

Underfloor heating regulating set

Tender specification:

Oventrop underfloor heating regulating set for the control of the flow temperature of e.g. combined radiator/underfloor heating systems. The underfloor heating regulating set consists of a straight pattern valve, a bypass valve, a temperature controller with contact sensor and an electric sensor for attachment to pipe.

Floor surface	Item no.
up to 85 m ²	114 42 51
up to 120 m ²	114 42 52

Installation:

The underfloor heating regulating set has to be installed according to the installation example. By adding hot water which is e.g. taken from the radiator circuit, the flow temperature of the underfloor heating circuit is maintained constant within the necessary proportional band. Any change in the flow temperature is registered by the contact sensor of the temperature controller and is transmitted to the valve. In case of a failure, the electric sensor for attachment to pipe shuts off the pump.

Regulation:

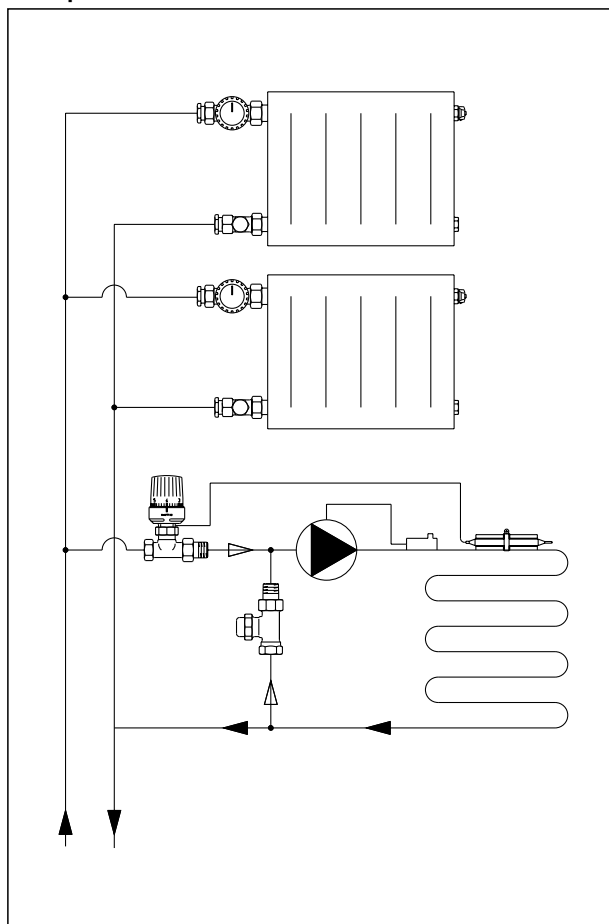
The regulation is carried out with the bypass valve opened. The desired flow temperature is set at the temperature controller. Should the flow temperature not reach the desired value, the bypass valve has to be closed step by step until the set value is reached. The electric sensor for attachment to pipe has to be set at a value exceeding the nominal value of the temperature controller by approx. 5 K.

Components:

Set 1 up to 85 m ²	Item no.
Straight pattern valve DN 15	118 01 04
Bypass valve DN 20	102 76 66
Temperature controller with contact sensor control range 20 - 50 °C	
2 m capillary	114 28 61
Electric sensor for attachment to pipe with hidden temperature setting control range 20 - 90 °C	114 30 00
Set 2 up to 120 m ²	
Straight pattern valve DN 20	118 01 06
Bypass valve DN 25	102 76 68
Temperature controller with contact sensor control range 20 - 50 °C	
2 m capillary	114 28 61
Electric sensor for attachment to pipe with hidden temperature setting control range 20 - 90 °C	114 30 00

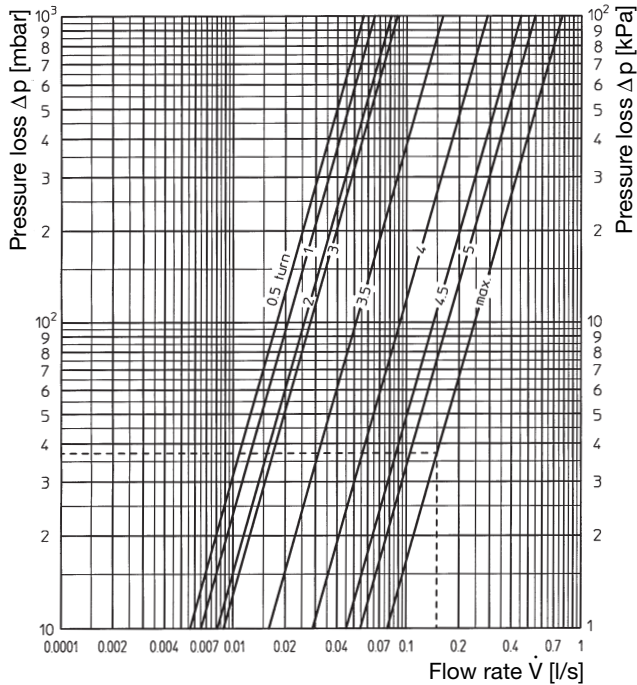


Example of installation:

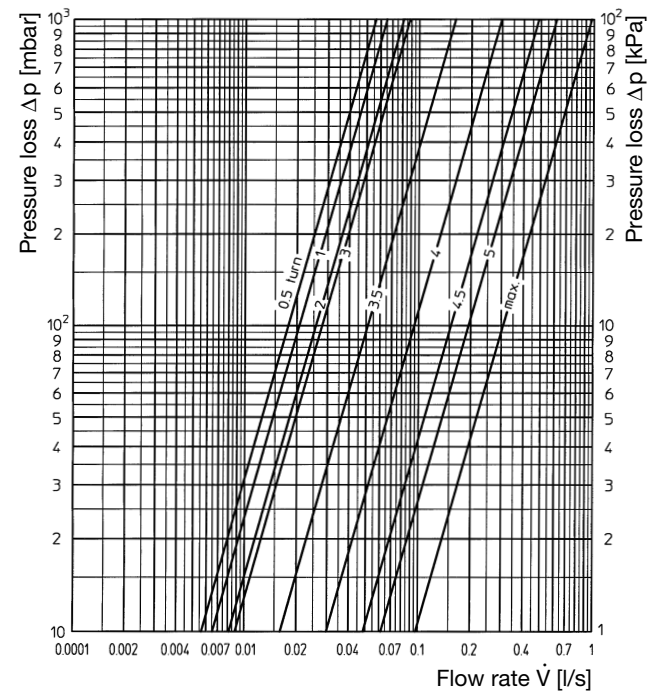


Performance data:

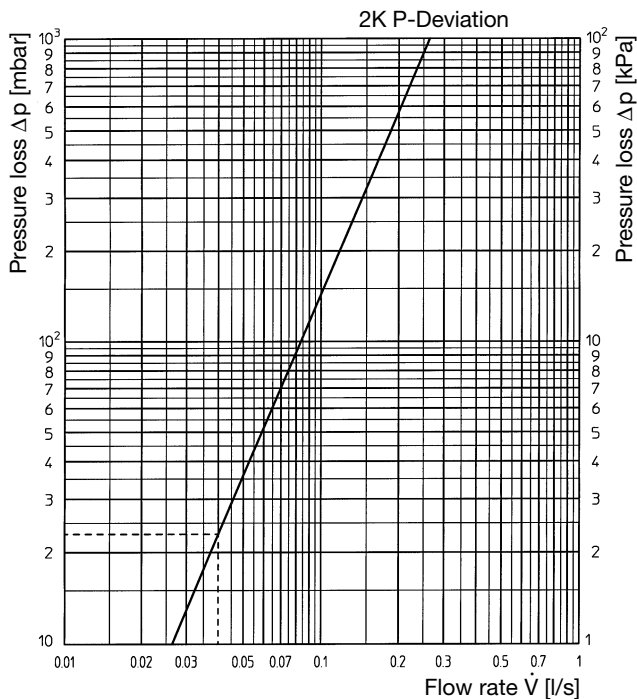
Bypass valve DN 20
Item no. 102 76 66



Bypass valve DN 25
Item no. 102 76 68



Straight pattern valves DN 15 and DN 20
Item nos. 118 01 04 and 118 01 06



Example:

Given:

Floor surface
Heat demand including floor losses
Flow temperature of heating circuit
Temperature difference
of the heating system
of the underfloor circuit

$A = 70 \text{ m}^2$
 $P = 5,025 \text{ W}$
 $t_v = 70 \text{ }^\circ\text{C}$

$\Delta t_1 = 30 \text{ K (70/40 }^\circ\text{C)}$
 $\Delta t_2 = 8 \text{ K (48/40 }^\circ\text{C)}$

Solution:

Underfloor heating regulating set 1 is chosen as the floor area is $< 85 \text{ m}^2$.

Pressure loss straight pattern valve:

$$\text{Flow rate } \dot{V} = c \cdot \frac{P}{\Delta t_1} = \frac{0.86}{3,600} \cdot \frac{5,025}{30} \text{ l/s} = 0.04 \text{ l/s}$$

Pressure loss $\Delta p = 2.3 \text{ kPa}$ (taken from chart, dotted lines)

Pressure loss bypass valve:

$$\text{Flow rate } \dot{V} = c \cdot \frac{P}{\Delta t_2} = \frac{0.86}{3,600} \cdot \frac{5,025}{8} \text{ l/s} = 0.15 \text{ l/s}$$

Pressure loss $\Delta p = 3.7 \text{ kPa}$ (taken from chart, dotted lines),
bypass valve completely open.

Subject to technical modification without notice.

Product range 2
ti 106-1/20/10.2001/MW

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