



Regulation Boxes at a Glance



Regulation Boxes

- With guaranty comfortable
- Solutions for surface heating in new buildings and refurbishment of small and large rooms

Regulation Boxes

< 15 m²

Simplex regulation boxes are the ideal solution for the comfortable regulation of surface heating systems. They are ideal for regulation based on the return flow temperature or room temperature in existing or new buildings. Thermostatic regulation boxes enable connection with minimal steps, both with wall-mounted as well as underfloor heating systems.



◆ **Room temperature-dependent regulation (TH regulation box)**

The temperature is regulated via an integral room thermostat. This version is used for low temperature heating systems up to maximum 55 °C or for the expansion of underfloor heating systems.

◆ **Return flow temperature-dependent regulation (RTL regulation box)**

The temperature is regulated by limiting the return temperature to a fixed value. These regulation boxes reliably control any connected surface heating system without the need for auxiliary energy. When used in conjunction with a room temperature-regulated heating system, this regulation box can be used for base load heat supply to a single room and for underfloor heating temperature adjustment.

◆ **Room temperature-dependent regulation with return flow temperature limitation (RTL-TH and DUO regulation box)**

This type of box is ideal for surface heating systems without additional radiators. The regulation boxes regulate the entire surface heating system. The version with digital room temperature controller permits the programming of up to 9 heating periods daily.

System Regulation Boxes

5 - 40 m²

Room temperature-dependent regulation with supply temperature limitation (KOMPAKT / KOMFORT system regulation box)

The intelligent and most comfortable solution for room temperature regulation of surface heating in single rooms. Ideal for combining with a standard 230 V room thermostat, the system regulation box enables the implementation of ultra-simple and time-controlled temperature regulation for personalised and energy-saving regulation of the surface heating.



Regulation Boxes at a Glance

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Legend

| | |
|--|--|
| | Shut-off |
| | Flow meter / indicator |
| | Pump |
| | Control |
| | Vent with drainage function |
| | Temperature measuring point |
| | Manifold |
| | Mixer unit |
| | Motorised valve |
| | Safety temperature limiter |
| | Valve with room temperature-dependent function |
| | Valve with medium temperature-dependent function |
| | Vent |
| | Self-closing drain valve |

| | |
|---|--|
| Name | KOMPAKT System Regulation Box with plastic housing |
| Picture | |
| Description | KOMPACT system regulation box with supply mixing and pump |
| Details | Page 8 |
| Applications | Regulation box for retrofitting of wall-mounted and underfloor heating circuits in refurbishments and new buildings. No separate mixer needed. |
| Function | Room temperature-dependent single room regulation with supply temperature limitation. |
| Installation position in the pipe | Installation in the supply flow |
| Typical room size | Up to ca. 20 m ² |
| Maximum supply temperature in the supply circuit | Direct heating circuit up to 95 °C |
| Room temperature setting by | Room thermostat |
| Hydraulic balancing is possible | Yes |
| Applications | Room temperature control by underfloor heating |

| | |
|---|--|
| Name | KOMFORT System Regulation Box with metal housing |
| Picture | |
| Description | KOMFORT system regulation box with supply mixing and pump |
| Details | Page 8 |
| Applications | Regulation box for retrofitting of wall-mounted and underfloor heating circuits in refurbishments and new buildings. No separate mixer needed. |
| Function | Room temperature-dependent single room regulation with supply temperature limitation. |
| Installation position in the pipe | Installation in the supply flow |
| Typical room size | Up to ca. 40 m ² |
| Maximum supply temperature in the supply circuit | Direct heating circuit up to 95 °C |
| Room temperature setting by | Room thermostat |
| Hydraulic balancing is possible | Yes |
| Applications | Room temperature control by underfloor heating |

| | |
|---|---|
| Name | RTL-TH Regulation Box DIGITAL / BASIC |
| Picture | |
| Description | RTL-TH regulation box for digital room temperature controllers |
| Details | Page 10 |
| Applications | Regulation box for retrofitting wall-mounted and underfloor heating circuits in refurbishments and new buildings, in conjunction with a direct heating circuit without mixer. |
| Function | Room temperature-dependent single room regulation with return flow temperature limitation. |
| Installation position in the pipe | Installation in the return flow |
| Typical room size | Small individual rooms |
| Maximum supply temperature in the supply circuit | Direct heating circuit |
| Room temperature setting by | Digital room temperature controller/ Room thermostat |
| Hydraulic balancing is possible | Yes |
| Applications | Room temperature control by underfloor heating |

| | |
|---|---|
| Name | DUO Regulation Box |
| Picture | |
| Description | DUO regulation box for thermostatic room temperature control |
| Details | Page 12 |
| Applications | Regulation box for retrofitting wall-mounted and underfloor heating circuits in refurbishments and new buildings, in conjunction with a direct heating circuit without mixer. |
| Function | Room temperature-dependent single room regulation with return flow temperature limitation. |
| Installation position in the pipe | Installation in the return flow |
| Typical room size | Small individual rooms |
| Maximum supply temperature in the supply circuit | Direct heating circuit |
| Room temperature setting by | External thermostatic head |
| Hydraulic balancing is possible | Yes |
| Applications | Room temperature control by underfloor heating |

| | |
|---|--|
| Name | TH Regulation Box STANDARD / EXCLUSIV |
| Picture | |
| Description | TH regulation box |
| Details | Page 13 |
| Applications | Regulation box for single room temperature regulation of wall-mounted and underfloor heating circuits in refurbishments and new buildings in conjunction with a mixer circuit. |
| Function | Regulation boxes for room temperature-dependent regulation. |
| Installation position in the pipe | Installation either in the supply or return flow |
| Typical room size | Small individual rooms |
| Maximum supply temperature in the supply circuit | Mixer circuit up to 50 °C |
| Room temperature setting by | External thermostatic head |
| Hydraulic balancing is possible | Yes with EXCLUSIV |
| Applications | Room temperature control by underfloor heating |

| | |
|---|--|
| Name | RTL-A Regulation Box STANDARD / EXCLUSIV |
| Picture | |
| Description | RTL-A regulation box with external thermostatic valve |
| Details | Page 14 |
| Applications | Regulation box for retrofitting wall-mounted and underfloor heating circuits in refurbishments and new buildings in conjunction with a direct heating circuit without mixer. |
| Function | Regulation boxes for return flow temperature-dependent regulation. |
| Installation position in the pipe | Installation in the return flow |
| Typical room size | Typical bathroom, small rooms with radiator |
| Maximum supply temperature in the supply circuit | Direct heating circuit |
| Room temperature setting by | Radiator in the room |
| Hydraulic balancing is possible | Yes with EXCLUSIV |
| Applications | Additionally to a radiator; adjustable base temperature adjustment through the floor |

| | |
|---|--|
| Name | RTL-I Regulation Box STANDARD / EXCLUSIV |
| Picture | |
| Description | RTL-I regulation box with internal thermostatic valve |
| Details | Page 15 |
| Applications | Regulation box for retrofitting wall-mounted and underfloor heating circuits in refurbishments and new buildings in conjunction with a direct heating circuit without mixer. |
| Function | Regulation boxes for return flow temperature-dependent regulation. |
| Installation position in the pipe | Installation in the return flow |
| Typical room size | Typical kitchen, bathroom, small rooms with radiator + heated towel rail |
| Maximum supply temperature in the supply circuit | Direct heating circuit |
| Room temperature setting by | Radiator in the room |
| Hydraulic balancing is possible | Yes with EXCLUSIV |
| Applications | Additionally to a radiator; fixed percentage as base temperature adjustment through the floor |

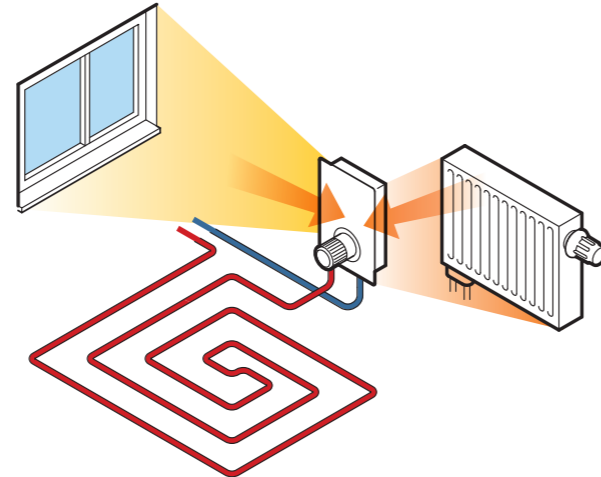
Installation and Operating Information

Installation of room temperature-dependent Simplex regulation boxes

Surface heating systems provide a comfortable indoor climate through their large heat transfer area. The relationship between the surface temperature and room temperature has a self-regulating effect, by means of which temperature fluctuations remain minimal. The effects of external heat on the room thermostat in the regulation box should be avoided to achieve an optimum self-regulation effect.

Therefore select the location of room temperature-dependent regulation boxes at a sufficient distance from external heat sources. Examples of external heat sources include:

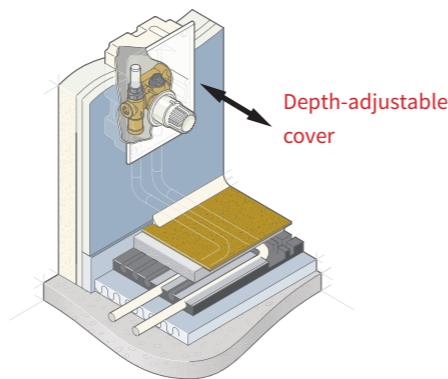
- ◆ Direct sunlight, e.g. through full-height windows
- ◆ Radiant heat from tiled stoves or wood-burning stoves
- ◆ Radiators with higher supply temperatures
- ◆ Thermal discharge from household appliances, computers, TV/Audio equipment, lighting



Select the installation location for the regulation box so that it is not exposed to the effects of external heat.

Basic equipment of Simplex RTL-/TH/ DUO regulation boxes

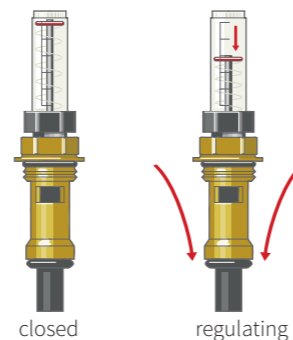
- ◆ Concealed box with pre-mounted valve module with ventilation
- ◆ Valve module connection with G 3/4 m Euro taper for pipe connection with compression adapter
- ◆ EPS protective cap
- ◆ White plastic wall cover (similar to RAL 9016)
- ◆ Mounting brackets for depth adjustment of the wall box
- ◆ Prepared for flexible installation in panel walls (Installation kit F11863)
- ◆ Regulation boxes with closed cover and internal head can be combined with design covers made of glass, chrome-plated plastic or with tile frame for integration into tiled walls



All Simplex regulation boxes can be easily installed and connected to underfloor heating systems using the easy to connect concealed box.

Balancing and shut-off valve for volume flow control

The target volume flow is adjusted in l/min on the balancing upper part to simplify hydraulic compensation. The flow volume adjusted in this way can be read off on the printed scale. The balancing valve can also be used as a shut-off.



Heat Outputs achieved by the Regulation Boxes

| KOMPAKT / KOMFORT System Regulation Box – Design Examples | | | |
|---|--------------------------|---------------------|---------------------|
| Pipe spacing | 10 cm | 15 cm | 20 cm |
| Supply flow/return flow temperature | 35/30 °C | 35/30 °C | 40/35 °C |
| Max. heat flow density | 78 W/m ² | 66 W/m ² | 79 W/m ² |
| KOMPAKT / KOMFORT System Regulation Box Values when a heating circuit with 17×2 mm pipe system is connected | Max. heatable floor area | 17 m ² | 22 m ² |
| | Max. pipe length | 170 m | 145 m |
| | Volume flow | 3.8 l/min | 4.2 l/min |
| KOMFORT System Regulation Box Values when two heating circuits with 17×2 mm pipe system are connected Caution: The pipe lengths of both circuits must be identical | Max. heatable floor area | 32 m ² | 41 m ² |
| | Max. pipe length | 2 x 160 m | 2 x 135 m |
| | Volume flow | 7.2 l/min | 7.7 l/min |

| RTL / TH / RTL-TH / DUO Regulation Boxes – Design Examples | | | |
|--|--------------------------|---------------------|---------------------|
| Pipe spacing | 10 cm | 15 cm | 20 cm |
| Supply flow/return flow temperature | 35/30 °C | 35/30 °C | 40/35 °C |
| Max. heat flow density | 78 W/m ² | 66 W/m ² | 79 W/m ² |
| Values when a 17×2 mm pipe system is connected with 250 mbar pressure loss in the heating loop | Max. heatable floor area | 12.5 m ² | 16 m ² |
| | Max. pipe length | 125 m | 105 m |
| | Volume flow | 1.9 l/min | 2.2 l/min |

Installation guidelines for surface heating systems, possibly determined under the following conditions:

Floor structure in line with DIN 1264 type A (heating pipes in screed); 4.5 cm above pipes

Cement screed in line with DIN 18560 with thermal conductivity of 1.2 W/(mK)

Floor covering: Limit values for tiles and carpet

Surface temperature max. 29 °C; standard indoor temperature 20 °C

Design pressure loss in heating loop to match KOMPAKT / KOMFORT system regulation unit or 250 mbar with regulation boxes; design spread 5 K

Note: Design surface heating systems in line with DIN EN 1264. Check all details on site.

Room temperature adjustment with supply temperature limitation

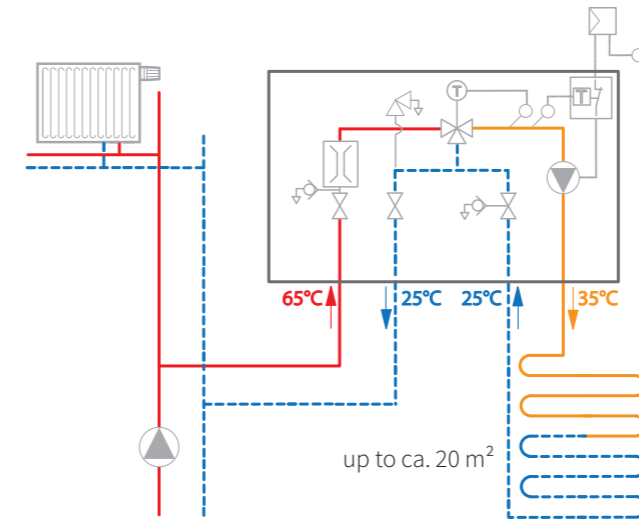
KOMPAKT / KOMFORT System Regulation Box

Room temperature regulation even at high supply temperatures. For the use of surface heating as primary heating or in large individual rooms.

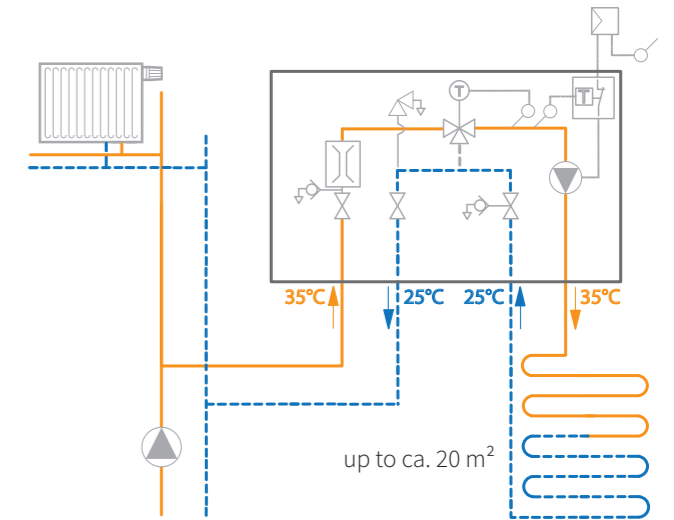
| Features | KOMPAKT F11852 | KOMFORT F11854 |
|--|-------------------|-------------------|
| Room temperature-depent regulation* | ◆ | ◆ |
| Supply temperature limitation (adjustable 10 - 50 °C) | ◆ | ◆ |
| Filling equipment | - | ◆ |
| Flushing and draining equipment | ◆ | ◆ |
| Room thermostat | * | * |
| Flow indication and regulation (Topmeter) | ◆ | ◆ |
| Pre-adjustable circulating pump | ◆ | ◆ |
| Primary circuit shut-off valve | ◆ | ◆ |
| Exchangeable primary circuit connection, right or left | - | ◆ |
| „easy-connect“ plug-in connection | ◆ | ◆ |
| Safety temperature switch | ◆ | ◆ |
| Extension for larger heating surfaces | - | ◆ |
| Built into masonry | ◆ | ◆ |
| Built into dry construction | - | ◆ |
| Cover frame with depth adjustment | - | ◆ |
| EnEV-compliant | ◆ | ◆ |

* can be combined with conventional room thermostats 230 V (not included in scope of delivery)

KOMPAKT / KOMFORT version:



Application / Heating
Mixing of heating supply with underfloor return flow to produce underfloor supply flow.



Heating operation with reduced supply temperature. No mixing in the valve.

NEW 5 - 40 m²

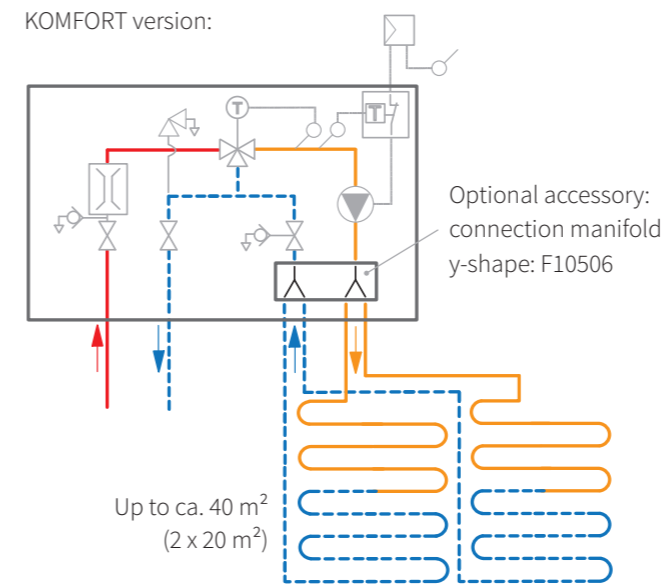
KOMPAKT System Regulation Box

- ◆ With plastic housing
- ◆ The wall covering consists of a tile frame with depth adjustment and universal cover (optional other covers possible)
- ◆ Up to ca. 20 m²

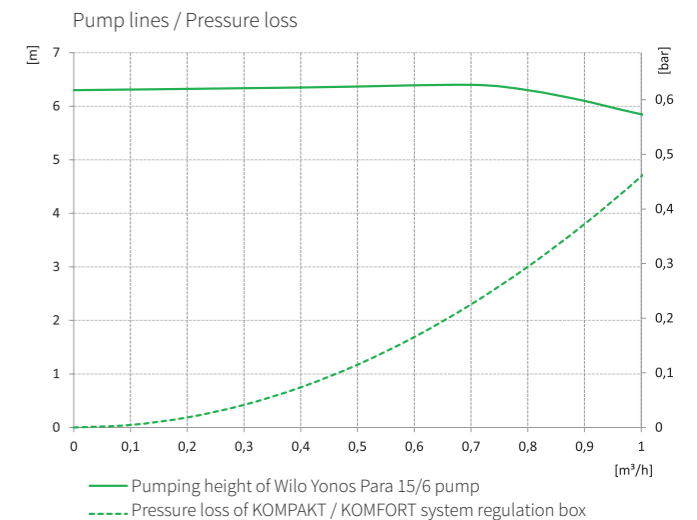
KOMFORT System Regulation Box

- ◆ With metal housing
- ◆ The wall covering consists of a coated case with depth adjustment
- ◆ Filling equipment
- ◆ Exchangeable primary circuit connection
- ◆ Extension for larger heating surfaces
- ◆ Up to ca. 40 m² (2 x 20 m²)

KOMFORT version:



Note: Extension via parallel switching. Both heating circuits with the same dimension and same length.



Flow Volume Meter

The volume flow is visible and can be regulated with the RTL-TH BASIC and the RTL-TH DIGITAL regulation boxes, the system regulation boxes and the EXCLUSIV series regulation boxes. The flow volume meter has a shut-off function.

Individual Room Regulation

Every TH function has individual room regulation. Design a 230 V room thermostat on site with the RTL-TH BASIC regulation box and the system regulation boxes.

Regulation box for room temperature-dependent regulation with return flow temperature limitation

RTL-TH Regulation Boxes

The RTL-TH regulation boxes enable an additional single room surface heating system to be simply and easily integrated into a normal heating circuit. A separate mixed low temperature heating circuit is therefore no longer needed.

< 15 m²

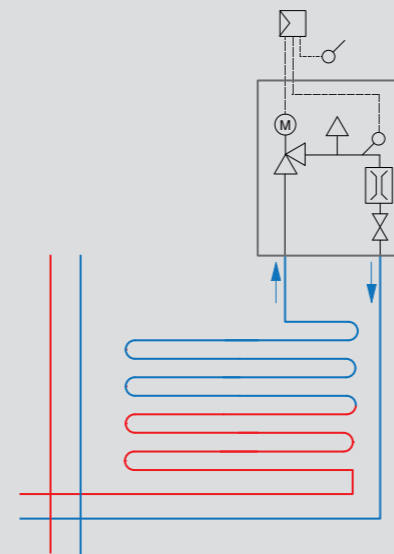


RTL-TH DIGITAL Regulation Box

For room temperature-dependent regulation of surface heating systems, with return flow temperature limitation (10 to 50 °C). Short heating-up phases due to the adjustable return flow temperature. Easy-Connect plug-in connector for simple electrical connection, electro-thermal actuator and RTL sensor pre-fitted and pre-wired.

Features of concealed Digital Room Temperature Controller

- ◆ Individually programmable, up to 9 switching times and temperature settings possible each day
- ◆ Display with background lighting, white
- ◆ Can be integrated into different switch series (frame DIN 49075, installation box DIN 49073)
- ◆ Maximum energy-saving effect



Features

| | RTL-TH DIGITAL F11838 | RTL-TH BASIC F11836 |
|---------------------------------------|--------------------------|--|
| Room temperature-dependent regulation | ◆ | ◆ |
| Return flow temperature limitation | 10 to 50 °C adjustable | with fixed value limitation switch (40 °C) |
| Ventilation | ◆ | ◆ |
| Room temperature regulation | ◆ | * |
| Flow indicator and regulation | ◆ | ◆ |
| Electro-thermal actuator | ◆ | ◆ |
| “easy-connect” plug-in connection | ◆ | ◆ |
| EnEV-compliant | ◆ | ◆ |
| Closed wall cover | ◆ | ◆ |

* Can be combined with conventional room thermostats 230 V (not included)

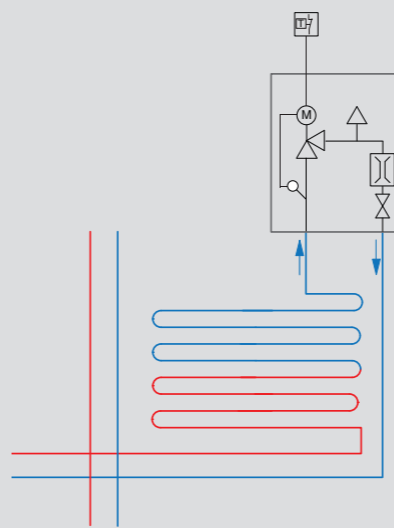


RTL-TH BASIC Regulation Box

The integral safety switch shuts down the valve when a return flow temperature of 40 °C is exceeded. When heat is demanded by the connected room thermostat, the safety cut-off remains active until a return flow temperature of around 38 °C has been reached.

A room thermostat is required for operation.
Combinable with conventional room thermostats 230 V.

The wall cover consists of a white plastic panel



Flow Volume Meter

The volume flow is visible and can be regulated with the RTL-TH BASIC and the RTL-TH DIGITAL regulation boxes, the system regulation boxes and the EXCLUSIV series regulation boxes. The flow volume meter has a shut-off function.

Individual Room Regulation

Every TH function has individual room regulation. Design a 230 V room thermostat on site with the RTL-TH BASIC regulation box and the system regulation boxes.

Digital Room Thermostat

A digital room temperature controller is included with the RTL-TH DIGITAL regulation box. This permits up to 9 switching times to be programmed per day. Users benefit from maximum energy-savings.

Wall Cover

All wall covers feature mounting brackets for depth compensation. The closed models can even be turned if the concealed housings are installed at an angle. Other covers and design panels are also available.

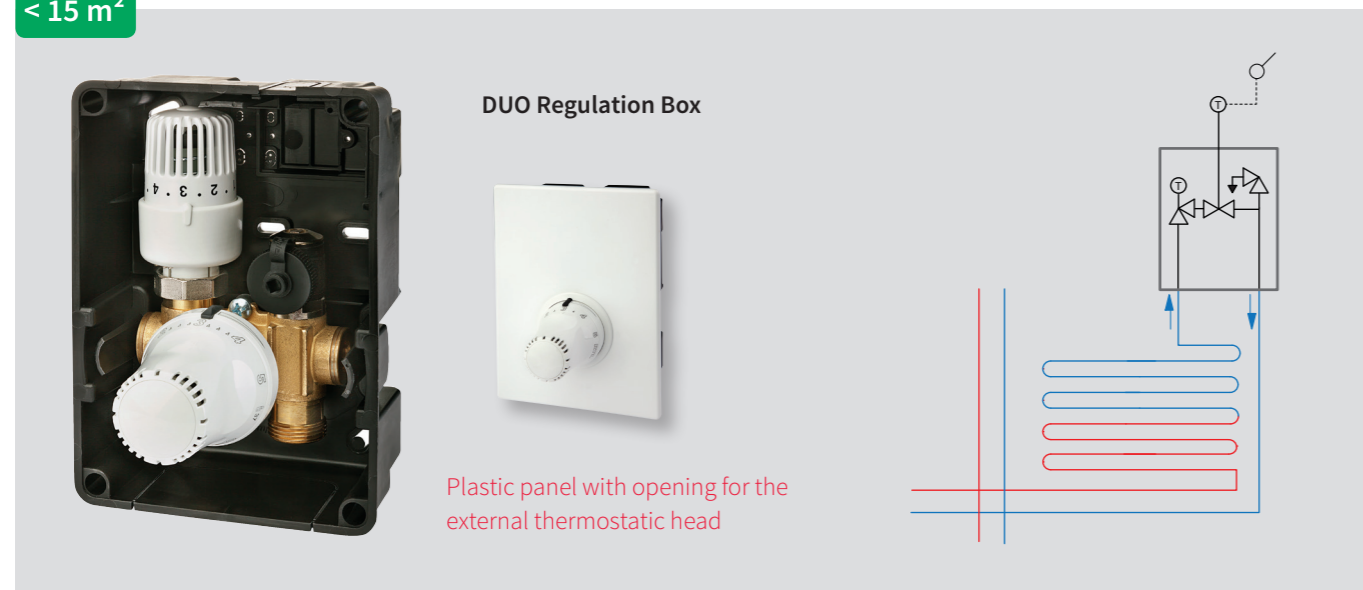
Regulation box for room temperature-dependent regulation with adjustable return flow temperature limitation

DUO Regulation Box

With internal RTL-head for return flow temperature limitation and external thermostatic head for room temperature setting.

| DUO Regulation Box | |
|------------------------------------|--------|
| Features | F11879 |
| Room temperature regulation | ◆ |
| Return flow temperature limitation | ◆ |
| Ventilation | ◆ |
| Filling and draining | ◆ |
| Wall cover with opening | ◆ |

< 15 m²



Individual Room Regulation

Every TH function has individual room regulation. Design a 230 V room thermostat on site with the RTL-TH BASIC regulation box and the system regulation boxes.

Wall Cover

All wall covers feature mounting brackets for depth compensation. The closed models can even be turned if the concealed housings are installed at an angle. Other covers and design panels are also available.

Regulation boxes for room temperature-dependent regulation

TH Regulation Boxes

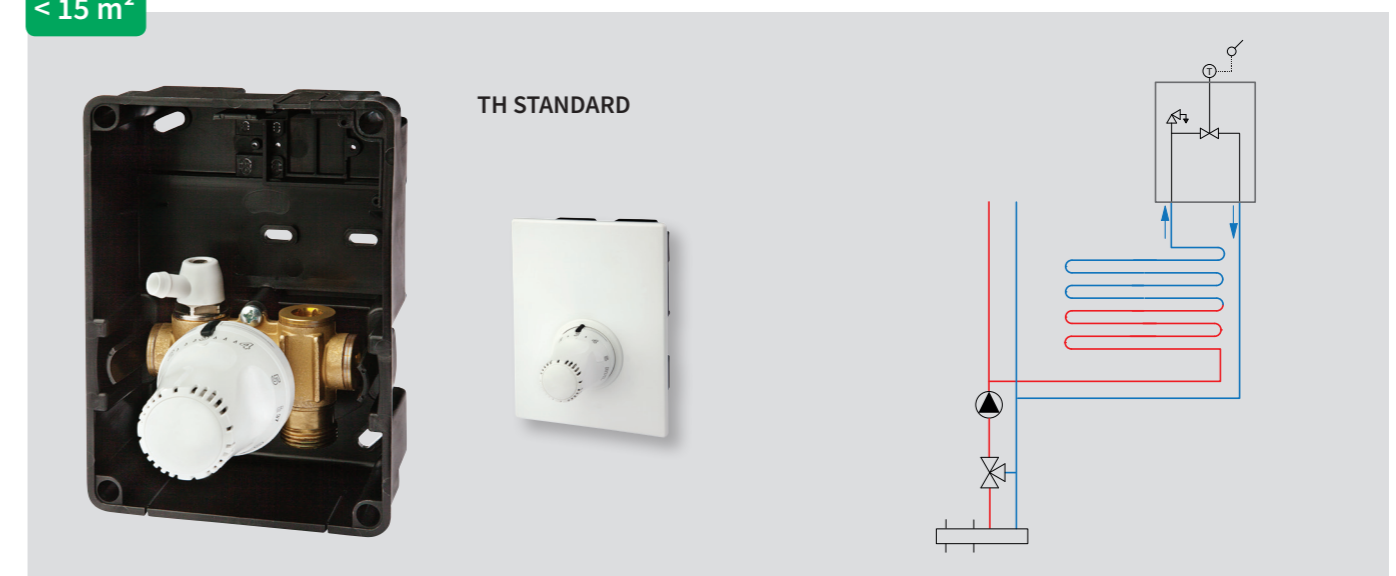
TH regulation boxes are intended for the room temperature-dependent regulation of low temperature surface heating systems. The temperature is regulated by an integral room thermostat.

Individual Room Regulation

Every TH function has individual room regulation. Design a 230 V room thermostat on site with the RTL-TH BASIC regulation box and the system regulation boxes.

| TH Regulation Box with external Thermostatic Valve | | |
|--|-----------------------|-----------------------|
| Features | TH STANDARD F11848 | TH EXCLUSIV F11849 |
| Room temperature regulation | ◆ | ◆ |
| Ventilation | ◆ | ◆ |
| Filling and draining | ◆ | ◆ |
| Flow indicator and regulation | - | ◆ |
| Wall cover with opening | ◆ | ◆ |

< 15 m²



Regulation boxes for return flow temperature-dependent regulation

RTL-A Regulation Boxes

with external thermostatic valve

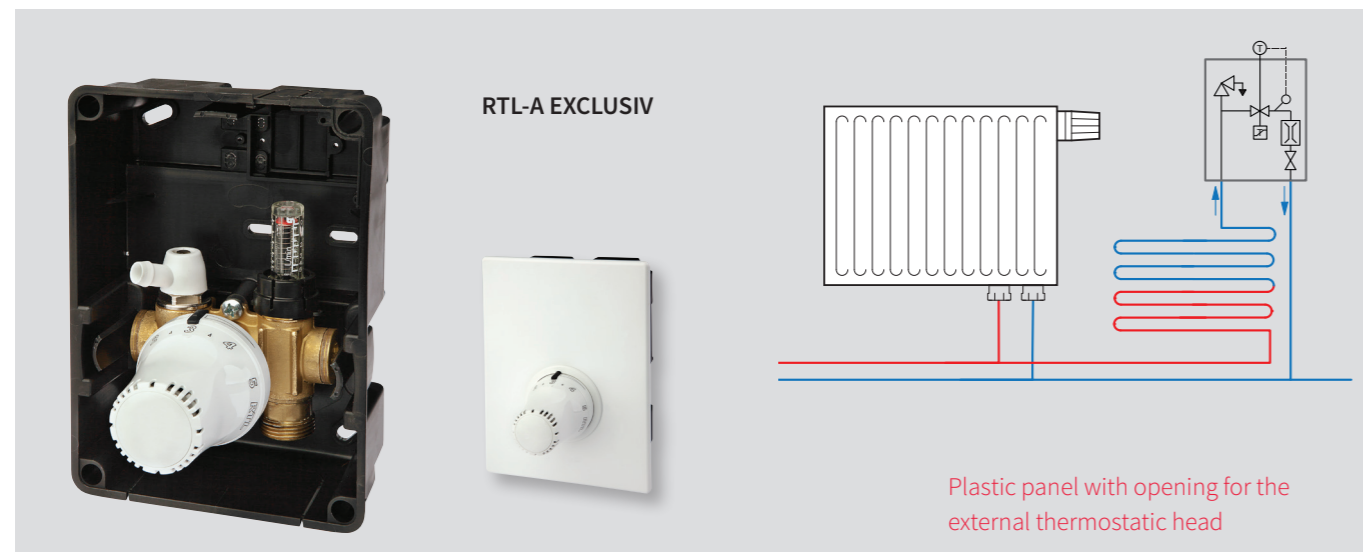
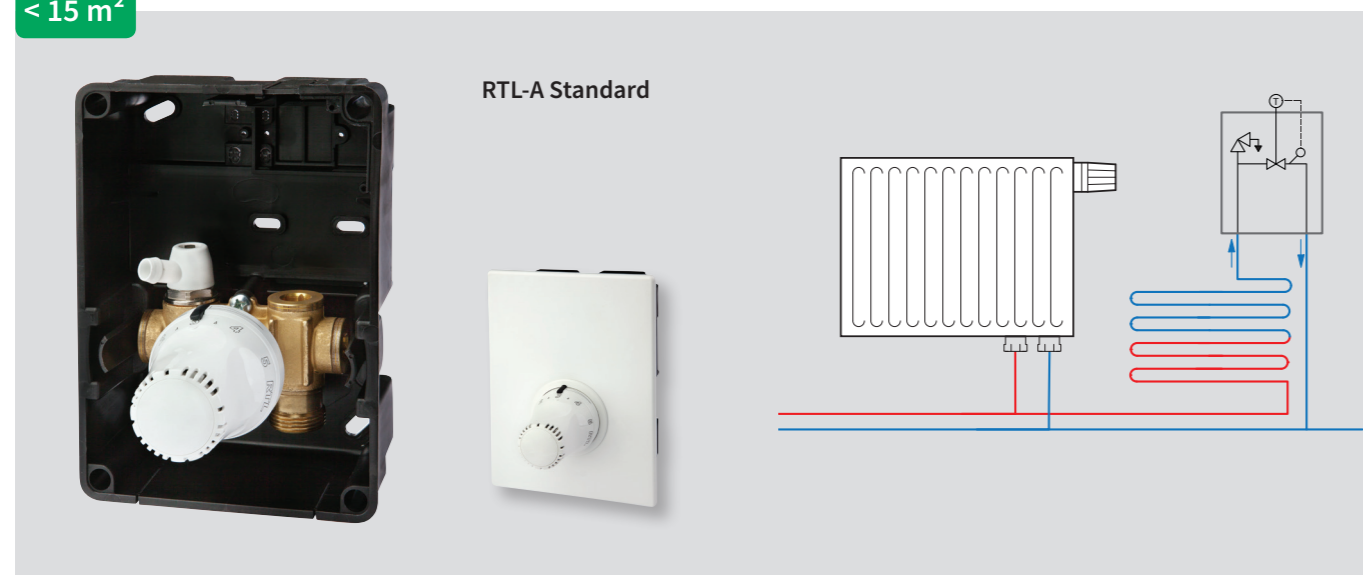
Safety Temperature Valve

EXCLUSIV series RTL regulation boxes protect the surface heating system from overheating when a faulty thermostat causes excessive supply temperature.

RTL-A Regulation Boxes with external Thermostatic Valve

| | RTL-A STANDARD F11828 | RTL-A EXCLUSIV F11829 |
|------------------------------------|--------------------------|--------------------------|
| Return flow temperature limitation | ◆ | ◆ |
| Ventilation | ◆ | ◆ |
| Filling and draining | ◆ | ◆ |
| Flow indicator and regulation | - | ◆ |
| Safety temperature valve | - | ◆ |
| Wall cover with opening | ◆ | ◆ |

< 15 m²



Regulation boxes for return flow temperature-dependent regulation

RTL-I Regulation Boxes

with integral thermostatic valve

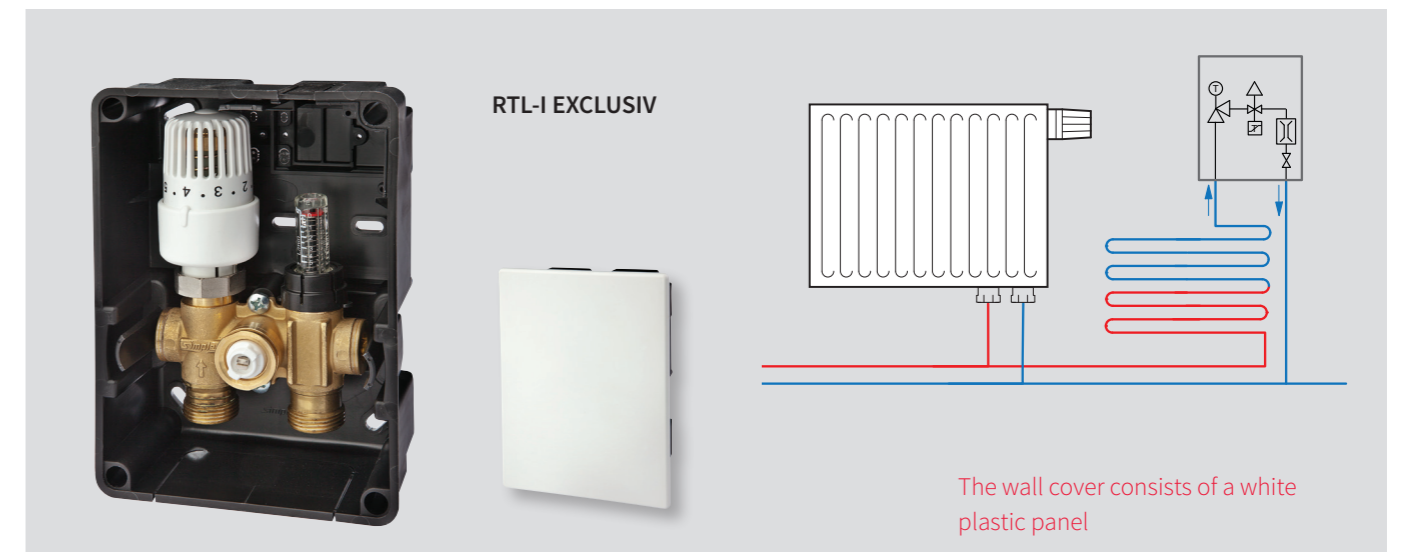
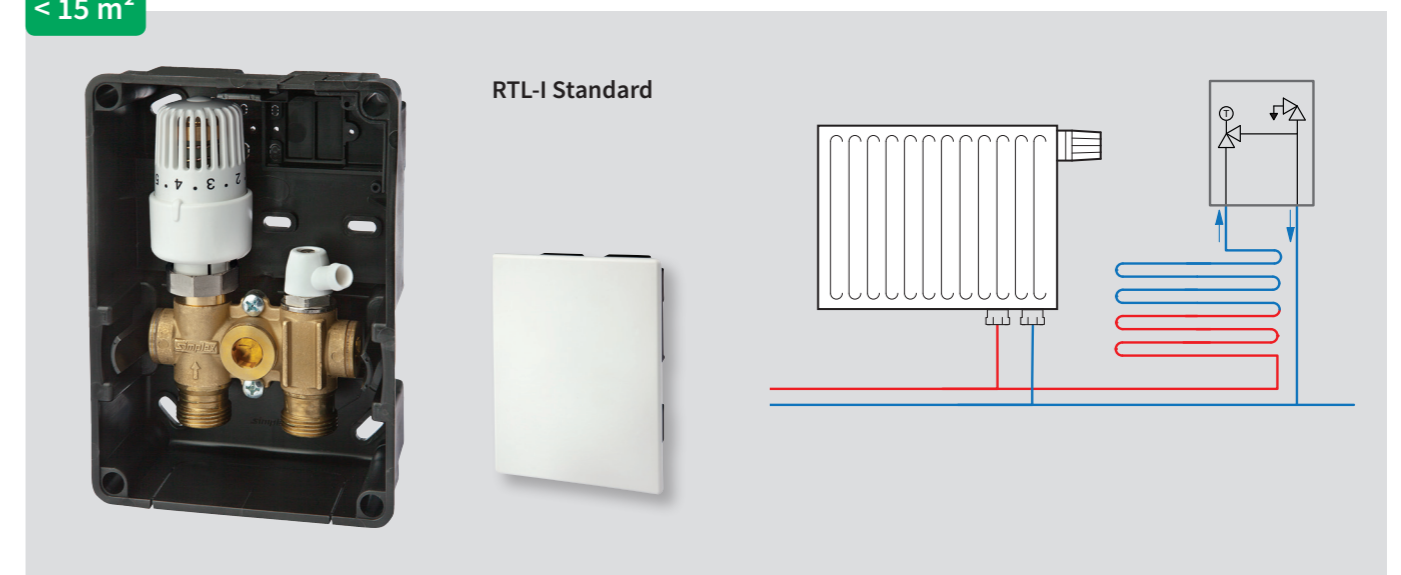
Flow Volume Meter

The volume flow is visible and can be regulated with the RTL-TH BASIC and the RTL-TH DIGITAL regulation boxes, the system regulation boxes and the EXCLUSIV series regulation boxes. The flow volume meter has a shut-off function.

RTL-I Regulation Box with internal Thermostatic Valve

| | RTL-I STANDARD F11831 | RTL-I EXCLUSIV F11832 |
|------------------------------------|--------------------------|--------------------------|
| Return flow temperature limitation | ◆ | ◆ |
| Ventilation | ◆ | ◆ |
| Filling and draining | ◆ | - |
| Flow indicator and regulation | - | ◆ |
| Safety temperature valve | - | ◆ |
| Closed wall covers | ◆ | ◆ |

< 15 m²

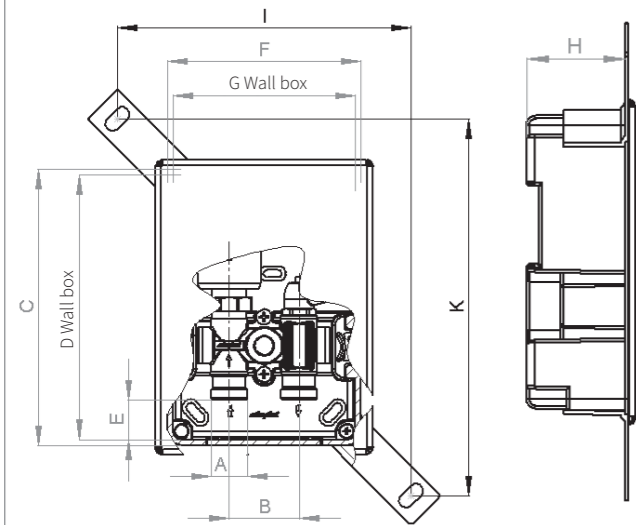


Regulation Boxes in Detail

Dimensional Drawings of Regulation Boxes

Regulation Boxes with internal Head

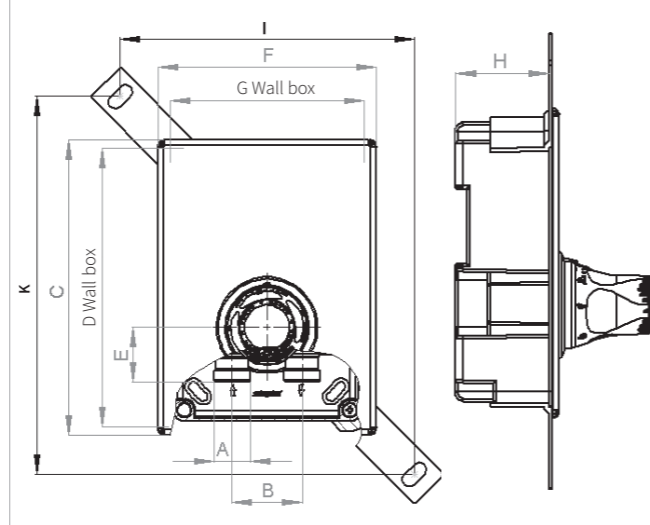
F11831, F11832



| A | B | C | D | E | F | G | H | I | K |
|------------------|----|-----|-----|----|-----|-----|----|-----|-----|
| G3/4m Euro taper | 50 | 211 | 197 | 27 | 156 | 138 | 64 | 210 | 270 |

Regulation Boxes with external Head

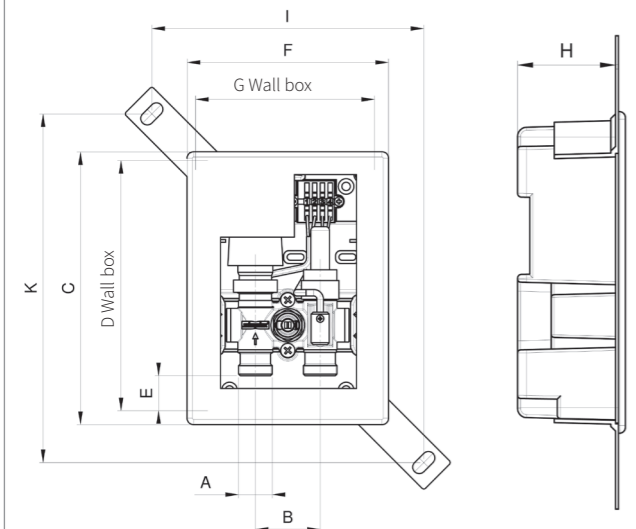
F11828, F11829, F11848, F11849, F11879



| A | B | C | D | E | F | G | H | I | K |
|------------------|----|-----|-----|----|-----|-----|----|-----|-----|
| G3/4m Euro taper | 50 | 211 | 197 | 27 | 156 | 138 | 64 | 210 | 270 |

RTL-TH DIGITAL Regulation Box

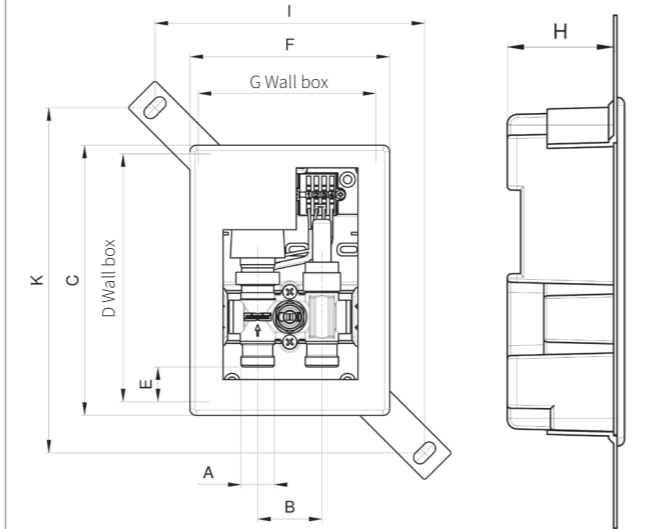
F11838



| A | B | C | D | E | F | G | H | I | K |
|------------------|----|-----|-----|----|-----|-----|----|-----|-----|
| G3/4m Euro taper | 50 | 211 | 197 | 27 | 156 | 138 | 64 | 210 | 270 |

RTL-TH BASIC Regulation Box

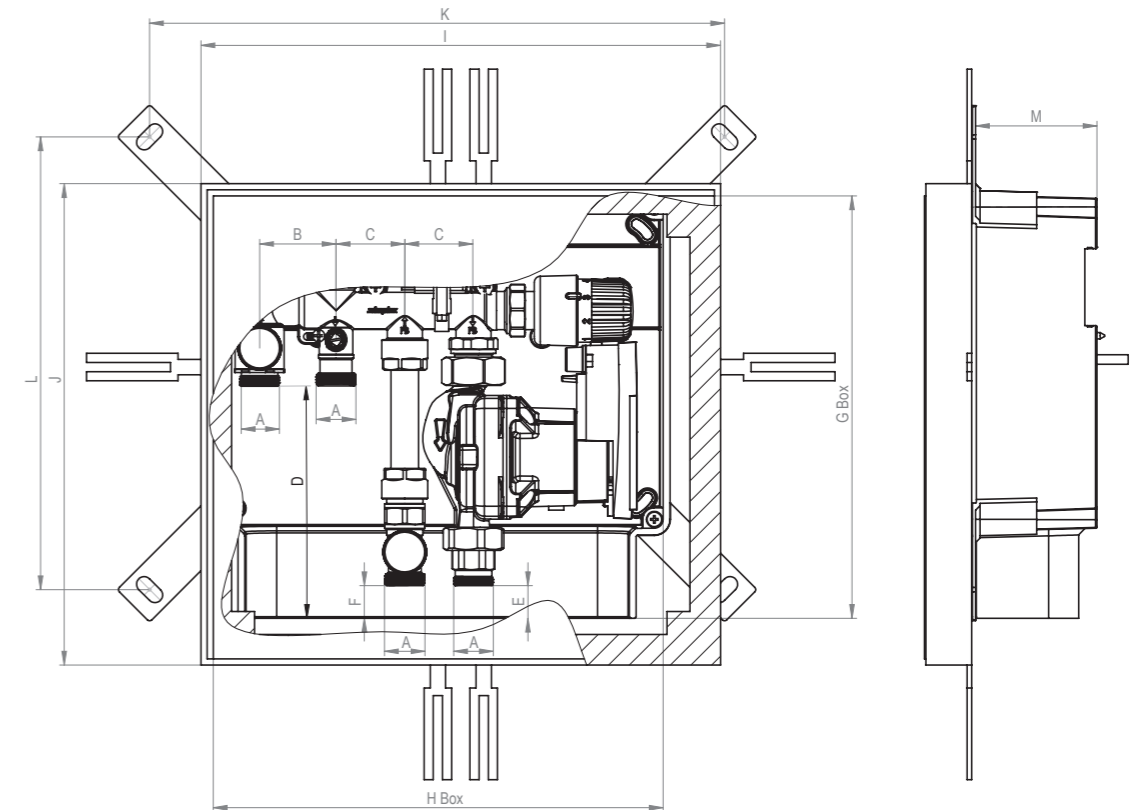
F11836



| A | B | C | D | E | F | G | H | I | K |
|------------------|----|-----|-----|----|-----|-----|----|-----|-----|
| G3/4m Euro taper | 50 | 211 | 197 | 27 | 156 | 138 | 64 | 210 | 270 |

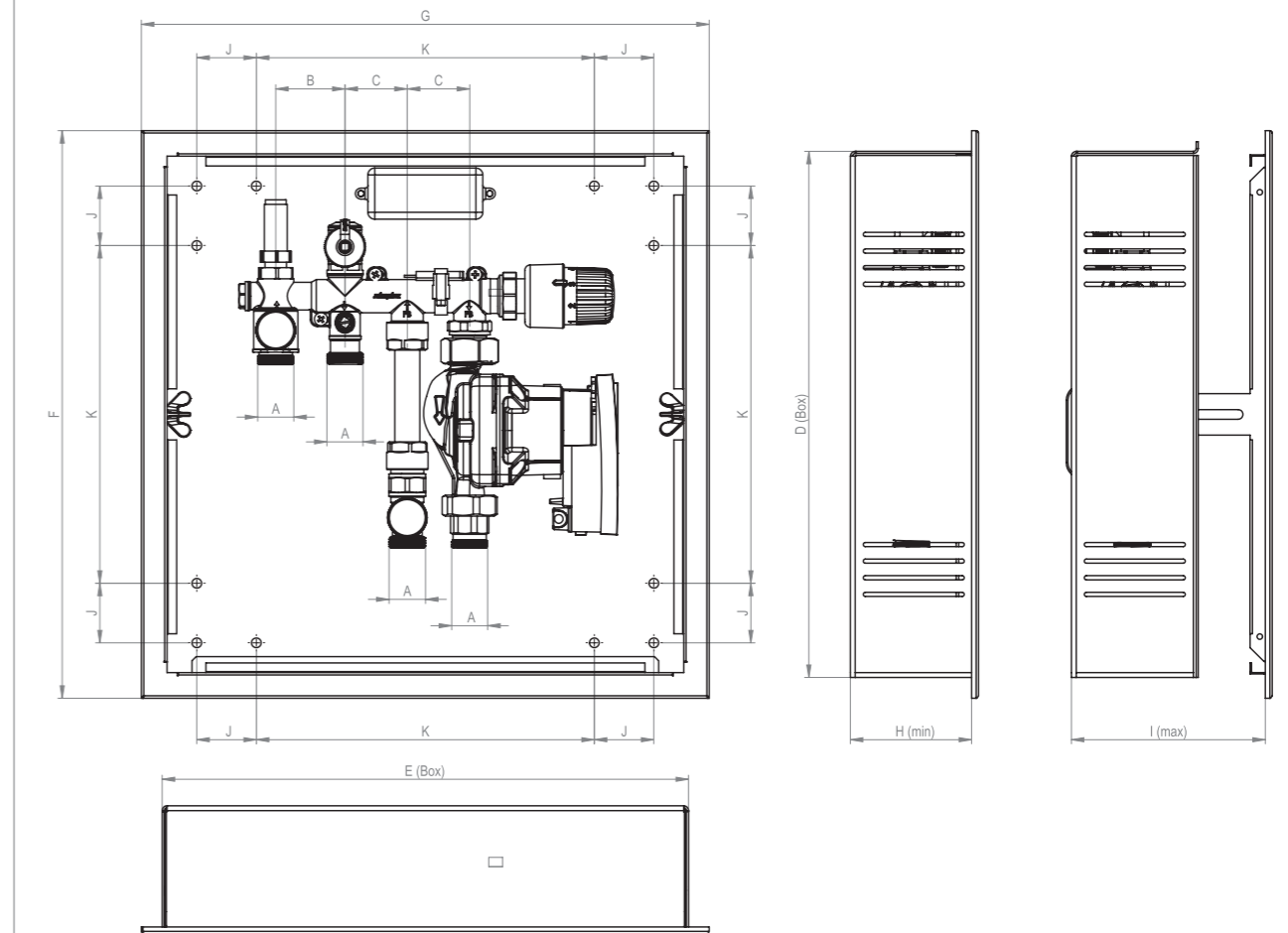
Dimensions in mm.

KOMPAKT System Regulation Box F11852



| A | B | C | D | E | F | G | H | I | J | K | L | M |
|------------------|----|----|-----|----|----|-----|-----|-----|-----|-----|-----|----|
| G3/4m Euro taper | 50 | 45 | 147 | 16 | 25 | 280 | 305 | 340 | 315 | 377 | 296 | 80 |

KOMFORT System Regulation Box F11854



| A | B | C | D | E | F | G | H | I | J | K |
|------------------|----|----|-----|-----|-----|-----|------|-----|----|-----|
| G3/4m Euro taper | 50 | 45 | 380 | 380 | 410 | 410 | 87,5 | 140 | 43 | 244 |



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