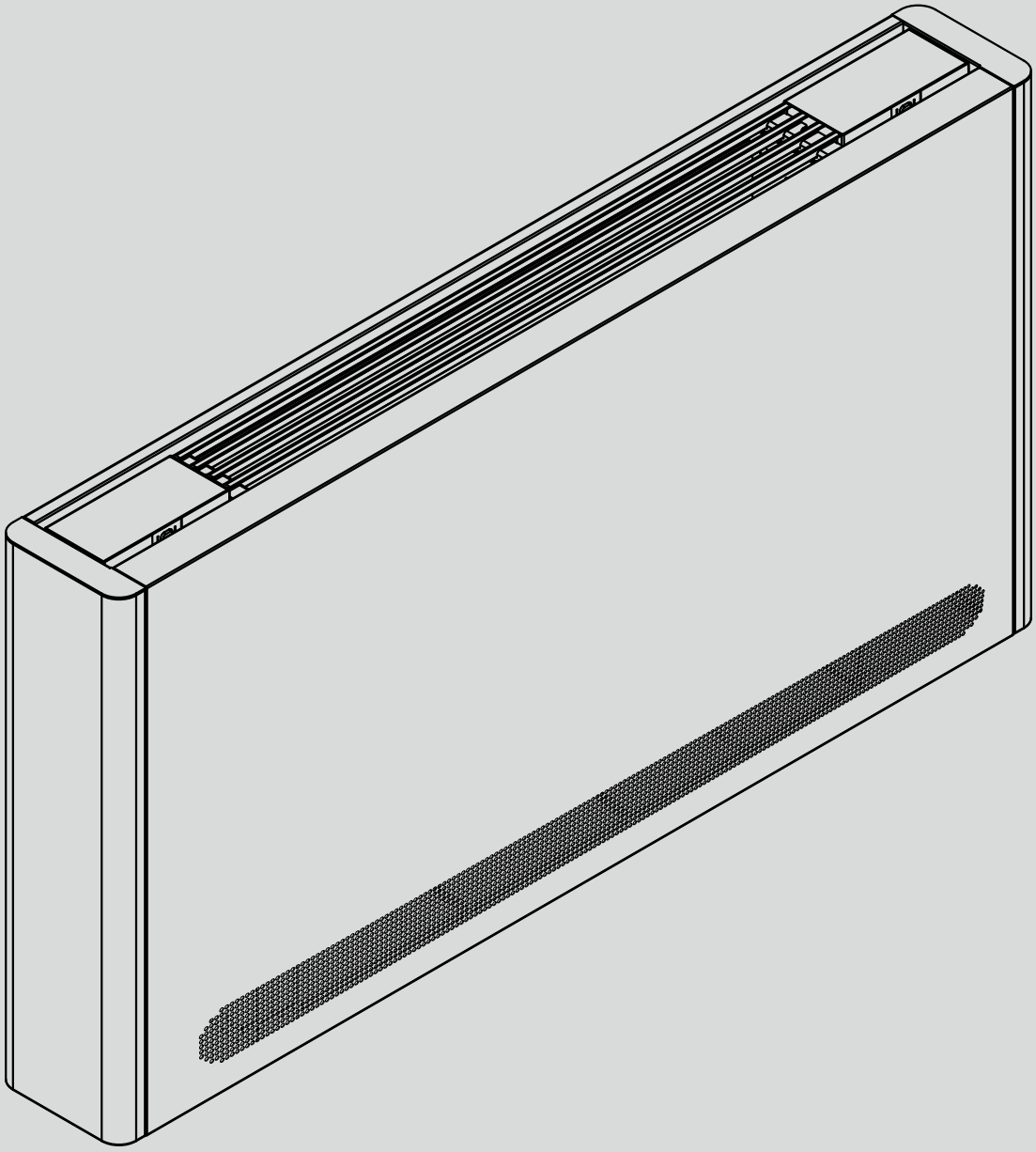
Engineering progress
Enhancing lives



RAUCLIMATE Silent Breeze Low Wall

EN Installation and user manual

REHAU | Building Solutions

Contents

01 Information and safety instructions

Read these instructions thoroughly and completely before you start working with the fan coil. Keep this document for the entire lifetime of the machine and pass it on to subsequent users. To view and download the current version of these and other guides, see **www.rehau.com/TI**

Pictograms and logos

Electric voltage! Danger to life

Safety instructions

Legal notice

Important information

Further informationions can be found on the internet, for example

Currentness of manual
To ensure your safety and the proper use of our products, please regularly check whether a more recent version of the manual is available. The publication date of your manual is always found on the bottom right of the cover page. The latest version of the manual is available from your REHAU sales office, specialist wholesaler or it can be downloaded via the Internet at **www.rehau.com/TI**

- This instruction manual forms an integral part of the device and therefore must be carefully preserved and must always travel with it, even if you transfer the device to another owner or relocate it to other premises. If the manual gets damaged or lost, download a copyfrom the website.
- Read this manual carefully before proceeding with any operation and follow the instructions in the individual chapters.

- The manufacturer is not responsible for damages to persons or property caused by failure to follow the instructions in this manual.
- This document is restricted in use to the terms of the law and may not be copied or transferred to third parties without the express authorization of the manufacturer.

Safety sign
Every effort has been made in the design and manufacture of the machine to eliminate risks. The system is marked with the following safety signs, which must be observed:

Caution: electrical danger
The concerned personnel is informed to the presence of electricity and the risk of suffering an electric shock.

General information
These instructions and the documents supplied are intended to enable the installer to correctly install and commission the machine without endangering persons or causing damage to the device.
They also enable the subsequent user to use the unit and to clean the filter safely and correctly. We recommend that the following be observed for all activities related to the operation and maintenance of the machine:

- Activities to be carried out only by suitably qualified persons who must apply safe working practices and use the appropriate personal protective equipment for the task in hand.
- Activities to be carried out only by appropriately instructed and trained persons who have read and understood these instructions, the technical information and the safety instructions.
- Access to the machine must be denied to persons who are not appropriately trained or competent.
- The electrical installation may only be carried out by a qualified electrician. The electrical installation must be carried out in accordance with the applicable national regulations as well as the regulations of your local electricity supplier.

Working clothes
Wear safety glasses, appropriate working clothes, antistatic safety shoes with non-slip soles, gloves, a protective helmet and, if you have long hair, a hairnet. Do not wear loose-fitting clothing or jewellery, as they may become caught in moving parts.
When performing work at head-height or above the head, wear a protective helmet.

General warnings

- Specific warnings are given in each chapter of the document and must be read before starting operations.
- All personnel involved must be aware of the operations and dangers that may arise when beginning all unit installation operations.
- Installation performed outside the warnings provided in this manual and use of the appliance outside the prescribed temperature limits will invalidate the warranty.
- The installation and maintenance of climate control equipment could be dangerous because there is live electrical components inside the appliances. The installation, initial start-up and subsequent maintenance phases must be carried out exclusively by authorised and qualified personnel.
- Any contractual or extra-contractual liability for damage caused to persons, animals or property, due to installation, adjustment and maintenance errors or improper use is excluded. All uses not expressly indicated in this manual are not permitted.
- Only qualified installer companies are authorised to install the device.
- First start-up and repair or maintenance operations must be carried out by the Technical Assistance Centre or by qualified personnel following the provisions of this manual.
- Do not make any changes or tamper with the unit as this may lead to dangerous situations.
- Use suitable accident-prevention clothing and equipment during installation and/or maintenance operations. The manufacturer is not liable for the non-observance of the current safety and accident prevention regulations.
- In case of water leaks, turn the master switch of the system to "OFF" and close the water taps. As soon as possible, call the REHAU technical service department or else professionally qualified personnel and do not intervene personally on the appliance.
- In case of replacement of parts, use only original parts.

- The manufacturer reserves the right to make changes to its models at any time to improve its product, with out prejudice to the essential characteristics described in this manual. The manufacturer is not obliged to add such modifications to machines previously manufactured, already delivered or under construction.
- If the appliance is not used for a long period of time, the following operations should be performed:
  - Turn the master switch of the system to "OFF"
  - Close the water taps
  - If there is the risk of freezing, make sure that anti-freeze has been added to the system otherwise empty the system.
- If the room temperature is too low or too high it is damaging for the health and is also a useless waste of energy.
- Avoid prolonged contact with the direct air flow.
- Do not leave the room closed for long periods. Periodically open the windows to ensure a correct change of air.
- Danger from burns – take care when touching.

Fundamental rules of security

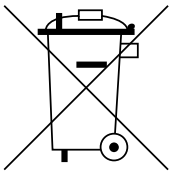
Attention: danger to life!
Please keep in mind that the use of products powered by electricity and water requires compliance with certain basic safety rules:

- This unit is not intended to be used by persons (including children) with restricted physical, sensory or mental skills or who lack experience or knowledge.
- Ensure that children do not play with this product.
- It is forbidden to touch the device with wet or damp body parts.
- It is forbidden to carry out any operation before disconnecting the appliance from the power supply by setting the plant master switch to „off".
- lt is forbidden to modify the safety or adjustment devices or adjust without authorization and indications of the manufacturer.
- It is forbidden to pull, unplug, twist, cut or knot the device's electric cables, even if it is disconnected from the mains.
- lt is forbidden to poke objects and substances through the air inlet and outlet grilles.
- It is forbidden to open the access doors of the device' internal parts without first having set main switch of the system to" off".
- It is forbidden to dispose of, or leave in the reach of children, the packaging materials which could become a source of danger.

⚠

- It is forbidden to climb on the unit or place objects on it. It is prohibited to hang onto the unit or attach objects to it.
- The external parts of the appliance can reach temperatures of more than 70 °C.
- Interventions or modifications to the unit using tools may only be carried out by qualified service personnel.
- This machine has been designed and manufactured according to the strictest safety regulations. Nevertheless, no sharp objects (screwdrivers, needles or similar) may be inserted in the grilles or other unit openings.
- The unit must be connected to a power supply. An electrical disconnect must always be used to eliminate hazards during maintenance (electric shock, burns, automatic restart, moving parts and remote control).
- The unit must always be connected to the earth cable of the electrical system. Failure to comply with this regulation, as with all electrical equipment, is a cause of danger for which the manufacturer accepts no liability.
- All maintenance and cleaning work on the unit must be carried out in a de-energised state. Never remove or open any part of the unit without first disconnecting the power supply.

Disposal



The symbol on the product or its packaging indicates that the product must not be treated as normal household waste, but must be taken to the appropriate collection point for the recycling of electrical and electronic equipment. Proper disposal of this product avoids harm to humans and the environment and promotes the reuse of valuable raw materials. For more detailed information about the recycling of this product, contact your local city office, your household waste disposal service or the shop where you purchased the product. Illegal disposal of the product by the user involves the application of the administrative sanctions provided for by the regulations in force. This provision is only valid in the EU Member States.

⚠

- Avoid disassembling the unit yourself.
- Contact an authorised Technical Assistance Centre to disassemble the appliance.

CE conformity

The fan coils described in this manual complies with the essential requirements of the following European directives:

- Electrical safety for low-voltage applications 2014/35/EU
- Electromagnetic compatibility 2014/30/EU
- RoHS directive 2011/65/EU

Further information

Documents such as the technical information, manuals and declarations of conformity for REHAU fan coil units RAUCLIMATE Silent Breeze and accessories can be downloaded here:

or use the link:
www.rehau.com/qr/08c9b3ec70

02 Product presentation

02.01 Destination of use

These appliances have been designed for conditioning and/or heating rooms and they must be destined solely for this purpose, in accordance with their performance characteristics.

02.02 Description of the appliance

Fan coils RAUCLIMATE Silent Breeze Low Wall are designed for installation in the lower part of the wall in closed residential.

There are five sizes with different cooling or heating capacity available. For each size, the fan coil is available with hydraulic connections on the right or left side.

RAUCLIMATE Silent Breeze Low Wall fan coils can only be controlled by the REHAU control system NEA SMART 2.0. They are connected to the SYSBUS. The end user can operate the fan coils in three ways:
- NEA SMART 2.0 Room unit
- NEA SMART 2.0 App
- NEA SMART 2.0 Room webpages

Components
The fan coil consists mainly of the following components
- filter
- fan
- air/water heat exchanger
- electronic box
- temperature probes
- white sheet metal housing

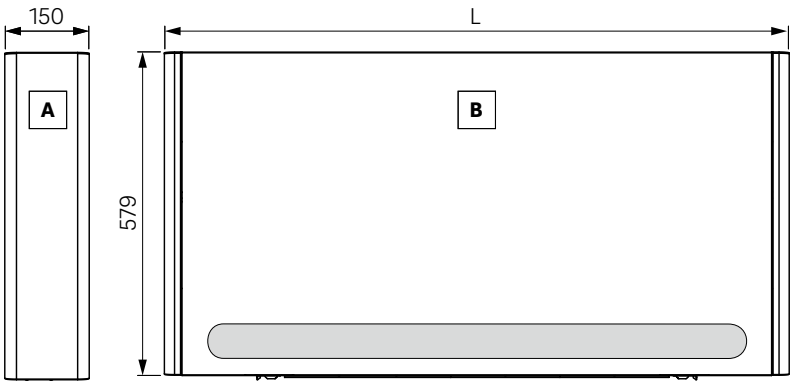
Principle of function
The air is drawn in by the fan in the lower part of the front of the fan coil unit, passes through the filter and is blown through the finned heat exchanger. Thereby, the air is cooled or heated by the water flow. Then the air is blown out into the room at the top of the unit.

In the case of cooling, the condensate produced is collected in a condensate tray and discharged through the drain pipe.

02.03 Models and dimensions

The RAUCLIMATE Silent Breeze Low Wall is available in 5 versions with the following dimensions. The technical data can be found in Chapter 7.

		Silent Breeze Low Wall				
Models		10	20	30	35	40
Total length L	mm	723	923	1123	1323	1523
Total height	mm	579	579	579	579	579
Total depth	mm	150	150	150	150	150
Net weigth	kg	17	20	23	26	29



A Lateral view
B Front view

03 Installation

03.01 General warnings

- The installation must be carried out by an electical skilled and plumbing skilled installer. There is a risk of water leakage, electric shock or fire if the installation is not performed correctly.
- During the installation, it is necessary to observe the precautions mentioned in this manual, and on the labels placed inside the equipment, as well as to adopt any precaution suggested by common sense and by the Safety Regulations in force in the place of installation.
- Be sure to use the supplied or specified installation parts. Use of other parts may cause the unit to come to lose, water leakage, electrical shock, or fire.
- Failure to apply the indicated rules may cause malfunctions of the appliances and relieves the manufacturer from any warranty and from any damage caused to persons, animals or property.

03.02 Packaging and scope of supply

Remove the packaging carefully, taking care not to damage the unit. Unpack and check that the contents are intact and that all parts are included. If not, contact the agent who sold the appliance to you.

Package description
The packaging is made of suitable material and carried out by experienced personnel. All units are checked and tested and are delivered complete and in perfect conditions. The appliance is shipped in standard packaging consisting of a cardboard sleeve and a set of expanded polystyrene protectors.

Dispose of the packaging products (wood, plastic, cardboard or polystyrene/Styrofoam) at specialised collection points or recycling centres in accordance with local regulations

03.03 Installation situation

Position of device must be established by the system designer or other qualified professional and must take into account both technical requirements and any local laws in force.

Avoid installing the unit:
- in positions subject to exposure to direct sunlight
- in proximity to sources of heat
- in damp areas or places with probable contact with
- water
- in places with oil fumes
- in places subject to high frequency radio waves

Make sure that:
- the wall on which the unit is to be installed is strong enough to support the weight
- the part of the wall interested does not have pipes or electric wires passing through
- the interested wall is perfectly flat
- there is an area free of obstacles which could interfere with the inlet and outlet air flow
- the installation wall is preferably an outside perimeter wall to allow the discharge of the condensation outside

03.04 Installation of the unit

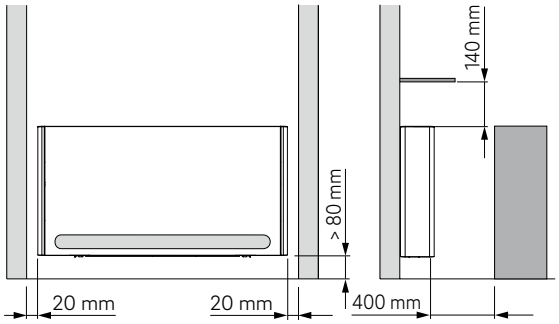
The assembly steps described below and their drawings refer to a version of the machine with hydraulic connections on the left side.

For ideal installation and performance levels, carefully follow the instructions in the manual.
- Failure to do so may cause system malfunctions and automatically voids the warranty, and relieves the constructor of any harm caused to person, animals or property.

03.04.01 Installation minimum distance

The figure below indicates the minimum mounting distances between the wall-mounted fan coil and furniture present in the room.

The Silent Breeze Low Wall fan coil has to be installed only in a low position on the wall, with a minimum distance to the floor of 80 mm.

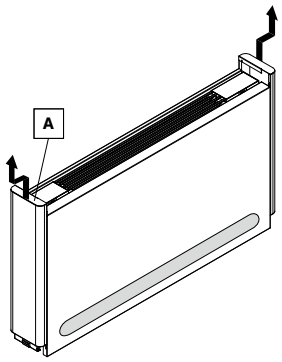


Make sure that there is sufficient space to allow the panels to be removed for routine and supplementary maintenance operations.

03.04.02 Device preparation

Before proceeding with the installation of the hydraulic connections, it is necessary to remove some elements from the appliance.

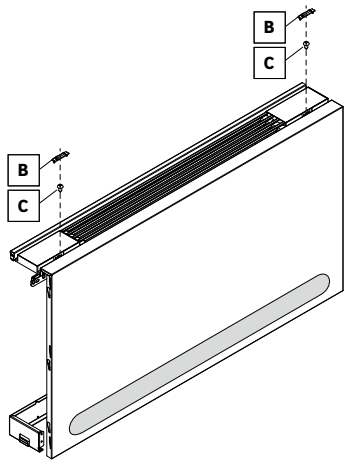
Remove the side panels
Remove the side panels by unthreading them upwards.



[A] Side panel

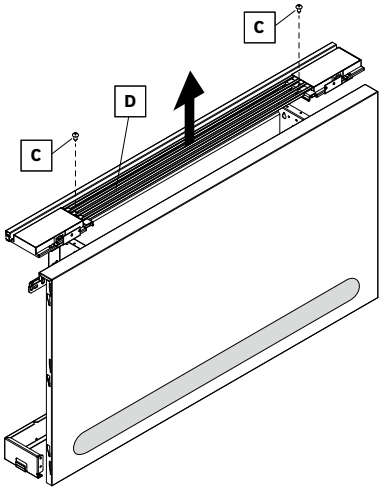
Remove the front panel (optional)
It could be necessary to remove the front panel to have more space to make the hydraulic connections. To remove the front panel, the following steps have to be done.

1. Remove plastic cover and screws
   The small plastic cover must be removed and then it is possible to unscrew the screws underneath.



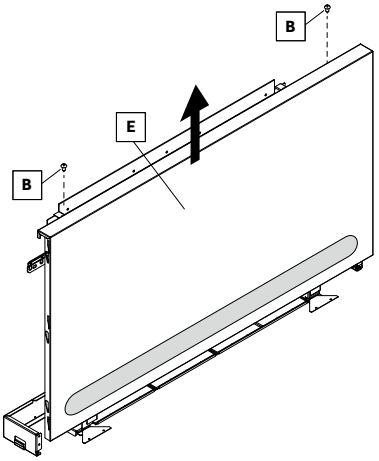
[B] Plastic cover
[C] Screw

2. Remove the grid on the top
   Unscrew the two top screws and remove the grid and the plastic covers.



[C] Screw
[D] Grid and plastic covers

3. Remove the front panel
   Now it is possible to unscrew the two screws of front panel and remove the panel.



[B] Screws
[E] Front panel

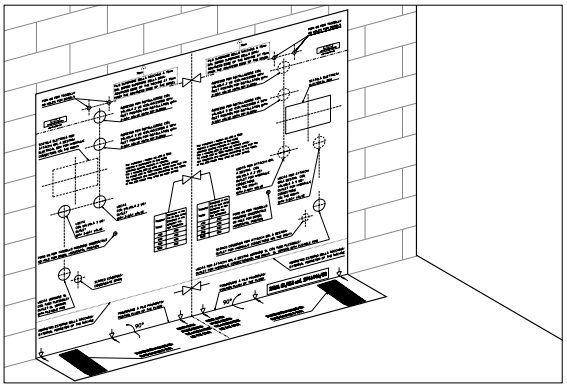
⚠

- Take care not to damage the heat exchanger when the front is removed.
- Before using the fan coil, all removed parts must be reassembled in reverse order.

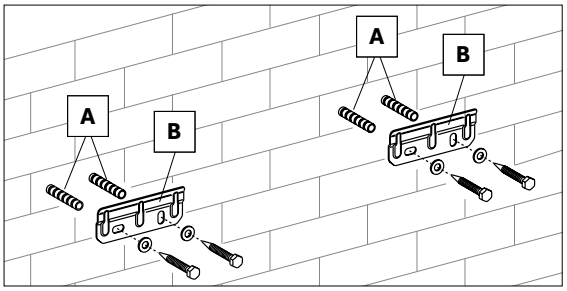
03.04.03 Positioning

When mounting on the floor with support feet, refer to the individual instructions leaflets supplied and the relative manual for the mounting of the feet.

Using the paper template, trace the position of the two fixing brackets on the wall.



Use a suitable drill to make the holes with and insert the dowels (2 for each bracket); fix the two brackets. Do not over-tighten the screws so that the brackets can be adjusted with a spirit level.

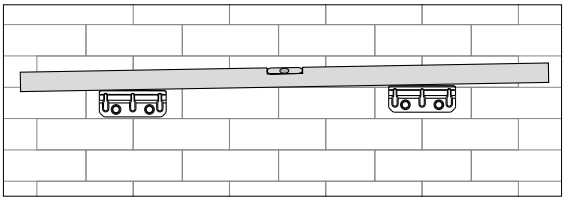


A 2 dowels for one bracket
B Bracket

In order to enable the condensate to flow, a slight incline in the direction of the condensate drain must be ensured. Use a spirit level to precisely align the bracket. Check the inclination towards the hydraulic connections side and fix the screws finally.

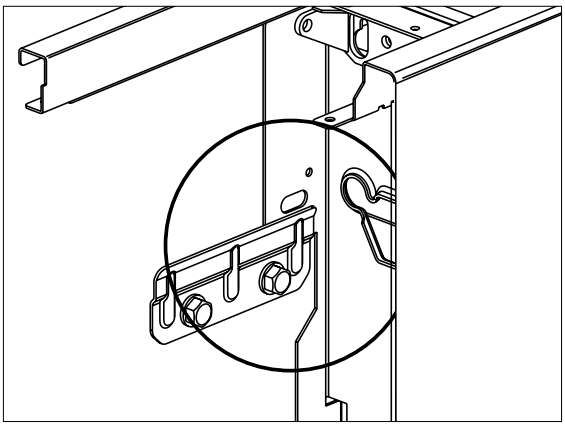
⚠

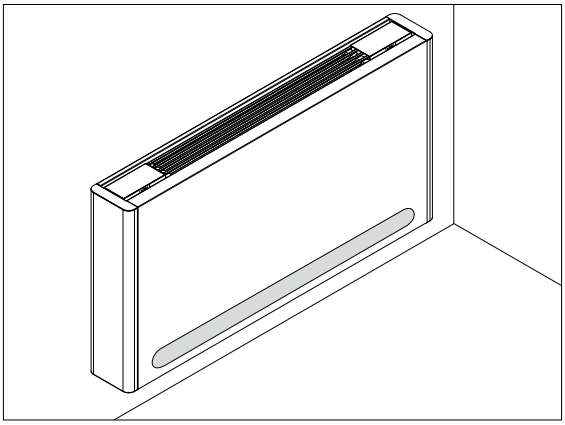
- The inclination must not exceed an angle of 1°.
- The images refer to a version of the appliance with the connection on the left. If the appliance has the hydraulic connections on the right side, the unit must have a inclination towards the right side.



Fully tighten the four screws to block the two brackets. Check the stability by manually moving the brackets to the right and to the left, up and down.

Mount the unit, checking that it fits correctly onto the brackets and checking that it is stable.

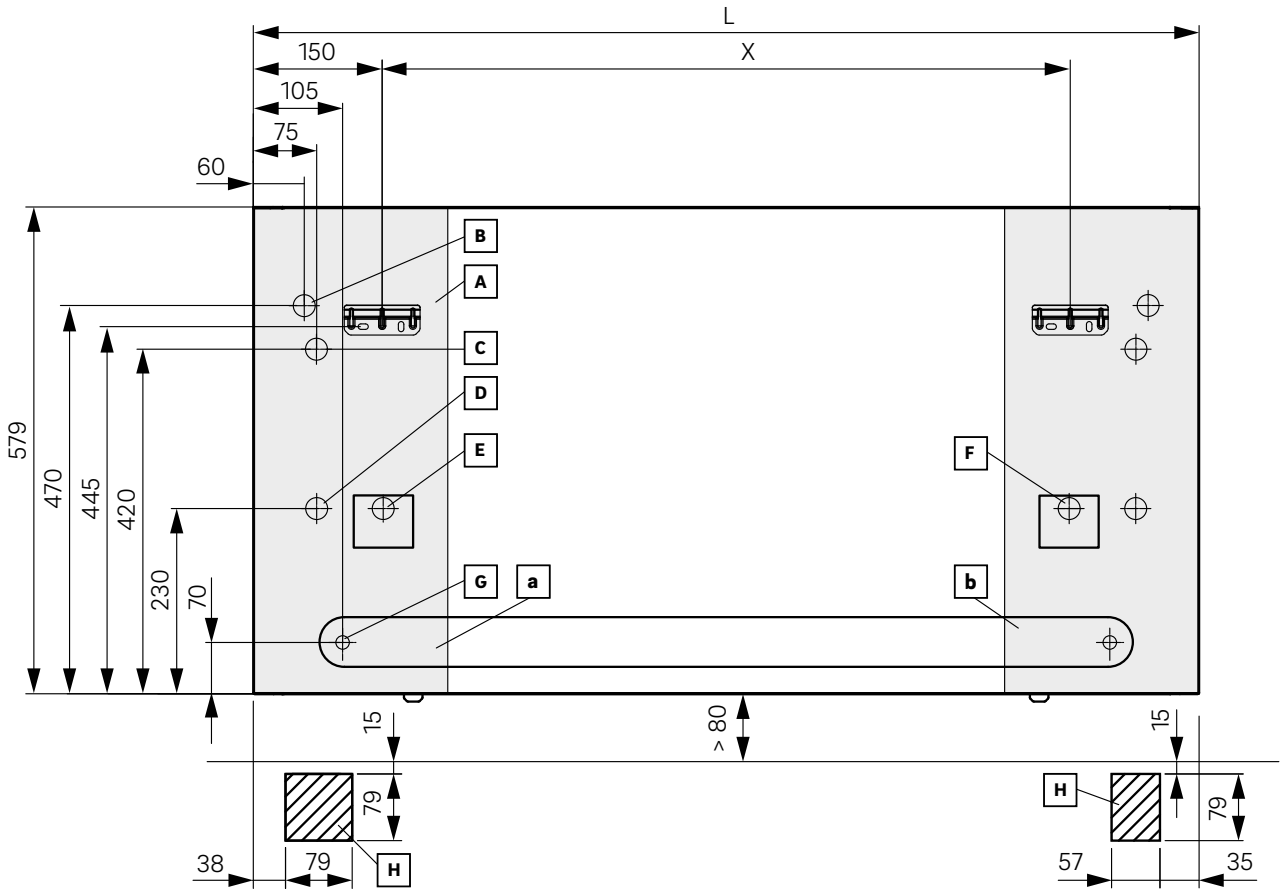




Distance drill holes

Depending on the chosen model of the RAUCLIMATE Silent Breeze Low Wall, the hydraulic connections can be on the left or right side (marked here in the picture, the hydraulic connections are on the left side). The associated electrical connections are then always on the opposite side.

- Hydraulic connection on the left, means electrical connection on the right
- Hydraulic connection on the right, means electrical connection on the left



a Area for hydraulic connection left
b Area for hydraulic connection right
A Bracket
B Inlet for 3-way valve (with accessory Spacer S)
C Inlet for 2-way valve (with accessories L Fitting 90° and Spacer)
D Outlet for 3-way valve
E Outlet for 2-way valve
F Electrical connection zone for hydraulic connectors (approx. 70 mm x 60 mm)
G Condensate drain
H Area for pipes when connected through the floor

		Silent Breeze Low Wall				
		10	**20**	**30**	**35**	**40**
Distance X	mm	414	614	814	1014	1214
Length L	mm	723	923	1123	1323	1523
Height	mm	579	579	579	579	579

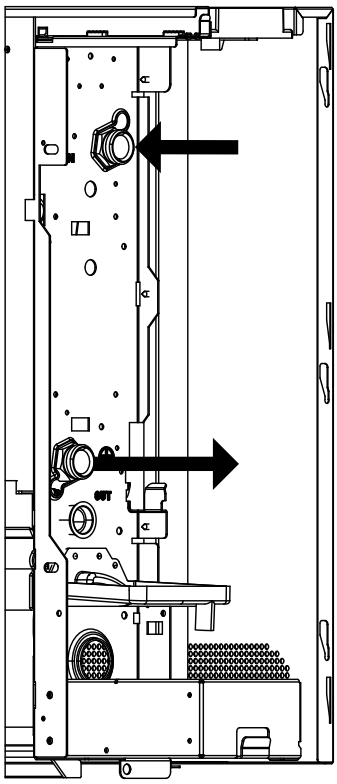
03.05 Hydraulic connections

The correct and suitable water lines and their sizes have to be chosen in accordance with good installation practices and the applicable law.

⚠

Undersized pipelines lead to poor system operation and/or a loss of thermal and cooling performance.

Position and dimensions



		Silent Breeze Low Wall				
		10	**20**	**30**	**35**	**40**
Pipelines minimum inner diameter d_{in}	mm	14	14	16	18	20

Connection to the system

To make the connections:

- hydraulic lines positioning
- use the "wrench against wrench" method
- tighten the connections
- check for leaks
- coat the connections with insulating material

⚠

- The hydraulic lines and fittings must be thermally insulated.
- Avoid partial insulation of the pipes.
- Avoid over-tightening the pipes to avoid damage to the insulation.
- Carefully check that the insulation is tight, in order to prevent the making and dripping of condensate.

Hydraulic accessories

The unit is supplied without a valve kit. The 2-way and 3-way valve kit can be ordered as accessory.

⚠

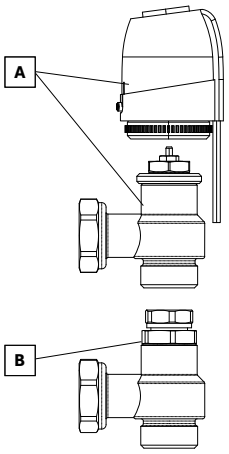
- The 2-way and 3-way valves with thermoelectric actuators are strongly recommended for the correct operation of the unit.
- The actuator does not have to be installed in the unit if a actuator is present at the manifold of the system and connected to the fan coil control board.

For the correct installation of the valve kits, refer to the installation manual of Silent Breeze Accessories.

Connection with 2-way valve and thermoelectric actuator

In case of choice for the 2-way valve and thermoelectric actuator:

- electrical connection are required
- connection of supply at the top, connection of return at the bottom

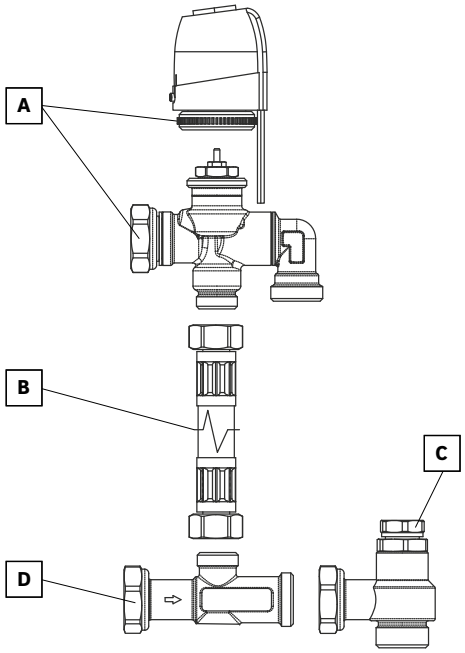


A 2-way valve with thermoelectric actuator
B Lockshield valve

Connection with 3-way diverting valve unit with thermoelectric actuator

In case of choice for the 3-way diverter valve kit with thermoelectric actuator:

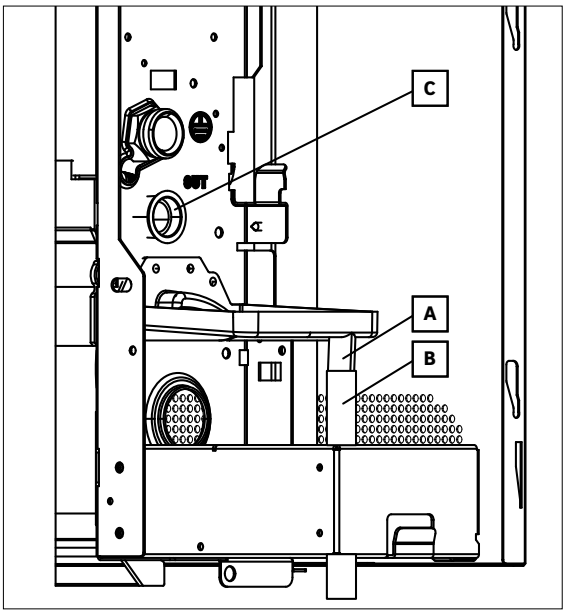
- electrical connection are required
- connection of supply at the top, connection of return at the bottom



A 3-way diverting valve with thermoelectric actuator
B Flexible connection tube
C Lockshield valve
D Outlet connection part

03.06 Condensation drain preparation

The appliance is equipped with a collection tray for the condensation water produced during operation, which must be channelled to a suitable place for drainage. The size and positioning of the drainage tube are shown below.



A Discharge fitting, Ø 14 mm
B Tube for the outflow of the liquid
C Extension drip

⚠

- If the line flows into a container (e.g. a tank), do not close the container hermetically and avoid immersing the draining pipe into the water.
- The hole for the condensation pipe must always slope towards the outside.
- The exact position in which to place the pipe mouth is indicated on the paper template.
- Check that the discharged water does not cause any damage or problems to people or objects. During winter, this water may create sheets of ice outside.
- When connecting the condensation drain, be careful not to squeeze the rubber duct.

Positioning

A rubber drainage tube has to be connected and should be led directly to a suitable place for dropping.

The slope of the pipe must not be less than 1 %. Fitting points must be insulated.

⚠

- Pay attention to the tilt of the condensate drain pipe.
- Use plastic drainage pipes.
- Avoid pipes made of metallic material.
- Make sure all joints are sealed to prevent leakage of water.
- Condensate drainage pipes must be insulated for both indoor and outdoor sections of the house to avoid condensation on the surface and/or freezing problems.

If using a container for collecting the condensate:
- Avoid the hermetic closure of the container.
- Prevent the end of the drainage tube from falling below the water level.

If draining into the sewage system:
- Make a siphon to prevent bad smells returning up the pipe towards the room. The curve of the siphon must be lower than the condensation collection tray.
- The siphon must be fitted with a cap at the bottom or must in any case allow quick disassembly for cleaning.
- Install a pump if the drain pipe is higher than the lower level of the tray.

⚠

If using an open drain:
- Make the condensate liquid flow directly onto a gutter or into a “white water” drain

Check

After the installation is completed:
- pour some water very slowly into the condensate tray
- check the right outflow

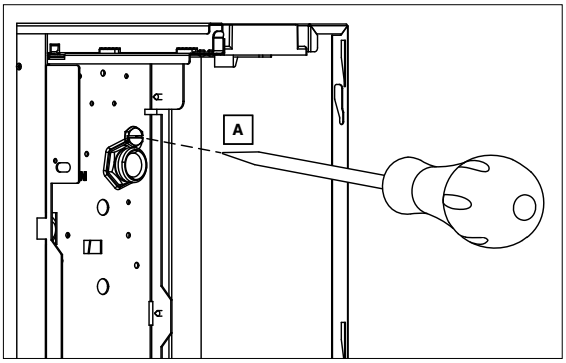
03.07 Filling the system

To fill the system:
- open the vent valves
- open all the system’s shut-off devices
- slowly open the water tap

When water begins to leak out of the vent valves:
- close the vent valves
- complete system filling
- verify that you have reached the nominal pressure for the system
- close the water tap
- check the tightness of the gaskets

⚠

- It is recommended to repeat this operation after the device has been running for a few hours.
- Regularly check the system’s pressure.



A Vent valve

03.08 Electrical connections

The electrical installation may only be carried out by a qualified electrician. The electrical installation must be carried out in accordance with the applicable national regulations as well as the regulations of your local electricity supplier.

The device is factory-wired and only needs to be connected to the power supply, to NEA SMART 2.0 via the SYSBUS and, if present, to the actuator of the accessory.

For the size of the cables and miniature circuit breakers, please use the table below.

		Silent Breeze Low Wall				
Models		**10**	**20**	**30**	**35**	**40**
SYSBUS NEA SMART 2.0		J-Y(ST)Y 2 x 2 x 0.8 mm				
Power supply[1)]		3 x 1.5 mm², rigid				
Miniature circuit breaker	A	2	2	2	2	2

[1)] The values indicated refer to a maximum cable length of 15 m.

The following must be ensured

- The electrical installation must be suitable for the operation of the connected devices in terms of electrical safety (protective conductor) and power consumption.
- The supply voltage and the mains frequency must match the data on the nameplate of the device
- The cables must be suitable for the type of installation according to the applicable IEC standards.
- The power supply must be protected against overload and short circuit.

It is required

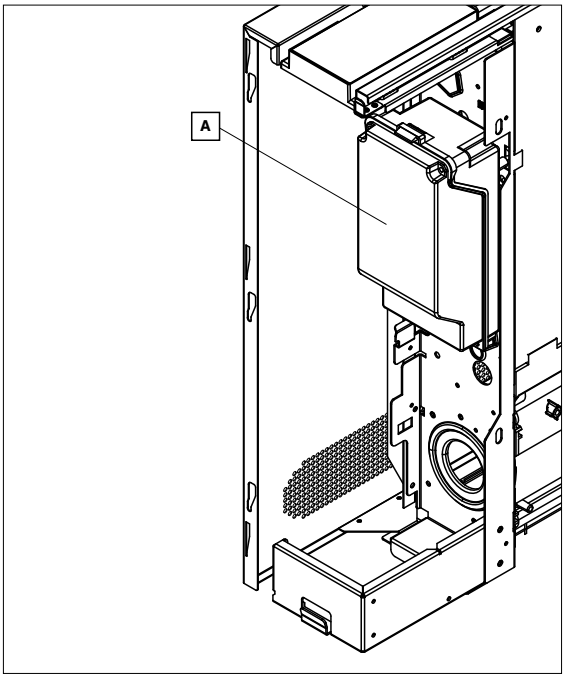
- The device must be connected to a standard-compliant protective grounding.
- To disconnect the device from the mains, either a main switch with a slow-blow fuse or a miniature circuit breaker must be used.

- The use of a residual current circuit breaker is mandatory.
- It is forbidden to use gas and water pipes for grounding the device.
- If you need to replace the power cord, consult a qualified electrician. The electrical installation must be carried out in accordance with the applicable national regulations as well as the regulations of your local electricity supplier.
- De-energize the appliance (e.g. via the main switch on the circuit, shutdown of the miniature circuit breaker, etc.) before making electrical connections or performing maintenance on the appliance.

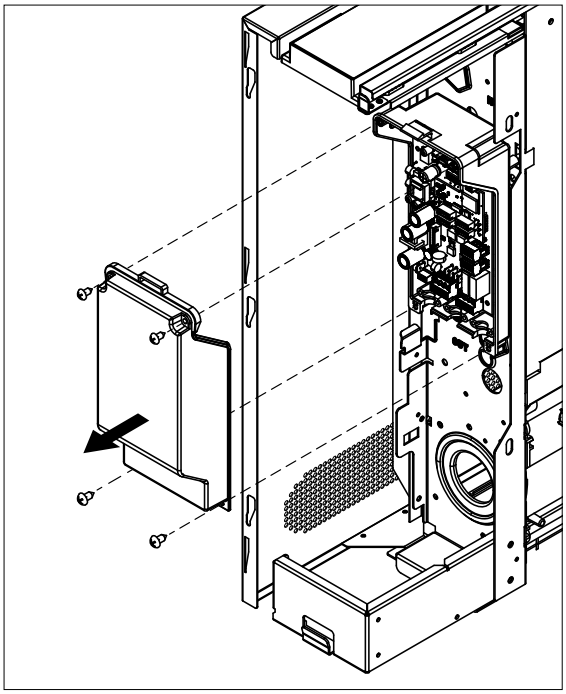
03.08.01 Access to the PCB

Before doing any work, make sure that the power supply is disconnected.

Remove the screws of the electronics box and open it as shown in the drawing.



A Terminal block for wiring



Route the cables for connecting the power supply and the system bus to the electronics box.

It is recommended to use flush-mounted cables for the electrical connection. The position can be found in the installation template.

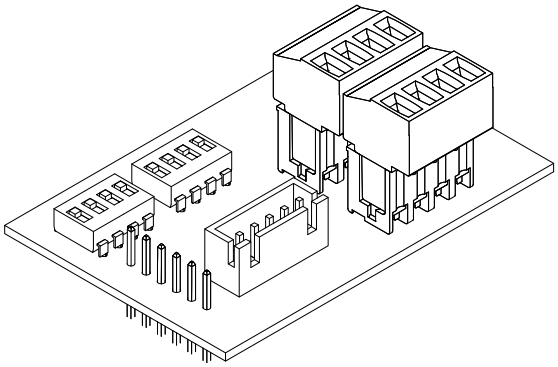
In any case, it is necessary to check whether the power supply is protected against overload and short circuit.

03.08.02 Integration into NEA SMART 2.0

Modulating RAUCLIMATE SILENT BREEZE Fan Coils are connected to the NEA SMART 2.0 system bus (SYSBUS) and controlled via it.

The RAUCLIMATE SILENT BREEZE Fan Coils must be clearly assigned to one of the NEA SMART 2.0 bases (Master, Slave 1, Slave 2, Slave 3 or Slave 4) and get a unique numbering within an assigned base.

The connection of the system bus (SYSBUS) and the assignment (addressing) is carried out via DIP switches on the so-called gateway PCB. The gateway PCB is a component of the main PCB of the fan coil.



Connection to system bus (SYSBUS)
Two 4-pin terminals labelled GND, 1, 2, VDC are available for connecting the system bus. One terminal is provided for the connection of the ingoing system bus. The second terminal allows the system bus to be easily looped through to other bus subscribers (bases, U-modules, RAUCLIMATE SILENT BREEZE fan coils).

⚠

- The polarity of the System Bus (SYSBUS) must be strictly followed.
- Swapping the polarity damages the devices connected to the system bus (SYSBUS) (bases, U-modules, RAUCLIMATE SILENT BREEZE fan coils)
- Systembus (SYSBUS):
  permissible topology: Line
  maximum length: 500 m

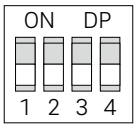
⚠

Make sure that the bus cables in the terminal box are routed directly to the pluggable terminal blocks and only stripped as far as is necessary for the connection.

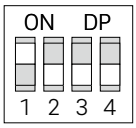
Connect the cable according to the electrical diagram using the provided pluggable terminal connectors, making sure that they are plugged in correctly.

Assignment (Addressing)
Assignment (addressing) is done via two 4-pin DIP switches labeled B_ADR and FC_ADR.

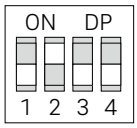
B_ADR: Assignment of the selected RAUCLIMATE SILENT BREEZE fan coil to the corresponding base (Master, Slave 1, Slave 2, Slave 3, or Slave 4).



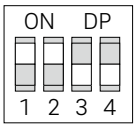
Base Master



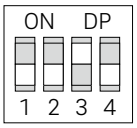
Base Slave 1



Base Slave 2

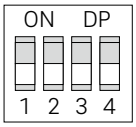


Base Slave 3

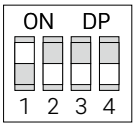


Base Slave 4

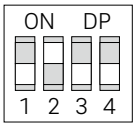
FC_ADR: Numbering (1 to 16) of the RAUCLIMATE SILENT BREEZE Fan Coil within an assigned base.



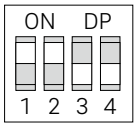
Fan Coil Nr. 1



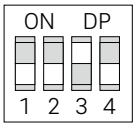
Fan Coil Nr. 2



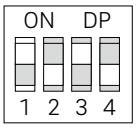
Fan Coil Nr. 3



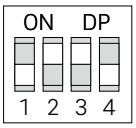
Fan Coil Nr. 4



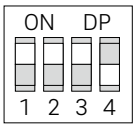
Fan Coil Nr. 5



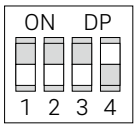
Fan Coil Nr. 6



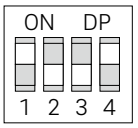
Fan Coil Nr. 7



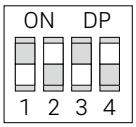
Fan Coil Nr. 8



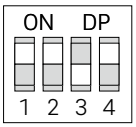
Fan Coil Nr. 9



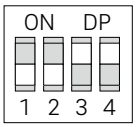
Fan Coil Nr. 10



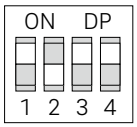
Fan Coil Nr. 11



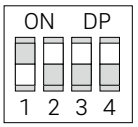
Fan Coil Nr. 12



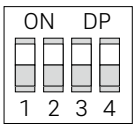
Fan Coil Nr. 13



Fan Coil Nr. 14



Fan Coil Nr. 15



Fan Coil Nr. 16

03.08.03 Connection of the actuator

The cable of the actuator of the associated RAUCLIMATE Silent Breeze accessory must be routed through the appropriate cable duct on the fan coil to the electronics box.

Make sure that the cable is laid and fastened properly and that the insulation of the cable is not damaged during installation.

Connect the cable to the PCB according to the electrical diagram using the pre-assembled connector.

03.08.04 Connection of the power supply

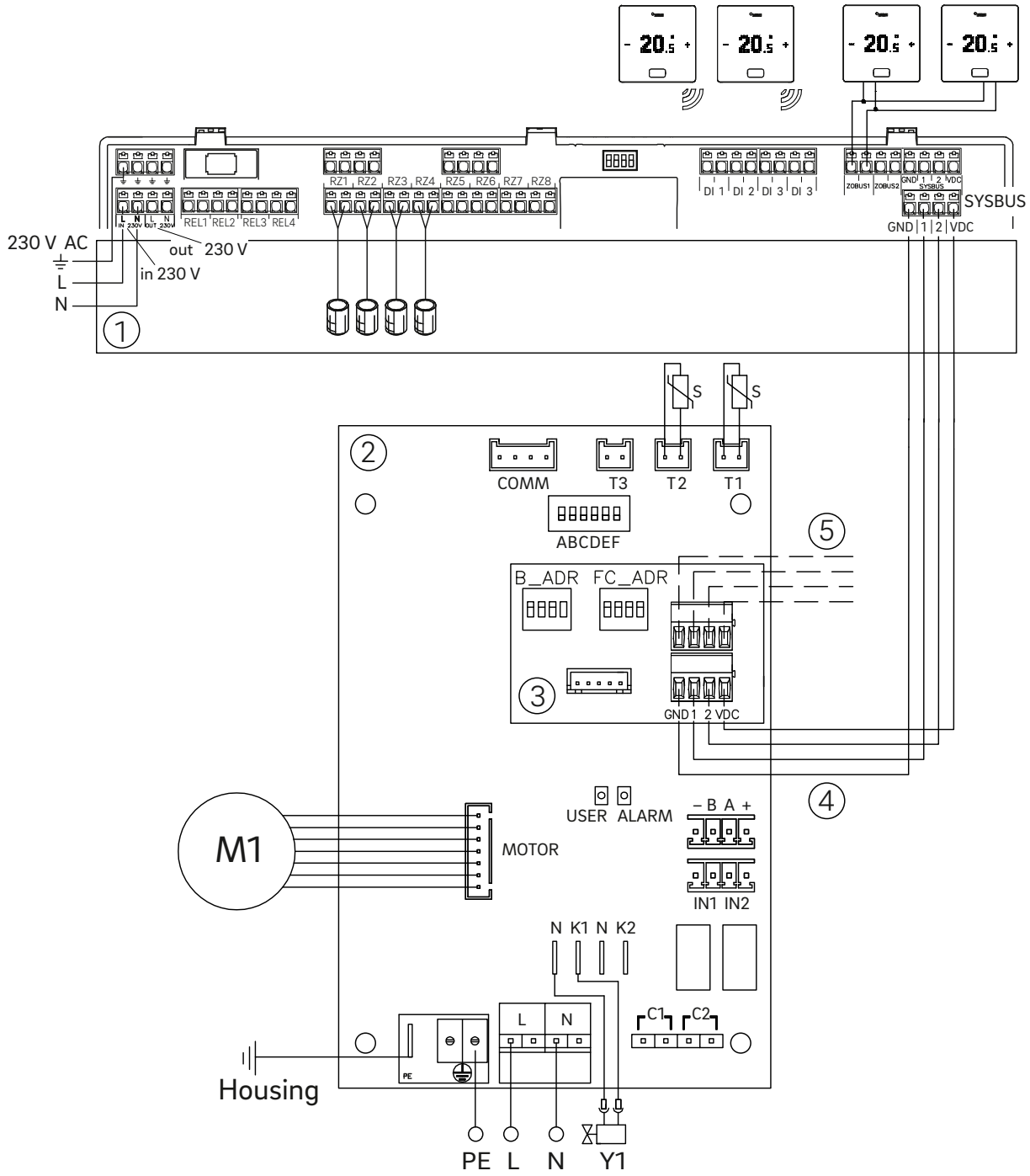
Connect the power supply (230 V, AC, single-phase, 50 Hz) to the Phase L, Neutral N and PE terminals of the device, as shown in the electrical diagram. To do this, use the pre-assembled pluggable terminal blocks.

The grounding of the fan coil housing is implemented at the factory with a cable between the housing and protective earth of the PCB.
The grounding of the housing is mandatory.
Before the electronics box is closed, it must also be checked whether this cable is properly installed and the grounding of the housing is ensured.

With the help of the cable strain relief clamps on the electronics box, reliable strain relief must be ensured for all cables that are routed out of the electronics box.

After the cables are connected correctly and without tension and sufficient strain relief is ensured, the electronics box must be properly closed before commissioning.

03.09 Electrical diagram



T1	Air temperature probe (10 kΩ)
T2	Water temperature probe (10 kΩ)
M1	DC Fan motor
Y1	Water valve actuator (230 V / 50 Hz / max. 1 A)
PE, L, N	Power supply connection (230 V / 50 Hz / 1 ph) Protective earth PE, phase L, neutral N
1	NEA Smart 2.0 Base 230 V (example)
2	Fan Coil PCB with Gateway PCB
3	Gateway PCB
4	SYSBUS connection to NEA SMART 2.0
5	SYSBUS connection to further bus participants
B_ADR	Dip switches for assigning of the fan coil to the corresponding base
FC_ADR	Dip switches for numbering of the fan coil within an assigned base

04 Configuration and operation with NEA SMART 2.0

Configuration
The detailed description of the configuration of the NEA SMART 2.0 system can be found in the following documents.

- NEA SMART 2.0 control system- Commissioning instructions for switched fan coils and modulating RAUCLIMATE SILENT BREEZE fan coils (954666)
- NEA SMART 2.0 service instructions (954647)

These documents are available online at
www.rehau.com/neasmart2

Operating
RAUCLIMATE Silent Breeze Fan Coils can be operated by the user in three ways:

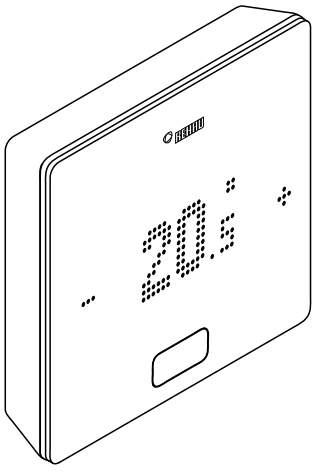
- NEA SMART 2.0 Room webpages
- NEA SMART 2.0 room unit
- NEA SMART 2.0 app

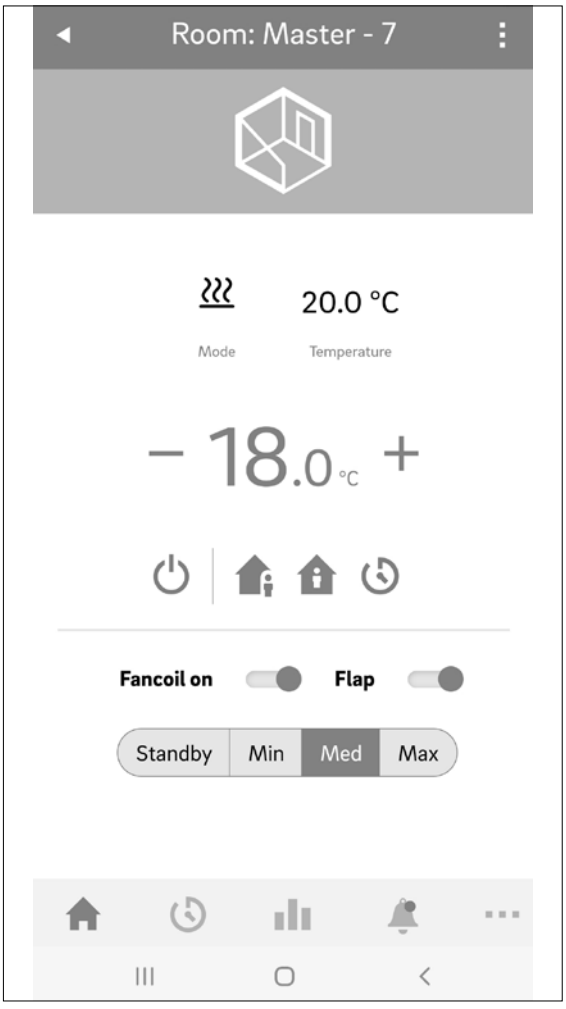
Available controls:

- Temperature setpoint
- Fan Coil speed levels
- Flap control (only available for High Wall)
- Smart Function Control

Further information on operation can be found in the following documents, which can be accessed online at
www.rehau.com/neasmart2

- End user manual (954641)
- NEA SMART 2.0 control system-Commissioning instructions for switched fan coils and modulating RAUCLIMATE SILENT BREEZE fan coils (954666)





05 Maintenance

05.01 Routine maintenance

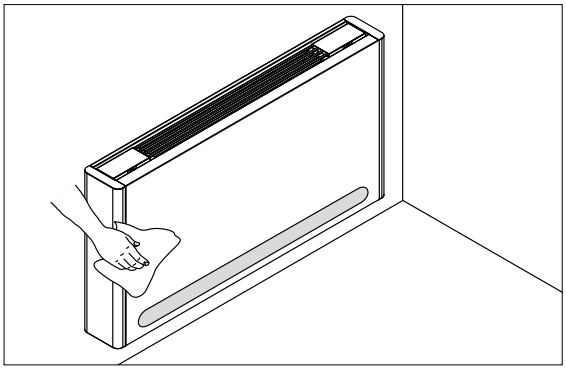
Routine maintenance is essential to keep the device always efficient, safe and reliable over time.
It should be done at least every six months.
In dusty environments or when the unit is used intensively, maintenance may also be necessary more frequently.
Before each cleaning and maintenance intervention, disconnect the device from the power mains by turning the system master switch to "OFF".

⚠

- Wait for the components to cool down in order to avoid any burns.
- After completing the maintenance work, must be restored the original condition.
- It is forbidden to open the access doors and carry out any technical or cleaning intervention, before having disconnect the device from the mains supply by placing the main switch of the system on "OFF".
- Warnings:
  - Do not lean or sit on the fan coil to avoid damaging the appliance.
  - If water leaks from the device, you must switch it off immediately and disconnect the power supply. Then, call the nearest customer service centre.
  - The device must not be installed in rooms where there are explosive gases or where there are conditions of humidity and temperature out of the limits defined in the installation manual.
  - Clean the filter regularly.

05.02 Six-monthly operations

External cleaning
Clean the external surfaces using a soft cloth dampened with water.

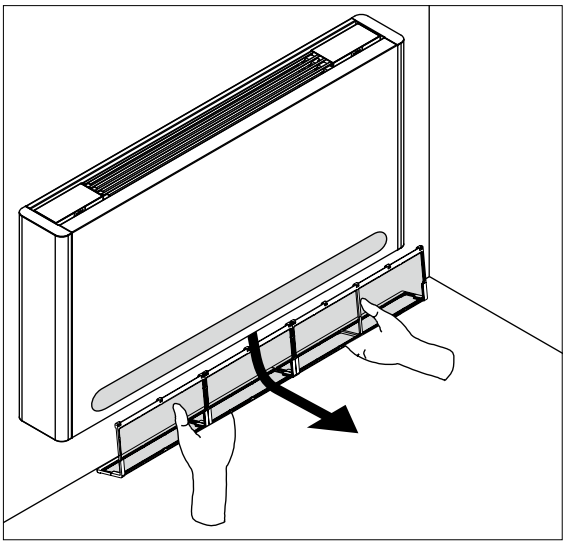


⚠

Do not use abrasive sponges or abrasive or corrosive detergents as you might damage the painted surface.

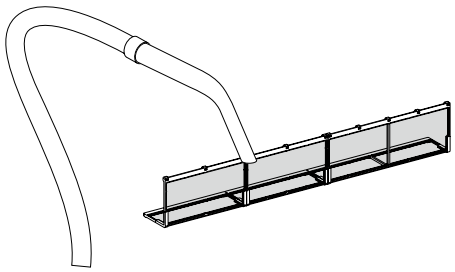
Air intake filter cleaning
Cleaning the filter must be carried out:
- after prolonged operation, considered the concentration of impurities in the air,
- when you plan to restart the system after prolungate disuse.

Remove the filter
The filter is located in the lower part behind the front of the device. It is hooked into a groove and must first be pulled slightly forward to remove it. Afterwards it can be pulled down and frontwards to removed it completly.

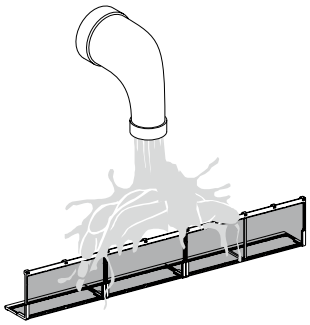


Cleaning

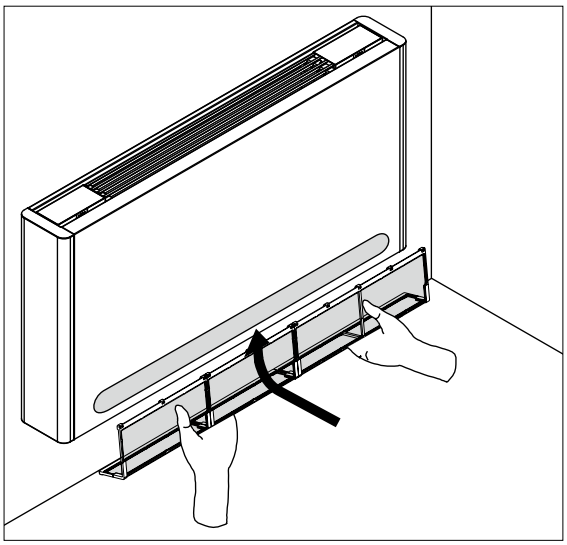
The filter should be cleaned by vacuuming the bigger dust with a vacuum cleaner.



Clean the filter under running water to remove the smallest impurities. The filter must then be dried thoroughly.



When the filter is dry, reinsert the filter. It is important to ensure that the filter snaps back into the groove.



⚠

- After filter cleaning check if the panel is properly mounted.
- Do not restart the fan coil until the clean and dry filter has been firmly and properly refitted.
- Do not use the device without its mesh filter.
- It is forbidden to use the device without its mesh filter.

05.03 Suggestions for power saving

For a correct operation of the device and a high energy saving:

- keep the filters clean
- keep the doors and windows of the locations fitted with air conditioning systems closed as much as possible
- During summer limit the entry of direct sun rays into the rooms to be air-conditioned by means of external screens (projections, curtains, shutters, etc.)

06 Troubleshooting

06.01 Preliminary warnings

⚠

- In case of water leaks or anomalous functioning immediately cut off the power supply and close the water taps.
- Should one of the following anomalies occur, contact an authorised service centre or an authorised qualified person, but do not intervene personally.
- The ventilation does not activate even if there is hot or cold water in the hydraulic circuit.
- The appliance leaks water during the heating function.
- The appliance leaks water only during the cooling function.
- The appliance makes an excessive noise.
- There are formations of dew on the front panel.

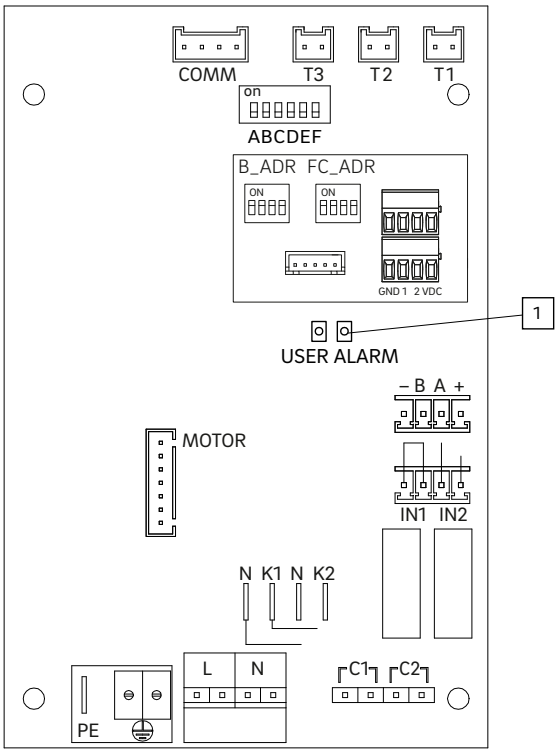
06.02 Table of anomalies and remedies

The interventions must be carried out by a qualified installer or by a specialised service centre.

Effect	Cause	Remedy
A delayed activation of the ventilation respect to the new temperature or function settings.	The circuit valve needs some time to open and as a result the hot or cold water takes time to circulate in the appliance.	Wait for 2 or 3 minutes to open the circuit valve.
The appliance does not activate the ventilation.	No hot or cold water in the system.	Check that the water boiler or cooler are functioning correctly.
	No or bad venting – air in pipe/unit.	Venting the system by a skilled person.
The ventilation does not activate even if there is hot or cold water in the hydraulic circuit.	The hydraulic valve remains closed.	Dismount the valve body and check if the water circulation is restored.
		Check the working efficiency of the valve by powering it separately with 230 V. If it activates the problem could be the electronic control.
	The fan motor is blocked or burnt out.	Check the windings of the motor and the free rotation of the fan.
	The electrical connections are not correct.	Check the electrical connections.
The appliance leaks water during the heating function.	Leaks at the hydraulic connections of the system.	Check the leak and fully tighten the connections.
	Leaks in the valve unit.	Check the state of the gaskets.
	Venting valve not closed correctly.	Close venting valve completely.
There are formations of dew on the front panel.	Thermal insulation unstuck.	Check the correct positioning of the thermo-acoustic insulation paying attention to that in the front above the finned heat exchanger.
There are drops of water on the air outlet grill.	In situations of high humidity (> 60 %) condensation could form, especially at the minimum ventilation speeds.	As soon as the humidity starts falling the phenomenon disappears. In any case the presence of a few drops of water in the appliance does not indicate a malfunction.
The appliance leaks water only during the cooling function.	The condensation bowl is blocked.	Slowly pour a bottle of water in the low part of the battery to check the drainage; if necessary, clean the bowl and/or increase the inclination of the drainage pipe.
	The condensation discharge does not need an inclination for correct drainage.	
	The connection pipes and the valve unit are not insulated well.	Check the insulation of the pipes.
	Venting valve not closed correctly.	Close venting valve completely.
The appliance makes a strange noise.	The fan touches the structure.	Check the clogging of filters and clean them if necessary.
	The fan is unbalanced.	The unbalancing causes excessive vibrations of the machine; replace the fan.
	Check the clogging of filters and clean them if necessary.	Clean the filters.

06.03 Status LED on PCB

The PCB has a status LED.



1 LED

LED signals

→ LED off
Fan coil ist switched off.

→ LED flashes
There is an alarm.
Further information is shown on the room unit.

→ LED lights up
Fan coil is switched on and there is no alarm.

07 Technical data

		Silent Breeze Low Wall				
Models		10	20	30	35	40
Cooling performances (W 7/12 °C; A 27 °C)						
Total cooling capacity[1]	kW	0,91	2,12	2,81	3,3	3,71
Sensible cooling capacity[1]	kW	0,73	1,72	2,11	2,71	2,9
Water flow[1]	l/h	157	365	483	568	638
Pressure drop[1]	kPa	12,1	8,2	17,1	18	21,2
Heating performances (W 45/40 °C; A 20 °C)						
Heating capacity[2]	kW	1,02	2,21	3,02	3,81	4,32
Water flow[2]	l/h	175	380	519	655	743
Pressure drop[2]	kPa	9,1	9,2	19,1	21,2	23,3
Hydraulic data						
Coil water content	l	0,47	0,8	1,13	1,46	1,8
Maximum operating pressure	bar	10	10	10	10	10
Hydraulic connections	" EC	3/4	3/4	3/4	3/4	3/4
Pipelines minimum inner diameter d_{in}	mm	14	14	16	18	20
Condensate drain diameter	mm	14	14	14	14	14
Aeraulic data						
Air flow at the maximum fan speed[4]	m^3/h	146	294	438	567	663
Air flow at the medium fan speed[4]	m^3/h	90	210	318	410	479
Air flow at the minimum fan speed[4]	m^3/h	49	118	180	247	262
Static pressure available	Pa	10	10	13	13	13
Electrical data						
Maximum absorbed current	A	0,11	0,16	0,18	0,26	0,28
Power supply	V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Power consumption at the maximum speed	W	11	19	20	29	33
Power consumption at the minimum speed	W	5	4	6	5	5
Power supply (cable)				3 x 1.5 mm^2, rigid		
Circuit breaker	A	2	2	2	2	2
Sound data						
Maximum sound power level[5]	dB(A)	51	53	54	55	57
Sound pressure level at maximum air flow[3]	dB(A)	41	42	44	46	47
Sound pressure level at medium air flow[3]	dB(A)	33	34	34	35	38
Sound pressure level at minimum air flow[3]	dB(A)	24	25	26	26	28
Operating limits						
Minimum water inlet temperature	°C	4	4	4	4	4
Maximum water inlet temperature	°C	80	80	80	80	80

[1] Water temperature in 7 °C, Water temperature out 12 °C, Room temperature 27 °C d.b. and 19 °C w.b. Performances according to EN 1397
[2] Water temperature in 45 °C, Water temperature out 40 °C, Room temperature 20 °C d.b. and 15 °C w.b. Performances according to EN 1397
[3] Sound pressure measured at a distance of 1 meter according to ISO 7779
[4] Air flow measured with clean filter
[5] Sound power level measured according to EN 16583

Notes

Notes

Notes

Our verbal and written advice with regard to usage is based on years of experience and standardised assumptions and is provided to the best of our knowledge. The intended use of REHAU products is described comprehensively in the technical product information. The latest version can be viewed at www.rehau.com/TI. We have no control over the application, use or processing of the products. Responsibility for these activities therefore remains entirely with the respective user/processor. Where claims for liability nonetheless arise, they shall be governed exclusively according to our terms and conditions, available at www.rehau.com/conditions, insofar as nothing else has been agreed upon with REHAU in writing. This shall also apply for all warranty claims, with the warranty applying to the consistent quality of our products in accordance with our specifications. Subject to technical changes.

www.rehau.com

Helmut-Wagner-Str. 1
Rheniumhaus
95111 Rehau

334606 EN 12.2023