KASTOR CK

- INSTRUCTIONS FOR THE WEEK CONTROL UNITS

(MODELS CK 170 U) 09/03CT420_1

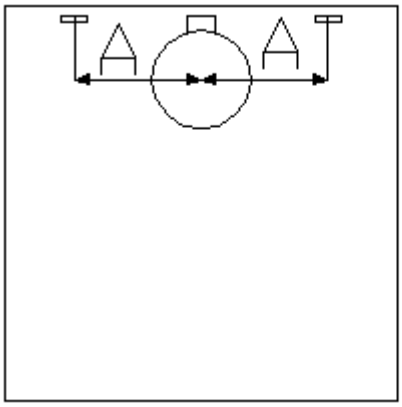
1. GENERAL

We thank you for your selection for our product. The **KASTOR** sauna heaters and their control units are noted for their high quality and reliability. We ask you and your installer to acquaint yourselves with these instructions. This instruction manual should always be easily available. After the installation, the manual should be given to the sauna owner, or to the person responsible for the sauna. **Before taking any measures, read these instructions carefully, especially the section "WARNINGS" on page 4.**

2. INSTALLATION

2.1. Installation of the control unit

The control unit is installed as a surface mounting outside the sauna room to a dry place on a straight surface. The control unit is mounted clear of the wall using the raising pieces included in the delivery. The fastening must be firm, and the holes for the wiring must be done carefully. The sensor is fastened to the sauna wall according to **the table 1.** Deviating from the measures given causes a fire risk. Free space of min. 0.8 m is needed for operation at the front of the control unit.



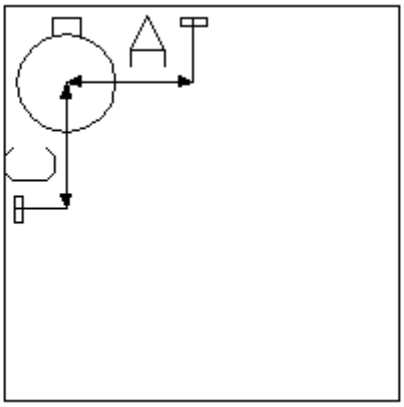


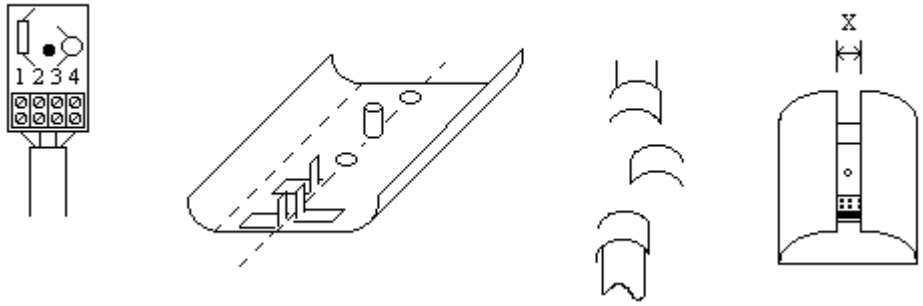
Table 1

HEATER MODEL	FROM MIDDLE OF THE HEATER		FROM THE CEILING
	C =cm	A =cm	cm
Viva (HL-6) 6 kW	30-40	40	5
Viva (HL-8) 8 kW	30-40	40	5
Inferno 2 (SO-6) 6 kW	30-40	40	5
Inferno 2 (SO-8) 8 kW	30-40	40	5
Mega-line (EP-80) 8kW	120-140	120-140	10
Mega-line (EP-100) 10kW	120-140	120-140	10

2.2. Mounting of the sensor (Picture 1)

Remove the circuit board from the sensor's cover plate. Fasten the cable onto the trip shaft according to the colours and the numbers (**A**). Lift the cable clamps from the bottom of the sensor plate **(B)**. Push the wire through the cable clamp strips (3 pieces). Bend the strips according to the picture (**C**). Fasten the sensor with the screws (2 pieces) to the wall. Attach the circuit board back to the cover plate. Turn the left and the right flap of the cover plate onto the circuit board (**D**). The width of the hole must be x = 6-8 mm.

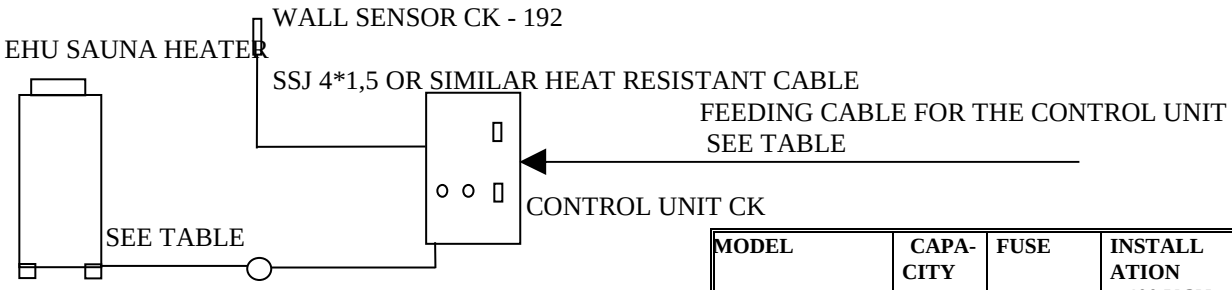
A **B** **C** **D**



Picture 1

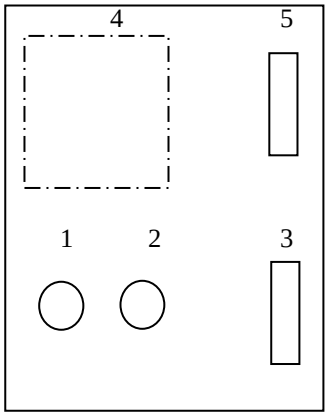
2.3. Connection to the electric network

The sauna heater and the control unit must be connected to the electric network only by a licensed electrician. Cabling of the control unit and the sauna heater, see **picture 2.**



Picture 2

MODEL	CAPA-CITY	FUSE	INSTALLATION 400 V 3N MMJ	CONNECTION 400 V 3N VSB (VSN)
Viva	**6 kW**	**3*10A**	**5*1,5**	**5*1,5**
Viva	**8 kW**	**3*16A**	**5*2,5**	**5*1,5**
Inferno 2	**6 kW**	**3*10A**	**5*1,5**	**5*1,5**
Inferno 2	**8 kW**	**3*16A**	**5*2,5**	**5*1,5**
Mega-line EP –80	**8 kW**	**3*16A**	**5*2,5**	**5*1,5**
Mega-line EP-100	**10 kW**	**3*16A**	**5*2,5**	**5*1,5**



1 = Limiting timer
2 = Temperature regulator
3 = Current switch
4 = Week timer (inside the box)
5 = Sauna light switch

Picture 3. Regulators for the control unit

2.4 Regulation of temperature

The maximum temperature in the sauna room is reached by turning the regulator clockwise to its extreme position. The most pleasant temperature for yourself you find out by testing.

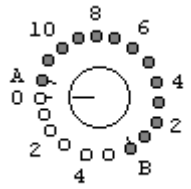
The timer's step control action regulates the heating elements to warm up non-simultaneously, in 3 steps. When the set temperature is reached, the first step switches off a part of the heating elements. The heating elements switched on continue warming. If the sauna is not used immediately, these elements are also switched off due to the temperature, and so the temperature stays continuously at the set level.

The desired temperature of the sauna room is set by using the thermostat. The sauna heater is switched on by turning the current switch to the ON position and turning the timer to the desired position. The burning light of the current switch indicates that the control unit is switched on. After having a sauna, the heater is switched off by turning the timer to position 0 and pushing the current switch to position OFF. In case you forget to switch off the heater, it will be switched off automatically by the timer. The thermostat is left to the set position, and it is turned only when changing the temperature desired in the sauna room. The temperature of the sauna room can be set stepless.

2.5.1 Limiting timer

The main switches of the sauna heater are the limiting timer, the current switch, and the week timer. The limiting timer is electrically operated and its operation time is 12+6 hours. The scale is divided in two parts: When turning clockwise, the first scale is the warming up area (12 hours). When using this scale, the heater is switched on the set time and it is automatically switched off after that time. The rest time is 6 hours, i.e. the heater can be automatically switched on again by the week timer

not earlier than 6 hours after the end of the previous operation period. When necessary, the sauna heater can be switched on again manually by turning the switch of the limiting timer within the limits of the remote control program.
The sauna heater can be switched off before the set time is over by turning the timer anticlockwise to position 0, or by using the current switch (the light goes out).

	Operation period 0→A 10 minutes The heater is switched on at A.	Operation period A→B 12 hours Operation period of the heater, if the remote control does not limit it shorter	Operation time B→0 6 hours The heater is forced switched off within this time

Operational principle of the limiting timer:

1) The week timer is switched on at 9 a.m. on Saturday (for example).
   - past time 0 hours → the limiting timer starts to run.
2) Saturday at 9.10 a.m.
   - past time 10 minutes → the limiting timer switched the heater on in the position A.
3) Saturday, during the period from 9.10 a.m. to 9.00 p.m., the heater can be switched on and off at will using the day timer of the week timer.
   - past time 12 hours →the rest time is forced switched on.

   ATTENTION!
   - If the week timer is switched off the switch of the limiting timer being within the area 0-2, the limiting timer stops and is waiting that the remote control is switched on again.
   - When the week timer is switched on, sauna periods longer than 12 hours can be chosen by exceeding the area B→0 of the limiting timer by turning the switch manually clockwise to the position A.
4) Sunday at 3 a.m.
   - past time 18 hours→the limiting timer is in the position 0. If the week timer has switched off the heater, the limiting timer stops, otherwise the limiting timer begins to repeat the program from the point 1.

When the heater is switched of by the week timer, the switch of the limiting timer keeps on moving clockwise (OBS! DEVIATON IN POINT 3), until it reaches the position 0. Then it stops and is waiting for a new switching on.

2.5.2 Week timer

The daily program of the heater is chosen by using the day timer, and the weekly program by using the week timer. You can choose a different program for each week day. However, don't forget to pay attention to the operation of the limiting timer. When the voltage is connected, the timer is ready for use after a while. The timer is equipped with a emergency battery.
The time is set by turning the long hand to the right or to the left, until the desired time of day and week day is at the tumbler of the switch.
The week days are numbered in the lower circle 1 – 7.
The hours are numbered in the upper circle 1 – 24.
The switch-on time is set by pulling outwards the blue segment, 1 segment = 1 hour. To ensure the operation of the timer, at least 1 segment must be pulled outwards, or at least 3 adjacent segments pushed inwards.
Operation of the selector switch (on the left bottom corner of the timer)

I	Forced control on
"Timer"	Control according to the setting of the timer
II	Forced control off

The timer is equipped with a chemical power source (battery), which can be replaced separately. Don't try to open it, or throw it into water.

2.6 Overheating protection system

The wall sensor of the control unit is equipped with an overheating protection system. It prevents the sauna room from overheating in case the thermostat doesn't work properly. When the temperature is at a normal level again, the wall sensor can be changed. The reason for the malfunction should be found out before that. The overheating protection system is one-time acting.

2.7 Control system for electric heating

One of the connectors of the control unit is reserved for control of electric heating (x). There is always a control voltage of 230 V on the connector when the sauna heater is switched on. Under the pre-setting time of the timer, it is possible to use the electric heating system of the house.

2.8. External indicator lamp

A max. 100W lamp can be connected to the connector (1).

2.9. Light of the sauna room
The switch in the control unit is used to turn the light in the sauna room on and off. Max. wattage 200W.

2.10. Service
The electrical system of the control unit must be served and repaired only by a licensed electrician! Use only components approved and specified by the manufacturer as replacement parts. For problems and questions concerning the product in the warranty time, contact the manufacturer before any repair measures.

2.11. Building automation system
It is possible to take potential free information from the control unit to the building automation system. Connectors (A1 and A2) are located up in the circuit board of the control unit.

WARNINGS

This KASTOR control unit is designed for control of **KASTOR** sauna heaters only. The connection work must be done only by an licensed electrician in accordance with regulations in force.

The KASTOR – CK 170 U control unit is designed for controlling sauna heaters in public saunas, apartment houses, hotels and similar. Use for controlling other sauna heaters is not allowed.

The sauna room must always be inspected before switching the sauna heater on again.

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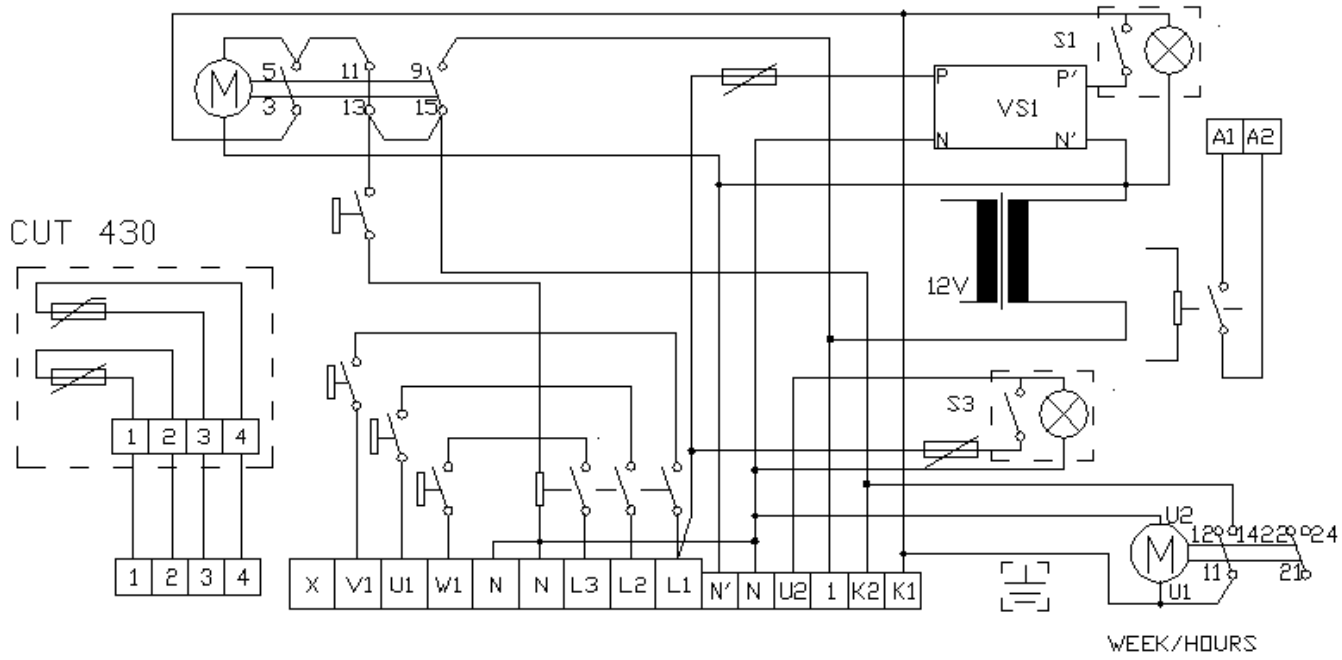

Circuit diagram:

L1, L2, L3, N and earth	= Feeding
V1, U1, W1 ,N and earth	= Heater
1,2,3,4	= Sensor
X	= Control of electric heating
U2	= Lighting
1	= Indicator light
A1,A2	= Building automation

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