



Temperature control valve
Stahlmann MTR021

OPERATION MANUAL
(COMBINED WITH DATA SHEET)

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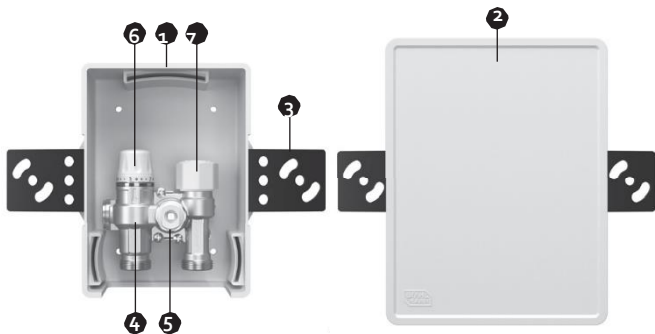
1. PURPOSE

Stahlmann MTRo21 temperature control valve is designed to control the temperature of one loop of a water-heated floor by limiting the temperature of the return heat carrier flow. The use of a distribution header as well as pumping and mixing valve is not required.

2. TECHNICAL SPECIFICATIONS

Parameter	Value
Maximum medium temperature, °C	90
Ambient temperature during system operation, °C	+5 to +60
Temperature control range of the heat transfer medium, °C	+15 to +45
Maximum working pressure, MPa	1
Diameter of threaded connections of the temperature control valve	G 3/4" Eurocone
Temperature control valve body material	Hot forged brass CW617N
Maximum heated area:	Up to 16 m ²
Maximum length of the connected pipe (DN15 corrugated pipe, or 16mm diameter plastic pipe)	80 m
Service life	15 years
Warranty period	10 years

3. DESIGN



- 1 – mounting box;
- 2 – box cover;
- 3 – box fixing brackets;
- 4 – temperature control valve body;
- 5 – manual air vent;
- 6 – built-in return heat carrier flow temperature controller;
- 7 – valve for shutting off the flow manually with a protective cap. It can also be used for connection of the thermostatic head with a connection size M30x1.5

Figure 1. Stahlmann MTRo21 temperature control valve design

4. DIMENSIONS

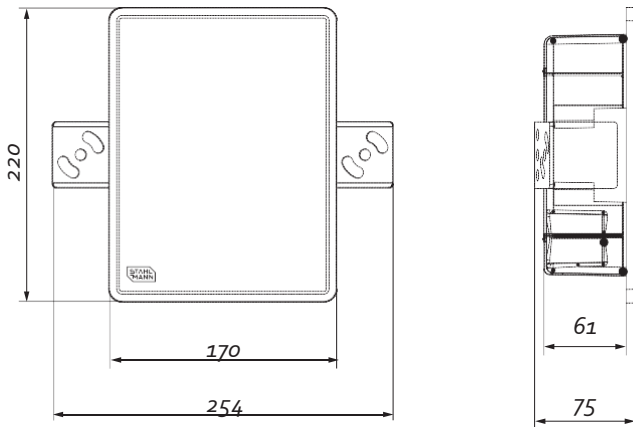
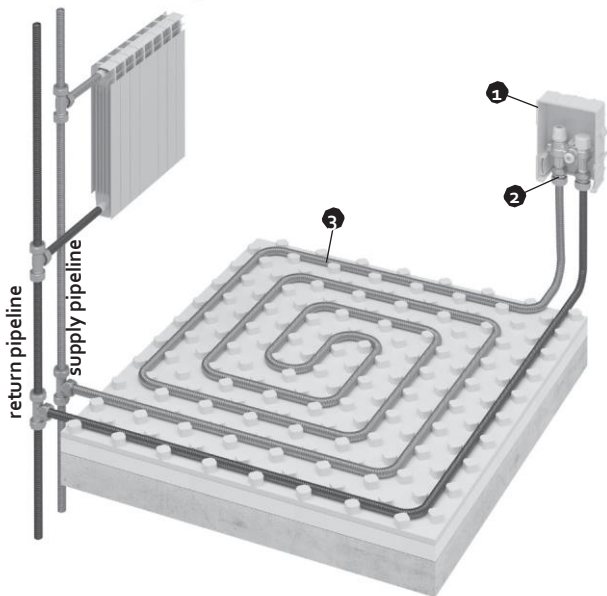


Figure 2. Stahlmann MTRo21 temperature control valve dimensions

5. OPERATING PRINCIPLE

Stahlmann MTRo21 temperature control valve (hereinafter referred to as the valve) is installed at the outlet of the heat carrier loop laid in the screed (see Fig. 3).



- 1 – Stahlmann MTRo21 temperature control valve
- 2 – Stahlmann (F) 15x3/4 EF Eurocone fitting
- 3 – Stahlmann 15A corrugated pipe, annealed

Figure 3. Scheme for connecting the Stahlmann MTRo21 temperature control valve to the main heating system

The water-heated floor loop temperature is adjusted using a valve that has a built-in return heat carrier flow temperature controller.

The valve is installed in such a way that the heat carrier first passes through the water-heated floor loop, and then gets to the built-in temperature controller of the valve. The desired return flow temperature is set using the built-in controller's adjustment wheel. When the desired temperature of the heat carrier is reached, the thermostatic element of the regulator shuts off the heat carrier flow in the loop. After the temperature of the heat carrier decreases, giving up heat to the floor screed, the controller opens the heat carrier flow again. If necessary, you can shut off the heat carrier flow manually using the valve on the module, which is located under the protective cap.

6. USING THE TEMPERATURE CONTROL VALVE WITH ROOM THERMOSTATS

To maintain the exact set comfort temperature in the room, the valve design provides the possibility of connecting a thermostatic head, the control signal to which is supplied from the room thermostat. It is possible to use both OKE10 mechanical thermostats and OKE20 programmable thermostats. The thermostatic head is installed on the flow shut-off valve, having previously removed the protective cap:



Figure 4. Stahlmann MTRo21 temperature control valve with the thermostatic head installed

Thermostatic head to thermostats connection diagram is shown in Figure 5:

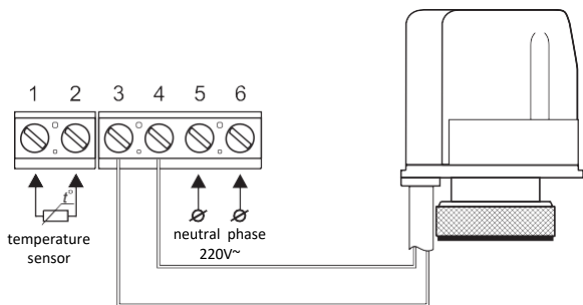


Figure 5. Thermostatic head to thermostats connection diagram

7. INSTALLATION AND OPERATING CONDITIONS

Installation must be carried out in accordance with current building codes and regulations.

Only the persons who have studied this operation manual are allowed to perform the installation of the valve.

Installation must be carried out at an ambient temperature of at least +5°C.

The temperature control valve must be operated at an ambient temperature of +5°C to +60°C. Do not operate at temperatures and conditions that do not comply with the requirements of this instruction manual.

It is forbidden to use the temperature control valve for a purpose other than intended.

It is forbidden to install the valve in positions not provided for by the design (for example, upside down).

It is forbidden to make changes to the design of the valve elements.

It is forbidden to install the valve with mechanical damage to the elements.

Recommended procedure for temperature control valve installation:

- 1) Define the valve installation location. It is not recommended to install the valve near radiators, hot piping, or in a drafty area. Direct sunlight should also be avoided. The place of installation shall be chosen in such a way so the heat carries will first pass through the underfloor heating loop, and then through the temperature control valve. The mounting box opening must face down. When planning the installation location, one should take into account the necessity to prepare a niche for the valve and cut a wall chase for the inlet and outlet pipelines.

2) Install the valve's mounting box into the prepared niche after removing the cover. The minimum height of the lower edge of the valve above the surface of the finished floor is 200 mm. Mounting box is fixed on the wall with 4 screws with dowels (not included in the scope of supply). For this, holes are provided in the rear wall of the box. Also, alignment and fixation of the valve can be carried out using brackets, which are attached to the valve box on both sides and are included in the scope of supply.

3) It is recommended to use Stahlmann fittings to connect corrugated pipes to the temperature control valve. When connecting the corrugated pipe to the valve, pay attention to the arrows indicating the direction of flow.

When the installed assemble is filled with heat carrier, air is removed through the manual air vent. To release air, turn the plastic air vent handle counterclockwise. Air release continues until heat carrier emerges from the drain hole. Once this has happened, turn the knob clockwise until tight.

Temperature control valves must be operated without excess pressure and temperature. Installation and dismantling of the product, as well as any repair or adjustment operations, must be carried out at zero pressure in the system. Allow the equipment to cool down to ambient air temperature.

8. TRANSPORTATION, STORAGE AND DISPOSAL

MTR021 temperature control valve should be stored in the manufacturer's consumer packaging (single-packed).

During the storage, the valves must be protected from mechanical impact, vapors of acids, alkalis and other aggressive media that are harmful to the container and the elements of the kit, as well as from sunlight, precipitation and dust.

Packed valves are transported by all means of transport in clean, dry, covered vehicles in accordance with the rules for the carriage of goods in force for this type of transport. The valve and its packaging are not environmentally hazardous. Dispose of the product and its packaging using environmentally friendly methods in accordance with the requirements of the legislation of the country in which it is sold.

9. WARRANTY OBLIGATIONS

The manufacturer guarantees the normal operation of the kit, provided that the instructions for use are observed.

The warranty period for the temperature control valve is 10 years from the date of sale.

During the warranty period, the buyer has the right to repair or replace the kits upon detection of defects that occurred due to the fault of the manufacturer, provided that the operation instructions are implemented.

The warranty is provided subject to the presentation of a data sheet with the date of sale and a bilateral protocol on the detected defects, signed by the manufacturer's representative (its authorized dealers) and the customer.

The manufacturer's warranty provides free repair and / or replacement of the product during the entire warranty period, if the following conditions are met:

- the product has been used for its intended purpose;
- storage, transportation, installation and operation of the product were carried out in accordance with the instruction manual;
- the product do not have damage caused by nature elements, fire and other external factors, by climatic and other conditions or actions of third parties;
- the product does not have traces of tampering or unauthorized repair attempts;
- the product does not have mechanical damage resulting from sharp-edged objects impact or other mechanical impacts not provided for during operation;
- the terms of the warranty obligations have not been violated, which is determined in each specific case by the technical specialist of the manufacturer or their representative.

If at the time of diagnosis or after it is found that any of the above conditions is not met, the manufacturer or its representative has the right to refuse warranty repair and / or replacement by issuing an appropriate conclusion.

The manufacturer reserves the right to make changes to the design that improve the quality of the product while maintaining the basic performance characteristics.

10. WARRANTY CARD

I am familiar with the conditions of storage and transportation, the operating instructions for the Stahlmann MTR021 temperature control valve, the terms of the guarantee, and I have no complaints about the appearance of the product:

_____ 20_____
Buyer's signature Clarification of signature Purchase date

Seller _____

Seller's address _____

Seller's phone _____

Date of sale _____ Seller's stamp

ACCEPTANCE CERTIFICATE

Stahlmann MTRo21 Temperature Control Valve _____
Kit name

Factory No. _____

The kits were manufactured and tested and found fit for service.

Date of check _____
HH.MM.YY.

Date of sale (shipment) _____ Seller's stamp
HH.MM.YY.

Important instructions. Save for future use.

Importer: SST GmbH

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