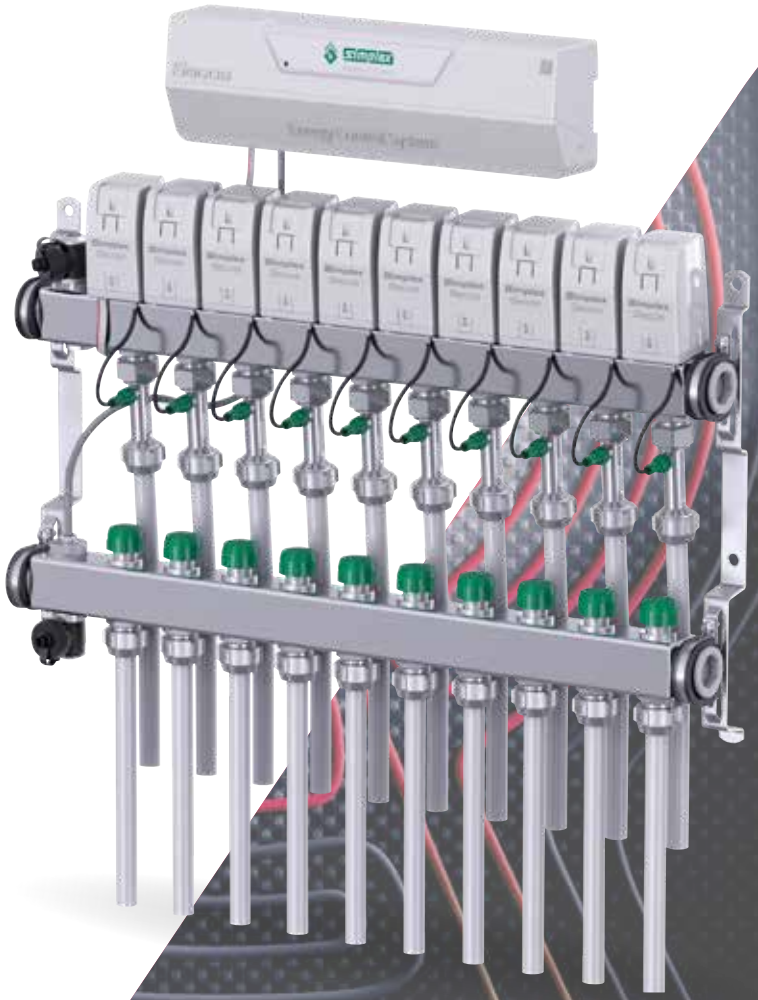
comap

that's excellence.

Simplex Secos

Simplex Energy Control System
for surface heating

NEW Unique Change Over function



cera disc valve technology
cost ecology

QUALITY OF simplex A GERMAN BRAND

aalberts hydronic flow control

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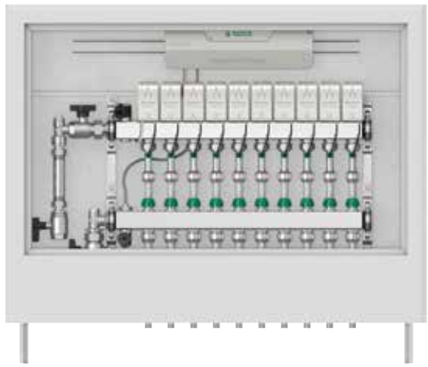
Introducing Secos

Secos is a groundbreaking system for surface temperature management in indoor spaces which also continuously records and optimises flow rate and temperature. Secos is ideal for both new buildings and the renovation of older properties







Fully automatic hydraulic balancing

The Secos multisensor installed in every heating circuit continuously measures flow rate and temperature of the medium. These data points are collated in the Secos energy-saving control system, where they are evaluated and processed. This means that the under- and over-supply of energy in the individual heating zones is excluded.

Smart

The Secos energy saving controller processes all the incoming information and controls the individual heating zones in relation to the needs of the system using the Secos actuators. Interfaces with building management systems and integration options for smart home systems are available.

Energy-efficient

Thanks to the system's optimised hydraulic balancing, you can save up to 25% energy in comparison to a system with poor hydraulic balancing. The Secos actuators consume up to 50% less energy than standard actuators.
If the valve settings remain constant, the savings can be even greater.

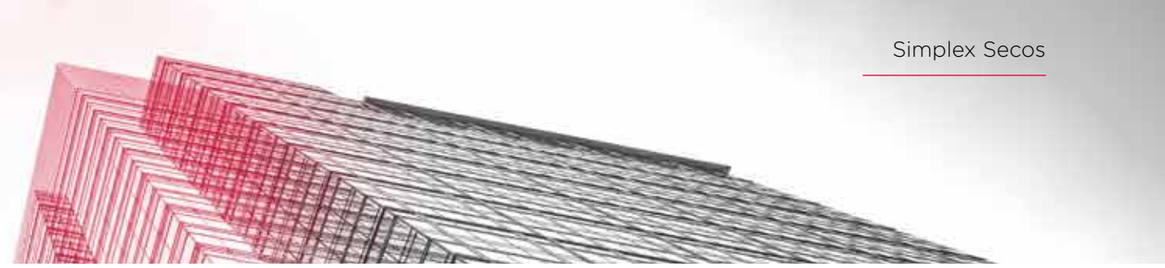
Geared to the future

The Secos control system for temperature control in indoor spaces sets a new benchmark with its use of ceramic disc valves. These ceramic disc valves make it possible to adjust flow precisely and with infinite variability. Paving the way to perfect control accuracy.

Once a Bluetooth connection has been established using QR Code scanning between the Secos energy saving controller and a mobile device, commissioning can easily be launched from either a tablet or a mobile phone.
All settings, including operating parameters and allocation of heating zones to the various Secos actuators, can easily be adjusted using the Flamconnect app.

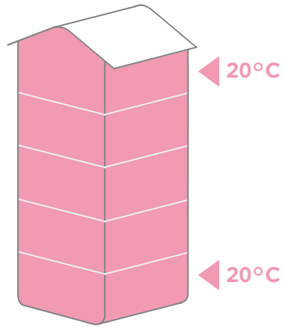
Additional functions, such as automatic flushing functions for convenient filling and bleeding, can also be launched using the app.





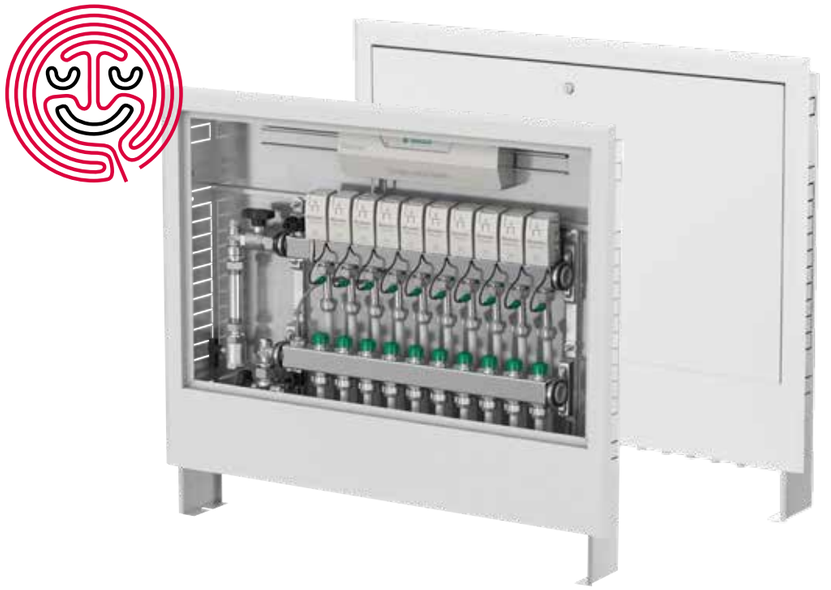
Hydraulic balancing

Indoor surface temperature control is established as a way of warming and/or cooling a wide range of indoor spaces and buildings of all sizes in a manner that is both energy-saving and healthy. But this is impossible without hydraulic balancing.



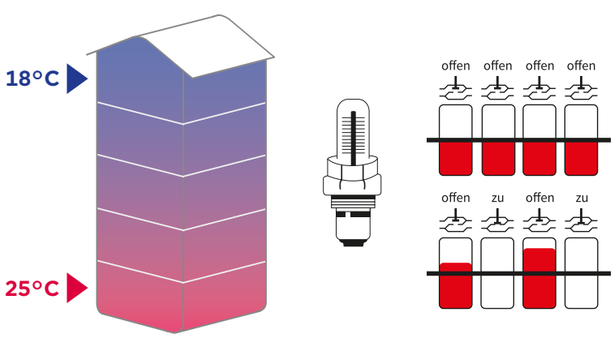
The aims:

- Even and needs-based supply of heat.
- Avoidance of over-/under-supply.
- Optimal energy efficiency.



A well-known problem

Hydraulic balancing has massive implications for internal climates and energy efficiency but is only possible to a limited extent in current systems.



- The factory settings of currently available standard systems permit only static balancing.
- In daily practice, flow rates are changed by selecting different valve settings.
- This brings with it the risk of the over- and under-supply of energy to individual heating circuits.
- These systems cannot be balanced efficiently, resulting in increased energy consumption and unnecessary energy costs.

The ideal solution

It’s time to say goodbye to poorly balanced systems. And hello to optimal control accuracy, ideal heat distribution and maximum energy saving in a single system.

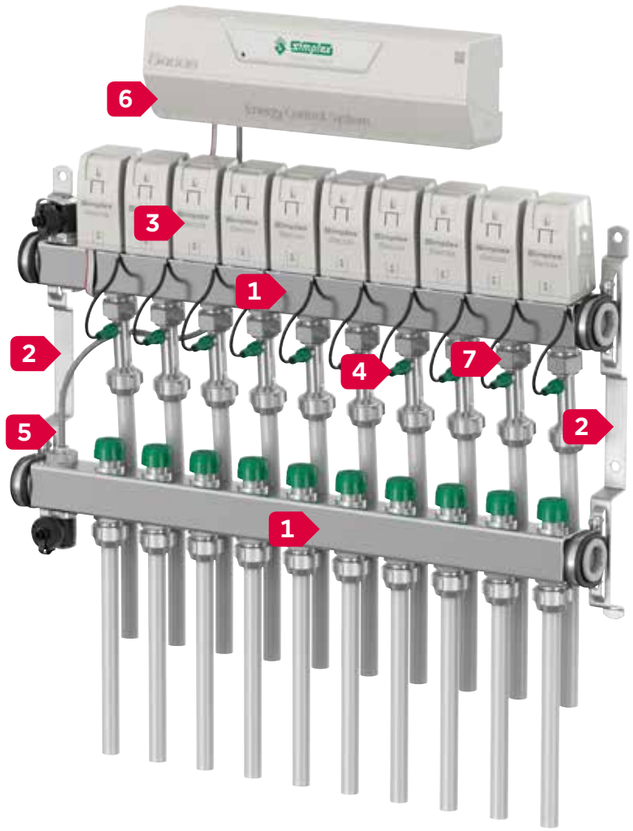
Simplex Secos is a groundbreaking system of surface temperature control in indoor spaces which also **continuously records and optimises** flow rate and temperature. This also makes it possible to dispense with circuit control valves. Secos is the byword for reduction in energy consumption and positive emotion. It is ideal for both new buildings and the renovation of old properties.

- For heating and cooling.
- Secos - leading the way in installation technology, control performance and comfort.
- Cleverly combining hydraulics and electronics.

Eligibility for funding

Secos satisfies all the technical requirements for Bafa and KfW funding eligibility (as amended in 06/2019). **You can find out more at www.bafa.de or www.kfe.de**

Design and components



1 Secos system manifold

- Supply line und return flow manifold bars made of stainless steel with 1″ female thread.
- One filling / draining / flushing / bleeding installation per manifold bar.
- Previously installed snap-on board for the Secos actuator.
- Secos multisensors fitted and pre-wired inat the factory.
- Delivered ready to install on manifold bracket with sound insulation.
- ¾″ Euro cone outlet pieces.
- Including Simplex filling and draining plugs.

2 Secos mounting bracket

- Manifold bracket including sound insulation.
- Installation in manifold cabinet or wall-mounted installation.
- Rigid versions made of galvanised steel.

3 Secos actuator for ceramic valves

- Low energy consumption – energy is consumed only when the valves are in motion.
- Infinite setting possibilities with precise position control.
- Ready-cabled plug connector.
- One single plug for all Secos actuators.
- Snap-on technology for one-click mechanical and electrical connections for error-free and time-saving installation.

4 Secos Multi-sensor

- To record flow rate and return-line temperature in every heating circuit.
- No moving parts.
- Minimal pressure loss.
- Zero-flow detection.
- Heat quantity measurement possible (consumption analysis, no calibrated values).
- Wired up in the factory.

5 Secos flow temperature sensor

- Records flow line temperature in the system.
- Additional safety feature to monitor maximum permissible flow line temperature.

6 Secos energy saving controller

- At the heart of the Secos Energy Control System.
- System data evaluation and automatic needs-based control.
- To control flow and heat output in each heating circuit.
- Suitable for both heating and cooling.
- BUS communication between the energy saving controller and the actuators.
- Up to 8 room thermostats.
- Complete freedom of choice of assignment of the room thermostats to the Secos actuators in the flow line.
- With building management system connection (Modbus).
- Bluetooth connection to Secos-App (Flamconnect).
- External condensation monitor connectable.
- For all other features, please see “Functions. and configuration”.

7 Secos disc valve

Unlike standard systems with globe valves, Secos works with ceramic disc valves which are actuated by rotary motion. These specially constructed ceramic valves permit linear valve opening, in turn ensuring an even valve characteristic curve.

With the aid of the Secos actuators and infinitely variable valve settings, this makes it possible to regulate the flow rate very precisely in all heating circuits.

- Disc valve with groundbreaking ceramic technology.
- For heating/cooling applications.
- Wear-free.
- Long service life.
- Infinitely adjustable and precise flow control in combination with Secos actuators.

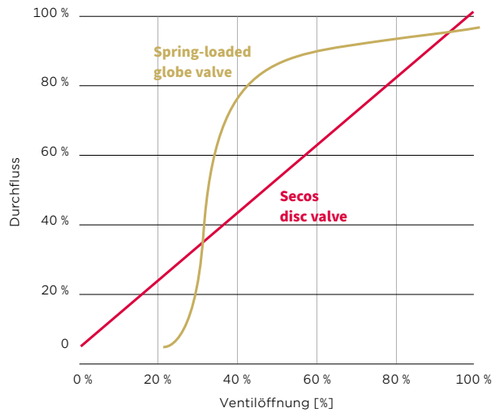
Spring-loaded globe valve

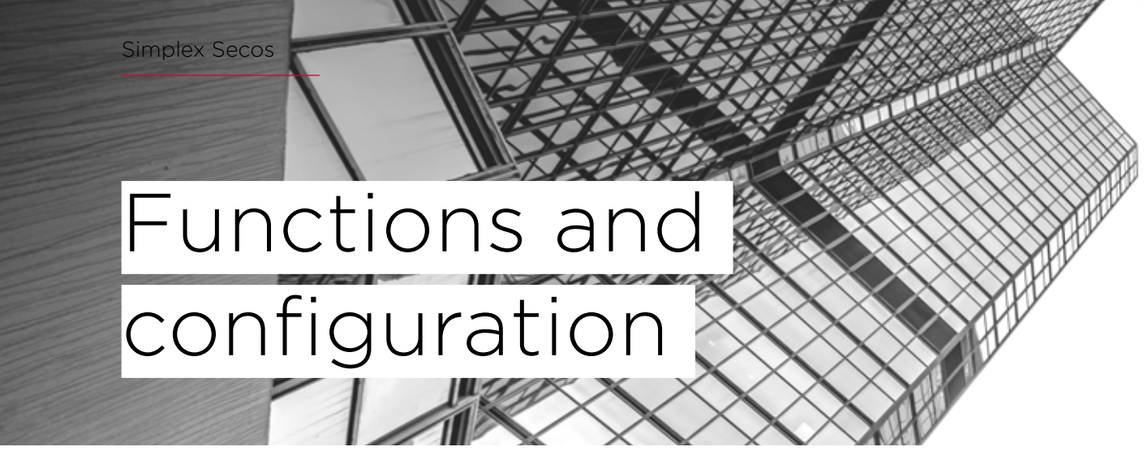
Non-linear adjustment range
→ Difficult to control.

Secos disc valve

Linear adjustment range
across the entire open range.
→ Very easy to control

The Secos disc valve in comparison





Functions and configuration

The newly-developed sensor-controlled Simplex valve technology makes it possible for the first time to regulate flow rate for fully automatic, dynamic hydraulic balancing and a precise, need-based heat supply. In a word: everything is perfectly under control.

Everything in one system:

- **Automatic hydraulic balancing**
  Thanks to the smart Secos energy saving controller, flow rate and temperature of the individual heating circuits are permanently recorded and optimally controlled. This means that both under- and over- energy supply of the individually connected heating zones is prevented.

- **Flow volume regulation**
  Avoidance of unnecessary oversupply.
  Omission of the differential pressure regulator/circuit regulation valve.

- **Valves with ceramic valve technology**
  Constant equal operation without changes in speed, irrespective of the thermal system used.

- **Heating function**

- **Cooling function**
  In the Secos energy-saving control, the entire inversion of the room thermostat signals is possible by connecting the changeover. Condensation monitors can be connected to reliably prevent the formation of condensation.

- **Pre-wired snap-on boards for Secos actuators and Secos multisensors**
  Only one Bus cable for actuators and multisensors needed, clarity of cabling layout, high level of installation convenience and time saving.

- **Open system.**
  Compatible with standard room thermostats (analogue signal, no Bus-connected room thermostats). Free choice of room thermostats in respect of design, price and configuration. Even some smart home room thermostats can be combined with Secos.

- **Increased comfort**
  Using the unique Change Over function, the heating and cooling loads can be entered separately. This improves the control characteristics and significantly increases comfort.



- **Flow rate sensor without moving parts**
  Reliable, wear-free, no extra pressure loss.
  Real flow rate recorded.

- **Full pump control**
  230 V with L,N,PE (e.g. for fixed set-point controller set).

- **Communicates with BMS systems**
  Modbus RTU on board, integration into other BMS systems via gateways.

- **Automatic flushing function**
  Automatic procedure for flushing / bleeding. Autonomous opening and closing of the individual heating circuits through to complete bleeding.

- **Additional heating as a special function**
  Avoidance of involuntary system heating in the case of bathroom radiators with additional electric heating (comparison RL > FL temperature). Should the return line temperature be higher than the flow line temperature, the Secos actuator will immediately shut the disc valve.

- **Status reports**
  To display operating conditions, error messages, fault alerts.

- **Valve and pump protection function**
  Periodic short actuations reliably prevents valves and pumps from sticking as a result of longer down times.

- **Heating log**
  Documentation of conformity for screed heating against applicable standards.



Benefits and added value

The greatest benefits for all participants in the entire supply chain – for the entire service life!
Secos is the basis for energy saving in any heating system, with unbeatable ease of installation and automatic commissioning, supported by state-of-the-art communication

Step 1
Planning

How you benefit from Secos	Your added value
• **The most innovative system on the market for automatic hydraulic balancing.**	→ **The edge in expertise and knowledge**
• **Interface Modbus on board for connection to building technology.** A wide range of options via gateways	→ **Flexibility, independence**
• **It is possible to input different values as a template for balancing.** No need to change the design programme	→ **Ease of planning, minimisation of errors**

Step 2
Administration

• **Selection of room thermostats.** No tie to manufacturer or design, free choice of price and model, stock products can be used.	→ **Independence, flexibility**
• **Fewer individual components thanks to complete sets from one supplier.** Lower logistics expenditure. Only one contact needed.	→ **Time and cost savings**

Step 3
Installation

• **Entire system uses plug & play principle** Error-free installation / cabling of the components.	→ **Minimisation of errors, time saving**
• **Fewer individual parts (circuit regulation function integrated).** Lower installation expenditure.	→ **Reduced expenditure on materials and installation**
• **Pre-cabled system.** Actuators can be installed at the time of commissioning without the need for an electrician.	→ **Time and cost savings**



Step 4
Commissioning

How you benefit from Secos	Your added value
• **Logging of commissioning and screed function** Evidence of proper execution	→ **Safety, time saving**
• **Automatic flushing function.** Safe bleeding of all individual heating circuits.	→ **Operational safety,** → **time saving**
• **With the adaptation of older buildings, room size can be entered directly per zone.** No calculation of individual heating loads required.	→ **Operational safety,** → **time saving**

Step 5
Operation

• **Digital flow and temperature measurement withoutmoving parts in every heating circuit. Readable via app.** No wear to the measuring technology, low pressure loss.	→ **Long service life, operational safety**
• **Automatic, dynamic hydraulic balancing (per unit / overall system).** Continuous regulation to the optimal operating point Low return flow temperatures.	→ **Gains in convenience, energy saving**
• **Connectable to BMS and smart home systems**. Use of different systems is possible. Open communication interfaces	→ **Flexibility, guaranteed fit for future use**
• **Unique change over function** separate input of heating and cooling load.	→ **Better control, thus increased comfort**

Step 6
Service

• **All operating conditions displayed in the app and communication with BMS systems.** Quick overview of the function and simplified troubleshooting.	→ **Expertise, cost savings,customer satisfaction**

Secos in comparison

	Current standards		Secos for the future	
Configuration	**1.0**	**2.0***	**Secos**	**Features**
Basic manifold function for the connection of individual circuits	●	●	●	
Heating mode	●	●	●	
Cooling mode		○	●	Change Over (C/O) included, condensation monitor can be connect.
Complete package incl. energy saving control, system distributor, Drive units, temperature sensor for flow line, Secos multi-sensors in return and Flamconnect App	–	–	●	One “Secos Energy Control System” package per manifold size
Control with Bus communication with the actuators (nr. of actuators does not depend on the number of clamps)	–	○	●	1 energy saving controller for up to 8
Circuit regulation function	–	–	●	Flow rates in all circuits are digitally recorded and controlled.

Design and components	**1.0**	**2.0***	**Secos**	**Features**
Simple configuration of the components	–	○	●	Complete system Secos Energy Control System
Ceramic disc valves to block flow	–	–	●	Long-life Secos disc valves
Actuators rotated by motors	–	–	●	Infinitely adjustable with rest positions
Digital flow and return flow temperature measurement in every circuit (in place of classic spring-actuated top meters)	–	–	●	No moving parts in the Secos
Low total pressure loss	–	–	●	Particularly low thanks to innovative measuring technology

Hydraulic balancing	**1.0**	**2.0***	**Secos**	**Features**
Flow rate adjustable for one operating condition	●	●	●	
Permanent flow rate reading possible	–	○	●	Ongoing measurement and output in the app, no retrospective contamination of the inspection
Perfect automatic comparison at all times with actual measurement values for each circuit	–	○ in some cases using ancillary solutions	●	Digital flow rate and temperature measurement, permanent control
Permanent energy saving guaranteed	–	○	●	Balancing with return line temperature and flow rate

Installation	**1.0**	**2.0***	**Secos**	**Features**
Actuators are simultaneously mechanically and electrically connected when plugged in	–	–	●	Plug & play installation
Actuators can be connected for commissioning without the help of an electrician	–	○	●	No electrician required internally for Secos thanks to BUS and low voltage
No cabling required for actuators	–	–	●	No cable required for the individual actuators, no messy tangle of cables
Any number of zones can be assigned to a single room thermostat	–	–	●	No cable required for the individual actuators, no messy tangle of cables

Commissioning	**1.0**	**2.0***	**Secos**	**Features**
Allocation of actuators to the control zones via app	–	○	●	Identification by pressing a button on the drive unit
Convenient parameter input for commissioning	–	○	●	Direct input of the required values per space (output per space, flow rate per circuit or specific heating load and area)
Automatic flushing function for bleeding	–	–	●	Individual circuits are automatically opened and closed
Screed heating logged	–	–	●	Important for screed warranty
Automatic logging after successful commissioning as evidence of hydraulic balancing (KfW, Bafa / Vdz)	–	–	●	Export function via app

Operation	**1.0**	**2.0***	**Secos**	**Features**
Permanent hydraulic balancing	–	○	●	Customary retrospective fine adjustments and extra journeys redundant
Continuous function check	–	○	●	Error messages via app
Highest level of energy efficiency at all times	–	○	●	Optimal regulation
Flow line temperature monitoring (STB)	–	○	●	Maximum value can be set
Any zone without a thermostat is also hydraulically balanced	–	–	●	Also possible to input heating load for spaces without a room thermostat
Permanent readability of flow rates guaranteed	–	–	●	No moving parts in the measuring technology, no contamination of the inspection glasses
Long-term availability of spare parts guaranteed	–	○	●	Simplex as a strong brand – Member of Aalberts hydronic flow control (Flamco)

Connectivität / Schnittstellen	**1.0**	**2.0***	**Secos**	**Merkmale**
Flamconnect App	–	–	●	Device-specific QR code permits individual Bluetooth connection of Secos energy saving controller to tablet or smart phone
Easy to connect to BMS	–	○	●	Integrated Modbus / RTU on board, further BMS via gateways
Change Over (C/O) – signal input for cooling function	–	–	●	Easy inversion (changeover) of the room thermostat signals
Export data, read out logs, backup	–	–	●	Export / import data via app
Data security assured	–	○	●	Direct Bluetooth connection



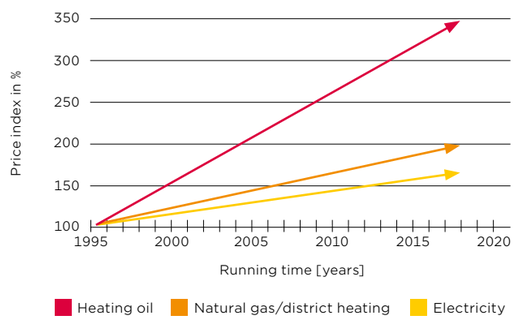
Environment and economical operation

Energy saving and protection of resources coupled with economy of operation and enhanced comfort.

- We take responsibility for the careful use of natural resources, thereby reducing the CO_2 footprint.
- We adhere strictly to environmental legislation and guidelines.
- We rely on innovative products to reduce the energy consumption of our customers to maintain a healthy and viable environment and to guarantee positive long-term customer relationships.

Durchschnittliche Heizkostenentwicklung
Average heating costs by energy carrier have risen by up to 350% in the last 23 years. The market is characterised by ever shorter cycles of price reduction and massive price increases. As everyone now knows, all the talk is of a constant increase in heating costs.

If heating costs are going to keep increasing, the energy savings which can be achieved with Secos will have an even more important role to play in the future.

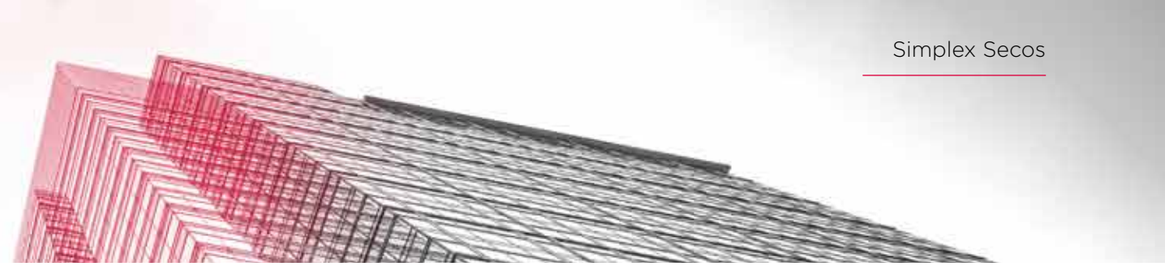


Source: Federal Statistical Office

Secos is developing for the future!

Highest levels of energy efficiency and convenient appbased operation combined with the Secos energy saving controller round off this groundbreaking development to perfection.



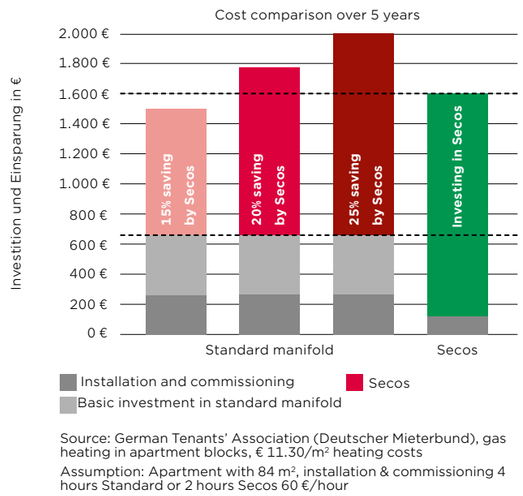


Secos im Geschosswohnungsbau

Amortisation after 5 years
The system with permanent hydraulic balancing makes it possible to save up to 25% in comparison to standard solutions on the market.

The additional costs for the Secos system will be recouped after about 5 years and an assumed energy saving of 20 %.

You will also benefit from faster installation and commissioning and from satisfied customers.



Source: German Tenants' Association (Deutscher Mieterbund), gas heating in apartment blocks, € 11.30/m² heating costs
Assumption: Apartment with 84 m², installation & commissioning 4 hours Standard or 2 hours Secos 60 €/hour

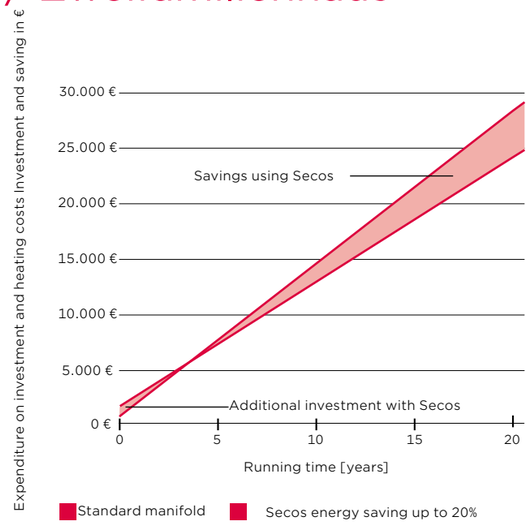
Secos im Einfamilienhaus / Zweifamilienhaus

Sustainable investment
Depending on the percentage saved, the capital invested will be multiplied and become available to the owner. The worthwhile investment in Secos will ensure that you are protected to some degree from further increases in heating costs.

Secos satisfies all the technical requirements for Bafa and KfW funding eligibility (as amended in 06/2019).

Bafa funding for existing building stocks will be anything up to 30 % of the net investment costs. You can find out more at www.bafa.de or www.kfe.de.

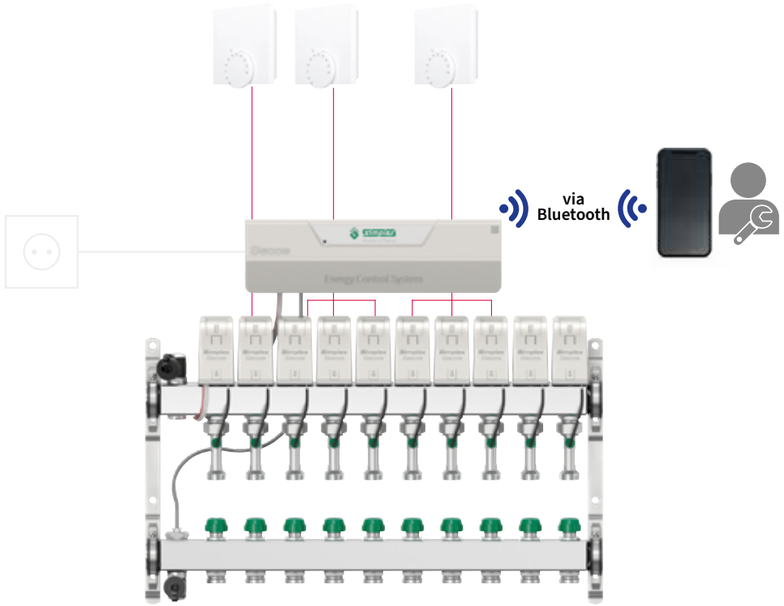
Note:
Sample calculations based on different sources and assumptions.
Results may vary widely depending on user behaviour, building and environment.



Source: German Tenants' Association (Deutscher Mieterbund), gas heating in detached houses, € 12.50/m2 heating costs
Assumption: Detached house with 110 m², including installation & commissioning

Commissioning

Hardware



Successful commissioning in just a few steps:

1. Install pre-assembled system manifold.
2. Fit pipes to the connections and check for leak-tightness.
3. Clamp Secos energy saving controller to the top-hat rail.
4. Connect the room thermostats.
5. Plug in Bus cable and flow line temperature sensor.
6. Plug in Secos actuators.
7. 1 x connection to the power supply.

The system is ready to go.
Other settings can be adjusted in the Flamconnect app.

8. Assign room thermostats to the Secos actuators (heating circuits).
9. Input required heating load per control zone.

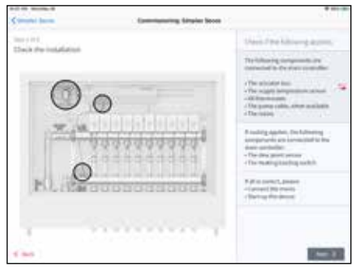
You're all done! Save energy and enjoy your new-found comfort!

Software and Flamconnect

The Secos energy saving controller and your mobile device are connected via Bluetooth. This requires you to scan the device-specific QR code on the energy saving controller in the app.



On the home screen you will be asked to scan the QR code of the energy saving controller.



All the required installation work will then be queried. Once this work has been done, the initial set-up can begin.



Now you can start by recording the spaces involved. Here, you will need to assign the room thermostats to the respective spaces. The actuators are then also assigned to the spaces.





All successfully entered information will be displayed in the summary. From this point on, Secos will work independently.



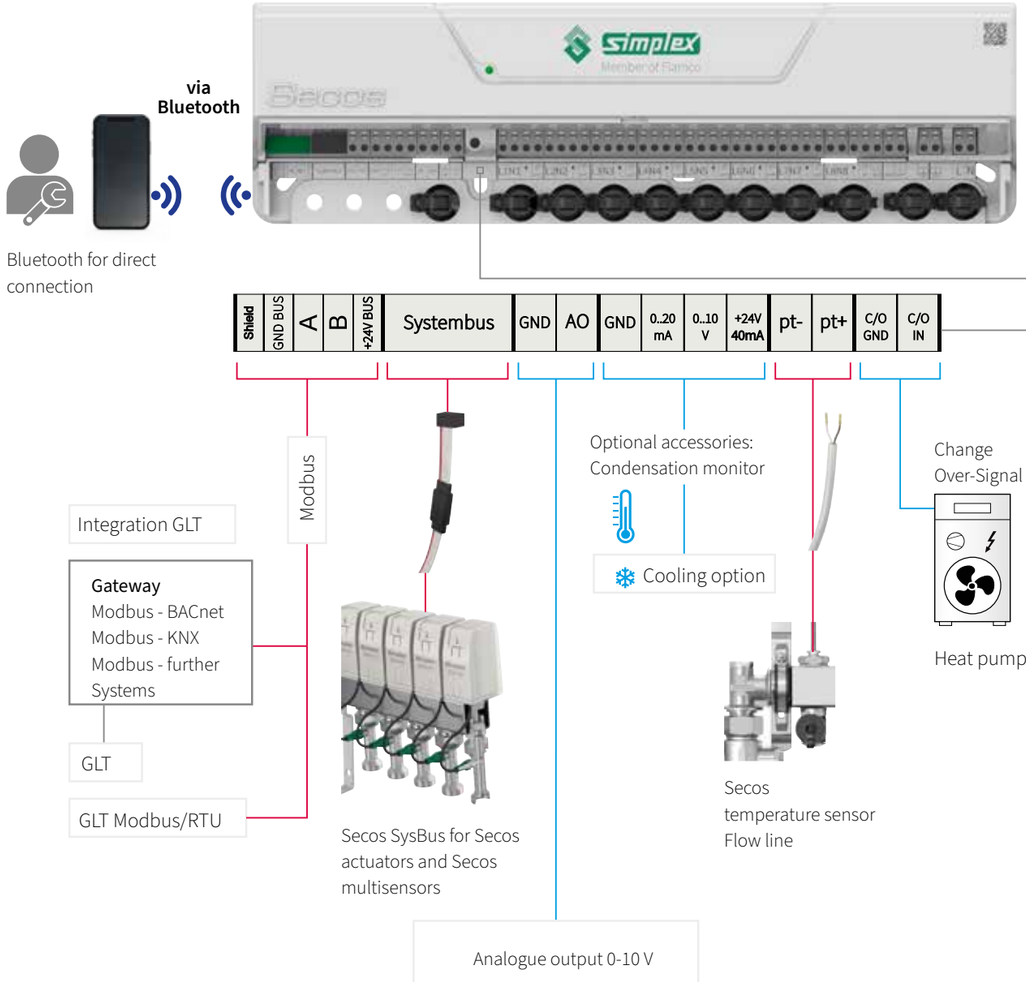
The following functions can easily be launched or changed using the app:

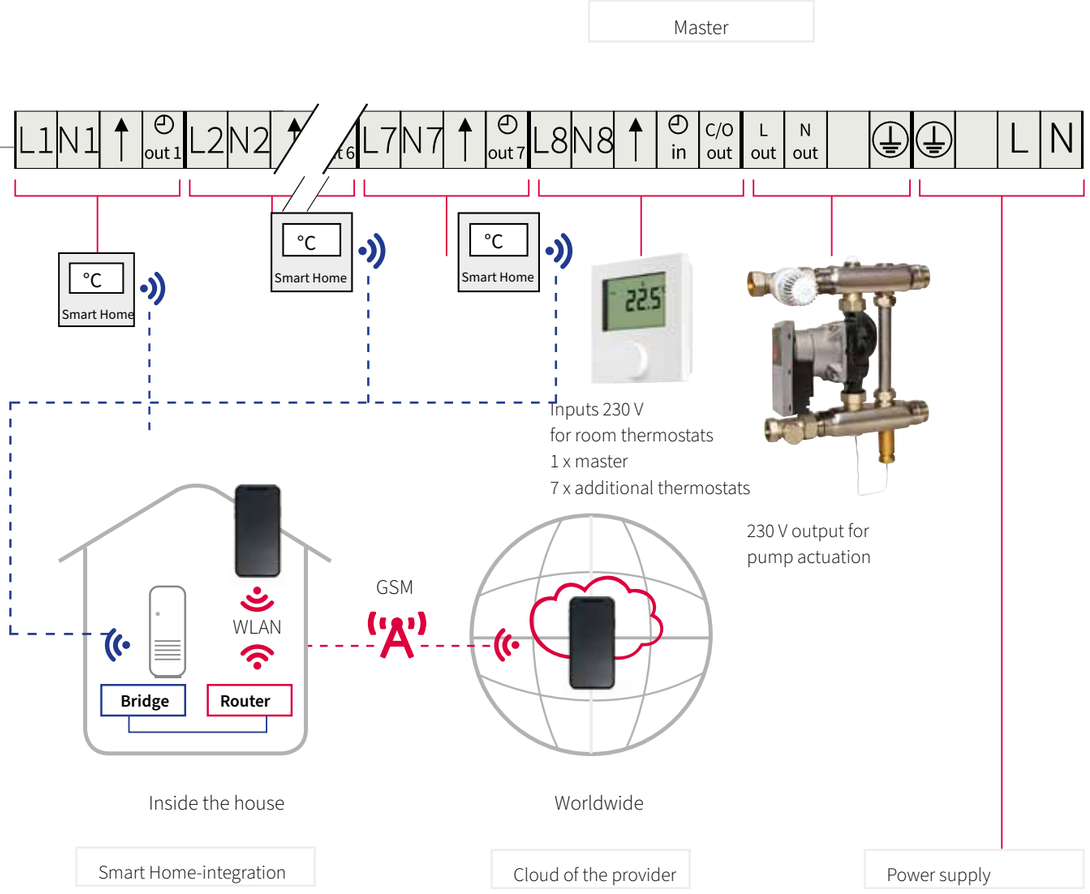
- Automatic flushing and-bleeding function
- Spaces without room thermostat function
- Monitoring of external-heat sources
- Floor temperature control function
- Flow line temperature limit

Simplex Secos

Interfaces and electrical connections

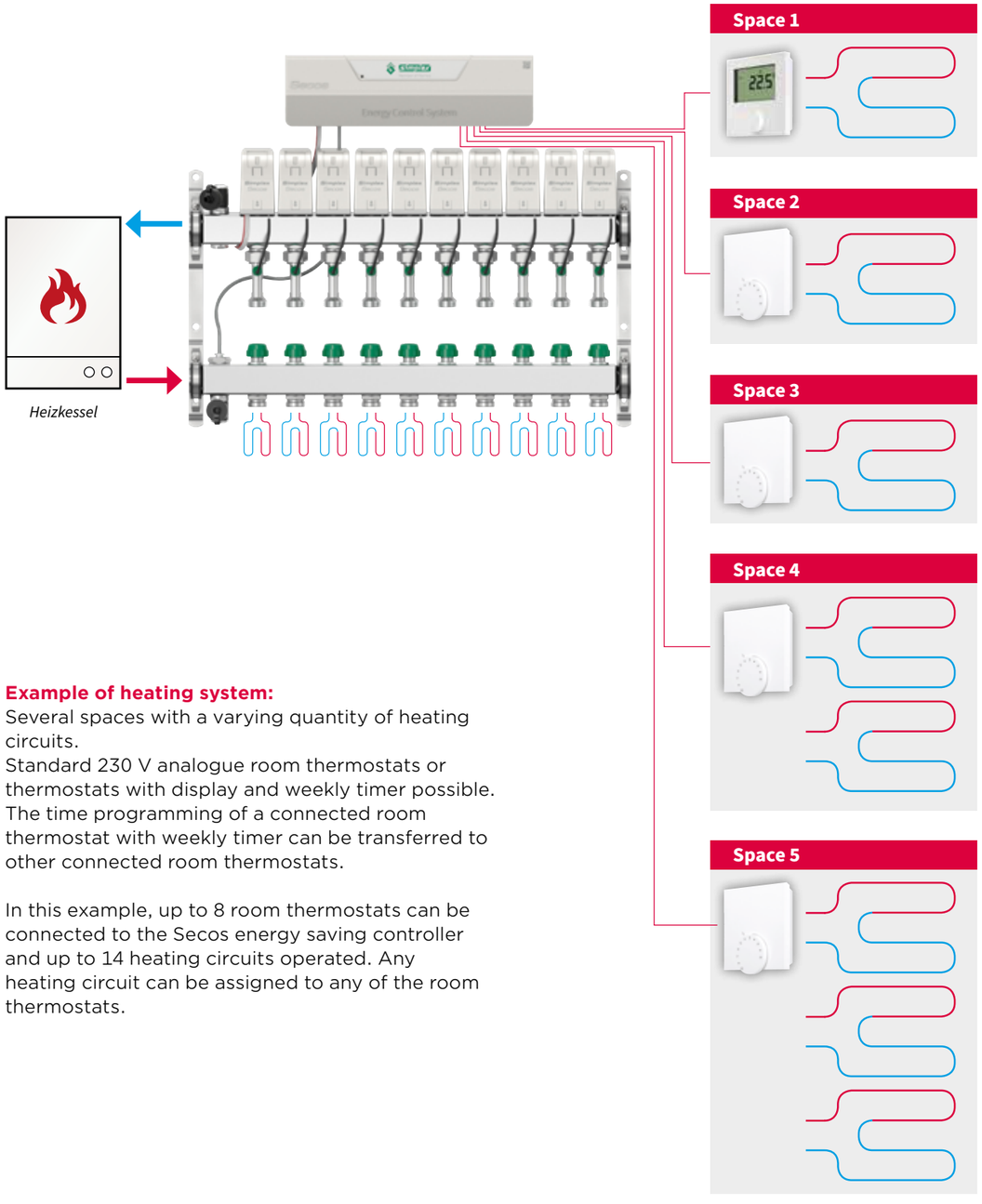
Clamp configuration / Interfaces





Application examples

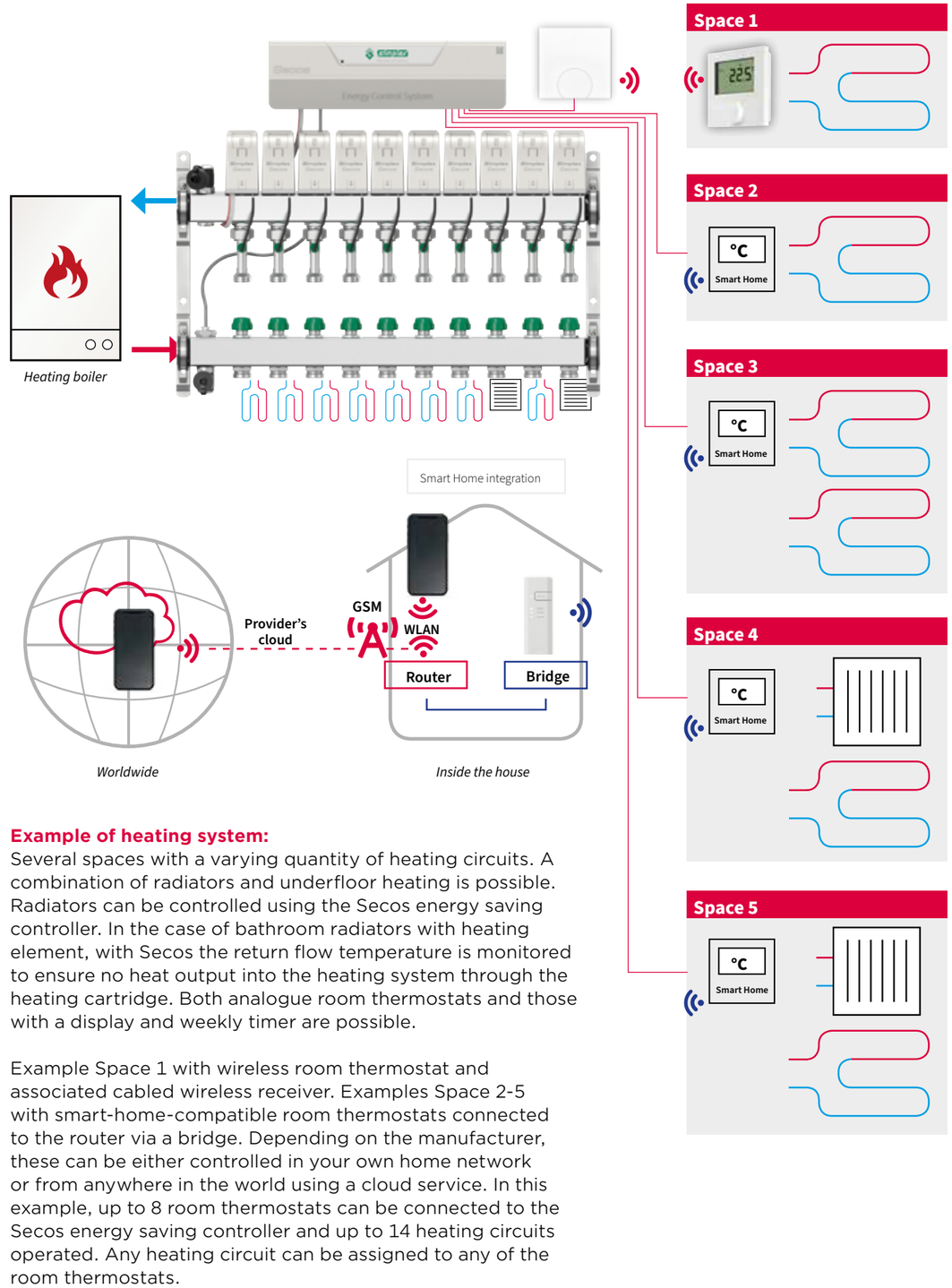
Heating application



Example of heating system:
Several spaces with a varying quantity of heating circuits.
Standard 230 V analogue room thermostats or thermostats with display and weekly timer possible. The time programming of a connected room thermostat with weekly timer can be transferred to other connected room thermostats.

In this example, up to 8 room thermostats can be connected to the Secos energy saving controller and up to 14 heating circuits operated. Any heating circuit can be assigned to any of the room thermostats.

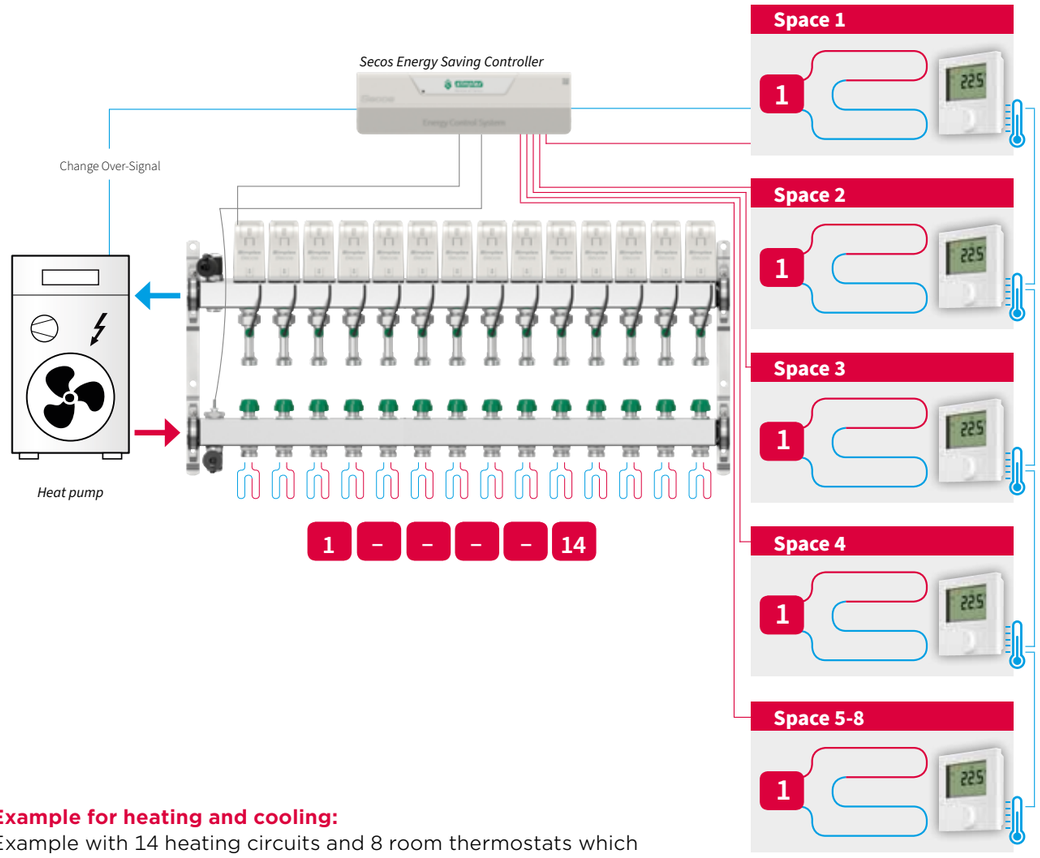
Heating application - with smart home integration



Example of heating system:
Several spaces with a varying quantity of heating circuits. A combination of radiators and underfloor heating is possible. Radiators can be controlled using the Secos energy saving controller. In the case of bathroom radiators with heating element, with Secos the return flow temperature is monitored to ensure no heat output into the heating system through the heating cartridge. Both analogue room thermostats and those with a display and weekly timer are possible.

Example Space 1 with wireless room thermostat and associated cabled wireless receiver. Examples Space 2-5 with smart-home-compatible room thermostats connected to the router via a bridge. Depending on the manufacturer, these can be either controlled in your own home network or from anywhere in the world using a cloud service. In this example, up to 8 room thermostats can be connected to the Secos energy saving controller and up to 14 heating circuits operated. Any heating circuit can be assigned to any of the room thermostats.

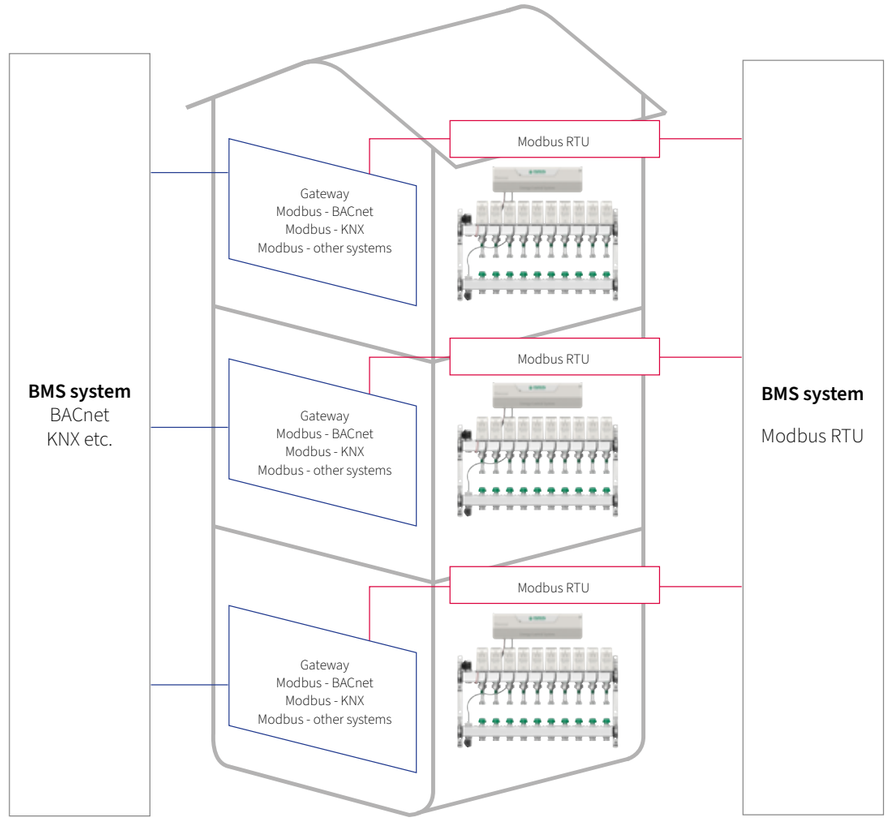
Application Heating and cooling



Example for heating and cooling:
Example with 14 heating circuits and 8 room thermostats which can be freely assigned. Both analogue room thermostats and those with a display and weekly timer are possible. The heating zones are supplied and controlled by the Secos energy-saving control system.

The change-over signal required for cooling mode comes from external sources and is simply connected to the energy-saving control. In addition, at least one condensation monitor must be integrated for cooling mode. Several condensation monitors can also be connected in series to the Secos energy-saving control.

Use of Secos in building management system (BMS)



Example of system for integration into a building management system (BMS):
Example with three floors in which the Secos system is connected to a building management system. This building management system can be used to retrieve and process information or warnings at a central point. Integration into this kind of system requires a BUS language. With Secos we provide an interface for communication with the system Modbus RTU. This can be directly connected with the corresponding Modbus RTU building management (illustration right).

With the aid of gateways which function as translators, this interface is compatible with all standard Bus systems such as KNX, BACnet etc. (Illustration left).

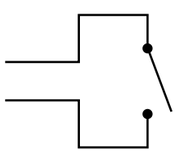
Room thermostat accessories

In general, standard 230 V-room thermostats with twin-point or PWM* output can be used with Simplex Secos. Room thermostats provided by the customer with 230-V output signals, such as room thermostats fitted beneath plaster from your switch series can also be operated using Secos

	Analogue	Komfort	Control	Room thermostat wireless device with display	Wireless base station 1-channel
Part No.	**F18585**	**F18594**	**F18635**	**F18091**	**F18090**
Configuration and functions				 +	
Flat design & compact dimensions (86 x 86 mm)	●	●	●	●	
Easy to operate with rotary knob with lock-in position	●	–	–	–	
Easy to operate with rotary knob with push/turn function and lock-in position	–	●	●	●	
Clear, language-neutral display	–	●	●	●	
Background illumination for display	–	●	●	●	
User-friendly menu	–	●	●	●	
Heating and cooling connected with Secos	●	●	●	●	
Heating and cooling connected with other controllers	–	●	●	●	
Display of switching output	–	●	●	●	
Adjustable set-back temperature	–	●	●	●	
Internal weekly timer	–	–	●	●	
Smart start/stop function	–	–	●	●	
Timer output (set-back output to be forwarded to set-back input of other room thermostats)	–	–	●	●	
Wireless 868 MHz	–	–	–	●	
Set-back input	●	●	–	–	

Smart home room thermostats

As far as the use of room thermostats is concerned, the system offers a great deal of flexibility. When it comes to the design, price and configuration of your smart home room thermostats, you have complete freedom of choice.



Room thermostat with cabled output for your heating requirement

You are not tied to any single manufacturer.
The large and ever increasing number of smart home room thermostats and the various systems, designs and operating apps that go with them oblige Secos always to be up to date.
The single system requirement is this: The smart home room thermostat provided by the customer requires connecting clamps for a cabled 230-V switched output.

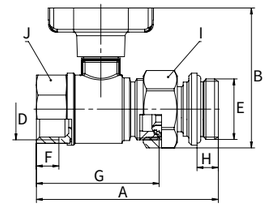
Accessories Installation connection

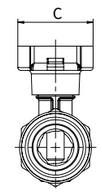
Manifold connection kit, horizontal

For Simplex manifold the kit consists of:
2 ball valves with straight threaded connection with O-ring seal, T-handles and thermometer can be retrofitted.

- Nickel-plated brass components
- Sealing materials: EPDM
- Max. operational temperature: 110°C
- Max. operating pressure: 10 bar







Type	Connection D	Connection E		Part No.
Manifold connection kit, H, horizontal	G 1" F	G 1" M	1	F14022

Dimensions

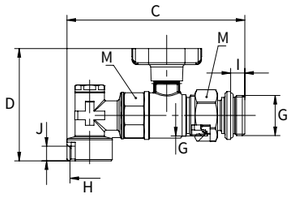
Type	Dimensions [mm] A	B	C	F	G	H	I (SW)	J (SW)
Manifold connection kit, H, horizontal	99	76	41	12,2	67	11,5	37	37

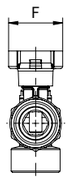
Manifold connection kit, vertical

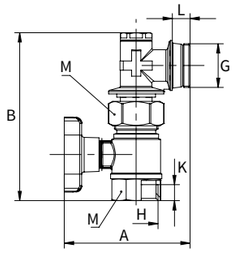
For Simplex manifolds, the kit consists of:
2 ball valves with threaded connection, with 0-ring seal, T-handles and thermometer can be retrofitted,
2 pcs. x 90 angle connection brackets with self-sealing thread for vertically mounting the manifold supply lines.

- Nickel-plated brass components
- Sealing materials: EPDM
- Max. operational temperature: 110 °C
- Max. operating pressure: 10 bar











Type	Connection H	Connection G		Part No.
Manifold connection kit, V, vertical	G 1″ F	G 1″ M	1	F14023

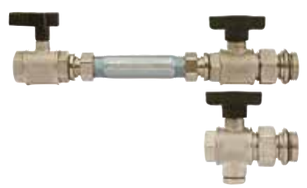
Dimensions

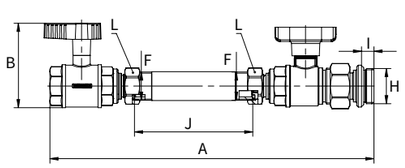
Type	Dimensions [mm] A	B	C	D	E	F	I	J	K	L	M (SW)
Manifold connection kit, V, vertical	96	128	145	92	42	41	11,5	12	12,2	13,5	37

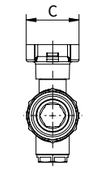
Universal heat meter attachment kit, horizontal

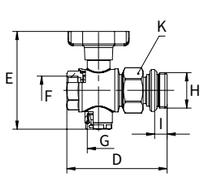
For Simplex manifold, the kit consists of:
3 ball valves with threaded connection with 0-ring seal, T-handles and thermometer can be retrofitted,
1 pcs. heat meter adapter 110 mm, G1″ for manifold bar, ball valves G3/4″ F, for heat meters up to 1,5 m^3/h.
The connection of the flow temperature sensor is located in the ball. This makes the heat meter easy to replace.
Connection of 1/2″ and M10x1 sensors are possible.

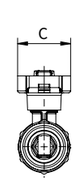
- Nickel-plated brass components
- Sealing materials: EPDM
- Max. operational temperature: 110 °C
- Max. operating pressure: 10 bar











Type	Connection F	Connection G	Connection H		Part No.
Universal heat meter attachment kit, H, horizontal	G 3/4″ F	G 1/2″ F und M 10 x 1 F	G 1″ M	1	F14030

Dimensions

Type	Dimensions [mm] A	B	C	D	E	I	J	K (SW)	L (SW)
Universal heat meter attachment kit, H, horizontal	301,5	78,5	41	93	91	11,5	110	37	30

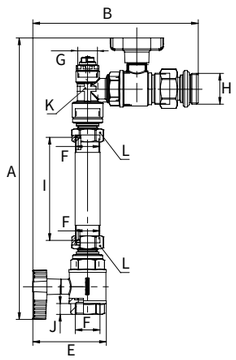
Heat meter attachment kit, universal, vertical

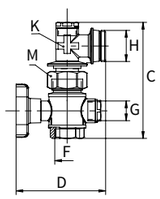
For Simplex manifolds, consisting of:
3 pcs. ball valves with screw connection with O-ring seal, T-handles, thermometer can be retrofitted,
2 pcs. 90° angle connection with self-sealing thread for vertically mounting the manifold supply lines,
1 pc. heat meter adapter piece 110 mm, G 1″ M for manifold bar, ball valves G 3/4″ F, for heat meters up to 1.5 m³/h.The connection of the flow temperature sensor is located in the ball. This makes the heat meter easy to replace.
Connection of 1/2 "and M10x1 sensors are possible.

- Nickel-plated brass components
- Sealing materials: EPDM
- Max. operational temperature: 110 °C

- Max. operating pressure: 10 bar







Type	Connections F	G	H		Part No.
Heat meter attachment kit, V, vertical	G 3/4″ F	G 1/2″ F und M 10 x 1 F	G 1″ M	1	F14031

Dimensions

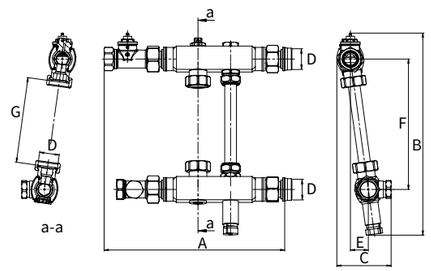
Type	Dimensions [mm] A	B	C	D	E	I	J	K (SW)	L (SW)	M (SW)
Heat meter attachment kit, V, vertical	301	177	124	96	78,5	110	11,5	27	30	37

Fixed set-point controller set F36 with contact sensor

Compact control station of the flow line temperature of surface heating systems up to 15 kW heating requirement, assembleddirectly to the heating circuit manifold. The connection can occur on the right or left of the manifold. The low installation depth of the unit makes it possible to install in standard manifold boxes.
The controller set consisting of:
Fixed set-point controller set, pump including connection cable, thermostatic head with contact sensor, heat conducting base, straight wall bracket.

- Components made of stainless steel
- Sealing materials: EPDM
- Max. operating temperature: 90 °C
- Max. operating pressure: 10 bar





Type	Pump	DN	Connections		Part No.
FWR-T WILO	WILO high efficiency	DN 20	G 1″ F	1	F18772
FWR-T GF	GRUNDFOS high efficiency	DN 20	G 1″ F	1	F18773

Dimensions

Type	Dimensions [mm] A	B	C	E	F	G
FWR-T WILO/GF	277	310	83	28	200	130

Accessories for manifold cabinets

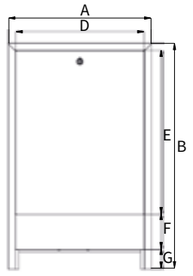
EXCLUSIV manifold cabinet, wall-mounted

For Simplex manifolds. Characteristics:
- Made of galvanized steel, powder-coated RAL 9016 (traffic white)
- Smooth side parts
- Supply and return connections below
- Manifold mounting rail
- Clip rail for control module bar
- Pipe deflection rail
- Packed in a box
- Easy to assemble due to removable front cover

Attention: cabinets can't be supplied by parcel service!

» Other sizes on request!







Typ	Dimensions [mm] A	B	C	D	E	F	G		Part No.
Cabinet E-AP - 450	450	710	140	406	516	110	62	1	F18550
Cabinet E-AP - 550	550	710	140	506	516	110	62	1	F18551
Cabinet E-AP - 700	700	710	140	656	516	110	62	1	F18552
Cabinet E-AP - 850	850	710	140	806	516	110	62	1	F18553
Cabinet E-AP - 1000	1000	710	140	956	516	110	62	1	F18554
Cabinet E-AP - 1200	1200	710	140	1156	516	110	62	1	F18555

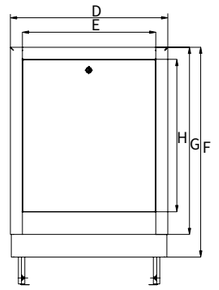
EXCLUSIV manifold cabinet, flush-mounted

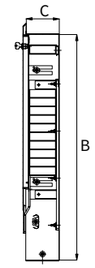
For Simplex manifolds. Characteristics:
- Made of galvanized steel, powder-coated RAL 9016 (traffic white)
- Edge bending at an angle of 45
- Supply and return connections optionally the left, right or below
- Manifold mounting rail
- Front flap with key lock
- Clip rail for control module bar
- Pipe deflection rail
- Packed in a box
- Easy to assemble due to removable front cover

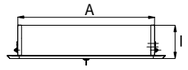
Attention: cabinets can't be supplied by parcel service!

» Other sizes on request!







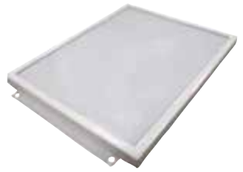


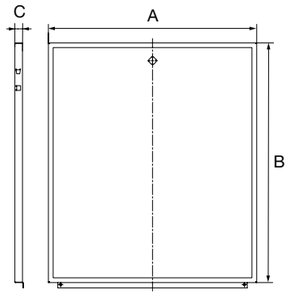
Type	Dimensions [mm] A	B	C	D	E	F	G	H	I		Part No.
Cabinet E-UP - 450	450	750 - 850	110 - 165	522	442	639 - 695	620	505	120 - 175	1	F18556
Cabinet E-UP - 550	550	750 - 850	110 - 165	622	542	639 - 695	620	505	120 - 175	1	F18557
Cabinet E-UP - 700	700	750 - 850	110 - 165	772	682	639 - 695	620	505	120 - 175	1	F18558
Cabinet E-UP - 850	850	750 - 850	110 - 165	922	842	639 - 695	620	505	120 - 175	1	F18559
Cabinet E-UP - 1000	1000	750 - 850	110 - 165	1072	992	639 - 695	620	505	120 - 175	1	F18560
Cabinet E-UP - 1200	1200	750 - 850	110 - 165	1272	1192	639 - 695	620	505	120 - 175	1	F18561
Problem solver / Flat design for thin walls											
Cabinet P-UP - 450	450	750 - 850	80 - 120	522	442	639 - 695	620	505	90 - 130	1	F18070
Cabinet P-UP - 550	550	750 - 850	80 - 120	622	542	639 - 695	620	505	90 - 130	1	F18071
Cabinet P-UP - 700	700	750 - 850	80 - 120	772	682	639 - 695	620	505	90 - 130	1	F18072
Cabinet P-UP - 850	850	750 - 850	80 - 120	922	842	639 - 695	620	505	90 - 130	1	F18073
Cabinet P-UP - 1000	1000	750 - 850	80 - 120	1072	992	639 - 695	620	505	90 - 130	1	F18074
Cabinet P-UP - 1200	1200	750 - 850	80 - 120	1272	1192	639 - 695	620	505	90 - 130	1	F18075

Plastic door for flush-mounted manifold cabinet

For retrofitting for the EXCLUSIV distribution cabinets and problem solvers, for external radio reading

- Components made of plastic



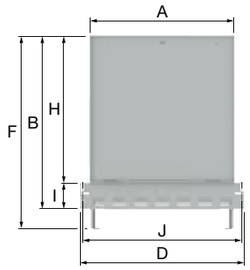


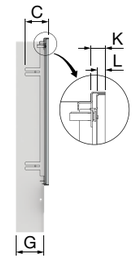
Type	Suitable for	Dimensions [mm] A	B	C		Part No.
Door cabinet - 450	flush-mounted 450 mm	438	504	16	1	F18076
Door cabinet - 550	flush-mounted 550 mm	538	504	16	1	F18077
Door cabinet - 700	flush-mounted 700 mm	688	504	16	1	F18078
Door cabinet - 850	flush-mounted 850 mm	838	504	16	1	F18079
Door cabinet - 1000	flush-mounted 1000 mm	988	504	16	1	F18080
Door cabinet - 1200	flush-mounted 1200 mm	1188	504	16	1	F18081

MYDESIGN cover for flush-mounted manifold cabinet

- Wall-mounted cover for individual design of the surface, suitable for Simplex manifolds cabinets of the series EXCLUSIV flush-mounted, can be integrated into any wall surface such as tiles, wallpaper, spatula technology and much more.
- Invisible opening thanks to "push-to-open" technology including safety chain.
- Preparation of the subsurface and installation the filler material is provided by the customer.Bauteile aus Stahlblech verzinkt













Type	Suitable for		Part No.
MYDESIGN cover - 450	flush-mounted EXCLUSIV 450 mm	1	F18543
MYDESIGN cover - 550	flush-mounted EXCLUSIV 550 mm	1	F18544
MYDESIGN cover - 700	flush-mounted EXCLUSIV 700 mm	1	F18545
MYDESIGN cover - 850	flush-mounted EXCLUSIV 850 mm	1	F18546
MYDESIGN cover - 1000	flush-mounted EXCLUSIV 1000 mm	1	F18547

Choice of manifold cabinet

The choice of cabinet sizes depends on the number of heating circuits and the connection accessories.










Connection kit horizontal	Connection kit vertical	HFM kit horizontal[1]	HFM kit vertical[1]	Fixed set-point controller set[2]	Exclusiv Flush-mounted	Problem solver flush-mounted	Exclusiv Wall-mounted
Number of heating circuits per Secos system manifold					Part No.	Part No.	Part No.
4	4	–	4	–	Type / Width 550 mm		
5	5	–	5	–	F18557	F18071	F18551
6	6	–	6	–	Type / Width 700 mm		
7	7	4	7	4	F18558	F18072	F18552
8	8	5	8	5			
9	9	6	9	6	Type / Width 850 mm		
10	10	7	10	7	F18559	F18073	F18553
11	11	8	11	8			
12	12	9	12	9	Type / Width 1000 mm		
13	13	10	13	10	F18560	F18074	F18554
14	14	11	14	11			
–	–	12	–	12	Type / Width 1200 mm		
–	–	13	–	13	F18561	F18075	F18555
–	–	14	–	14			

[1] Minimum depth 85 mm required
[2] Minimum depth 95 mm required

Product configurator for Secos system

Project name _____ Name _____

Construction project _____ Address _____

Company _____ Tel./ E-mail _____

Secos Starter Package		for up to 8 room thermostats	Part No.	
Comprising: - Secos system manifold - Secos energy saving controller - Secos actuators	Secos Energy Control System, 4 circuits	✓	F18804	☐
	Secos Energy Control System, 5 circuits	✓	F18805	☐
	Secos Energy Control System, 6 circuits	✓	F18806	☐
	Secos Energy Control System, 7 circuits	✓	F18807	☐
	Secos Energy Control System, 8 circuits	✓	F18808	☐
	Secos Energy Control System, 9 circuits	✓	F18809	☐
	Secos Energy Control System, 10 circuits	✓	F18810	☐
	Secos Energy Control System, 11 circuits	✓	F18811	☐
	Secos Energy Control System, 12 circuits	✓	F18812	☐
	Secos Energy Control System, 13 circuits	✓	F18813	☐
	Secos Energy Control System, 14 circuits		F18814	☐

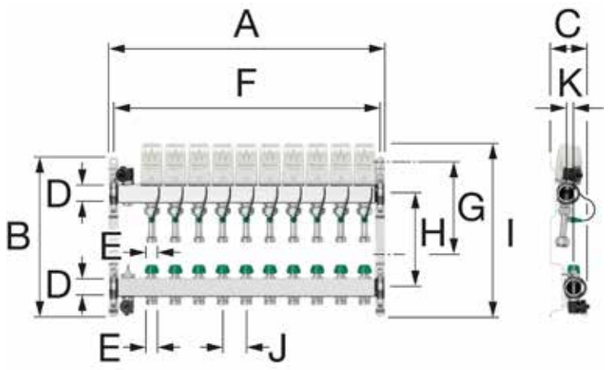
Accessories for controller	Comment	Part No.	
Secos energy saving controller		F18840	☐
Secos Systembus extension for 2m extension cable	Optional: To extend the connection cable if you are intending to increase the distance from the Secos energy saving controller to the Secos system manifold.	F18854	☐
Room thermostat analogue with rotary controller		F18585	___ Pcs.
Comfort room thermostat with display		F18594	___ Pcs.
Room thermostat control with display and weekly timer		F18635	___ Pcs.
Room thermostat wireless device with display	One receiving base station is required for each wireless room thermostat	F18091	___ Pcs.
Wireless 1-channel base station	Please order as well if you have a room thermostat wireless device with display.	F18090	___ Pcs.
Secos condensation monitor	For cooling applications: Two or more condensation monitor can be added for the decentralised monitoring.	F18855	___ Pcs.

Accessories for connection	Part No.	
Connector set horizontal	F14022	☐
Connector set vertical	F14023	☐
Heat flow meter adapter kit horizontal	F14030	☐
Heat flow meter adapter kit vertical	F14031	☐
Festwertregelset	On request	☐

Cabinet accessories* Type / Width	Exclusiv flush-mounted		Problem solver flush-mounted		Exclusiv wall-mounted	
550	F18557	☐	F18071	☐	F18551	☐
700	F18558	☐	F18072	☐	F18552	☐
850	F18559	☐	F18073	☐	F18553	☐
1000	F18560	☐	F18074	☐	F18554	☐
1200	F18561	☐	F18565	☐	F18555	☐

*When it comes to choosing the right manifold cabinet in combination with your connection accessories, the table on p. 34 will be very helpful in your decision-making process. For more info www.aalberts-hfc.com.

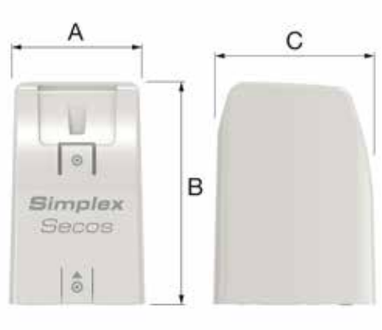
Dimensions



Type	A	B	C	D	E	F	G	H	I	J	K	Part No.
VT FH Secos – 4 HK	308					284						F18804
VT FH Secos – 5 HK	358					334						F18805
VT FH Secos – 6 HK	408					384						F18806
VT FH Secos – 7 HK	458					434						F18807
VT FH Secos – 8 HK	508					484						F18808
VT FH Secos – 9 HK	558	340	78	G 1 i	G ¾ a (EK)	534	197	200	366	50	15	F18809
VT FH Secos – 10 HK	608					584						F18810
VT FH Secos – 11 HK	658					634						F18811
VT FH Secos – 12 HK	708					684						F18812
VT FH Secos – 13 HK	758					734						F18813
VT FH Secos – 14 HK	808					784						F18814



A	B	C
328	97	61



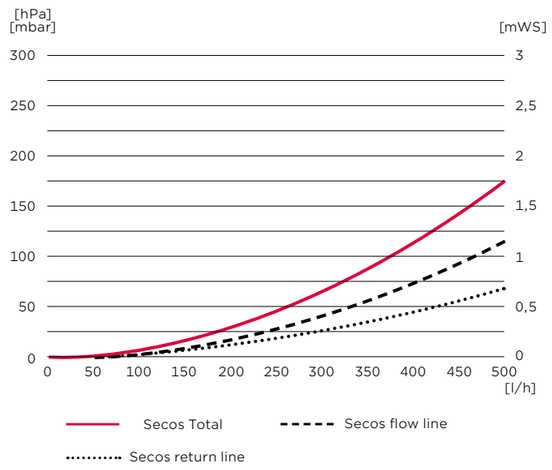
A	B	C
47	77	57

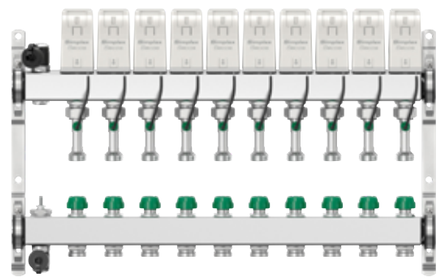


Technical data

Technical Data Secos	
Max. operating temperature	95 °C
Max. operating pressure	10 bar
Pressure loss in system manifold including flow and return line	kvs 1,19 m³/h
Flow rate per heating circuit	0 – 8 l/min
Operating medium	Heating water according to VDI 2035
Primary connections	G1"i
Secondary connections	G3/4"a Eurokonus
Number of heating circuits	4 – 14 heating circuits
Number of operable heating circuits per control zone	1 – 14 heating circuits
Number of connectable room thermostats	up to 8 (1 x master, 7 others)
Power supply to room thermostat interfaces	230V~ (± 10 %) / 50 – 60 Hz
Output for pump connection	230V~ (± 10 %) / 50 – 60 Hz
Supply voltage	230V~ (± 10 %) / 50 – 60 Hz
Interface for BCT	Modbus/RTU
Changeover (C/O)	Potential-free input

Pressure loss



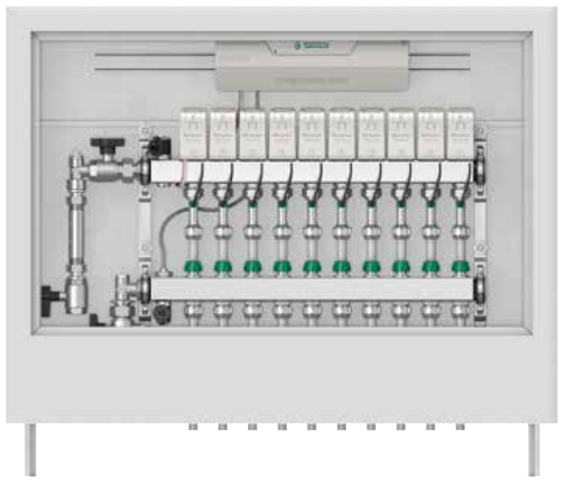




FAQ

Get your planning done now and get controlling

Secos, the unique innovative energy control system is the control system for indoor space temperature control that you've long been waiting for.



At a glance:

- Automatic dynamic hydraulic balancing.
- Up to 25% energy savings.
- Long service life thanks to wear-free ceramic disc valves.
- Interfaces to building management and smart home systems.

1. Whas is Secos?
Secos stands for Simplex Energy Control System and is a highly innovative control system for temperature control in indoor spaces.

2. How does Secos work?
Constant flow rate recording and temperature measurements in every heating circuit allow the recorded values to be directly and optimally adjusted for hydraulic balancing.

3. How do I commission the system?
When the Secos energy saving controller is connected to the "Flamconnect" app for the first time, the Commissioning menu is launched automatically. You will then conveniently be guided step by step through the required input fields

4. Are other settings required?
The hydraulic balancing starts to work as soon as you enter the above-mentioned values. You can however also change the settings retrospectively and set the additional functions to supplement the main ones.

5. Can I use standard room thermostats?
Secos is very flexible and can be used with all 230-V thermostats which emit an analogue signal such as twin-point or PWM signal.

6. Do the valves ever stick?
No, the design and materials used in the ceramic disc valves are mean that the valves have a long service life and remain reliable. In addition, any longer periods during which individual valves do not move are identified and the valves concerned actuated at periodic intervals.

7. How sensitive are the Secos multisensors?
The Secos multisensors contain no moving parts. They are thus wear-free and will continue to function even with contaminated heating water.

8. What happens in the event of a defect or a breakdown?
In this case, the Secos energy saving controller will emit a warning signal. You can then conveniently use the smart phone or tablet which was used to connect to the Secos energy saving controller via the Flamconnect app to make a detailed analysis.

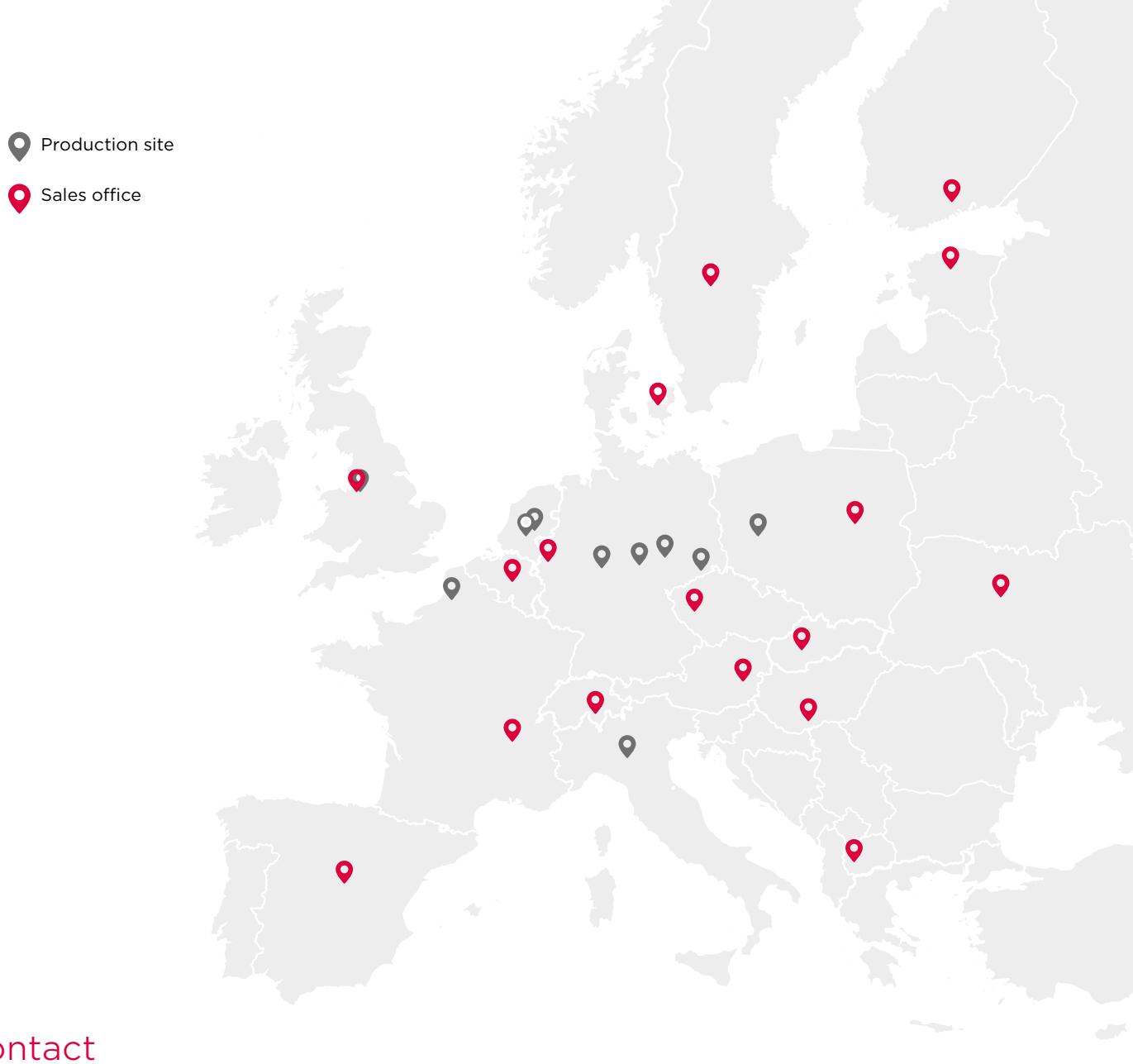
9. How does flushing take place?
There is an automatic flushing programme which can conveniently be launched using the Flamconnect app once, for instance, a flushing station has been attached. The automatic flushing programme flushes the heating circuits separately and autonomously until a reliably constant flow rate has been detected by the Secos multisensors.

10. Can I also isolate heating circuits without using the Secos actuators?
Yes, you can manually open or close the Secos disc valves in the flow and return lines.

11. Is Secos compatible with other laying systems?
Secos is compatiblw with all standard underfloor heating laying systems such as stapler, castellated-, hook and loop, dry lining, substrate and renovation systems.

12. Can any kind of underfloor heating pipe be used??
All kinds of underfloor heating pipe can be used. These are connected with Euro cone clamp screws to the Secos system manifold.

13. Why enter heating and cooling load separately?
Secos can control different flows for cooling and heating. Others have to use 6-way valves or other pump settings to achieve the same result.



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