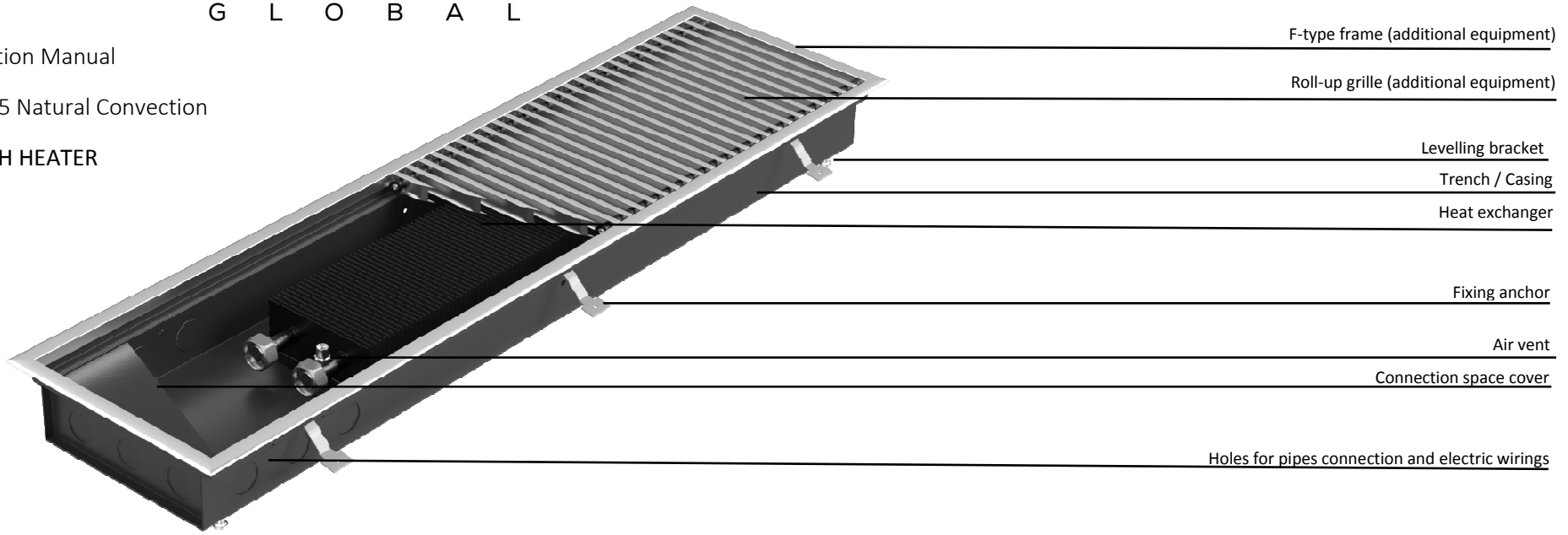
VERANO

GLOBAL

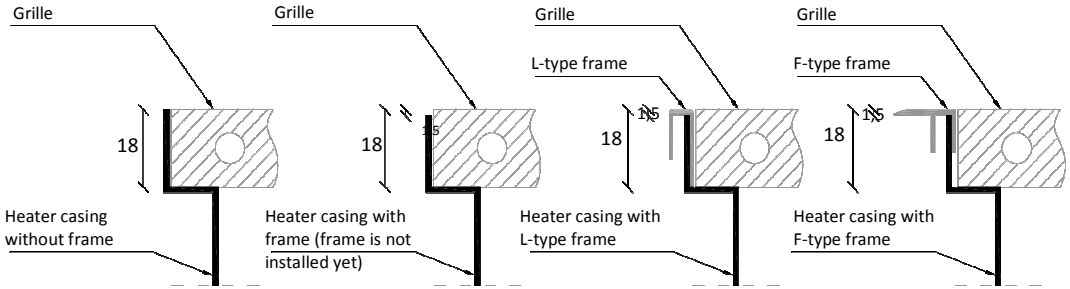
Instalation Manual

Of VK15 Natural Convection

TRENCH HEATER



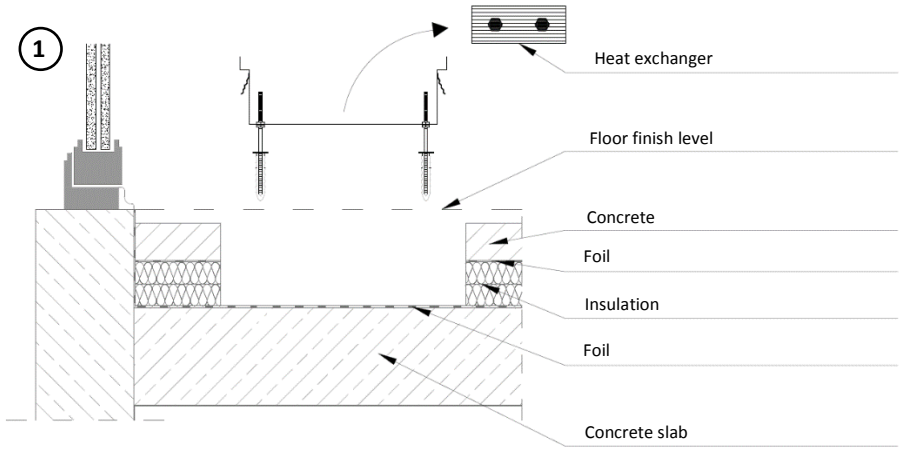
Frame type and heater height



The height oft he casing edge depends of the frame type. It is recommended to order frame together with the heater or inform manufacturer about planned frame installation on later stage.

Casing edge for heater without frame is 18 mm high – the same as the grille. Casing adge for heater with frame is 16,5 mm high. Thanks to that, after installing the 1,5 mm frame, grille and frame are on the same level.

F-type frame should be installed on the casing after completing all installation and building works, according to the point ⑦ of this manual.

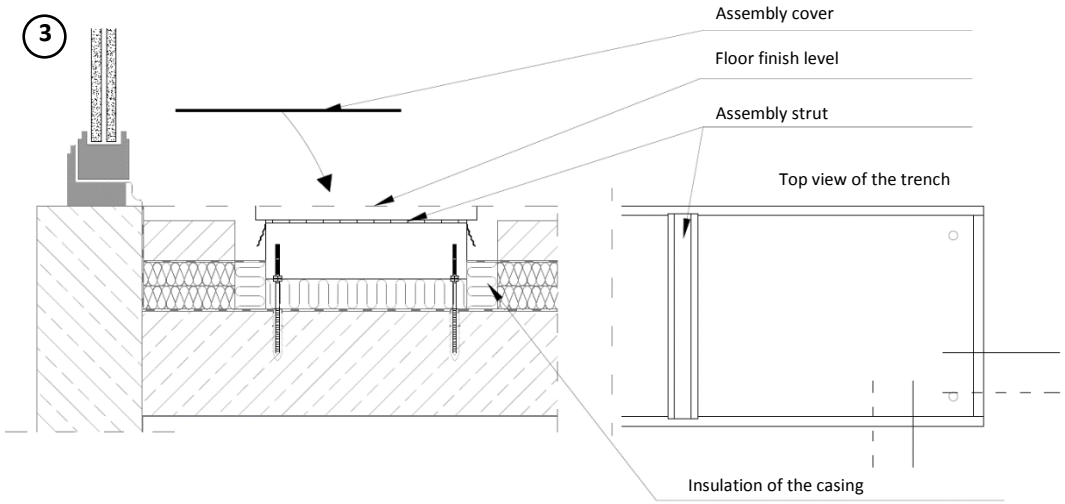


Prepare a duct which should be approx. 40-50 mm larger than the dimensions of the trench heater of each side.

The layer of thermal insulation surrounding the trench heater should be at least 20 mm thick (depending on the insulation material used, design recommendations and the proposed solution). The depth of the duct should be planned in the way that the top of the grille is on the same level as floor finish level.

NOTE!

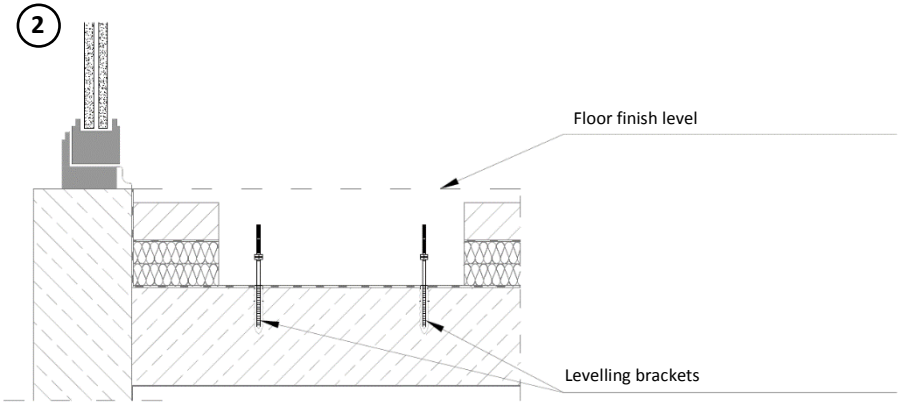
Before starting the assembly works take out and secure the heat exchanger. After that, install assembly struts on the casing (factory-supplied to the heater).



The trench casing is leveled and placed on the previously installed levelling brackets. At this stage of the work, the trench casing must be equipped with factory-supplied assembly struts. The standard adjustment range of the leveling brackets is 35 mm. After the trench casing is embedded, it should be secured (e.g. with an assembly cover).

Between the trench casing and the remaining structural layers of the floor there should be an insulation layer at least 20 mm thick (depending on the insulation material used, design recommendations and the proposed solution).

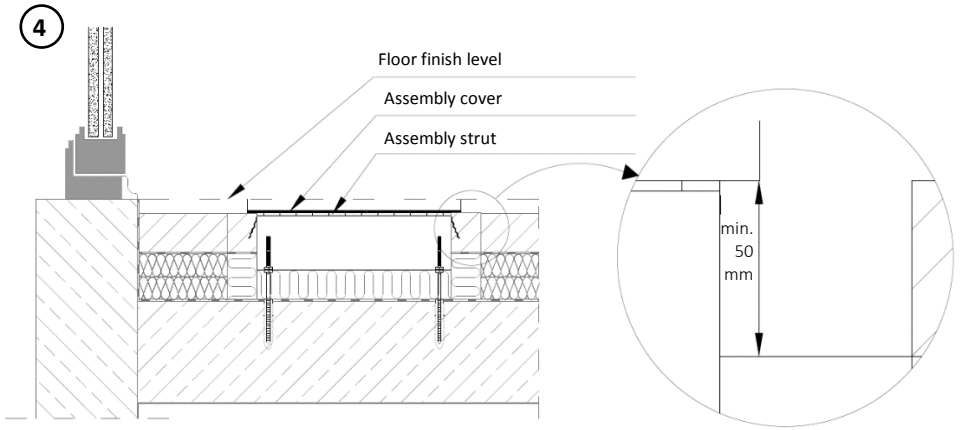
The vapor barrier layer on the trench casing insulation should be made in accordance with the adopted technology. The thermal insulation layer under the trench casing should be done of materials of relative deformation factor not less than 70 kPa.



Prepare an appropriate holes for levelling brackets (M8 screws and expansion plugs) in the construction layer (e.g. concrete slab). After hammering the plugs, screw the screws into them.

Strike the holes in the trench casing - 2 for connection pipes and 1 for wiring actuators or capillaries of thermostatic heads.

The strike is made by lightly hitting the points marked on the trench casing. The strike is possible both from the longer or shorter side of the trench casing.



Lead the central heating system pipes to the trench casing. and the wiring of the actuator or the capillary of the thermostatic head.

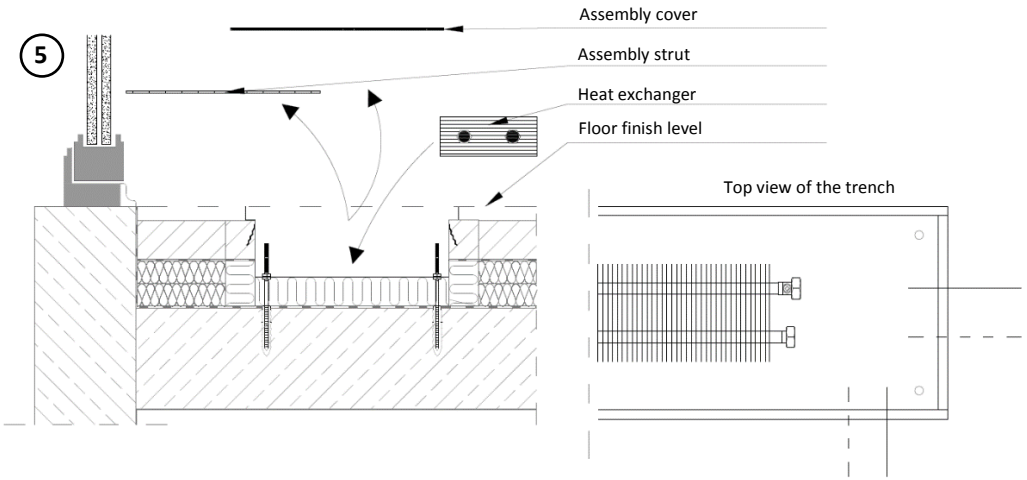
The capillary of the thermostatic head should be secured by routing it in a instalation conduit.

Make a screed on which the edge of the trench casing will rest.

NOTE!

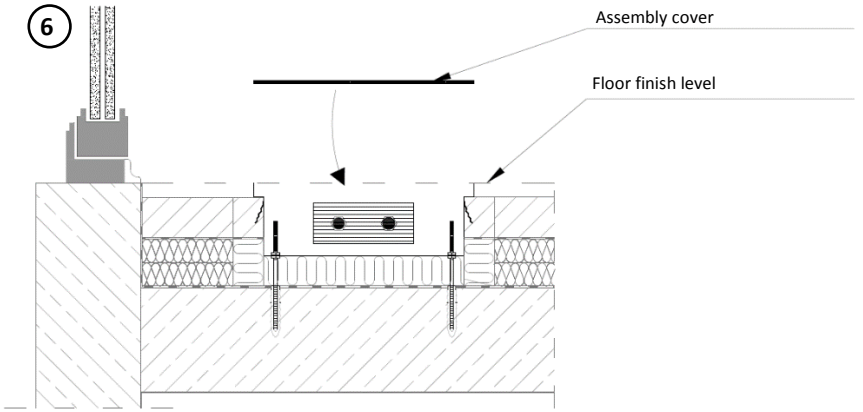
• The screed on which the edge of the trench casing will rest should be at least 50 mm high, which should be taken into account when planning the thickness of the thermal insulation.

• The trench casing must be equipped with factory-supplied mounting struts. The casing should be secured with an assembly cover.



Once the screed has cured, the assembly struts and cover can be safely removed.

After that, the heat exchanger must be reinstalled.



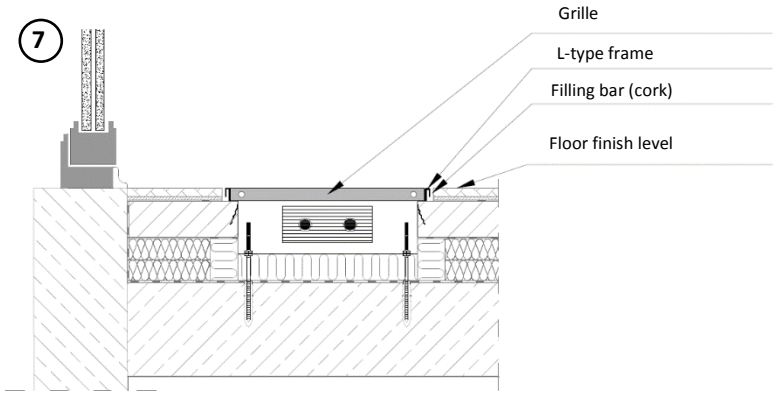
After mounting the heat exchanger, make the plumbing and install the control devices (if required).

After completing the work, the trench heater should be covered with an assembly cover.

Supply pipe is to be connected to the heat exchanger pipe with air vent. The electrical connection should be made according to separate schemes.

NOTE!

The position of the heat exchanger varies depending on the type of the heater. Details are included in Attachment 1 - Location of heat exchangers in VK15 trench heaters.

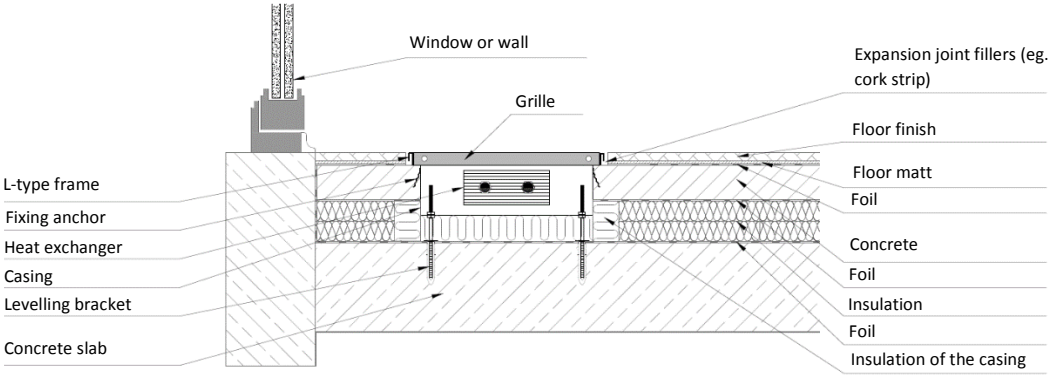


During finishing works, the trench heater should remain protected with an assembly cover.

After finishing the finishing works, the heater should be fitted with frame and grille.

NOTE!

Grilles, frame, thermostatic and lockshield valves, thermostatic heads, actuators, controllers, power supplies and assembly covers are elements of the heater's additional equipment.



The example of VK15 natural convection trench heater assembly

Control methods of VK15 trench heaters

The operation of VK15 trench heaters can be controled by:

- thermostatic head with a capillary (recommended for one trench heater in the heating zone),
- actuator and regulator (recommended for several heaters in one heating zone),
- wireless system.

It is recommended to select the control system for trench heaters before their installation.

The assembly instructions for the control systems are included with the products.

Control methods of VK15 trench heaters

The basic method of VK15 trench heater control is the installation of the head with a capillary, which allows the temperature sensor and the adjuster knob to be placed on the room wall. Standard thermostatic heads cannot be used in trench heaters - reading the temperature directly in the trench casing will prevent proper adjustment of its operation, which will result in underheating of the room.

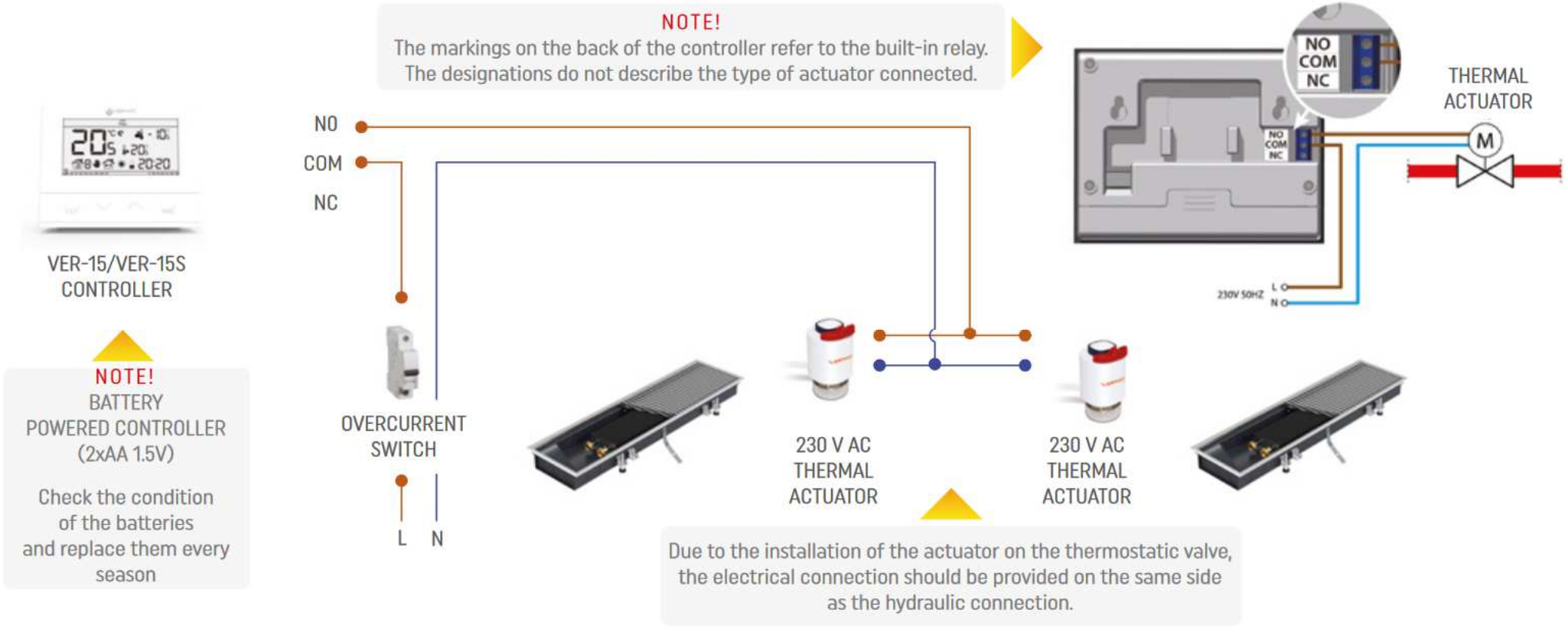
The use of a controller and an actuator allows for simultaneous control of several trench heaters and setting their work schedules. Cabling is required between the actuators, controller and power supply. The controller measures the room temperature using the built-in sensor and maintains the set temperature value - when it drops below the set value, the thermal actuator connected to the controller will open the valve.

The room temperature controller should be located so that the temperature measurement is as accurate as possible - when planning the assembly point, choose a place protected against the influence of solar radiation or other sources of heat or cold. The height of the controller should be about 1.5 m above the floor.

Depending on the needs, it is possible to control the heaters locally with the VER-15S controller or control the heaters located in different zones using the VER-8S WiFi and VER-16S WiFi controllers. The undoubted advantage of VER-8S WiFi and VER-16S WiFi controllers is a possible to expand the system with other peripherals communicating wirelessly with controlles, as well as the ability to control via a web application or smartphone application.

NOTE!

Electrical connections may only be made by qualified electrician following relevant EN standards. Supply voltage can only be enabled after validating all connections with diagram.



Exemplary wiring diagram for VK15 trench heaters with the use of a room temperature regulator and NC type ON / OFF actuators

Attachment 1 – Location of heat exchangers in VK15 trench heaters

Heat exchanger type 12 – shifted towards the window

Trench heater type:

VK15-7,5/20/L-12
VK15-7,5/25/L-12
VK15-9/20/L-12
VK15-9/25/L-12
VK15-11/20/L-12
VK15-11/25/L-12

Heat exchanger type 13 – placed in the centre of the trench casing

Trench heater type:

VK15-7,5/29/L-13
VK15-9/29/L-13
VK15-11/29/L-13

Heat exchanger type 14 – placed in the centre of the trench casing

Trench heater type:

VK15-7,5/38/L-14
VK15-9/38/L-14
VK15-11/38/L-14

Heat exchanger type 22 – shifted towards the window

Trench heater type:

VK15-14/20/L-22
VK15-18/20/L-22
VK15-25/20/L-22
VK15-35/20/L-22
VK15-54/20/L-22

Heat exchanger type 22 – placed in the centre of the trench casing

Trench heater type:

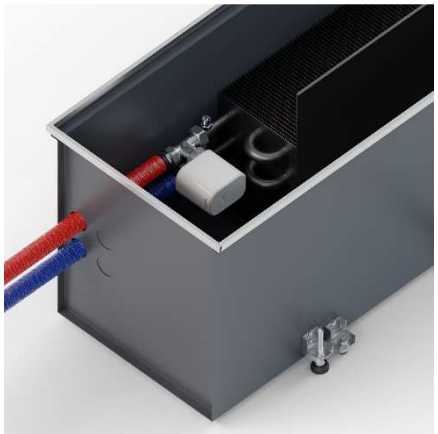
VK15-14/25/L-22
VK15-18/25/L-22
VK15-25/25/L-22

Heat exchanger type 23 – placed in the centre of the trench casing

Trench heater type:

VK15-14/29/L-23
VK15-18/29/L-23
VK15-25/29/L-23

Heat exchanger type 23 – shifted towards the window



Trench heater type:

VK15-35/29/L-23
VK15-54/29/L-23

Heat exchanger type 24 – placed in the centre of the trench casing

Trench heater type:

VK15-14/38/L-24
VK15-18/38/L-24
VK15-25/38/L-24

Heat exchanger type 24 – shifted towards the window

Trench heater type:

VK15-35/38/L-24
VK15-54/38/L-24