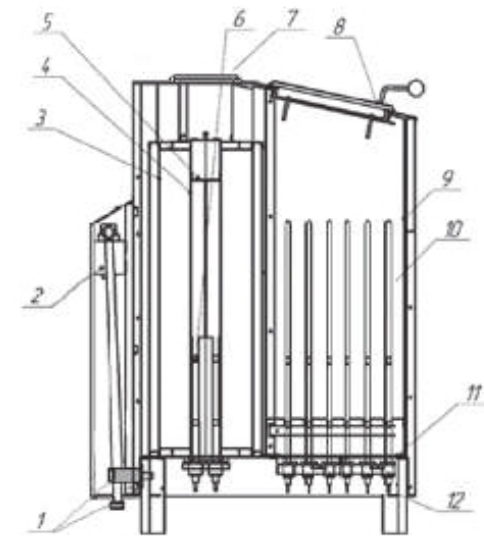


Fig. 4.2 Design of heater
18,0; 20,0; 22,0; 24,0 kW

1.4.3 The Electric heater consists of two functional units:

- Electric heater (EH)
- Control panel (CP)

1.4.4 EH design

Two functional units are mounted in a mirror- finished stainless steel enclosure on a box steel foundation: superheated steam generator and stone heating unit.

1.4.4.1 Design of superheated steam generator.

Through a heat-insulated water tank (no. 3 in Fig. 3, 4), a box-section channel is laid (no. 4, Fig. 3, 4), in which tubular heating elements (no. 6, Fig. 3, 4) are installed. Water is heated up to its boiling due to heat transfer through channel walls, from tubular heating elements to water. In the channel steam ducts are installed (no. 5, Fig. 3, 4), through which steam is transferred to a lower channel part, where it is mixed with air, which incomes from the bottom. Due to convective streams, the air-steam mixture flows upwards, is heated to 300-330 °C and released to the room through a nozzle (no. 7, Fig. 3, 4). The tank is filled and re-filled with water automatically, through a valve on a back of the enclosure. (no. 2, Fig. 3, 4).

1.4.4.2. Design of stone heating unit.

The stone heating unit is a heat-insulated steel tank (no. 9 Fig. 3, 4), in which tubular heating elements (no. 10, Fig. 3, 4) are installed. A steam-generating stone is laid into the tank. At the top, a heat insulated door(s) is available (no. 8, Fig 3, 4), which allows either using of some heat for room heating (the door(s) is/are open) or using all the heat for heating of the stone mass (the door(s) is/are closed). The tubular heating elements are installed on a foundation (no. 11, Fig. 3, 4), which is equipped with bimetal thermostats (no. 12, Fig. 3, 4), which cut the power of tubular heating elements after reaching of a certain temperature inside the tank.

1.4.5 CP design.

The CP consists of two functional units: control panel and power unit. The CP appearance is shown in Fig. 5

1.4.5.1 The control panel includes:

- Digital temperature and humidity meter
- Temperature control with control range +30 to +125 °C
- Three separated control circuits for tubular heating elements of the steam generator
- One control circuit for tubular heating elements, which heat stones (air)

The control panel provides:

- Delay of Electric heater switching on up to 24 hours with a 15-minute interval
- Automatic complete switching off of the Electric heater after 6 hours, during which CP elements were not touched (factory settings)



Fig. 5 CP appearance

Options of the information presentation on LCD of the control unit are shown below:

| | | | | | | | | | | | | | | | |
|---|---|---|---|--|--|--|---|---|--|--|--|--|---|---|---|
| 6 | 0 | | % | | | | | | | | | | * | * | * |
| 3 | 0 | . | 5 | | | | O | N | | | | | 7 | 0 | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|--|--|--|---|---|---|--|--|--|---|---|--|
| 6 | 0 | | % | | | | | | | | | | * | | |
| 3 | 0 | . | 5 | | | | O | F | F | | | | 7 | 0 | |

60 – current relative air humidity

30,5 – current air temperature

70 – a set air temperature

*** – a number of enabled tubular heating elements of ESSP

ON\OFF – switching on/off of tubular heating elements, which heat stones (air)

1.4.5.2 The control unit includes a plastic case with a text LCD (2 lines, 16 characters each) and control buttons in its front panel. Inside the control unit, electronic components are installed, which execute the Electric heater operation algorithm. The electronic components of the control unit are mounted on a PCB. The control unit is equipped with a temperature and humidity sensor, which is installed beyond the control unit, in the sweating room. The temperature sensor is connected to the control unit with an own 5-meter cable.

1.4.5.3 The power unit consists of a plastic case, which includes electromagnetic relays, which switch Electric heater power circuits, and the CP power unit. The power unit elements are mounted on a board.

1.4.6 Connection diagrams of EH and CP for different Electric heater models are provided in Fig. 6. EH and CP are connected using high-temperature wires with a corresponding section and screw terminals, which are located in the CP power unit and in the EH

1.4.7 Water is supplied to the Electric heater from an external water supply system or external storage tank. Water is supplied and drained via supply hose and drain nipple (no. 1, Fig. 3, 4) in the back of the electric heater panel, under a removable case.

1.5 Instrumentation

1.5.1 The temperature and relative humidity in a sweating room are controlled using a measuring device in the CP.

1.6 Marking and sealing

1.6.1 Marking is applied on a name plate on the EH enclosure and CP.

1.6.2 Marking corresponds to Art. 5 TP TC 004/2011 and contains the following data:

- Electric heater designation (type),
- manufacturer's trademark or name,
- serial number,
- Electric heater power in kW,
- rated supply mains voltage in V,
- Electric heater weight in kg,
- year of manufacture,
- country of manufacture,
- designation of specifications,
- Customs Union conformity mark,
- EC marking.

1.6.3 The Electric heater is not sealed.

1.7 Packing

1.7.1 The Electric heater is packed into corrugated cardboard boxes.

1.7.2 The packing and preservation of the Electric heater correspond to Section 3 GOST 23216 as for transportation and storage conditions and storage life.

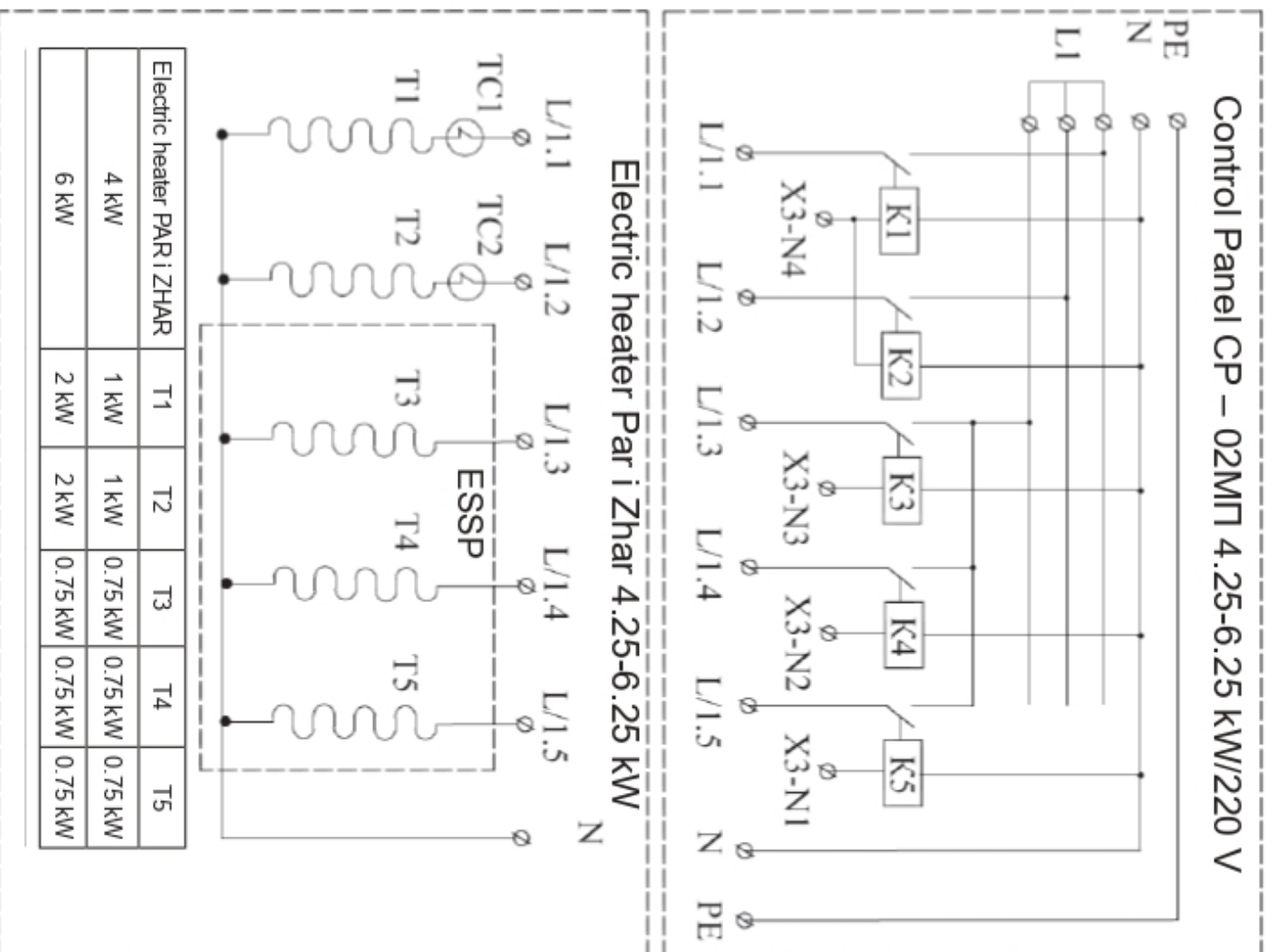


Fig. 6.1 Connection diagram for EH and CP 4,25-6,25 kW/380 V

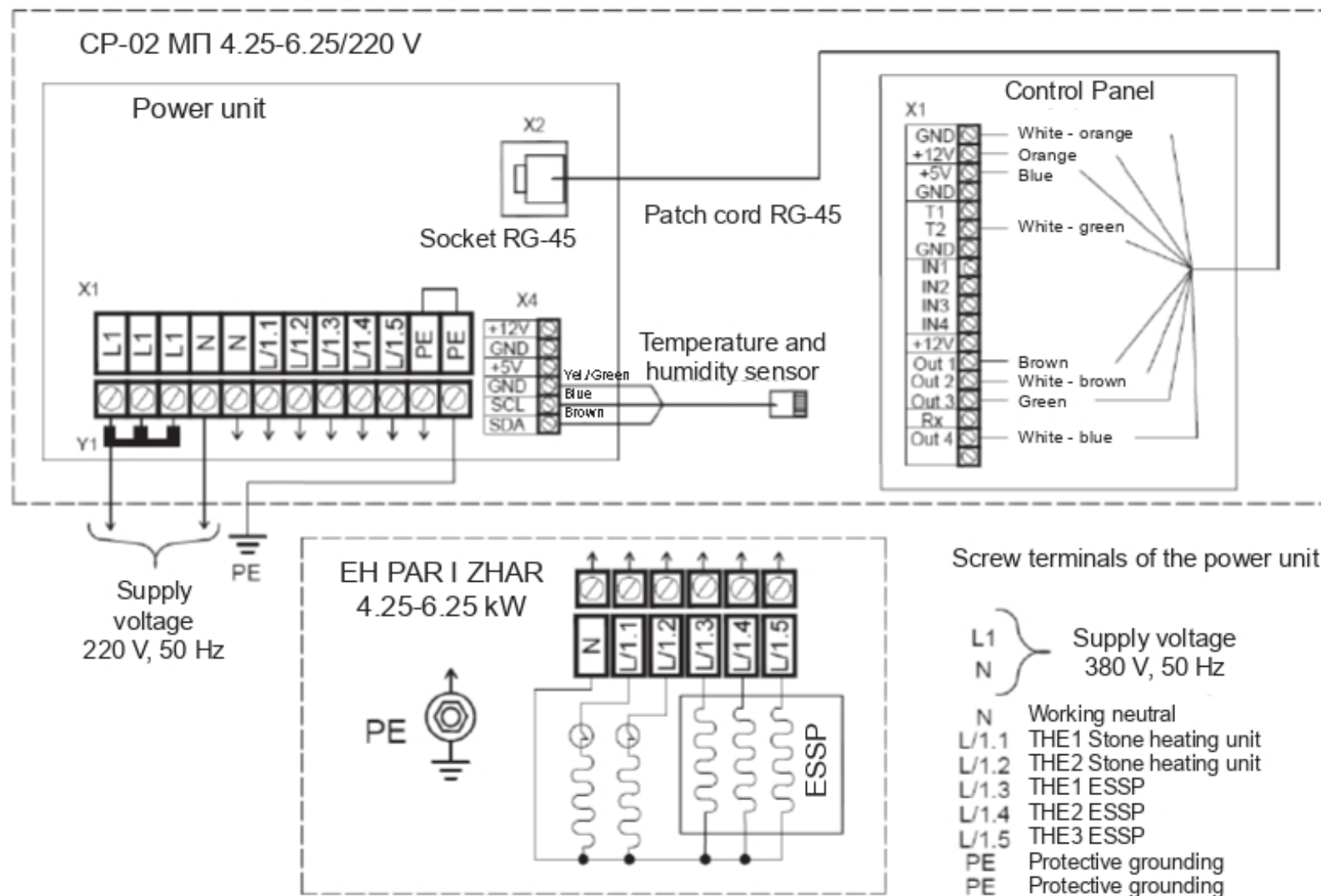


Fig. 6.2.1 Connection diagram of EH and CP 4.25 - 6.25 kW/220 V for the control panel with the three-wire sensor

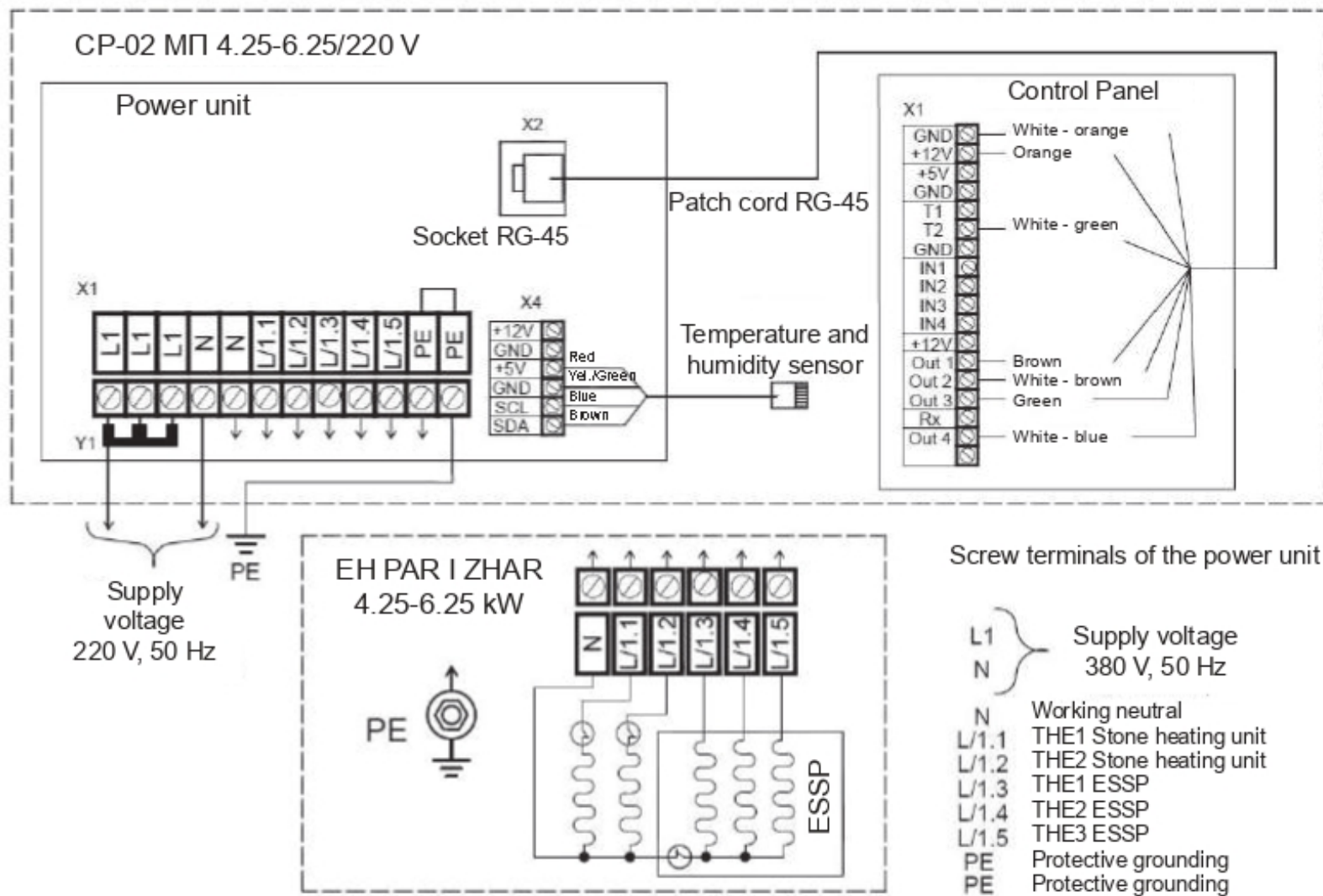


Fig. 6.2.2 Connection diagram of EH and CP 4.25 - 6.25 kW/220 V for the control panel with the four-wire sensor

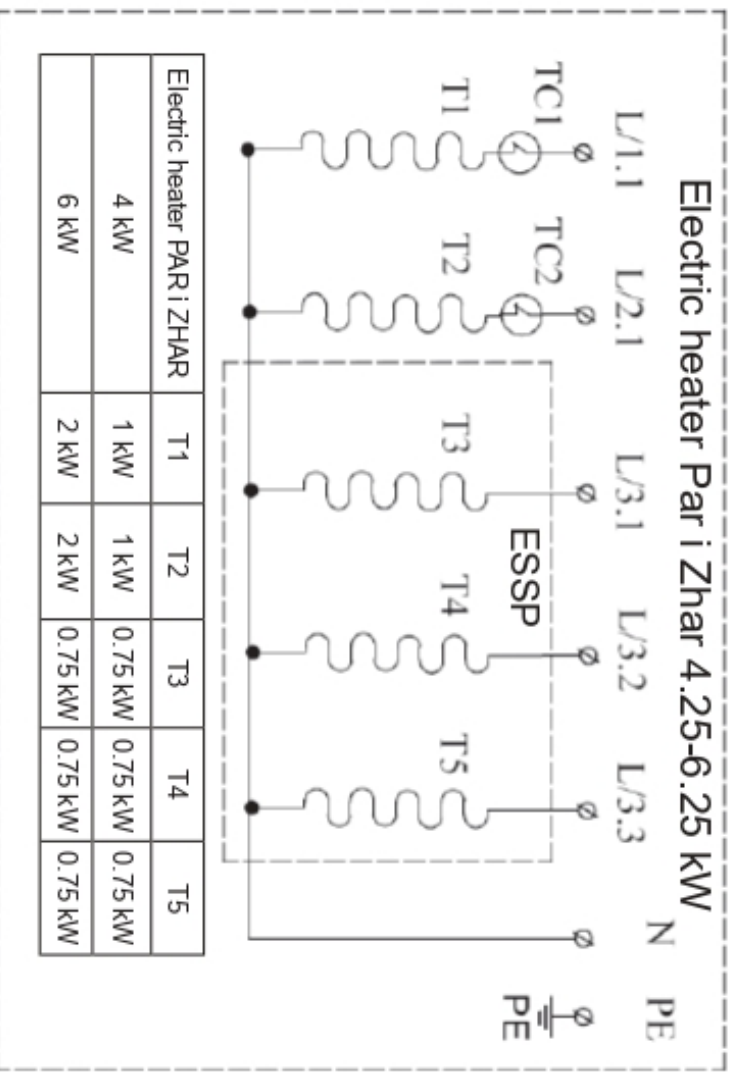
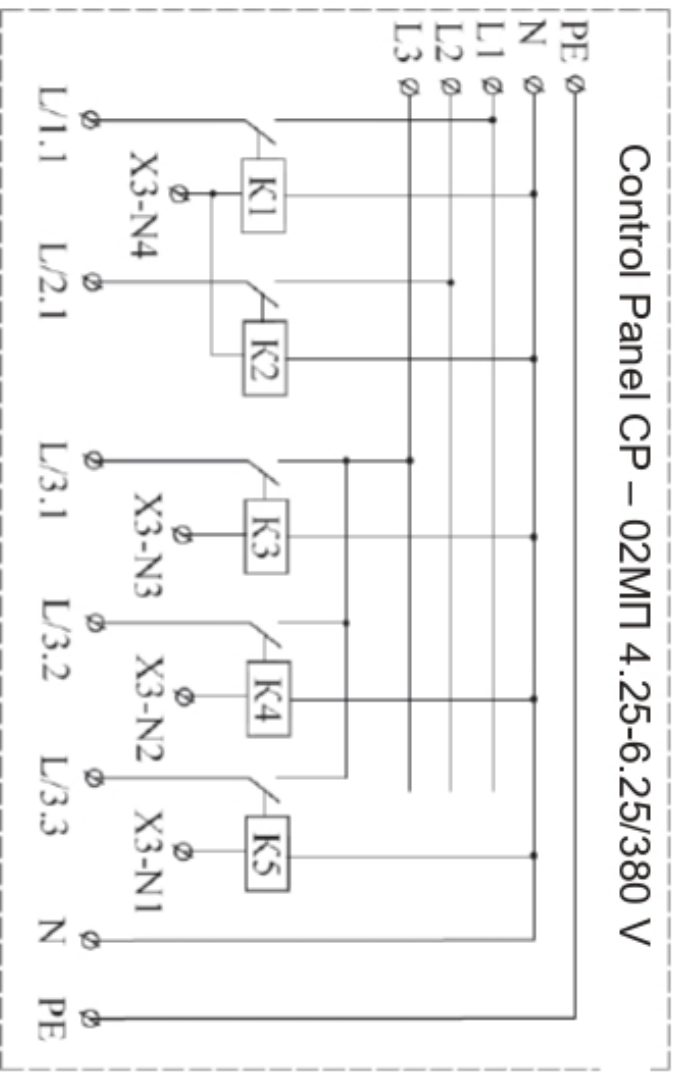


Fig. 6.3 Connection diagram for EH and CP 4,25-6,25 kW/380 V

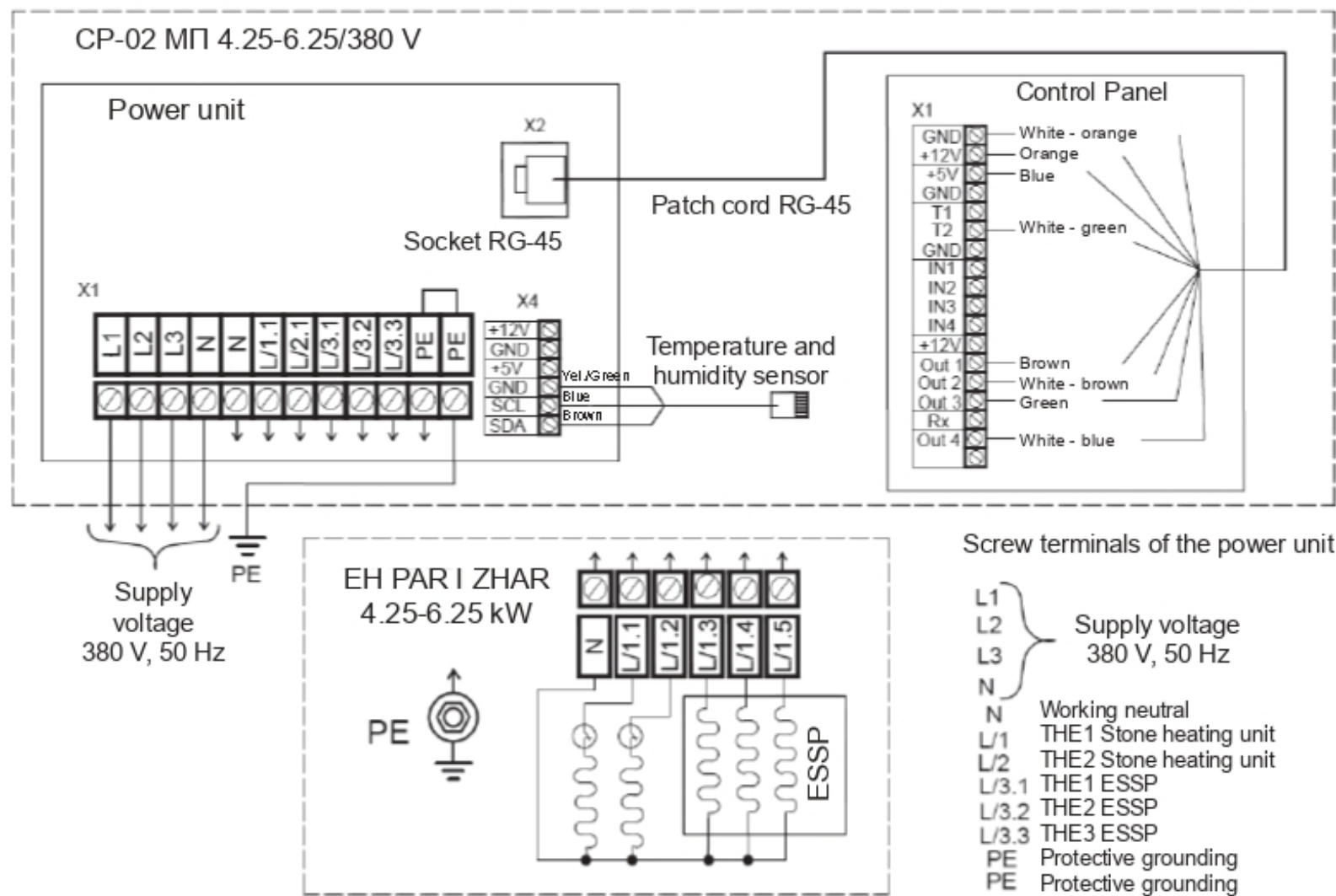


Fig. 6.4.1 Connection diagram of EH and CP 4.25 - 6.25 kW/380 V for the control panel with the three-wire sensor

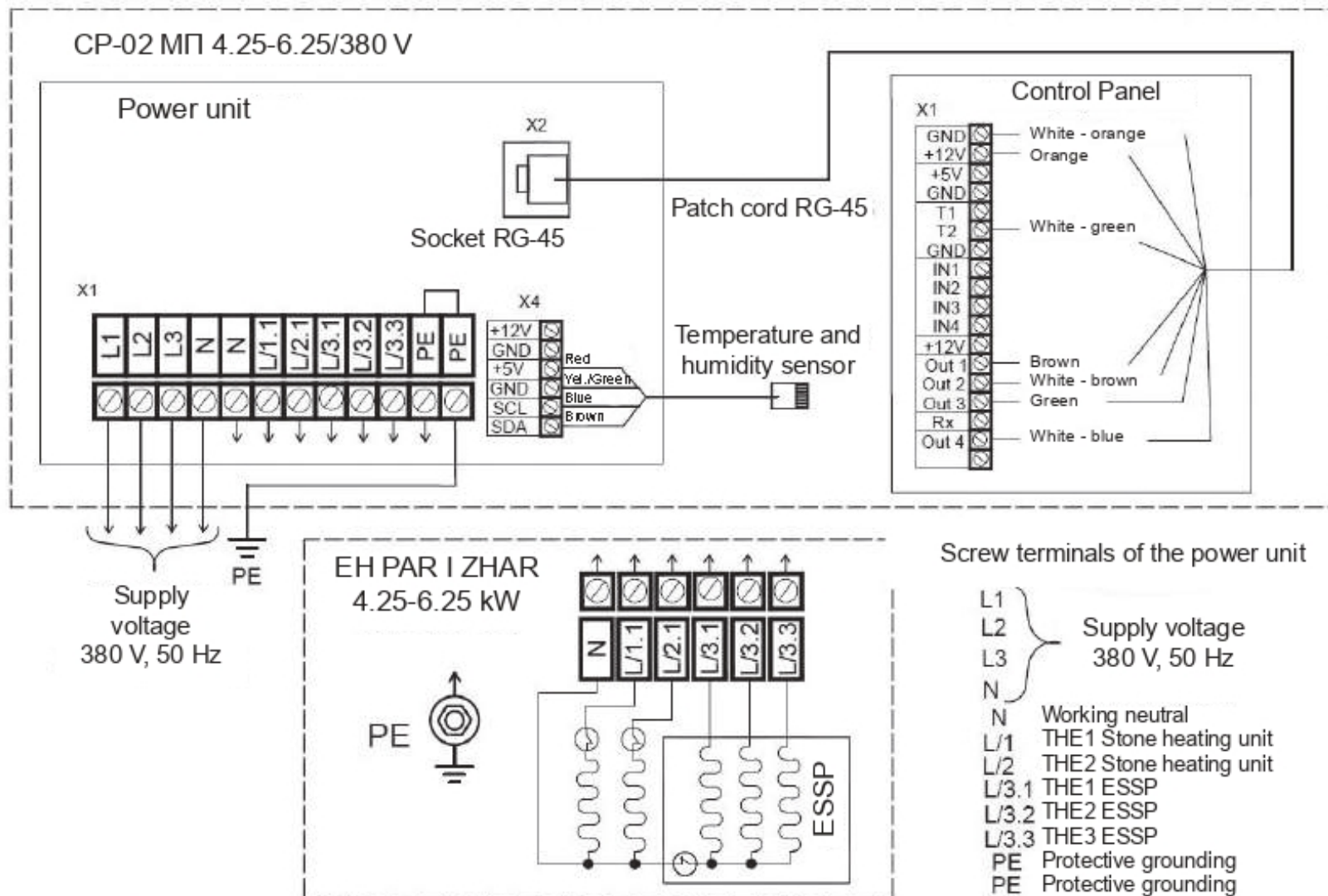


Fig. 6.4.2 Connection diagram of EH and CP 4.25 - 6.25 kW/380 V for the control panel with the four-wire sensor

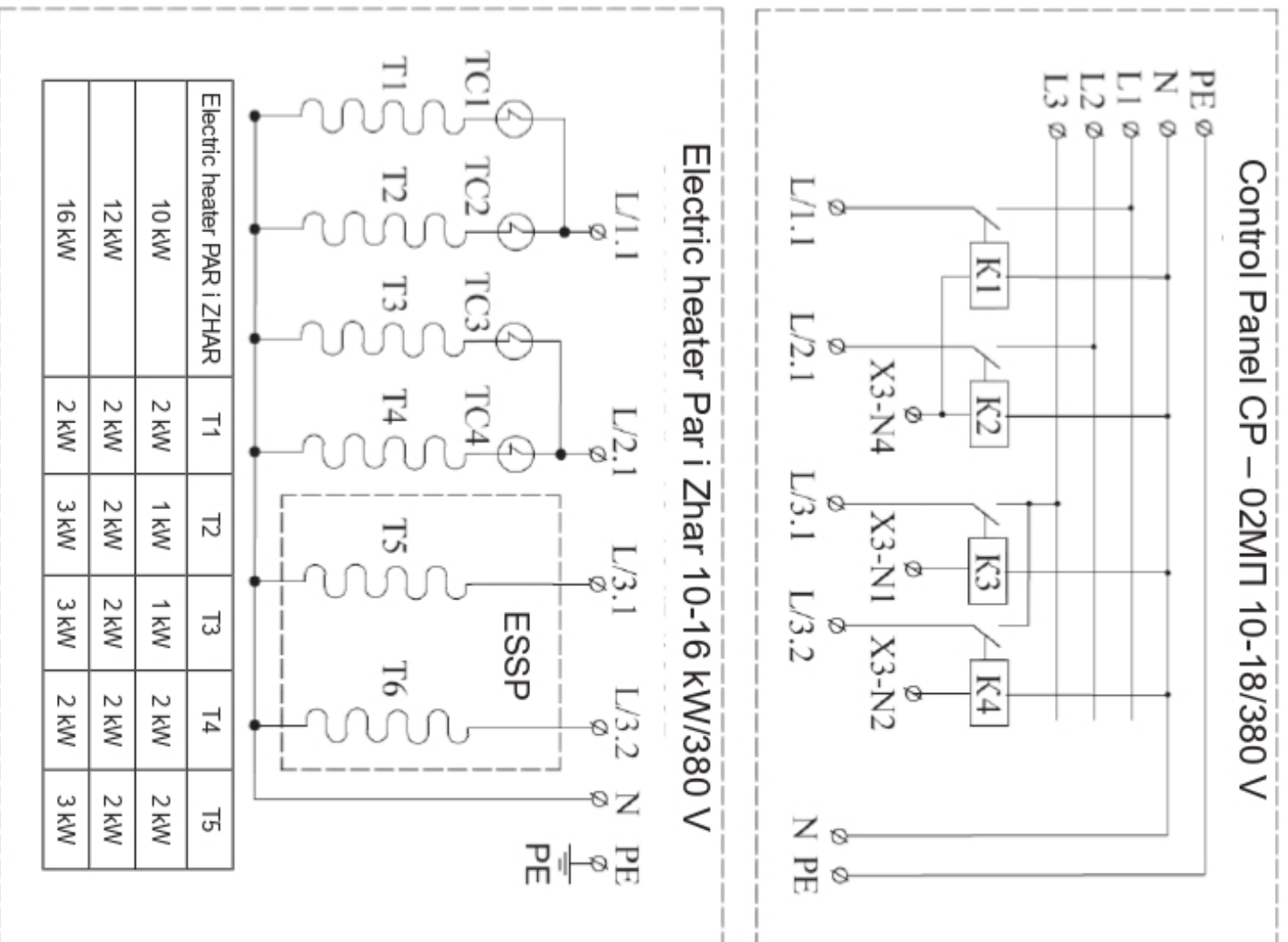


Fig. 6.5 Connection diagram for EH and CP 10,0-16,0 kW/380 V

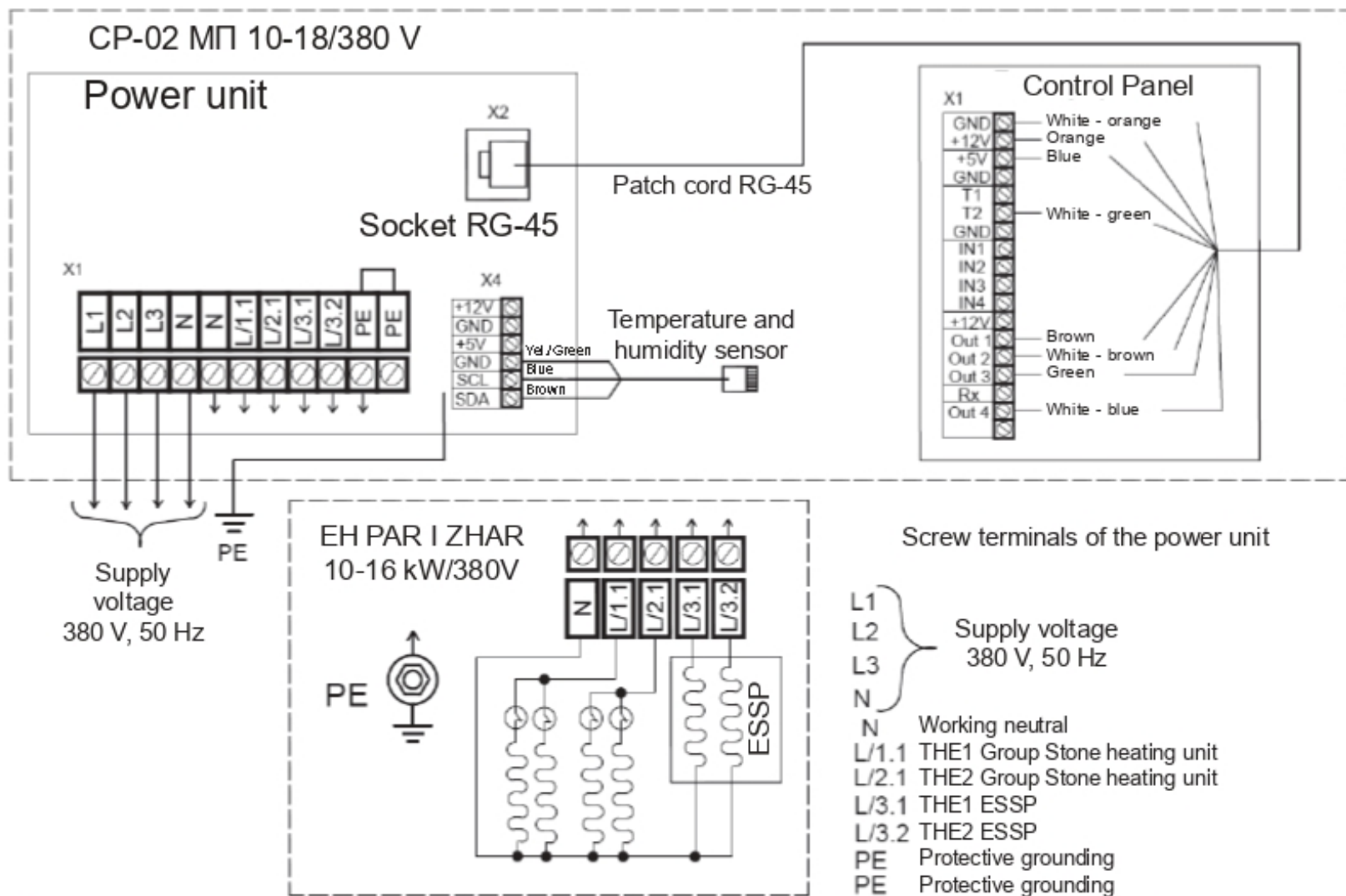


Fig. 6.6.1 Connection diagram of EH and CP 10.0 – 16.0 kW/380V for the control panel with the three-wire sensor

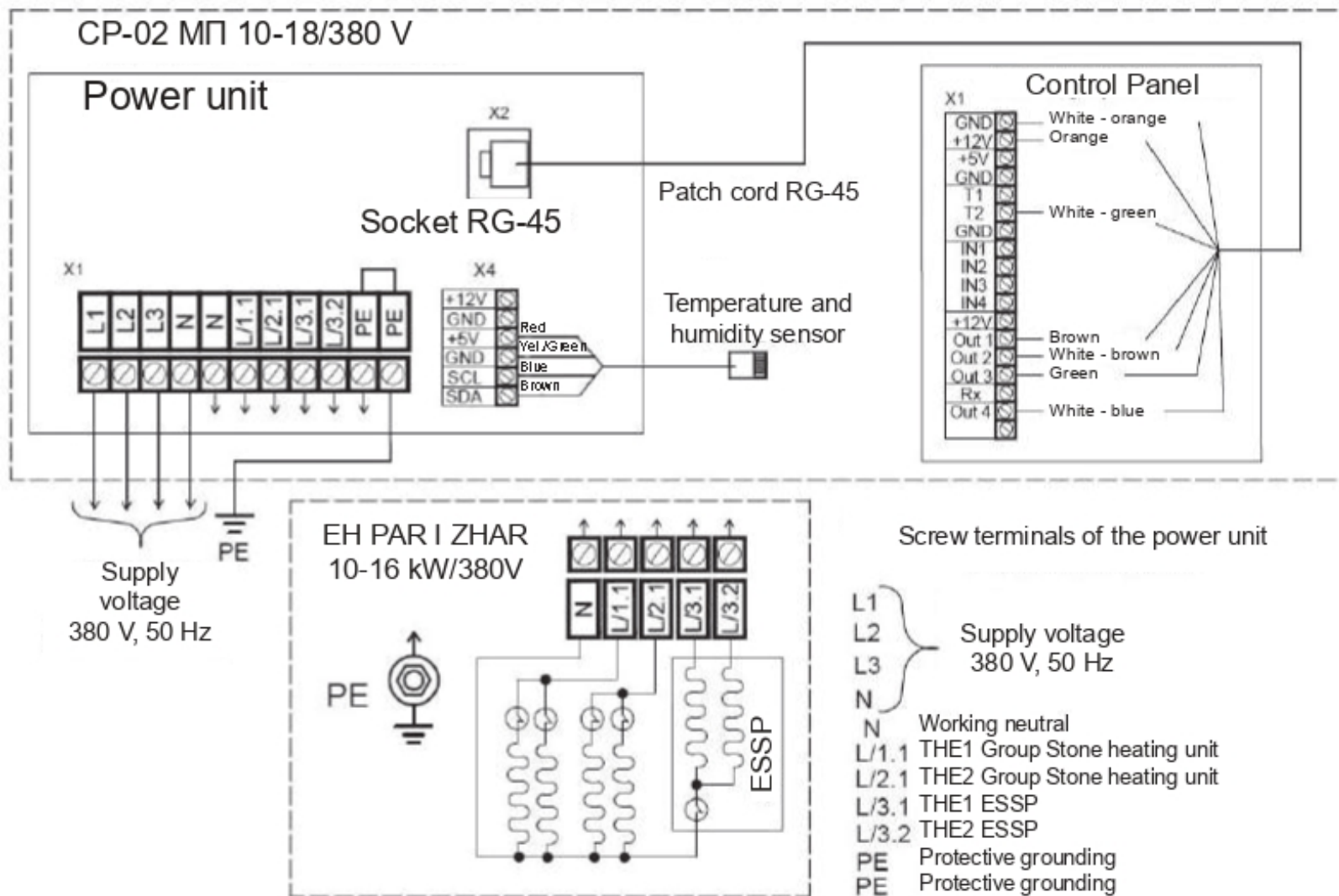


Fig. 6.6.2 Connection diagram of EH and CP 10.0-16.0 kW/380 V for the control panel with the four-wire sensor

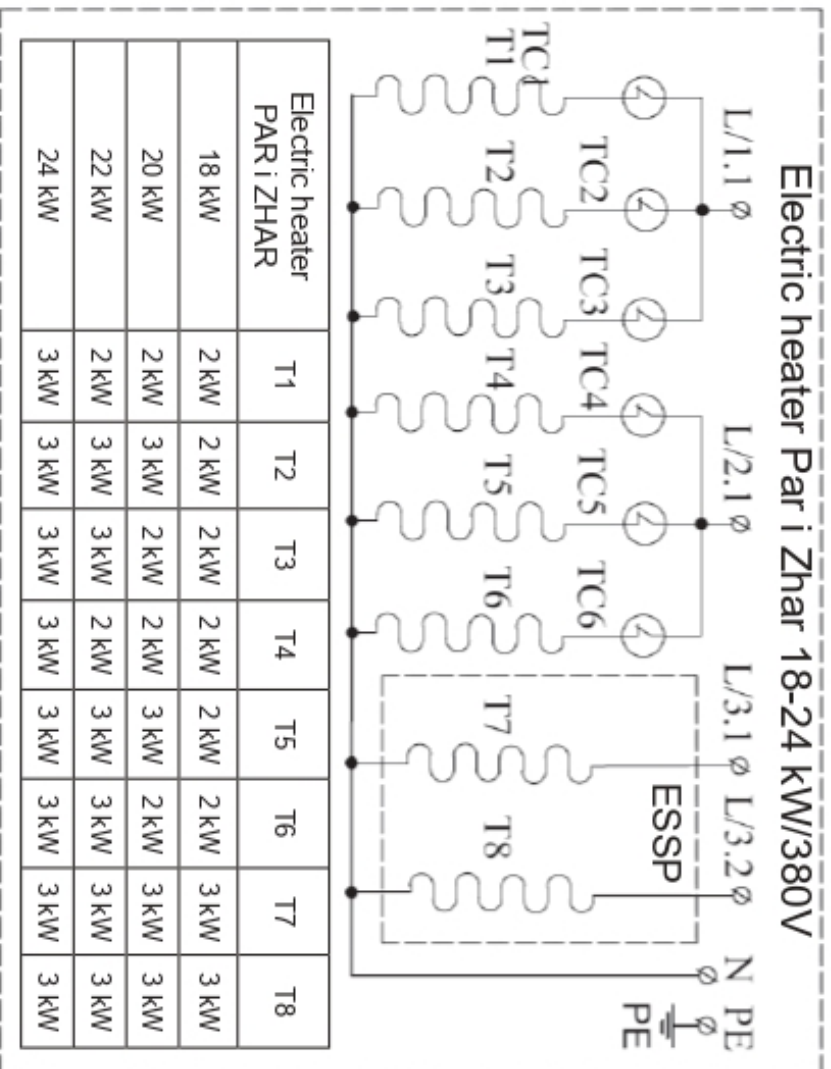
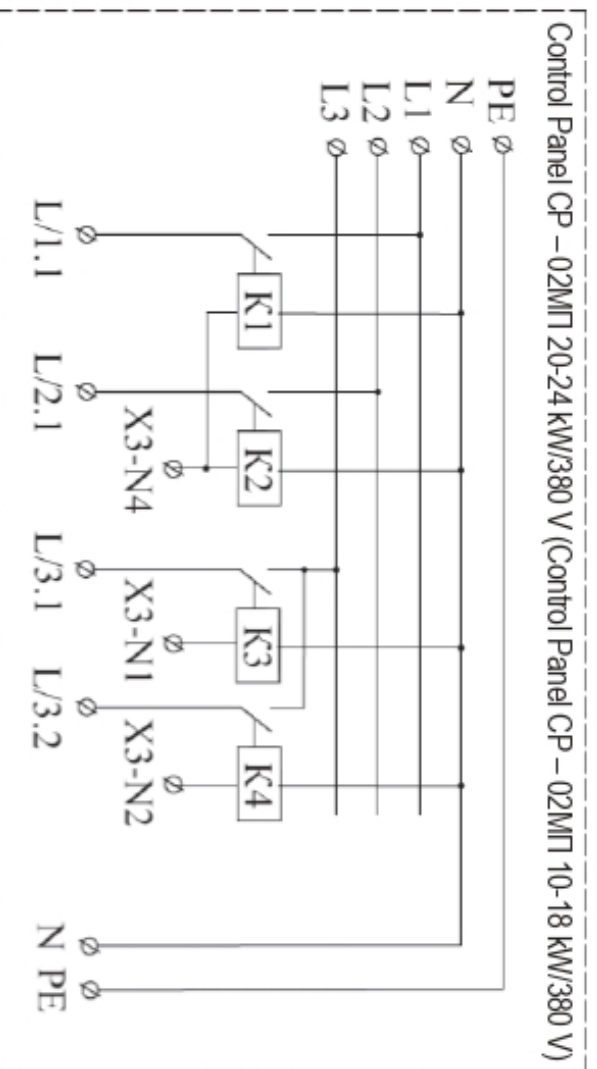


Fig. 6.7 Connection diagram for EH and CP 18,0-24,0 kW/380 V

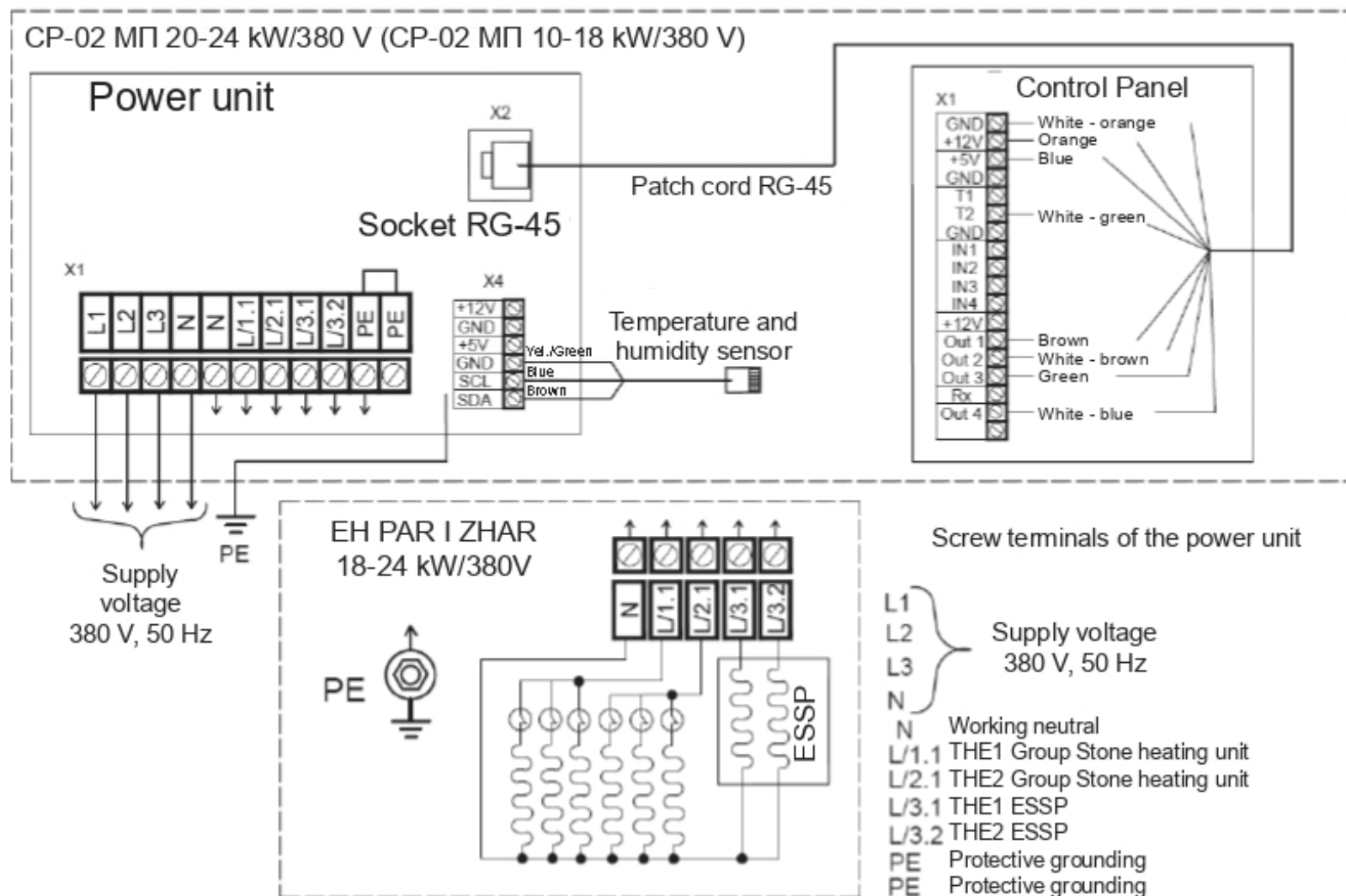


Fig. 6.8.1 Connection diagram of EH and CP 18.0 – 24.0 kW/380V for the control panel with the three-wire sensor

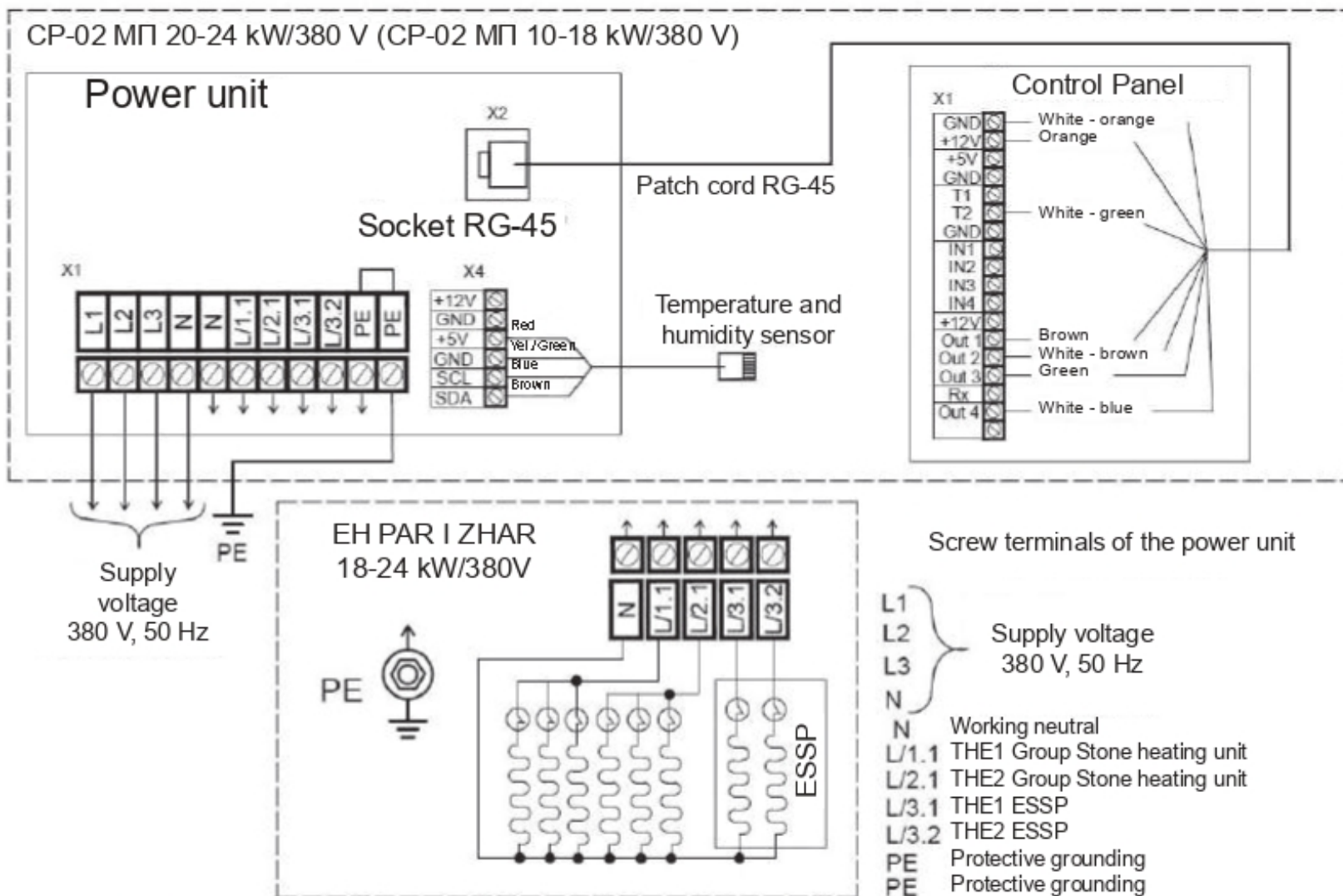


Fig. 6.8.2 Connection diagram of EH and CP 18.0-24.0 kW/380 V for the control panel with the four-wire sensor

2. APPLICATION

2.1 Preparation of premises to use the heater.

Attention! Walls and ceiling of the sweating room shall be well heat-insulated. We recommend to face the sweating or sauna room with wood. Remember that the use of decorative heat-absorbing materials (stone, bricks, tiles, etc.) for the heat accumulation requires additional time and electric power for their heating.

2.1.1 Safety precautions

2.1.1.1 To ensure the strict compliance with fire and electrical safety rules, the Electric heater shall be connected by electricians, who have certificates allowing their work with electric installations up to 1000 V, and at least III certification level for electrical safety.

2.1.1.2 Electrical wiring shall be conducted according to the Electrical Installation Code (PUE) and Safety Rules.

2.1.1.3 The Electric heater shall be commissioned against a corresponding certificate.

2.1.1.4 The Electric heater must not be installed in premises, which do not correspond to fire safety rules established by the RF Government Regulation dd. April 25, 2012 no. 90, SP 60.13330.2016, SP 7.13130.2013.

2.1.1.5 The Electric heater power shall correspond to the sweating room volume.

2.1.1.6 The distance from the EH enclosure to the wall facing shall be at least 150 mm for the Electric heater 4-6 kW, at least 200 mm for the Electric heater 12, 16 kW, at least 250 mm for the Electric heater 18-24 Kw.

2.1.1.7 The height of the sweating room shall be at least 1.9 m.

2.1.1.8 The vertical distance between the EH top and the premise ceiling shall be at least 1.0 m.

2.1.1.9 The floor area, where the EH will be installed, as well as wall sections near the EH shall be protected with a non-combustible, heat-insulating material. A heat-insulating sheet for the floor protection is not included into delivery and shall be purchased additionally.

2.1.1.10 The ceiling above the EH shall be protected with a heat-insulating shield made of a non-combustible material. The distance between the ceiling and the shield shall be at least 50.0 mm.

2.1.1.11 The room, where the EH shall be installed, shall be ventilated. Supply and exhaust openings shall be located correspondingly at the floor and ceiling, on the room diagonal. To prevent the wrong operation of the temperature control system in the stove, no air supply under the EH is permitted!

2.1.1.12 Only one EH may be used in a room.

2.1.1.13 The cable used for the EH connection shall be wrapped with the heat-resistant insulation SiHF/GL-P. Russian equivalents are: PVKV, RKGM, PNBS, etc. Cable core sections shall be at least equal to the section specified in 1.2 hereof. For costs saving, the EH may be connected using a non-heat-resistant insulation till a pull (terminal) box in a low-temperature, water-protected area. Ends of the cable cores, which are connected to the EH and CP shall be equipped with special lugs.

2.1.1.14 The Electric heater must not be operated without protective automatic circuit breaker. For the Electric heater connection, an automatic circuit breaker shall be provided, with a rated current, which corresponds to the Electric heater power consumption. The automatic circuit breaker shall be a differential switch, with the rated breaking differential current of 30 mA, or a residual current circuit-breaker with the specified rated breaking differential current shall be installed in a line after

the automatic circuit breaker. Any other consumers must not be connected to the automatic circuit breaker.

2.1.1.15 The EH must not be operated without certified CU.

2.1.1.16 The EH shall be [properly grounded].

2.1.1.17 Before Electric heater switching on, make sure that foreign items are not available on the EH and inside it.

2.1.1.18 The EH shall be operated only vertically.

2.1.2 Electric heater connection to the electrical mains and water supply system. Preparation to operation.

2.1.2.1 Open the package, check the delivery set, remove protective and packing materials.

2.1.2.2 Install the EH in the bath or sauna room.

2.1.2.3 Install the CP at the height of 1.5 m outside the sweating room, in a dry location, easily accessible for visual inspection and maintenance.

2.1.2.4 Install the temperature sensor in the bath or sauna room, in a procedural area, approximately at a level of head of a person, who sits on the upper birth. The sensor must not be installed in close proximity to the EH and entrance door of the sweating room or above them. Cover the temperature sensor with a decorative wooden cover.

2.1.2.5 Remove the back cover by lifting it up. Connect the EH (no. 1, Fig. 7) using a flexible hose (no. 3, Fig. 7) to the water supply system (no. 6, Fig. 7) or storage tank (no. 5, Fig. 7) in an adjacent room. We recommend to install the storage tank at the height of at least 1 m from the EH top.

For the water supply of the steam generator, when using the storage tank (no. 5, fig. 7) it is necessary to perform the following steps:

- Remove the back cover by lifting it up.
- Unscrew the angled water supply hose from the water valve.
- Pull out the diaphragm in the form of a metal washer with a hole for water passage (3 mm) from under the hose nut.
- Check the correct installation of the rubber sealing washer.
- Connect the elbow hose to the valve. Check connection for tightness.
- Put on the rear cover of the unit.

Before the EH, a shutoff valve (no. 4, Fig. 7) shall be installed. Install the water drain valve (no. 2, Fig. 7) using a flexible piping of a required length. To prevent lime deposits, the water hardness shall be 0.5° to 5 °F. It is recommended to use a special installation - a demineralizer (with reverse osmosis). We recommend to use a special demineralization unit (reverse osmosis).

ATTENTION!



For the EH connection to the water supply system, do not use branch pipes, fittings and other piping elements made of galvanized steel.

2.1.2.6 Put the EH on the front wall using the cushioning material, remove the protective tray. Connect the EH to the control panel in accordance with the connection diagrams (see Fig. 6). Fasten the protective tray. Install the EH in a vertical position.

2.1.2.7 Put stones into the EH for the steam production. The stones shall be put carefully, preventing bending of THE pipes.

The stones, which are put into the EH, shall met the below requirements:

- The stones shall resist high temperatures and sharp temperature changes caused by the water evaporation from the surface of the stones. The best choice is to use jadeite or jade stones.
- Before the use, wash the stones carefully to prevent odors and dust.
- Try to prevent side bending impacts on the tubular electrical heaters during putting of the stones.
- We recommend to use 50–80 mm stones; this stone size provides the good ventilation between the stones. This prevents overheating and extends the service life of heating elements. The stones shall be put loosely, ensuring the free air circulation between them.
- Recommended stone weights are specified in 1.2 hereof.
- Salt blocks must not be put into the EH together with the stones.

2.1.2.8 Optionally, the herbal steamer and/or besom steamer can be connected to the Electric heater according to the connection diagram (Fig. 8). Connect the herbal steamer (no. 6, Fig. 8) using a valve (no. 3, Fig. 8) or the besom steamer (no. 7, Fig. 7) using a corrugated stainless steel pipe (no. 5, Fig. 8) to the steam bleeding pipe (no. 1, Fig. 8). For the simultaneous use of the herbal steamer and besom steamer, use a T-joint (no. 2, Fig. 8)

2.1.2.9 Use only aromatic substances and essential oils for saunas and baths. Follow manufacturer's instructions provided on packages of corresponding substances.

ATTENTION!



During the herbal steamer connecting, protect it from the impact of the super-heated steam flow.

During the besom steamer connecting, avoid long horizontal, all the more counter-sloped, sections of the corrugated pipe.

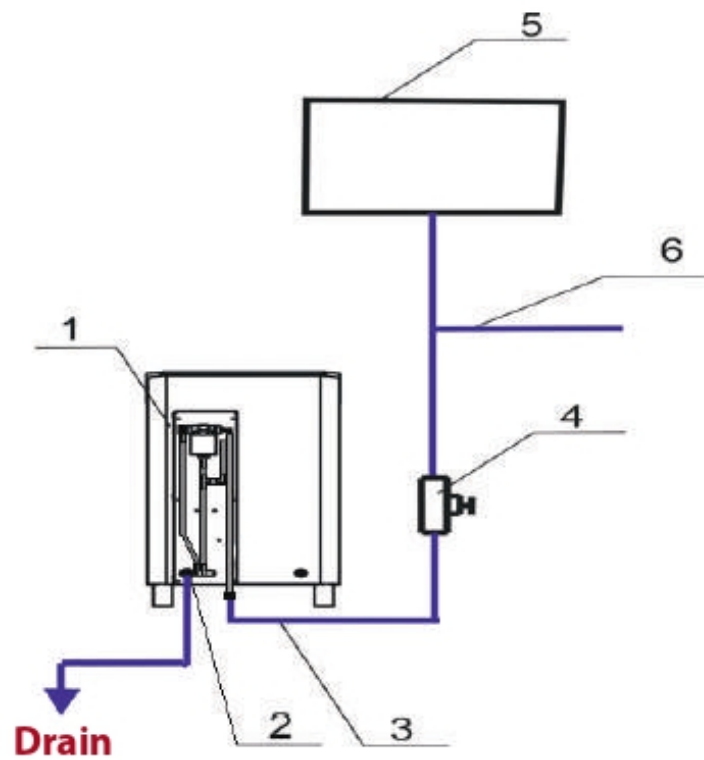


Fig. 7
Diagram of the Electric heater connection to the water supply system.

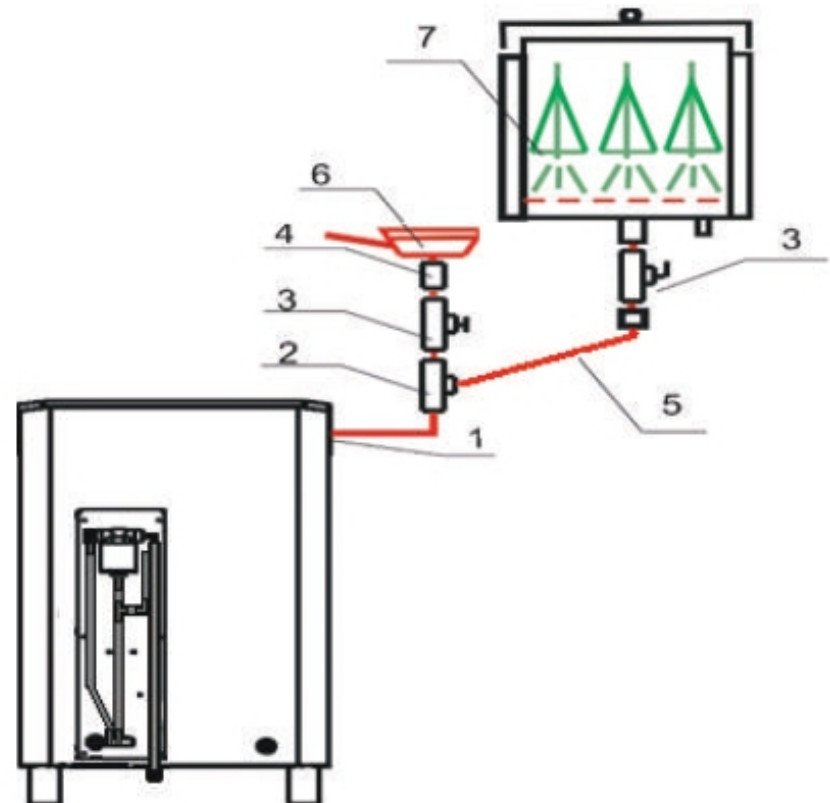


Fig. 8
Diagram of herbal steamer and besom steamer connection.

2.1.3 Stone facing assembly (for stone-faced EH only. Dismantled stone facing option)

2.1.3.1 Attention! Before the stone facing assembly, connect the Electric heater to the electric mains and water supply system according to 2.1.1 and 2.1.2 hereof. Install the heater in its operation location. A diagram of the stone facing assembly is given in Fig. 9.

2.1.3.2 Unpack and sort stone tiles by their lengths (no. 12, Fig. 9) and metal inserts (no. 10 and 11, Fig. 9) for the front and side EH panels.

2.1.3.3 Remove the top cover (no. 2, Fig. 9). For this, loose 4 self-tapping screws on corner cover ends. Unscrew the plug (no. 5, Fig. 9) and the decorative nut (no. 6, Fig. 9), then unscrew the steam bleeding nipple (no. 7, Fig. 9). Remove screws from side handles (no. 4, Fig. 9, Fig. 10). Loose fastening nuts (no. 8, Fig. 9, Fig. 10) of the front (no. 9, Fig. 9) and side (no. 3 Fig. 9, Fig. 10) panels inside the corners of the EH case. Pull the side and front panels upwards to remove them.

2.1.3.4 Install metal inserts with protrusions (no. 10, Fig. 9) on the foundation plate (no. 1, Fig. 9) and align protruding parts of the inserts with plate cutouts. Install first-row stone tiles (no. 12, Fig. 9) on all three sides by putting on tile cutouts on the inserts (no. 10, Fig. 9). Put metal inserts (no. 11, Fig. 9) into the cutouts of the installed tiles and install the second row of the tiles. The following rows of the stone tiles are installed in a similar manner. After the installation of the last (top) row of the tiles, metal inserts with protrusions (no. 10, Fig. 9) are put into their cutouts. Layouts of the installation of decorative stone tiles are shown in Fig. 11.

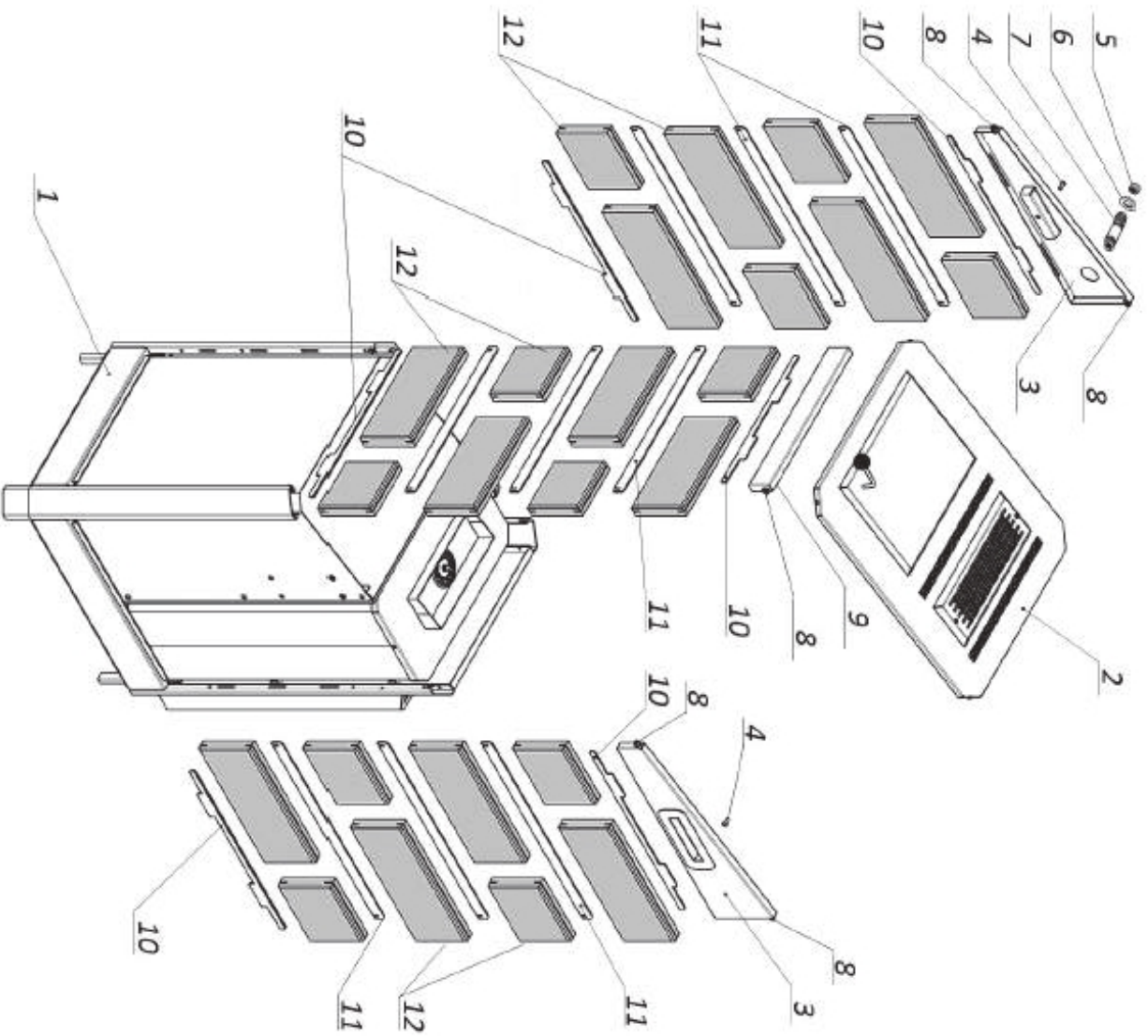


Fig. 9 Diagram of the stone facing assembly of the steam thermal electric heater PARiZHAR-6.25 kW. The facing of other heaters is assembled in a similar manner.

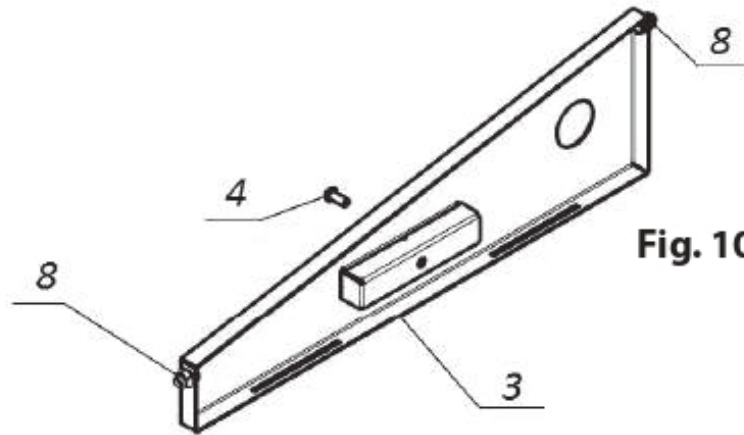


Fig. 10 Side panel of the stone-faced EH case
(Internal view)

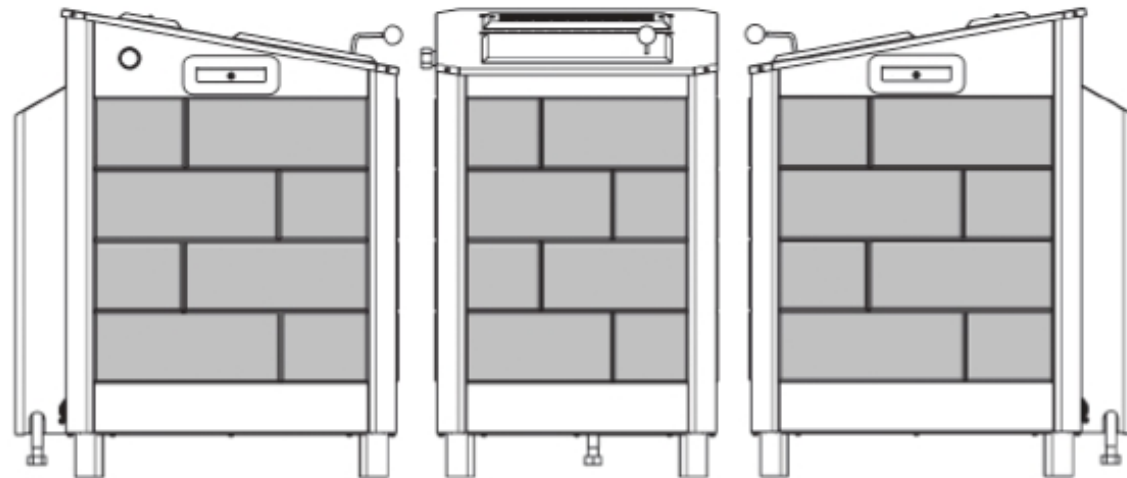


Fig. 11.1 Layouts of the installation of decorative stone facing tiles
for EH 4.25; 6.25 kW

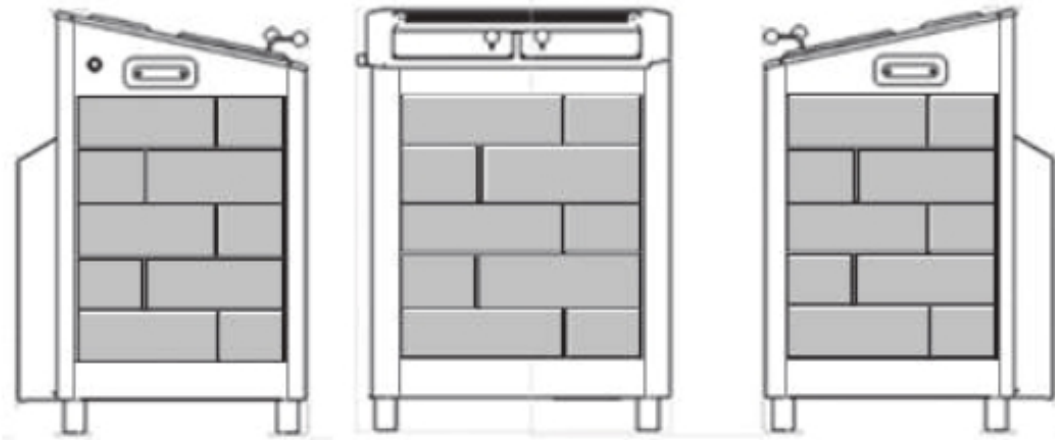


Fig. 11.1 Layouts of the installation of decorative stone facing tiles for EH 10-16 kW

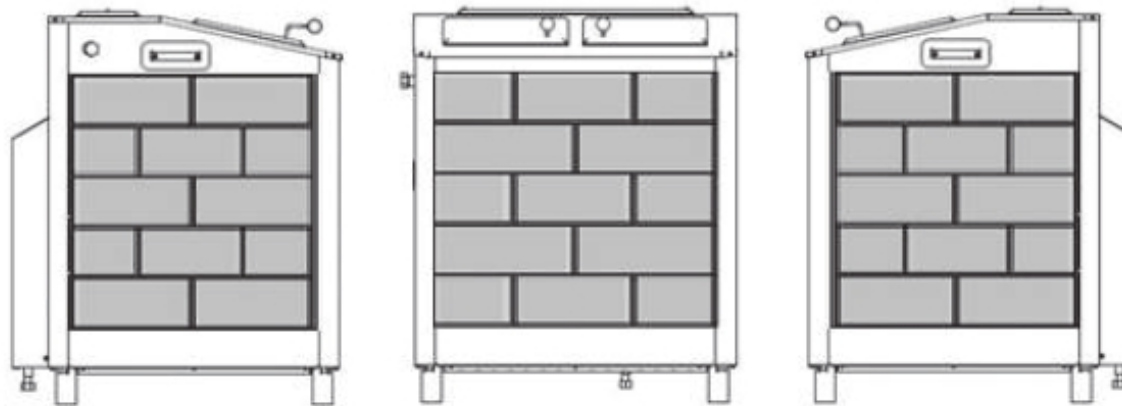


Fig. 11.2 Layouts of the installation of decorative stone facing tiles for EH 18-24 kW

2.1.3.5 Install the side (no. 3 Fig. 9, Fig. 10) and front (no. 9 Fig. 9) panels and align protrusions of metal inserts (no. 10 Fig. 9) with cutouts in lower panel planes. Tighten the fastening nuts (no. 8 Fig. 9, Fig. 10). Tighten the screws (no. 4 Fig. 9, Fig. 10) into the side panel handles.

2.1.3.6 Using s fluoroplastic tape, screw the steam bleeding nipple (no. 7 Fig. 9) into the steam generator. Put the decorative nut (no. 6 Fig. 9) on the nipple, then screw the plug (no. 5 Fig. 9).

2.1.3.7 install the top cover (no. 2 Fig. 9) and fasten it with self-tapping screws.

2.2 Operation

2.2.1 Safety precautions

2.2.1.1 The Electric heater is an electric installation. Observe all rules and regulations contained in current documents covering safety precautions and fire safety of the electric installations.

2.2.1.2 Do not touch the hot heater, this can cause burns. Be very carefully during operations with herbal and besom steamers. The steam running out from the heater is very hot. Always use gloves.

2.2.1.3 Do not leave unattended children in sauna.

2.2.1.4 Be careful during poring the stones with water. The appearing steam can cause burns.

2.2.1.5 Do not put any items on the heater.

2.2.1.6 Do not obstruct the air circulation around the heater.

2.2.1.7 Do not use the damaged Electric heater (foreign odor, steam, inflaming, etc.).

2.2.1.8 Do not use solvents for heater cleaning.

2.2.1.9 Do not obstruct the sensor with any items, avoid water entry.

2.2.1.10 Do not use the Electric heater, if the control unit is faulty.


2.2.1.11 Never fill the water into the tank of the steam generator, which has been running with empty water before (even during a short period). Switch off the heater, wait till it cools down, and only then use it again according to this User's Manual.

2.2.1.12 If the heater or the control unit is faulty, immediately switch off the Electric heater by means of the automatic circuit breaker. Take measures required for its qualified repairing.




2.2.1.13 In case of low temperatures (under 0°C) always drain the water from the tank of the non-operated heater.






2.2.2 Operation procedure

2.2.2.1 Close the drain valve or insert the plug (no. 2, Fig. 7) and open the filling valve (no. 4, Fig. 7). When the electric heater is turned on in a room with a negative temperature, open the filling valve 15 minutes after turning on the steam generation mode.

2.2.2.2 Enable the automatic circuit breaker of the external mains VA. Press the  button to switch on the control unit.




2.2.2.3 Select the microclimat conditions in the sweating room:



- «Dry» heating. Open the door(s) of the stone compartment, press the  button to switch on the stone heating unit, set the room temperature by means of  and  buttons on the control panel. Long button pressing causes quick parameter changing. Then, the device is operated automatically, according to the set temperature. Hereby, the stones in the stove are heated to the optimum temperature.

- Steam producing mode. Set the room temperature by means of  and  buttons. Depending on the device model, press one, two or three  buttons on the control panel. For quickest steam producing, switch on the steam generator with its full power. Steam producing starts in appr. 30 minutes. If required, heat the stones in the stove, and close the stove door(s) in the steam producing mode. Press the  on the control panel. Then, the device is operated automatically. If an inaccessible temperature value is set on the remote control, the device will operate continuously. Hereby, the stones in the stove are also automatically heated to the optimum temperature. If required, you can reduce steam producing by disabling of one or two steam production stages using  buttons. Remember that during the device operation in this mode a certain relative humidity value will correspond to a certain temperature value (the dependence is based on the air water absorbing capacity at the certain temperature).

You can effectively get the additional steam by opening the door(s) of the stove and pouring the scorching stones with water.

- Mixed mode. This mode differs from the steam production mode by the stove open door(s) and possibility to create the comfortable microclimate in the high-temperature area of the sweating room. In this mode, the device is also operated automatically. In all modes, the control panel maintains the room temperature at the level of +/- Delta (hysteresis) of the set temperature.

By default, the temperature setting hysteresis is +/- 2°C. press the delayed start button  to enable the countdown mode (time till heater switching on). Press the  and  buttons to set the required value

of the countdown timer with the 15-minute step. To install a certain date and time on the timer, press the  and  buttons and hold them till setting of the required value. To disable the countdown mode, press again the delayed start button.

Set and actual temperature values as well as actual relative air humidity value are displayed on LCD.

2.2.2.4 During the first start of the Electric heater, slight smoke and odor can appear. In this case, switch off the Electric heater and ventilate the room. Then, switch on the Electric heater again.

2.2.2.5 After the Electric heater use, to prevent deposits in the steam generator tank, drain the water from the system. Close the filling valve (no. 4, Fig. 7) and open the drain valve (no. 2, Fig. 7). Wait till the system is completely empty. Leave the valves in this position till the next Electric heater use. Always drain the water, if the risk of its freezing is possible!

2.2.3 Recommendations for steam generator descaling.

Descal the generator after 10-15 applications, depending on the water hardness.

- Switch off the Electric heater.
- Close the main water supply valve.
- Open the water drain valve on the steam generator tank.
- Close the drain valve after water is completely drained.
- Prepare a descaling substance for use, in quantities, which correspond to the volume of the steam generator tank and reagent manufacturer. The volume of the steam generator tank is provided in the User's Manual.

- Unscrew the plug of the upper nipple and install a filling funnel. When the upper steam generator nipple is located on the side Electric heater panel, use a funnel with a hose of a corresponding section.
- Fill the diluted reagent through the upper nipple into the steam generator tank.
- Insert the upper nipple plug.
- Start the descaling mode according to recommendations of the detergent manufacturer.

ATTENTION!



To prevent failures of the system of automatic water level adjustment in the steam generator tank, never switch on the steam generator, when the tank is not completely filled or the water is being drained from the tank.

ATTENTION!



BE CAREFUL, THE BOIL IS DRAINED!

- When the descaling mode is complete, switch off the Electric heater.
- Open the drain valve and completely drain the solution from the steam generator tank.
- Close the drain valve.
- Open the filling valve.
- Switch on the steam generator. After filling of the steam generator tank, close the filling valve and drain water through the drain valve.
- Repeat this procedure 2-3 times to remove residual solid particles and for sanitary washing of the tank.

The cleaning procedure is complete. Air the room. Your steam generator is ready for operation.

2.2.4 Emergency actions

2.2.4.1 In case of any life threats or fire hazards, regardless of their causes, do as follows:

- immediately switch off the Electric heater by means of the automatic circuit breaker VA;
- remove all the people from the room, where the Electric heater is installed;
- call the fire-fighting service and, if required, the ambulance;
- take required measures to prevent fire spreading.

2.2.5 Possible faults and troubleshooting

| Trouble evidences | Possible cause | Removal methods |
|---|---|---|
| The Electric heater is switched on, but does not heat. | No voltage in the mains. | Check the mains. |
| The temperature in the room does not reach the set value. | The supply voltage is under the rated value. | Correct the supply voltage. |
| The sweating room temperature cannot be adjusted. | Open or short circuit of the temperature sensor. | Remove the disconnection or short circuit. |
| The superheated steam generator is switched on, but the humidity level does not increase. | No water in the SSG tank. | Fill water into the tank according to 2.2.1.11 hereof. If required, remove the failure of the water supply system. |
| Activated residual current circuit breaker. | In case of high atmospheric humidity or durable standbys, the moisture is condensed on current-conducting elements of the heater. It is not the manufacturing defect, but the unavoidable physical process. This moisture can cause the activation of the residual current circuit breaker. | In this case, switch off the heater upon the disabled protective function of the residual current circuit breaker. The procedure takes appr. 10 minutes. Then re-install the protective function of the residual current circuit breaker. This operation shall be carried out by a certified electrician. |

3. MAINTENANCE

3.1 During the Electric heater maintenance, the following operations shall be carried out:

3.1.1 Cleaning of the external surface of the Electric heater – periodically, if contaminated;

3.1.2 Water filter cleaning – periodically, after 8-10 heater operations. The filter is installed inside the inlet fitting on the water supply valve. Remove the back cover from the water connection unit by lifting it up; disconnect the angled, flexible water supply from the ball valve; remove the filter from the inlet fitting slightly prying it with a thin screwdriver; rinse the filter and install it in place; assemble in reverse order.

3.1.3 Descaling of the steam generator tank - periodically, after 8-10 heater operations, according to the manufacturer's manual (see 2.2.3 of this Manual or visit the web site of Inzhkomsentr VVD). Follow instructions and safety rules provided by the manufacturer.

3.1.4 Inspection of steam producing stones for available defects, replacement of destroyed stones – every 6 months.

3.1.5 Check of grounding circuit and power contacts of the heater and the control unit – every 6 months;

3.1.6 Disconnect the Electric heater from the mains before all cleaning and repair operations.

3.1.7 The Electric heater maintenance according to 3.1.5 shall be carried out by qualified electricians, having permits for the work on electric installations up to 1000 V.

4. STORAGE AND TRANSPORTATION

4.1. Till the installation at the operation place, the Electric heater shall be stored in its package.

4.2. The packed Electric heater can be transported by any enclosed transport mode. During transportation and storage, consider precautions and signs applied on the package.

5. DISPOSAL

5.1 The Electric heater must not be disposed as household wastes.

5.2 The Electric heater shall be disposed at a corresponding WEEE recycling center.

5.3 For additional information, contact local authorities or next waste collection center.

6. WARRANTY

6.1 The Electric heater meets all the requirements of Technical Regulations of the Customs Union TR TS 004\2011 Low-Voltage Equipment Safety and TR TS 020\2011 «Electromagnetic compatibility of technical facilities», Guideline 2014/35/EU Low-Voltage Equipment, Guideline 2014/30/EU Electromagnetic Compatibility, GOST 30345.0-95 «Safety of home and equivalent appliances» and TU 27.51.24-016-51036005-2019.

6.2 Certificate of conformity no. **EAЭC RU C-RU.AЯ46.B.04943/19** Series **RU** no. **0162436; OSE -19-1209\01, OSE -19-1209\02.**

6.3 The manufacturer guarantees the failure free operation of the Electric heater during 12 months after its purchase, upon Customer's following the rules and instructions provided in this User's Manual.

6.4 The warranty is valid, if the purchase date is confirmed by seller's seal and signature on a manufacturer's warranty card, and upon an available original sale receipt or contract with the specified date of purchase.

6.5 The warranty does not cover the commercially used Electric heaters.

6.6 The warranty repair is not carried out in the following cases:

- warranty period expiry;
- after unauthorized repairs of the Electric heater;
- in case of Electric heater damages, which occurred due to the Customer's fault;
- in case of non-correspondent storage and transportation of the Electric heater;
- in case of heater use with a non-certified control unit manufactured by a third party.

6.7 **Warranty limitations!!!**

- The warranty does not cover damages caused by the improper air circulation due to insufficient stones or their too close placing.
- Ceramic stones are prohibited. Their use can cause Electric heater damages not covered by the manufacturer's warranty.

ATTENTION!



The manufacturer shall not be liable for any consequences of the improper and non-correspondent installation, connection and use of the Electric heater carried out with violations of the rules and instructions provided in this User's Manual.