# OPERATING INSTRUCTIONS AND INSTALLATION

## TANK WATER HEATER FOR VERTICAL INSTALLATION

**Electric water heaters**

**OKCE 125 2/2 kW**
**OKCE 160 2/2 kW**
**OKCE 200 2/2 kW**

Družstevní závody Dražice - strojírna s.r.o.
Dražice 69, 294 71 Benátky nad Jizerou
tel: +420 / 326 370 911
e-mail: info@dzd.cz

DRAŽICE
ČLEN SKUPINY NIBE

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# PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE INSTALLING THE HEATER!

Dear Customer,

Družstevní závody Dražice - strojírna s.r.o. would like to thank you for choosing to use our brand's product. These instructions will familiarise you with the use, construction, maintenance and other information about electric water heaters.

The product is not intended for use by

a) by persons (including children) with reduced physical, sensory or mental capabilities, or
b) with insufficient knowledge and experience, unless they are supervised by a responsible person or have not been properly trained.

The manufacturer reserves the right to make technical changes to the product. The product is intended for permanent contact with drinking water.

We recommend using the product in an indoor environment with an air temperature of +2 °C to +45 °C and a relative humidity of max. 80%.

The reliability and safety of the product has been tested by the Engineering Test Institute in Brno.

Publisher Družstevní závody Dražice - strojírna s.r.o., Dražice 69, Benátky nad Jizerou, 294 71, Czech Republic, assures that the packaging complies with the requirements of Sections 3 and 4 of Act No. 477/2001 Coll. on packaging and on amendments to certain acts, as amended.

Made in the Czech Republic.

## Meaning of pictograms used in the instructions

**Important information for users of the heater.**

**Manufacturer's recommendations, compliance with which will ensure trouble-free operation and long service life of the product.**

**CAUTION!**
**Important warning that must be followed.**

# 1 TECHNICAL SPECIFICATIONS OF THE PRODUCT

## 1.1 DESCRIPTION OF FUNCTION

The storage water heater (hereinafter referred to as the heater) is designed for the storage heating of domestic water using electrical energy. The water is heated by electric heating elements in an enamelled, thermally insulated tank. During heating, the heating elements are controlled by thermostats, on which the desired temperature can be continuously adjusted (in the range of 5 to 75 °C). Once the selected temperature is reached, heating is automatically interrupted. The water accumulated in the heater is then used for consumption. The container is constantly under water pressure from the water supply system. When the hot water valve of the mixing tap is open, water flows out of the heater, pushed by the pressure of cold water from the mains. Hot water flows out from the top and the incoming water remains in the bottom of the heater. The pressure principle allows hot water to be drawn from any point on the heater.

## 1.2 NOTICE TO CONSUMERS

### 1.2.1 HOT WATER CONSUMPTION

Hot water consumption in the household depends on the number of people, the amount of sanitary equipment, the length, diameter and insulation of the pipe distribution system in the flat or house, and the individual habits of users. The cheapest way to heat water is during off-peak electricity rates.

Find out at what times your electricity supplier offers reduced rates and choose the appropriate heater capacity so that the hot water supply covers your household consumption.

### 1.2.2 ELECTRICITY SAVINGS

The heater is insulated with high-quality CFC-free polyurethane foam. Set the temperature on the heater thermostat only to the level you need for your household. This will reduce electricity consumption and the amount of limescale deposits on the walls of the tank and on the heating element.

### 1.2.3 STANDBY ELECTRICITY CONSUMPTION

According to current legislation, standby consumption is stated as the annual hot water consumption (kWh), which is measured according to the corresponding dial profile and calculated according to the formulas and requirements of EU Regulation No. 812/2013.

| TYPE | | OKCE 125 2/2 kW | OKCE 160 2/2 kW | OKCE 200 2/2 kW |
|---|---|---|---|---|
| **VOLUME** | l | 122 | 149 | 199 |
| **MAX. HEATER WEIGHT WITHOUT WATER** | kg | 45 | 52 | 70 |
| **MAX. OPERATING OVERPRESSURE IN THE CONTAINER** | bar | | 6 | |
| **ELECTRICAL CONNECTION** | | | 2x 1/N/PE ~ 230V/50Hz | |
| **RECOMMENDED CIRCUIT BREAKER** | | | 2x16 A | |
| **POWER CONSUMPTION** | W | | 2000 / 2200 | |
| **ELECTRICAL PROTECTION** | | | IP 44 | |
| **MAX. OPERATING TEMPERATURE IN THE CONTAINER** | °C | | 80 | |
| **RECOMMENDED TV TEMPERATURE** | °C | | 60 | |
| **HEATER HEIGHT** | mm | 1067 | 1255 | 1300 |
| **HEATER DIAMETER** | mm | 524 | 524 | 584 |
| **HEATING TIME EL. EN. FROM 10 °C TO 60 °C** | hours | 3.6 / 3.2 | 4.4 / 3.9 | 5.8 / 5.3 |
| **MIXED WATER V40** | l | 231.10 | 242.83 | 331.26 |
| **LOAD PROFILE** | | M | L | XL |
| **ENERGY EFFICIENCY CLASS** | | C | C | C |
| **ENERGY EFFICIENCY** | % | 36 | 39 | 38 |
| **ANNUAL ELECTRICITY CONSUMPTION** | kWh | 1409 | 2622 | 4403 |

**Table 1**

## 1.3 HEATER DESIGN AND BASIC DIMENSIONS

The heater vessel is made of sheet steel and tested at 1.5 times the operating pressure. The inside of the vessel is enamelled. A flange is welded to the bottom of the vessel, to which the flange cover is screwed. A sealing ring is inserted between the flange cover and the flange. The flange cover has recesses for the heating element, thermostat sensors and safety fuse. An anode rod is mounted on an M8 nut. The electrical installation is located under a removable plastic cover. Description of the basic parts of the heater –(**Chyba! Nenalezen zdroj odkazů.**) . Heater dimensions –Figure 2, Figure 3 andTable 2 ,Table 3.

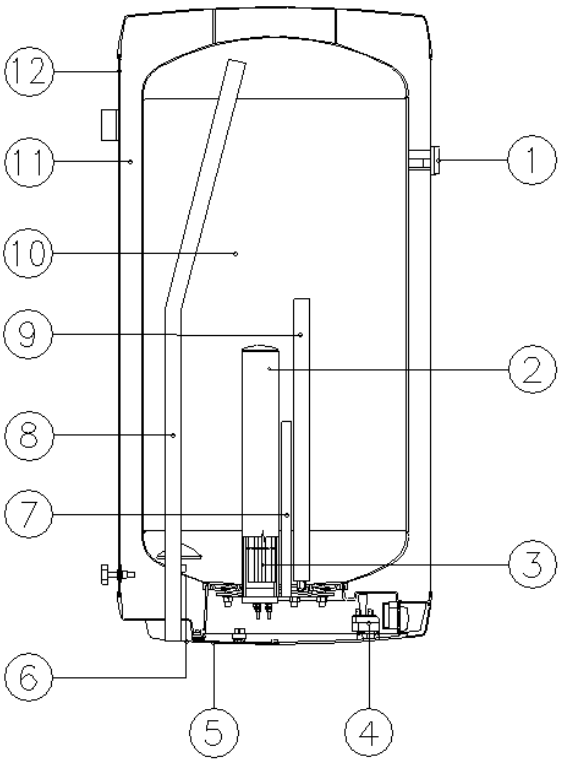



**Figure 1**

1. temperature indicator
2. heating element well
3. 2200 W and 2000 W ceramic heating elements for the OKCE 2/2 kW variant
4. operating thermostats with external control and safety fuse
5. electrical installation cover
6. cold water inlet pipe
7. well for thermostat sensors
8. hot water supply pipe
9. Mg anode
10. steel enamel container
11. polyurethane insulation
12. heater casing

**OKCE 125 2/2 kW, OKCE 160 2/2 kW**

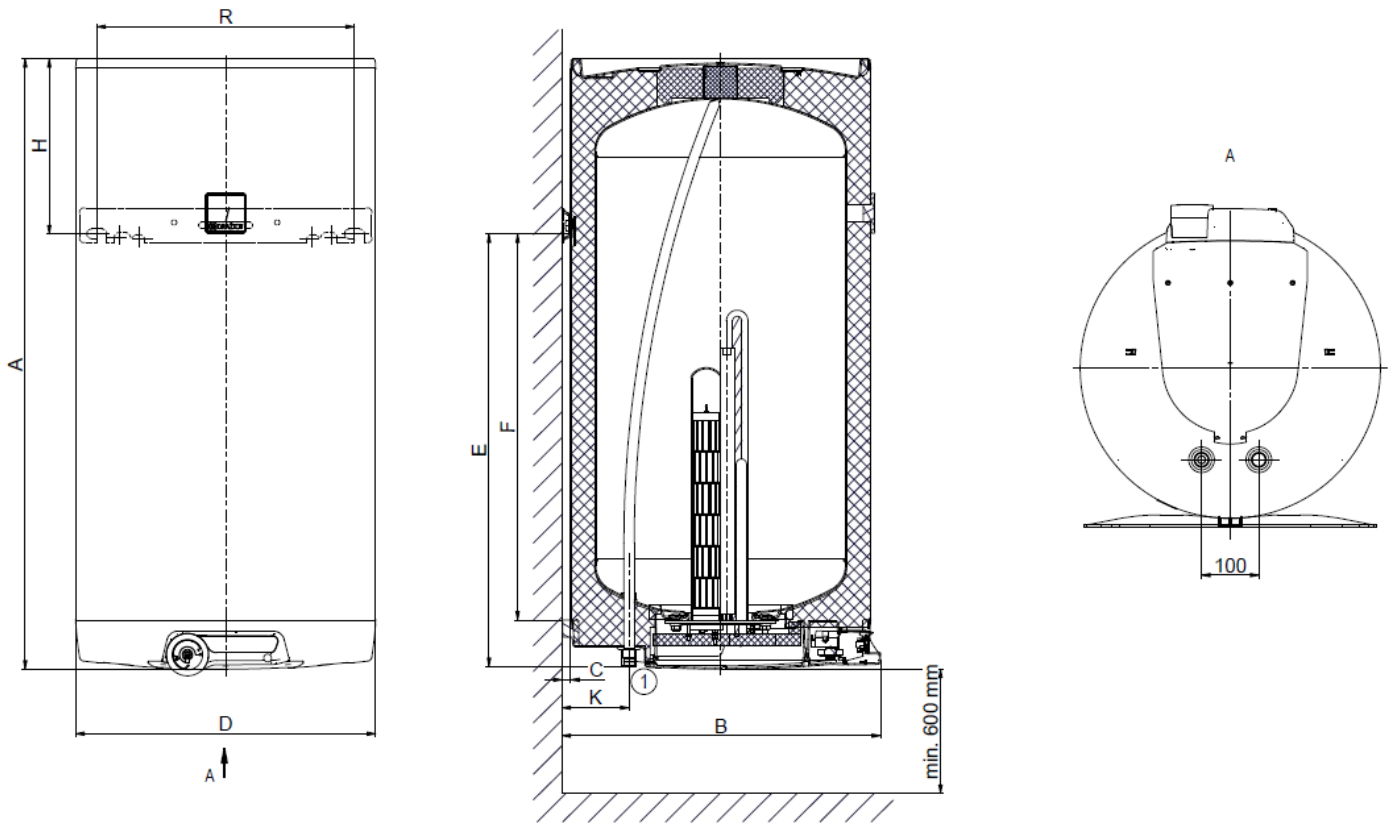



Figure 2

| | |
|---|---|
| ① | 3/4" external |

| | OKCE 125 2/2 kW | OKCE 160 2/2 kW |
|---|---|---|
| **A** | 1067 | 1255 |
| **B** | 562 | 562 |
| **C** | 14 | 14 |
| **D** | 524 | 524 |
| **E** | 760 | 1000 |
| **F** | 682 | 925 |
| **H** | 297 | 245 |
| **K** | 116 | 116 |
| **R** | 450 | 450 |

Table 2

**OKCE 200 2/2 kW**

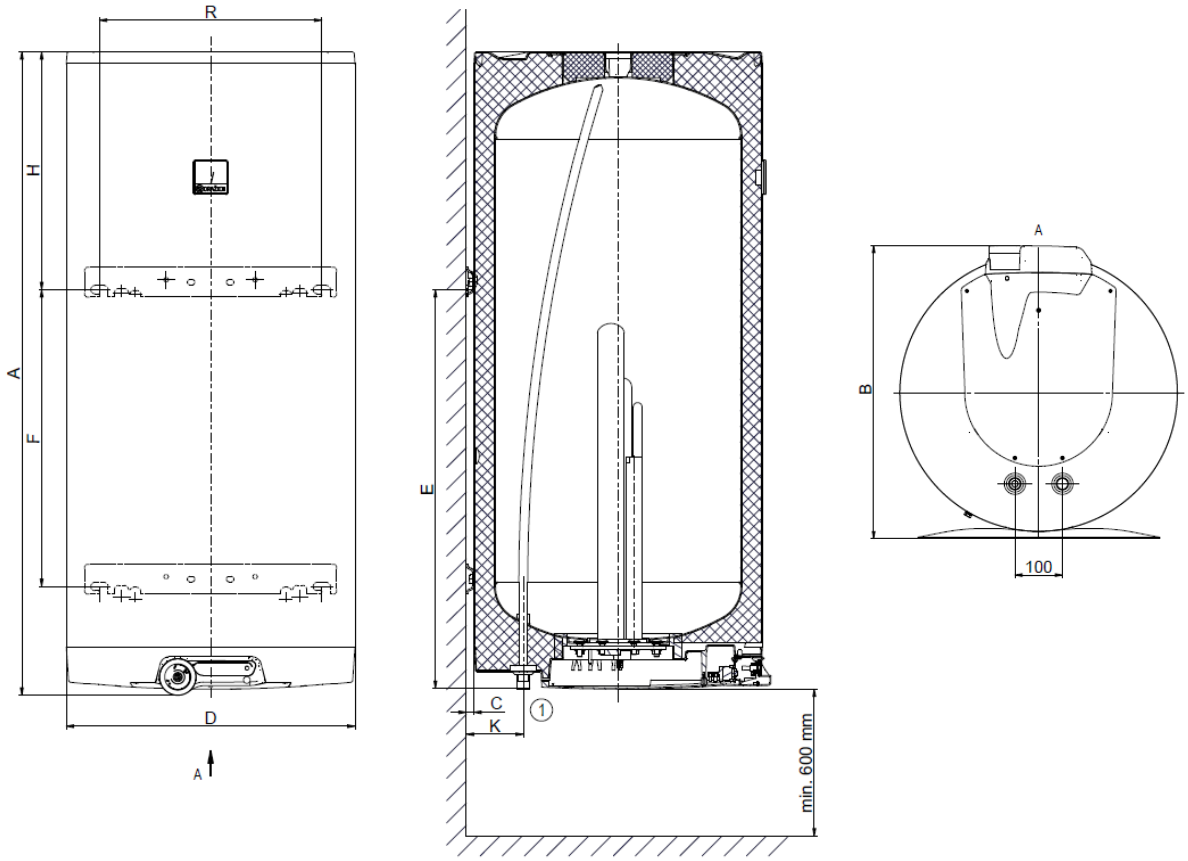



Figure 3

| | |
|---|---|
| ① | 3/4" external |

| | OKCE 200 2/2 kW |
|---|---|
| **A** | 1300 |
| **B** | 617 |
| **C** | 14 |
| **D** | 584 |
| **E** | 806 |
| **F** | 600 |
| **H** | 480 |
| **K** | 116 |
| **R** | 450 |

Table 3

# 2 OPERATING AND INSTALLATION INFORMATION

## 2.1 OPERATING CONDITIONS

The heater may only be used in accordance with the conditions specified on the rating plate and in these instructions. In addition to the legally recognised national regulations and standards, the connection conditions specified by the local electricity and water companies must also be observed, as well as the installation and operating instructions.

The temperature at the installation site of the heater must be above +2 °C; the room must not freeze. The appliance must be installed in a location that can be considered suitable, i.e. the appliance must be easily accessible for any necessary maintenance, repair or replacement.

If your water has a high calcium content, we recommend connecting a standard water softener upstream of the heater or setting the thermostat to a maximum operating temperature of 55 °C (set to the "OPTIMUM" position) -**Chyba! Nenalezen zdroj odkazů.** . For proper operation, it is essential to use drinking water of the appropriate quality. To prevent possible deposits, we recommend installing a water filter upstream of the heater.

## 2.2 WALL MOUNTING

Before installation, check the load-bearing capacity of the wall and the material it is made of, taking into account the weight of the heater when filled with water. Select the appropriate anchors according to the wall material. We recommend that you have the heater installed and anchored by a professional company or discuss the anchoring with an expert. **When installing the anchor bolts, follow the manufacturer's instructions.**

**The thermostat control knob, nor any other part of the control panel, is a load-bearing part that can be used for any manipulation of the heater!**

According to the dimensional drawing (Figure 4), install the anchors at a spacing **of 450 mm. The verticality of the heater can be adjusted by slightly turning the hinge after loosening the connecting screws.**

**Universal bracket**

Use the bracket even for screw spacing when replacing with a different type of heater. **The verticality of the heater can be adjusted by slightly turning the bracket after loosening the connecting screws.**

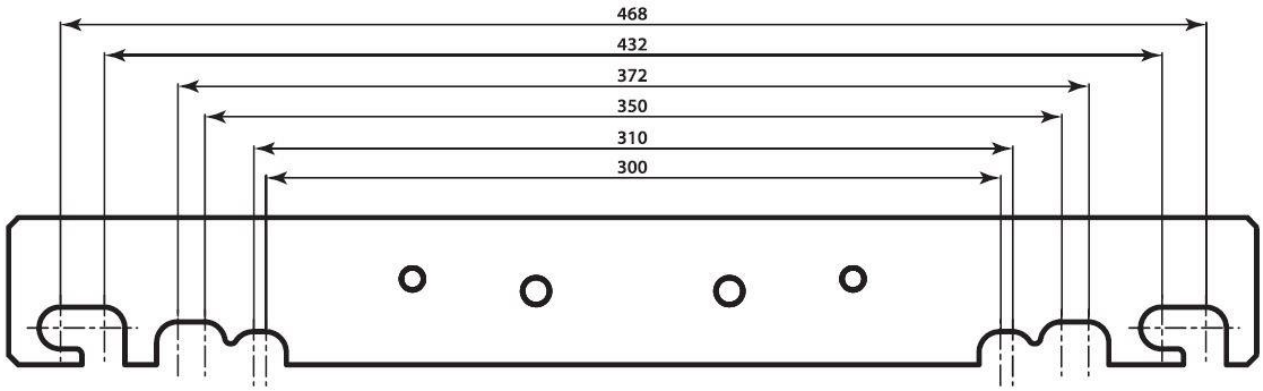



Figure 4

If the hot water heater is installed in **a narrow, smaller space** or in a false ceiling, etc., it is essential to ensure that the connection side of the appliance (water connections, space for electrical connection) remains freely accessible and that no heat accumulates. There must be free space under the heater extending up to a distance **of 600 mm** from the bottom edge of the heater. When installing directly under the ceiling, the distance from the ceiling must be at least **50 mm**.

When installing the water heater in enclosed spaces, false ceilings, built-in units and recesses, sufficient access to the service fittings, electrical terminal blocks, anodes and cleaning openings must be ensured. The minimum distance from the cleaning opening is 600 mm.

## 2.3 WATER INSTALLATION

The heater is connected to the water supply system using 3/4" threaded pipes at the bottom of the heater. Blue - cold water inlet, red - hot water outlet. In order to disconnect the heater, it is necessary to install Js 3/4" fittings on the service water inlets and outlets. The safety valve is installed on the cold water inlet marked with a blue ring.

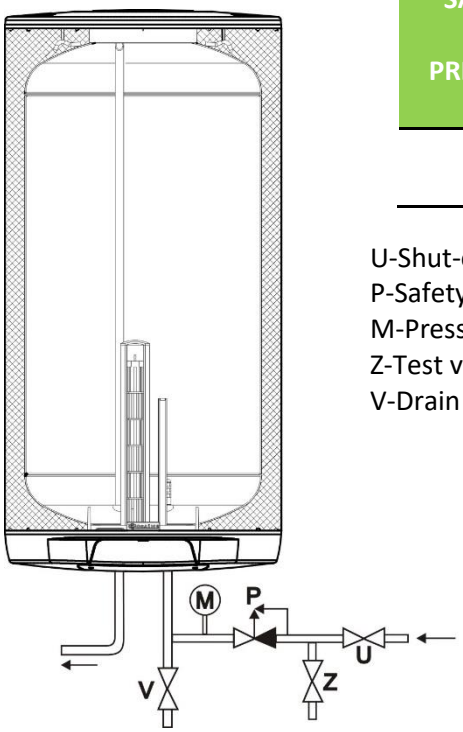
The heater must be equipped with a diaphragm spring-loaded safety valve. Safety valves with a fixed pressure setting from the manufacturer are used for installation. Each separately closable heater must be equipped with a shut-off valve, test tap or plug on the cold water inlet to check the function of the non-return valve, a drain valve, a non-return valve and a safety valve (Figure 5). **The safety valve with non-return valve is included with the heater accessories.**

Before putting the safety valve into operation, it must be checked. The check is performed by manually moving the diaphragm away from the seat, turning the release device knob in the direction of the arrow. After turning, the knob must snap back into the notch. The proper functioning of the breakaway device is indicated by water draining through the safety valve drain pipe.

During normal operation, this check must be performed at least once a month and after each shutdown of the heater for more than 5 days. Water may drip from the safety valve through the drain pipe. The pipe must be freely open to the atmosphere, positioned continuously downwards and must be in an environment without temperatures below freezing.

| SAFETY VALVE TRIGGER PRESSURE [MPa] | PERMISSIBLE OPERATING OVERPRESSURE OF THE WATER HEATER [MPa] | MAXIMUM PRESSURE IN THE COLD WATER PIPE [MPa] |
|---|---|---|
| 0.6 | 0.6 | **up to** 0,48 |

Table 4




U-Shut-off valve
P-Safety valve
M-Pressure gauge
Z-Test valve
V-Drain valve

Figure 5

## ELECTRIC STORAGE WATER HEATER HOT WATER DISTRIBUTION

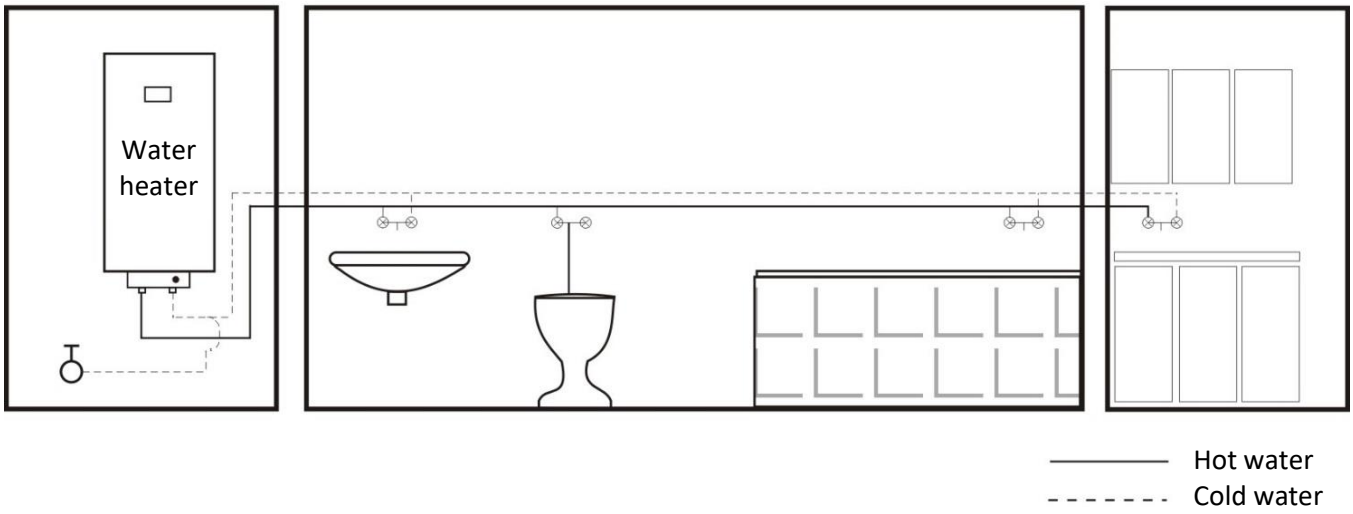



Figure 6

# 2.4 ELECTRICAL INSTALLATION

## 2.4.1 BASIC INFORMATION FOR ELECTRICAL INSTALLATION

Connect according to the connection diagram. The factory wiring must not be changed! (Figure 8). Remove the partition in the electrical installation cover corresponding to the diameter of the supply cable Ø8 or Ø10 (Figure 7). The degree of protection of the electrical parts of the heater is IP 44. The power consumption of the electric elements is 2200 W and 2000 W for the OKCE 2/2 kW heater.

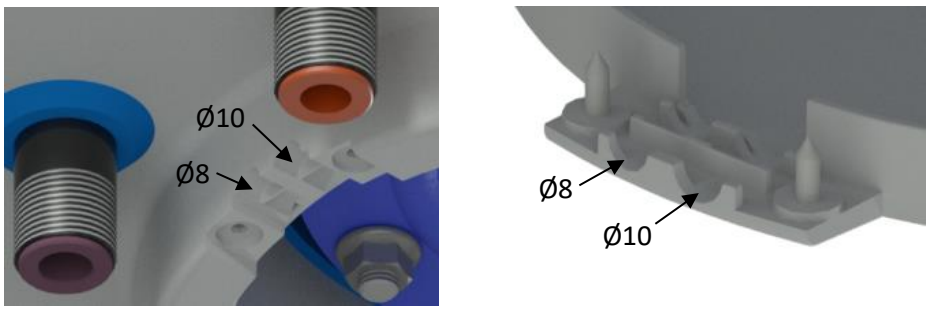



Figure 7

The following requirements must be observed during electrical installation.

- The electrical connection diagram is also attached to the heater on the electrical installation cover (Figure 8).
- Connection, repairs and inspections of the electrical installation may only be carried out by a person authorised to do so.
- Professional connection must be confirmed on the warranty card or documented by another document.
- The OKCE 2/2 kW heater is connected to the electrical network 2x 230 V/50 Hz with a fixed movable cable equipped with a circuit breaker (protective device), 2x cable 3x 2.5 $mm^2$ , supply protection 2x 16 A/B.
- When installing in bathrooms, laundry rooms, washrooms and showers, it is necessary to follow the standard.
- The degree of protection of the electrical parts of the heater is IP 44.
- Observe the protection against electric shock in accordance with the standard.

**Wiring diagram for the nd OKCE 2/2 kW heater**

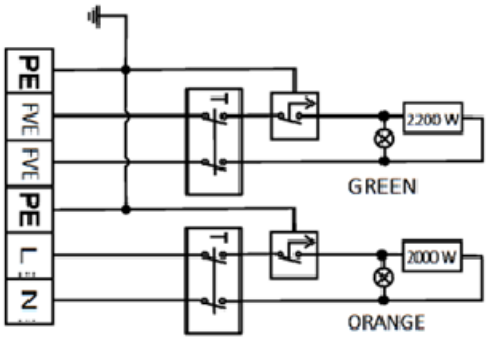



Figure 8

## 2.5 OPERATION OF THE OKCE 2/2 KW HEATER

- **Basic heating**, power **2 kW** /230 V/8.7 A – 1 phase – controlled by Te1 thermostat. The temperature can be set using the control on the heater panel in the range of approx. 5 °C to approx. 75 °C. Operation is indicated by an orange indicator light.
- During prolonged operation without using the heated water volume, it is necessary to set the thermostat to a position between 5 °C and 10 °C (set the thermostat control to the "snowflake" mark) to prevent freezing. Setting the thermostat to the zero position does not mean that the heater is switched off.

- **Heating** - power **2.2 kW** / voltage 1 x 230 V.
- This type of heating can be used, for example, to utilise surplus energy from photovoltaic panels. To enable surplus energy storage, we recommend setting **Te1** to the minimum comfortable hot water temperature and **Te2** to the maximum. Operation is indicated by a green light.
- The thermostat is installed inside the controller; the temperature can be set after removing the electrical installation cover. The thermostat is factory set to a maximum water temperature of approx. 75 °C; this temperature can be changed by turning the controller.
- **Important notice! When the thermostat is set to the maximum temperature, the water outlet temperature is higher than 65 °C (according to the Te2 setting) – we recommend installing a thermostatic mixing valve on the hot water outlet!**

## 2.6 FIRST START-UP

The tank must be filled with water before connecting the electricity. The initial heating process must be carried out and checked by a licensed professional. The hot water drain pipe and parts of the safety fittings may be hot.

During the heating process, water, which increases in volume due to heating, must drip from the safety valve. After heating is complete, the set temperature and the actual temperature of the water drawn should be approximately the same. After connecting the heater to the water supply, the electrical network and testing the safety valve (according to the instructions supplied with the valve), the heater can be put into operation.

Before commissioning for the first time, or after a long period of inactivity, it is necessary to flush and fill the system with water before starting heating. Before starting heating, the tank must be completely filled with water, and the system must be properly flushed and vented. The first heating of the tank must be monitored.

**Procedure for putting the heater into operation:**

1. Check the water and electrical installations. Check the correct placement of the operating and safety thermostat sensors. The sensors must be inserted as deeply as possible into the well – according to the capabilities of the capillaries, first the operating Te2, then the safety thermostat Te1.
2. Open the hot water valve of the mixing tap.
3. Open the cold water supply valve to the heater.
4. Once water starts to flow through the hot water valve, the heater is full and the valve can be closed.
5. If a leak occurs (flange cover), we recommend tightening the flange cover screws. Tighten the screws crosswise against each other. Tightening torque 15Nm
6. Screw on the electrical installation cover.

7. Switch on the power supply.
8. When starting operation, flush the heater until the cloudiness disappears.
9. Fill in the warranty card correctly.

## 2.7 DECOMMISSIONING, EMPTYING

If the water heater is to be taken out of service for a longer period of time or will not be used, we recommend disconnecting it from the power supply. The switch for the supply cable or circuit breakers must be turned off.

In areas that are permanently at risk of frost, the water heater must be emptied before the cold season begins if the device will be out of service for several days and if the power supply is disconnected.

The service water is drained after closing the shut-off valve in the cold water supply pipe (via the drain valve on the combination safety valve) and simultaneously opening all valves (water can also be drained via the safety valve) for hot water on the connected fittings. **Hot water may flow out during drainage!** If there is a risk of frost, it must also be taken into account that water may freeze not only in the hot water heater and hot water pipes, but also in the entire cold water supply pipe. It is therefore advisable to empty all fittings and pipes that carry water up to the part of the domestic water meter (connection of the house to the water mains) that is no longer at risk of freezing. When the tank is put back into operation, it is essential to ensure that it is filled with water and that **the water flows out of the hot water valves without bubbles**.

## 2.8 INSPECTION, MAINTENANCE, CARE OF THE EQUIPMENT

During heating, water, which expands in volume when heated, must visibly drip from the safety valve drain. When fully heated (approx. 75 °C), the increase in water volume is approximately 3% of the tank capacity. The function of the safety valve must be checked regularly. When the check knob of the safety valve is lifted or turned to the "Check" position, the water must flow freely from the safety valve body into the drain pipe. During normal operation, this check must be performed at least once a month and after each shutdown of the heater for more than 5 days.

**Caution!** The cold water inlet pipe and the tank connection fitting may become hot during this process! If the water heater is not in operation or no hot water is being drawn, no water should drip from the safety valve. If water is dripping, either the water pressure is too high (pressure higher than 4.8 bar, a pressure reducing valve must be installed) in the supply pipe or the safety valve is defective. Please call a professional plumber immediately!

Repeated heating of the water causes limescale to build up on the walls of the tank and especially on the flange cover. The amount of limescale depends on the hardness of the heated water, its temperature and the amount of hot water used. If the water contains a lot of minerals, a specialist must be called in to remove the limescale forming inside the tank, as well as loose deposits, after one to two years of operation. Cleaning is carried out through the flange opening - remove the flange cover and clean the heater. A new seal must be used when reassembling.

The inside of the heater has a special enamel coating and must not come into contact with limescale remover - do not use a descaling pump. Remove limescale deposits with a wooden or plastic tool and vacuum or wipe them off with a cloth. The device must then be thoroughly rinsed and the heating process checked as during initial commissioning. Do not use any aggressive cleaning agents (liquid sand, chemicals - acidic, alkaline) or paint thinners (such as nitro thinner, trichlor, etc.) to clean the outer casing of the heater. Clean with a damp cloth and add a few drops of household detergent.

**After two years of operation, we recommend checking and, if necessary, cleaning the tank of limescale, checking and, if necessary, replacing the anode rod.** The service life of the anode is theoretically calculated at two years of operation, but this varies depending on the hardness and chemical composition of the water at the place of use. Based on this inspection, it is possible to determine the date of the next anode rod replacement. If the anode is only clogged with deposits, clean its surface; if it is worn out, install a new one. Entrust the cleaning and replacement of the anode to a company that provides servicing.

## 2.9 MOST COMMON MALFUNCTIONS AND THEIR CAUSES

| SYMPTOMS OF MALFUNCTION | INDICATOR LIGHT | SOLUTION |
|---|---|---|
| **The water is cold** | • The indicator light is on | • Low temperature set on the thermostat<br>• heating element malfunction |
| **The water is cold** | • not lit | • No supply voltage<br>• Thermostat malfunction<br>• Safety thermostat switched off, probably caused by a faulty operating thermostat |
| **The water is not very warm** | • lit | • One coil in the heating element is faulty |
| **Water temperature does not correspond to the temperature set on the controller** | | • Defective thermostat |
| **Water is constantly dripping from the safety valve** | • not lit | • High inlet pressure<br>• defective safety valve |

**Table 5**

Do not attempt to repair the fault yourself. Contact either a specialist or a service centre. A specialist will often need very little to repair the fault. When arranging for repairs, provide the type designation and serial number, which can be found on the rating plate of your water heater.

# 3 THERMOSTAT OPERATION

## 3.1 HEATER CONTROL DEVICES

**Electrical installation cover for OKCE 2/2 kW heaters**

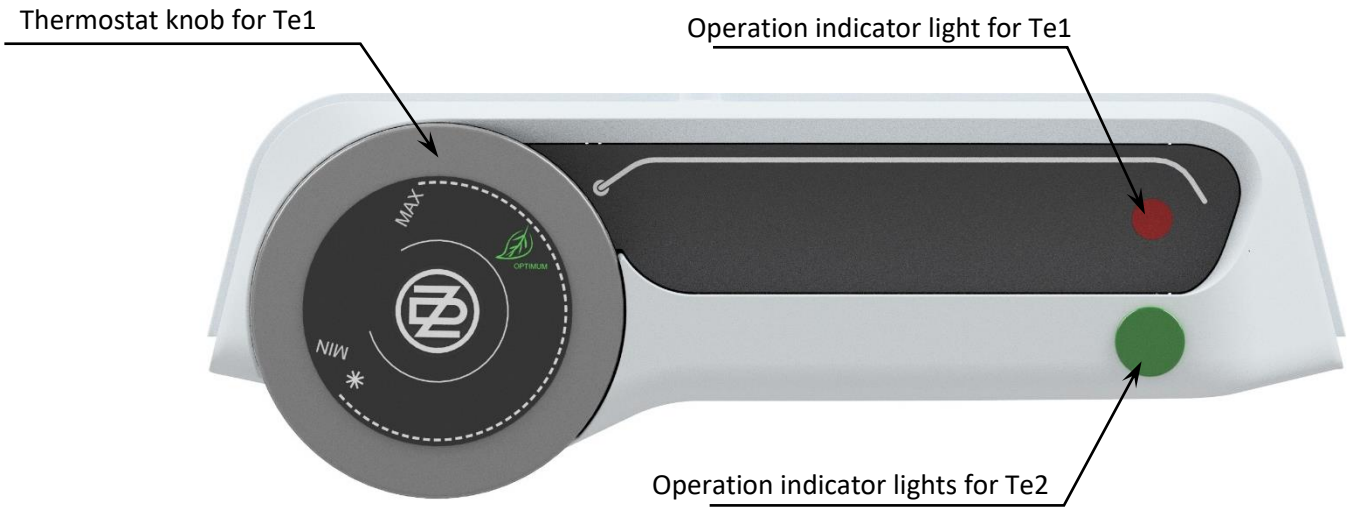



Figure 9

### 3.1.1 TEMPERATURE SETTING

The water temperature is set by turning the thermostat knob. The desired symbol is set against the fixed point on the control panel (Figure 10). The thermostat knob for Te2 (Figure 11) is hidden under the electrical installation cover.

**Te1**

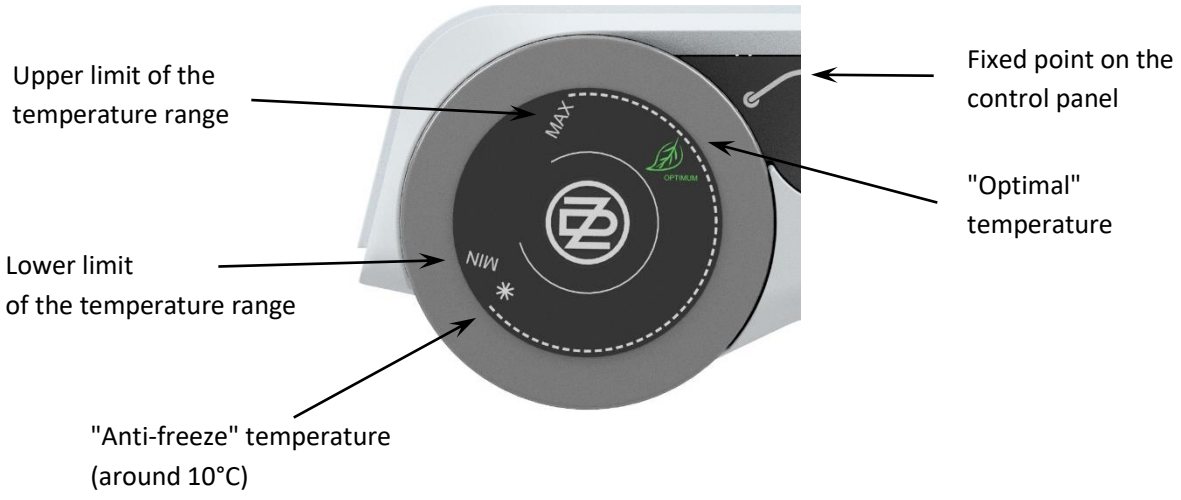



Figure 10

Setting the thermostat knob to the left stop does not mean that the heating element is permanently switched off. When operating the heater without blocking the daily rate, we do not recommend setting the temperature above 55 °C. Select the "**OPTIMUM**" symbol at most.

**Te2**

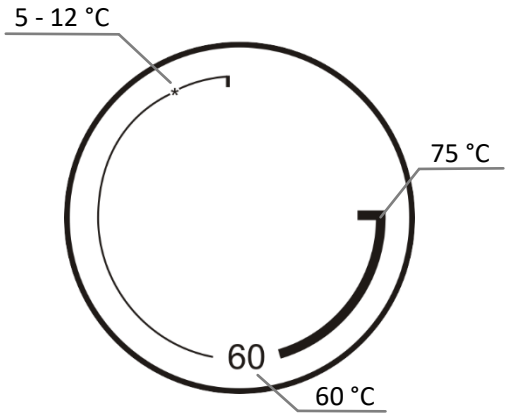



**Figure 11**

# 4 IMPORTANT NOTICE

The products contain metal parts, some of which contain lead (CAS No. 7439-92-1) in a concentration greater than 0.1% by weight, or thermostats containing hydrogenated terphenyl (CAS No. 61788-32-7) in a concentration greater than 0.1% by weight. These are substances that can have very serious effects on human health and the environment. When these products are used as intended (according to the operating instructions), serviced and maintained in accordance with technical instructions and standard service practice, there is no risk to human health or the environment. Worn-out or discarded products do not belong in municipal waste. By handing them over to professionally competent companies authorised to take over waste or, in the case of electrical equipment, to their collection points, their processing, utilisation and professional disposal in accordance with applicable regulations is ensured, excluding risks to the environment and human health.

## 4.1 INSTALLATION REGULATIONS

- **The warranty certificate is invalid without confirmation from a professional company that the electrical installation has been carried out.**
- Check the Mg anode regularly and replace it.
- Make sure that you do not need to request permission from your local electricity supplier to connect the heater.
- **No shut-off valve may be installed between the heater and the safety valve.**
- If the water supply pressure exceeds 0.48 MPa, we recommend installing a pressure reducing valve upstream of the safety valve.
- All hot water outlets must be equipped with a mixing tap.

- Any manipulation of the thermostat other than adjusting the temperature with the control knob is not permitted.
- All manipulation of the electrical installation, adjustment and replacement of control elements must be carried out by a service company.
- **It is not permitted to disable the thermal fuse!** In the event of a thermostat failure, the thermal fuse will interrupt the power supply to the heating element if the water temperature in the heater rises above 90 °C.
- If you are not using the heater for a long period of time, or if the building with the heater is unattended, shut off the cold water supply and the power supply to the heater. If there is a risk of freezing, empty the heater.
- The emptied heater (without water) must be disconnected from the power supply.
- The heater may only be used in accordance with the conditions stated on the rating plate and the instructions in this manual.
- The recommended operating pressure in the hot water circuit is 0.48 MPa.

**Electrical and water installations must comply with and meet the requirements and regulations of the country of use!**

**When installing the product, it is necessary to choose a location where the product will remain easily accessible for subsequent maintenance, repair or replacement.**

## 4.2 TRANSPORT AND STORAGE INSTRUCTIONS

The device must be transported and stored in a dry environment, protected from the weather, at temperatures between -15 and +50 °C. When loading and unloading, follow the instructions on the packaging.

## 4.3 DISPOSAL OF PACKAGING E MATERIAL AND NON-FUNCTIONAL PRODUCTS

A service fee was paid for the packaging in which the product was delivered to ensure the return and recycling of the packaging material. The service fee was paid in accordance with Act No. 477/2001 Coll., as amended, to EKO-KOM a.s. The company's client number is F06020274. Dispose of the packaging from the water heater at a location designated by the municipality for waste disposal. After the end of operation, dismantle the discarded and unusable product and take it to a waste recycling centre (collection yard) or contact the manufacturer.

# 5 PRODUCT ACCESSORIES

The product includes a safety valve, temperature indicator, fan washerϕ 8.4 - 2 pcs, M8 nut. These parts are packed and located in the upper part of the heater packaging.

**In your own interest, please check that the package is complete.**

12-1-2026