

RTL-I Regulation Box

STANDARD | EXCLUSIV



Work on heating systems must only be done by qualified professional personnel and in accordance with the respective applicable regulations, guidelines and rules of engineering.

Refer in particular to:

- DIN EN 1264** Surface integrated heating and cooling systems
- DIN EN 12828** Heating systems in buildings
- DIN 18 380** Heating systems and central hot water heating systems
- VDE 0100** Creating low voltage systems
- VDI 2035** Scale formation in domestic water heating systems and water heating systems
- BGV** German Professional Association Regulations (accident prevention regulations)

DIN = The German Institute for Standardisation

EN = European Standards

VDE = German Association for Electrical, Electronic & Information Technologies

VDI = Association of German Engineers



STANDARD design



EXCLUSIV design

Features

Features	RTL-I STANDARD	RTL-I EXCLUSIV
Return flow temperature limitation	✓	✓
Ventilation	✓	✓
Fill and drain valve	✓	-
Flowmeter	-	✓
Safety temperature valve	-	✓

Area of Application

Heating systems

For combined radiator-surface heatings the RTL-I Regulation Box is used for the **return flow temperature-dependent regulation** of the surface heating.

Technical Description

The **regulation box** consists of a wall insulation box with a pre-mounted RTL valve module and inner RTL head, a protective cap, an air vent plug and a wall cover.

The **valve module** is provided with a 3/4" male thread (Euro taper) for a connection via compression adapter on the pipe side.

The regulation box arranged in the return flow of the heating system (floor heating, wall heating etc.) regulates the maximum permissible return temperature of the system by an integrated RTL thermostatic valve.

Caution:

The maximum permissible supply flow temperature of the surface heating must be respected.

Installation

Prepare the insulation box for the mounting by inserting the fixing clips from the backside into the drill holes at the corner points of the box and securing them with the supplied screws so that they cannot fall out. **1**

The fixing clips are arranged crossed-over. The clips can also be exchanged in any way depending upon the construction site situation. The clips can be moved horizontally in order to create a depth compensation as long as the screws have not been finally fixed.

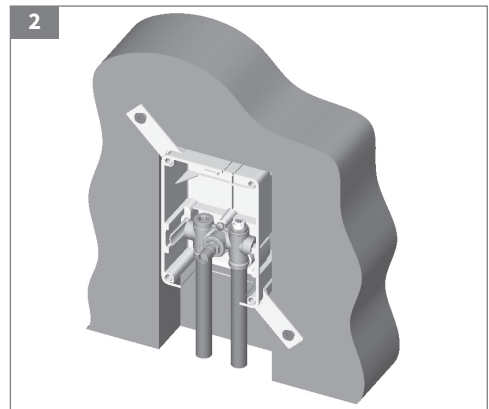
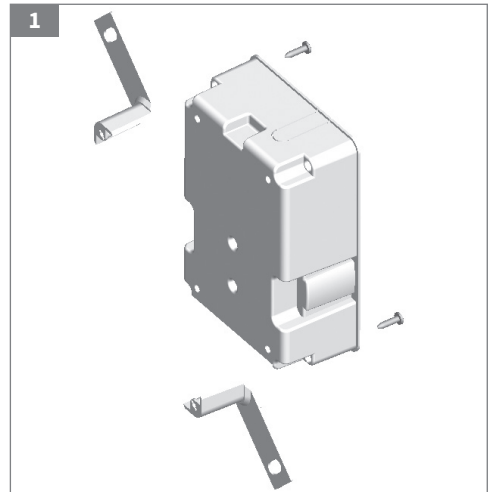
The box is positioned to fixing clips on the rough wall in a sufficiently large wall recess (approx. 180 x 230 mm). Please pay attention to the mark of the protective cap to the surface of the finished wall in order to adjust the box optimally in the depth. Afterwards fix the box with the adjusting screws.

Before the connection of the pipings, the notches on the box are to be formed by breaking out the walls at the corresponding positions.

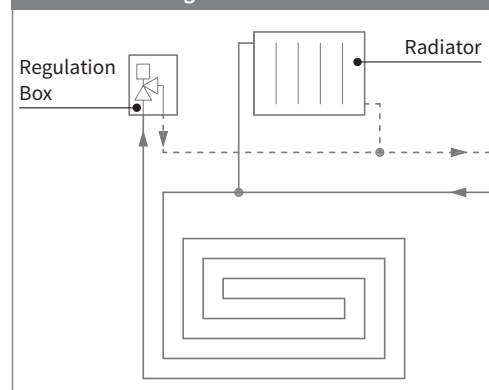
Please pay attention to a tension-free installation and the correct flow direction (supply flow left - see arrow mark!) when connecting the piping system. Reversely mounted connections cause valve noises and a bad control behaviour. Tension-free compression connection must also be guaranteed when the system is in operation, i.e. expansion loops or appropriate securing of the pipeline must be provided.

Before starting the plaster and wall covering works, the box is to be covered with the protective cap. The remaining space between the box and the wall notch can be filled with PU foam.

2
After finishing the wall covering works, the final mounting is done by removing the protective cap and putting on the wall cover.



3 Functional diagram



Technical Data

Dimensions	
Angle compensation box	6°
Angle compensation cover	6°
Depth compensation	23 mm
Axial distance valve	50 mm
Connecting dimensions for the pipeline	3/4" male thread, Euro taper DIN EN 16313
Connecting thread RTL head	M30 x 1.5

Thermostatic Head

The setting range of the installed RTL thermostatic head is 1 - 5 in accordance to the following table.

Regulation Boxes in EXCLUSIV design must be operated in the setting range 1 - 4 (return temperature max. 40 °C) to avoid unintentionally release of the safety temperature valve by a short-time temperature peak in the warm-water circuit.

Setting range	1	2	3	4	5
ca. return temp. [°C]	10	20	30	40	50

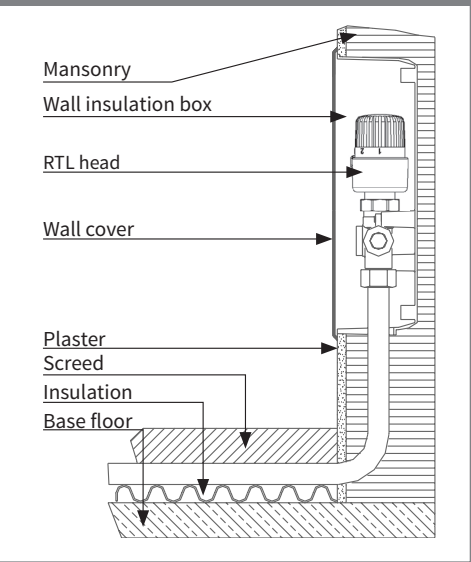
Ventilation Valve

The system can be ventilated by the installed ventilation valve.

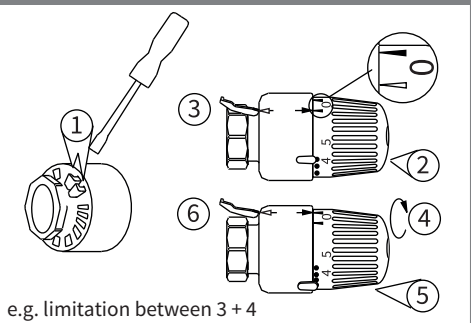
Fill and Drain Valve (only STANDARD design)

With the fill and drain valve the system can be filled, drained or ventilated on demand.

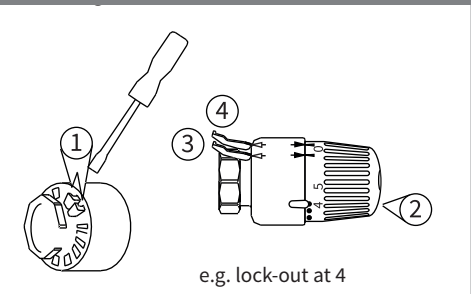
4 Installation diagram



5 Limitation of the setting range



6 Lock-out of the setting



Safety Temperature Valve (only EXCLUSIV design)

The RTL valve is equipped with a safety temperature valve. **7**

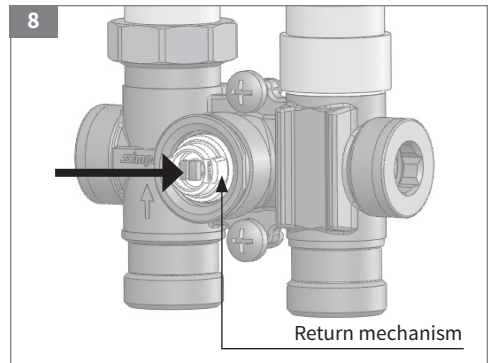
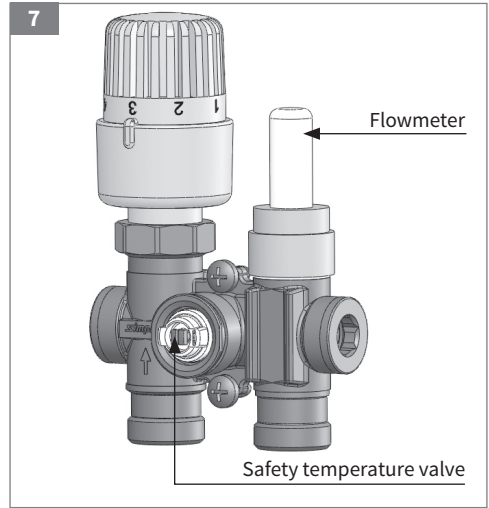
In case of an excessive temperature of more than 70° C (e.g. by a defective thermostatic head) the safety device will close permanently to avoid an impermissible heat of the room heating.

After removing the error and after cooling down of the valve the safety temperature valve must be setting back by pressure on the returning mechanism (with integrated ventilation valve). The safety device engages hearable back to standby position. **8**

Note:

In case of setting position of the thermostatic head higher than 4 the safety temperature valve can be released by short-time temperature peaks in the warm-water circuit.

Regulation boxes in EXCLUSIV design must be operated in the setting range 1 - 4.



Flowmeter

(only EXCLUSIV design)

Flowmeter regulating valve for the regulating the volume flow. The upper part of the valve consists of a valve cone with a rising spindle and a hand-wheel for adjustment. The sight glass is installed in the hand wheel where the flow can be read directly in L/min on the printed scale depending upon the position of indicator unit. The adjustment on the flowmeter can be blocked by the delivered stop cap and sealed if desired.

Volume Flow Regulation

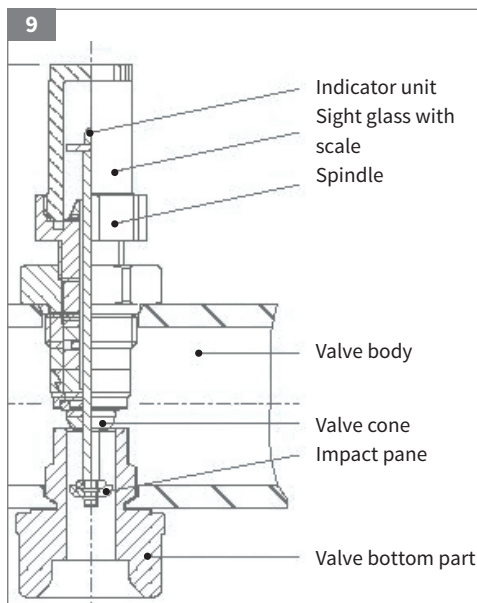
Remove the lock cap. The control is performed by turning the black handwheel whereby the valve cone will be turned down when turning to the right. The volume flow will decrease until reaching the complete blocking. The opening of the valve is performed by turning it in the opposite direction.

Cleaning Flowmeter

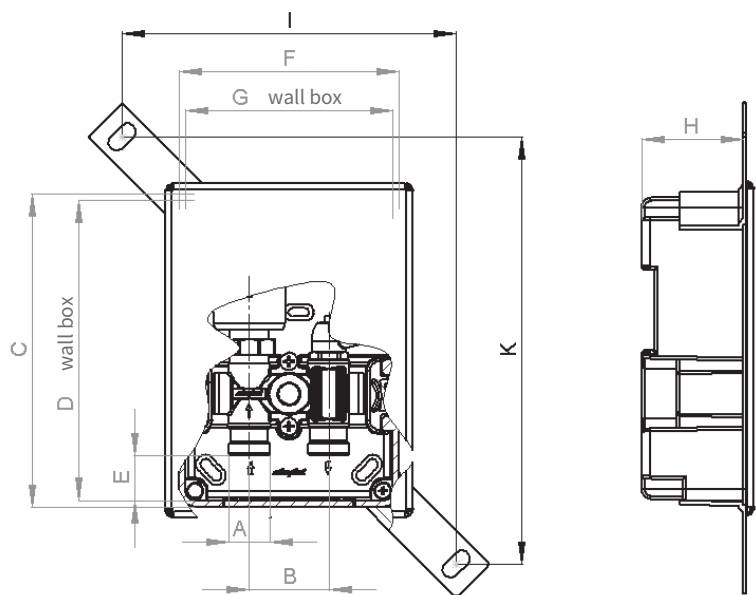
The sight glass and measuring spring can be removed for maintenance and cleaned, even at full system pressure. In order to do so, hold the black hand wheel firmly and turn to the left to remove the sight glass.

Do not use any tools when removing the sight glass! Risk of breakage!

Unscrew the sight glass quickly and removed, together with the spring located inside. The flowmeter locks automatically once the sight glass and spring have been removed. In this condition, there may be some slight water loss from the valve. Clean the sight glass quickly and screw together again in the opposite order.



Dimensional Drawing

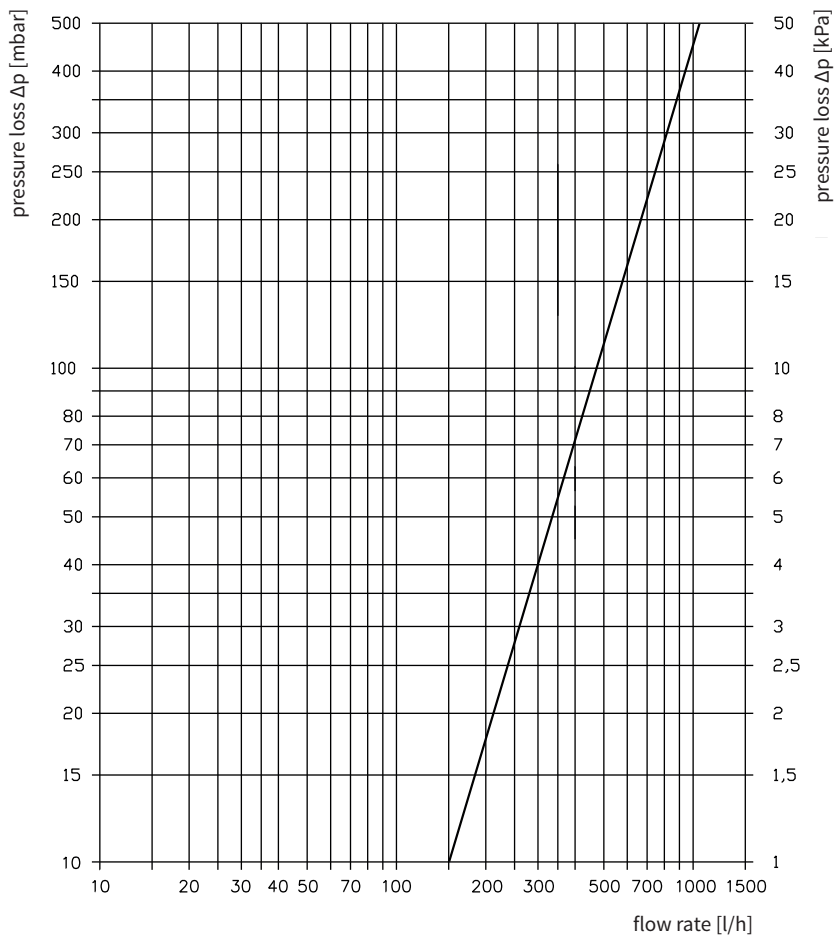


A	B	C	D	E	F	G	H	I	K
G 3/4 m Euro taper	50	211	197	27	156	138	64	210	270

Gm = parallel male thread in inches [“] according to DIN EN ISO 228-1
Data in mm

Pressure Loss Diagramm

completely open; k_{VS} - value [m^3/h]: 1,48



The illustrations are symbolic and may differ from the respective product.
Errors and technical changes reserved.



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