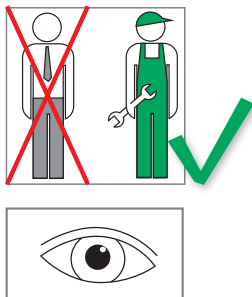




# DUO Regulation Box



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
- 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*



## Features

Features	DUO Regulation Box
Room temperature regulation	✓
Return temperature limitation	✓
Ventilation	✓
Fill and drain valve	✓
Thermostatic valve with pre-setting	✓

## Area of Application

### Heating systems

For combined radiator-surface heatings the DUO Regulation Box is used for the contemporaneous **room temperature- and return flow temperature-dependent regulation** of the surface heating.

### Technical Description

The **regulation box** consists of a wall insulation box with a pre-mounted valve module. The outer thermostatic head sets the room temperature.

The return temperature limitation is set with the inner RTL thermostatic head.

With the fill and drain valve the surface heating circuit can be filled, drained and ventilated.

Furthermore, the Duo Regulation Box includes a protective cap 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.

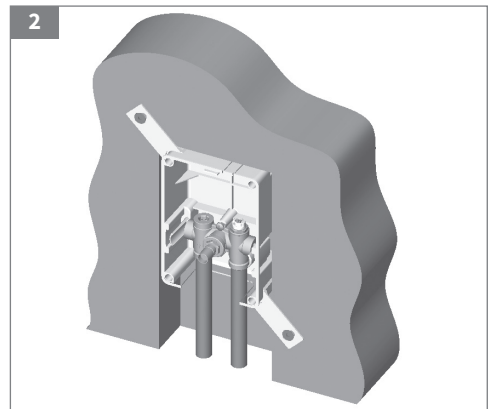
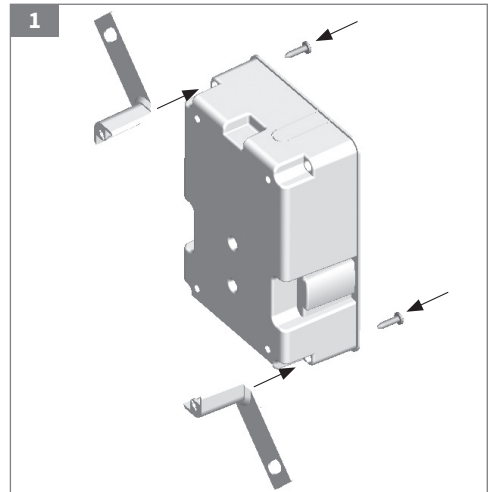
Before the connection of the pipings, the notches on the box are to be formed by breaking out the walls at the corresponding positions.

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.

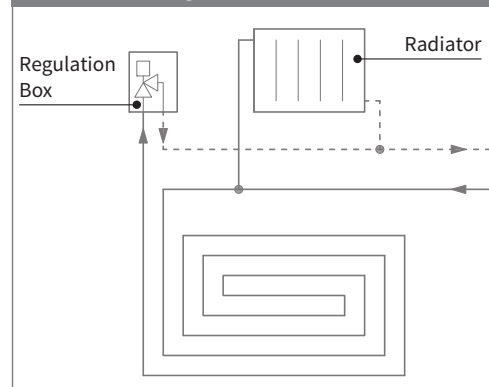
Before starting the plaster and wall covering works, the box is to be covered with the protective cap. The remaining space between the box and the wall notch can be filled with PU foam.

### 2

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



### 3 Functional diagram



## Technical Data

<b>Dimensions</b>	
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 thermostatic head	M30 x 1.5

## Thermostatic Head for Room Temperature

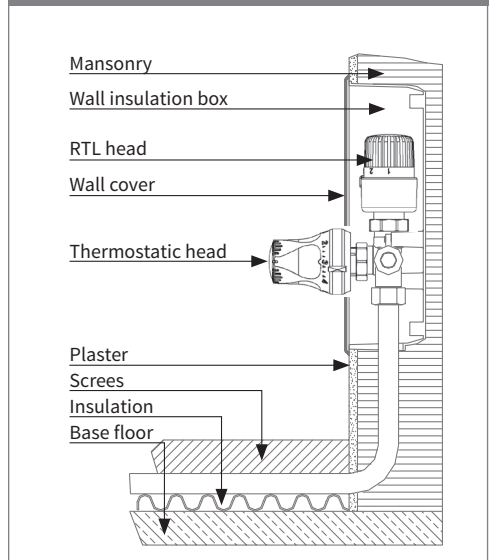
The individual room temperature can be set with the outer thermostatic head. **5**  
 Therefore move the slider from the locked position towards the regulation box.

The preferred temperature can be adjusted in the whole slewing range.

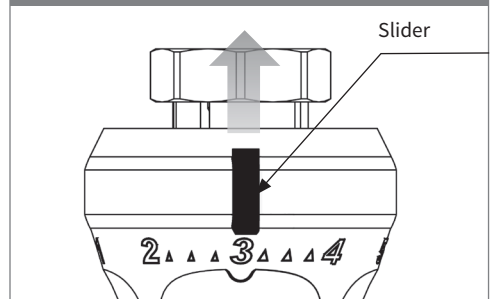
By moving back the slider towards the handle cap the preferred temperature is blocked for unintentional adjustment. **6**

Setting range	Room temperature (ca.)
0	closed
*	frost protection (7 °C)
1	12 °C
2	16 °C
3	20 °C
4	24 °C
5	> 24 °C

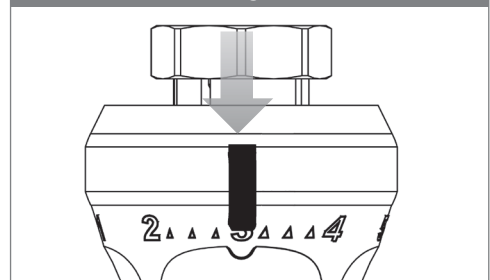
## 4 Installation diagram



## 5 Limitation of the setting range



## 6 Lock-out of the setting



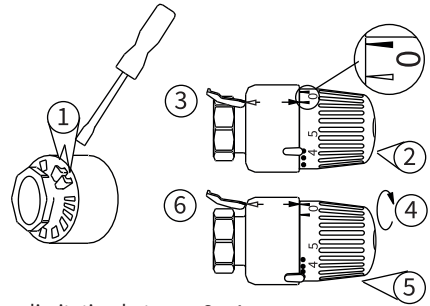
## Return Temperature Setting with the RTL Thermostatic Head

The return temperature is limited with the integrated RTL thermostatic head.

The setting range of the RTL thermostatic head is 1 - 5 in accordance to the following table and can be limited by moving the bracket. **7** **8**

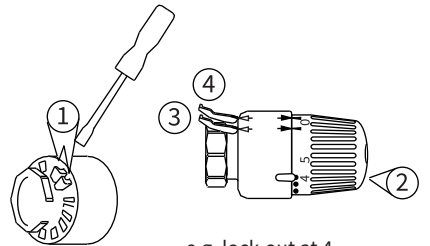
Setting range	1	2	3	4	5
ca. return temp. [°C]	10	20	30	40	50

### 7 Limitation of the setting range



e.g. limitation between 3 + 4

### 8 Lock-out of the setting

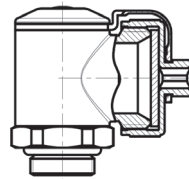


e.g. lock-out at 4

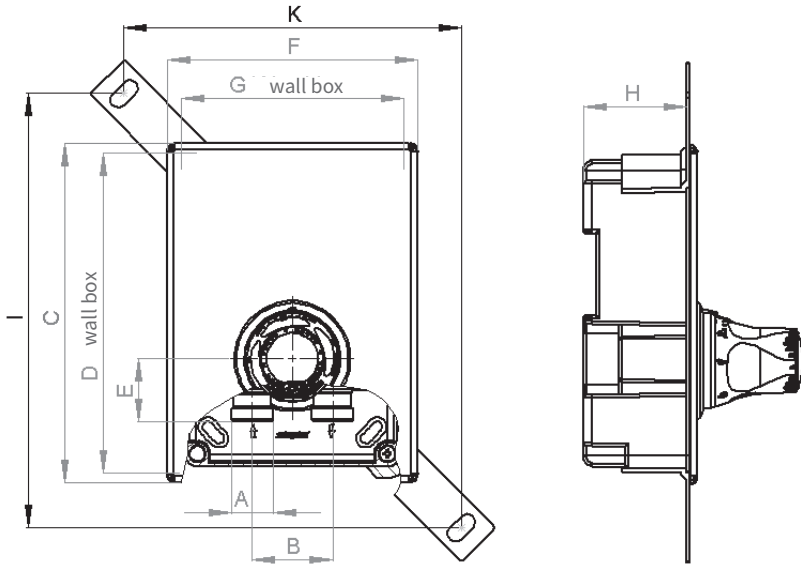
## Fill and Drain Valve

With the fill and drain valve the system can be filled, drained or ventilated on demand. **9**

### 9 Fill and Drain Valve



## 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<sup>3</sup>/h]:

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

05/2017