Engineering progress
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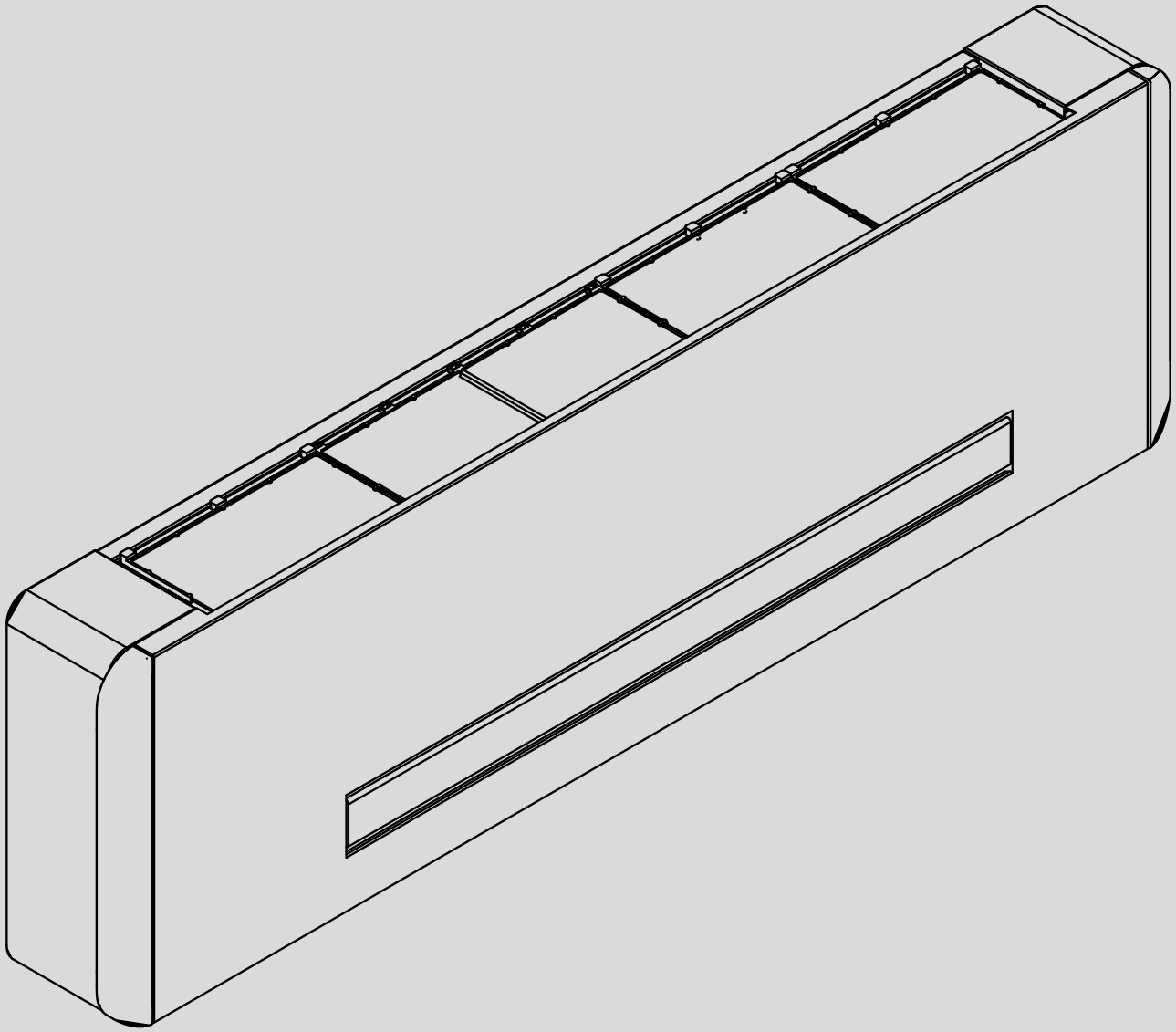

RAUCLIMATE Silent Breeze High Wall

EN Installation and user manual

REHAU

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.

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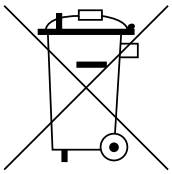
- It is forbidden to climb on the unit or place objects on it. It is prohibited to hang onto the unit or attach objects to it.
- The external parts of the appliance can reach temperatures of more than 70 °C.
- Interventions or modifications to the unit using tools may only be carried out by qualified 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.

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- 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 description

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

Four different types of RAUCLIMATE Silent Breeze High Wall fan coils with different cooling or heating capacities are available.

This document is valid for the models High Wall 10, High Wall 15 and High Wall 20. For these models, the fan coil is available with hydraulic connections on the right or on the left side.

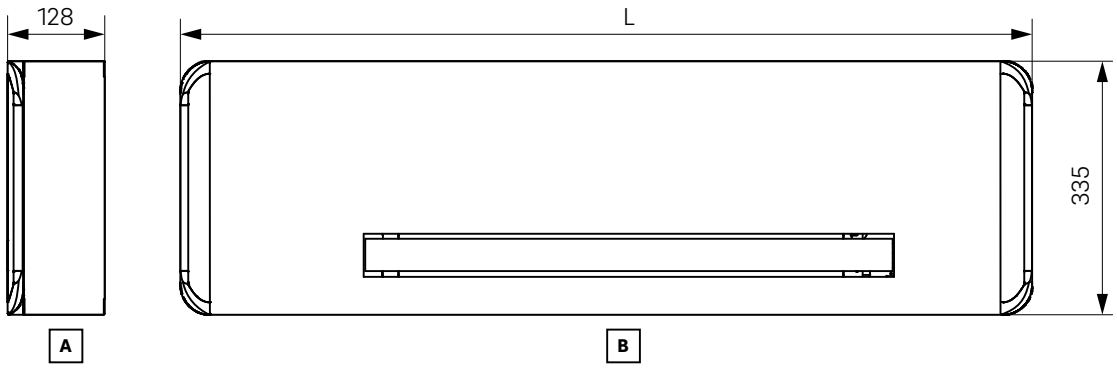
RAUCLIMATE Silent Breeze High Wall fan coils can only be controlled by the REHAU control system NEA SMART 2.0. They are connected to the SYSBUS. The end user can operate the fan coils in three ways:
- NEA SMART 2.0 Room unit
- NEA SMART 2.0 App
- NEA SMART 2.0 Room webpages

Components
The fan coil consists mainly of the following components
- filter
- fan
- air/water heat exchanger
- electronic box
- temperature probes
- white sheet metal housing with white polymer trim on both sides.

Principle of function
The air is drawn in by the fan on the top 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 front 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 Dimensions

		Silent Breeze High Wall		
Models		10	15	20
Total length L	mm	927	1.127	1.327
Total height	mm	335	335	335
Total depth	mm	128	128	128
Net weigth	kg	14,0	16,0	19,0



A Lateral view
B Front view

03 Installation

03.01 General warnings

- The installation must be carried out by an electrical 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.

The Silent Breeze High Wall fan coil has to be installed only in high position on the wall, with a maximum height of 2,20 m (except for use in cooling only) and in a min. distance to ceiling of 120 mm.

Avoid installing the unit near:
- obstacles or barriers that cause recirculation of the exhaust air
- narrow places where the sound level of the appliance can be enhanced by reverberations or resonances
- environments with the presence of flammable or explosive gases
- very humid environments (laundries, greenhouses, etc.)
- environments with aggressive atmospheres
- solar radiation and proximity to heat sources
- rooms subject to high frequencies

Do not install over heat sources.
Make sure that:

- the installation site of the unit must be chosen with the utmost care to guarantee adequate protection from shocks and consequent damage
- the wall is able to support the weight of the appliance
- the wall section does not feature building supporting elements, pipes or power lines
- the wall surface is perfectly levelled
- there are no obstacles to the free circulation of air
- the appliance must be installed in a position where it can be easily serviced
- the safety distances between the units and other appliances or structures are scrupulously respected so that the air entering and leaving the fans is free to circulate

If the appliance is installed incompletely or on an inappropriate base, it could cause damage to persons or property if it should detach from its base.
The unit should not be installed in a position where the air flow is aimed directly at the people nearby.

Provide the following:

- a nearby drain for the outflow of condensate
- a compliant power supply nearby
- fixing elements suitable for the type of support

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 right side.

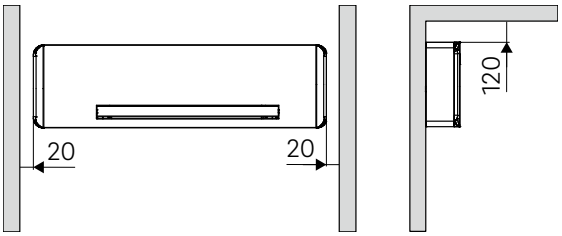
- For ideal installation and performance levels, carefully follow the instructions in the manual.
- Failure to do so may cause system malfunctions and automatically voids the warranty, and relieves the constructor of any harm caused to person, animals or property.

03.04.01 Installation minimum distances

The clearance zones for the installation and maintenance of the appliance are shown in the figure. Established spaces are necessary to avoid barriers to airflow and allow for normal cleaning and maintenance.

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

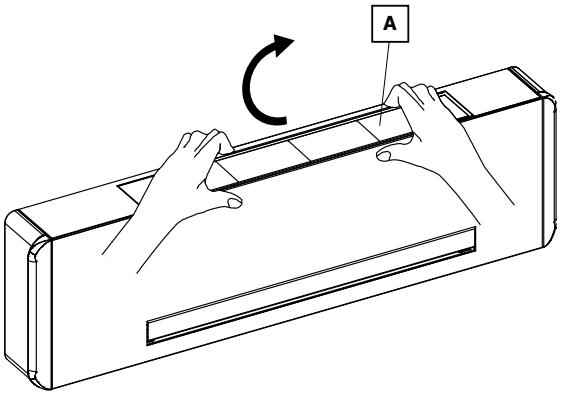
The minimum distance to walls at the side must be at least 20 mm and the minimum distance to the ceiling must be at least 120 mm.



03.04.02 Device preparation

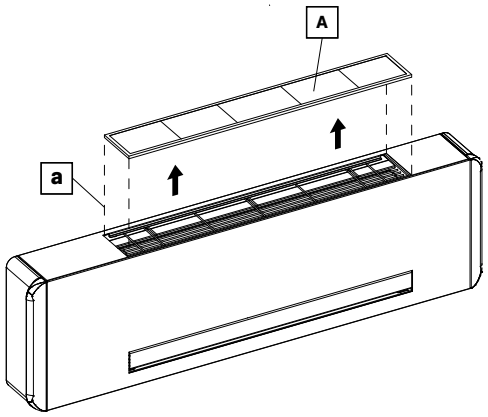
Before proceeding with the installation, it is necessary to remove some elements from the appliance.

Remove the filter
Lift the filter slightly and turn it until it can be pulled out of the housing.



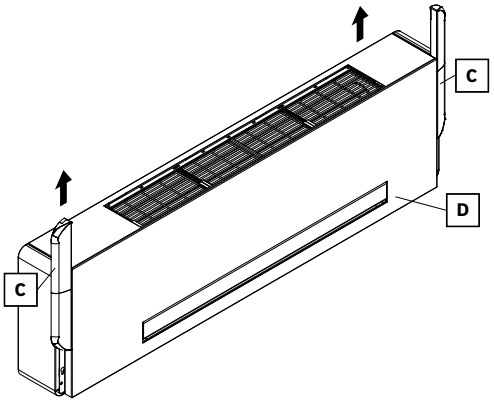
A Filter

Pull off the filter in the indicated direction.



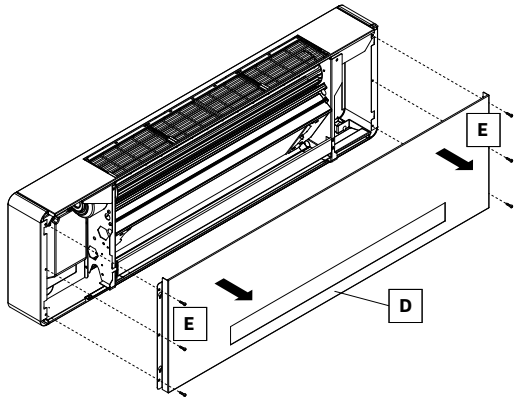
A Filter
a Extraction direction

Removal of the cover front panel
Remove the corner panels by unthreading them upwards.



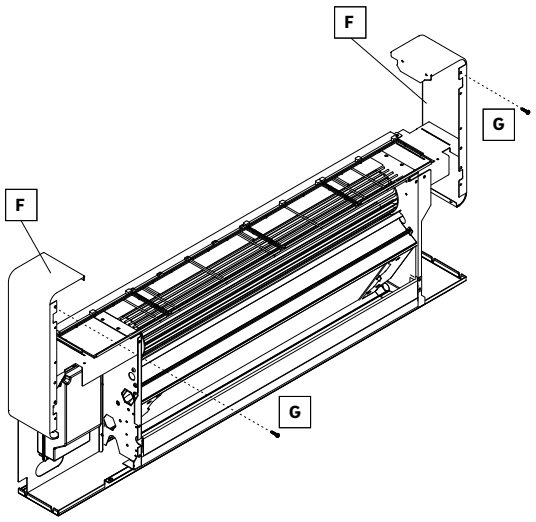
C Corner panels
D Cover front panel

Unscrew the fixing screws on both sides. After all front panel screws have been removed, the front panel can be taken off towards the front.



E Fixing screws
D Cover front panel

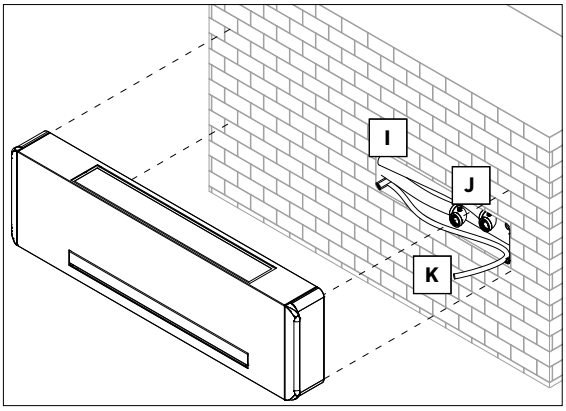
Remove the side panels
Unscrew the frontal screws and remove the side panels.



F Side panels
G Frontal screws

Installation arrangement
For the installation of the appliance, use a flush-mounted box to contain the connections.

If the appliance is installed at a later date, leave plenty of connecting pipes so that no joints have to be made.

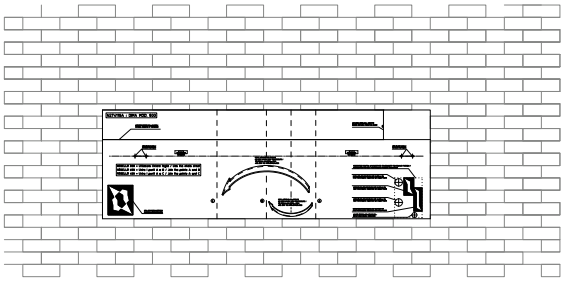


I Flush-mounted box
J Connecting water pipelines
K Condensation drainage pipe

03.04.03 Positioning

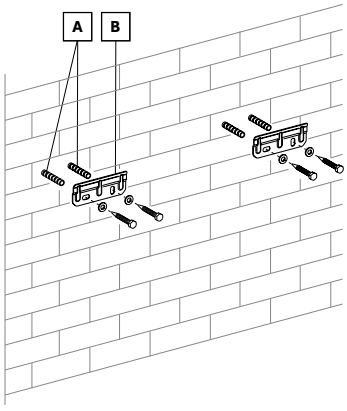
The Silent Breeze High Wall fan coil has to be installed only in high position on the wall, with a maximum height of 2,20 m (except for use in cooling only and in a min. distance to ceiling of 120 mm). The units are supplied with a paper template for marking the holes necessary for installation.

Use the paper template to mark the position of the fixing brackets and drill the holes into the wall.



- Make sure that the support wall is suitable for weight and operation of the appliance.
- Make sure that the wall is not crossed by pipelines, load-bearing construction elements or power lines.

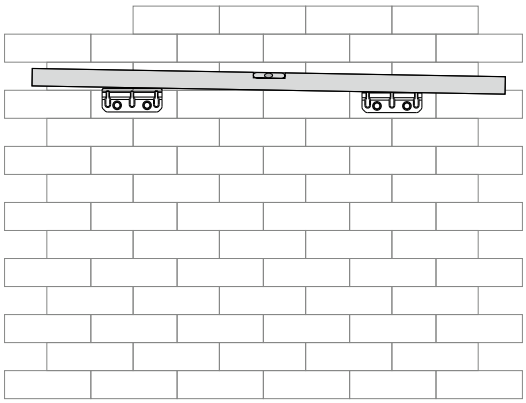
Insert the expansion plugs in the holes and position the support brackets on the wall. Afterwards the screws should be partially screwed into the plugs.



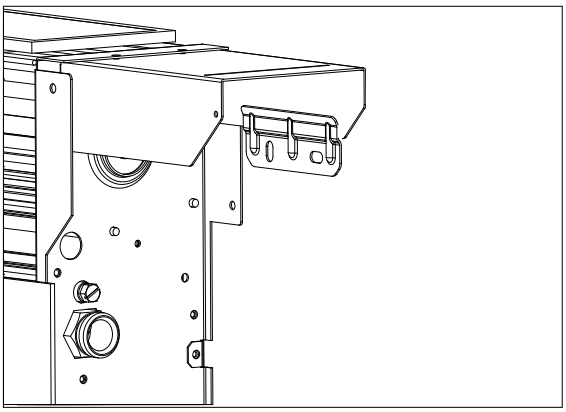
A Dowels
B Bracket

- Do not fully fix the screws so that you can adjust the position of the appliance.
- Use expansion plugs suitable for the chosen support wall.

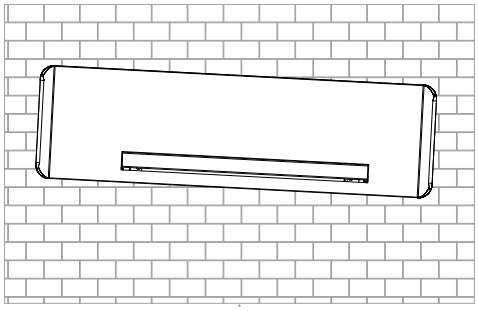
In order to enable the condensate to flow, a slight incline in the direction of the condensate drain must be ensured.
Use a spirit level to precisely align the bracket.
Check the inclination towards the hydraulic connections side and fix the screws finally.



Assemble the unit and check the attachment to the bracket again.



Check the inclination towards the hydraulic connections side.

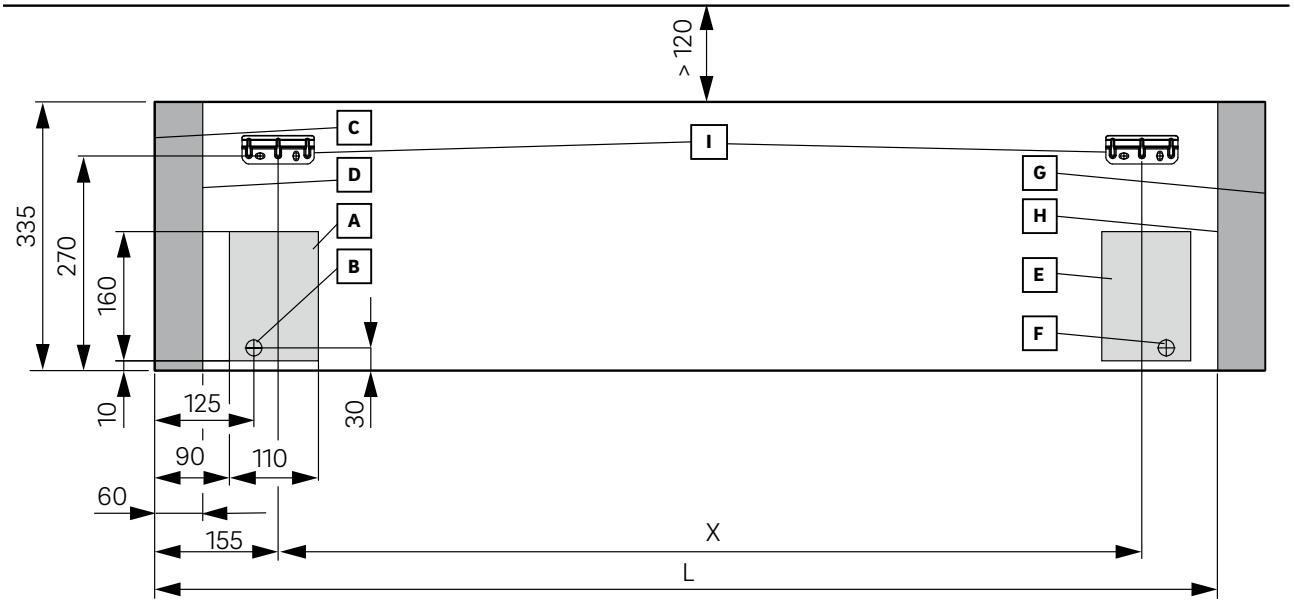


- The inclination must not exceed an angle of 1°.
- The images refer to a version of the appliance with the connection on the right. If the appliance has the hydraulic connections on the left side, the unit must have a inclination towards the left side.

Distances and areas of connection lines

Depending on the chosen model of the RAUCLIMATE Silent Breeze High Wall, the hydraulic connections can be on the left or right side. The associated electrical connections are then always on the opposite side.

- Hydraulic connection on the left, means electrical connection on the right (called “left installation”)
- Hydraulic connection on the right, means electrical connection on the left (called “right installation”)



A Place for hydraulic flexible connections for left installation or electrical installation zone for right installation
B Condensate drain for left installation
C External perimeter for right installation
D External perimeter for left installation
E Place for hydraulic flexible connections for right installation or electrical installation zone for left installation
F Condensate drain for right installation
G External perimeter for left installation
H External perimeter for right installation
I Bracket

		Silent Breeze High Wall		
		10	**15**	**20**
Distance X	mm	680	880	1.080
Length L	mm	927	1.127	1.327
Height	mm	335	335	335

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.

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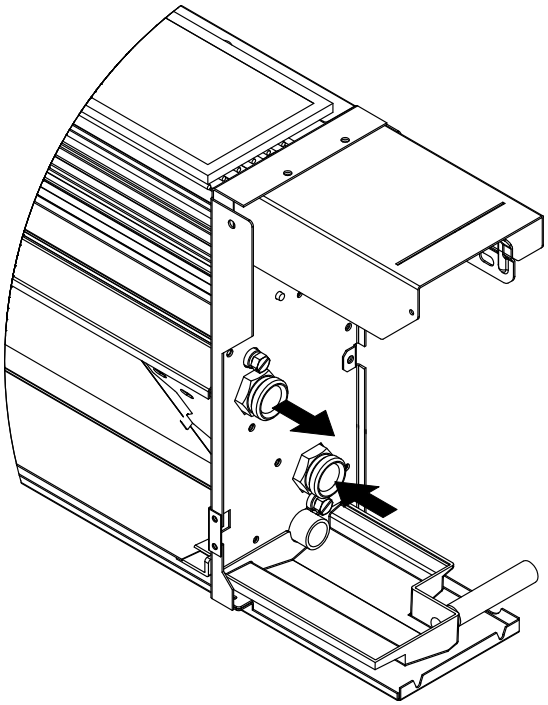
Undersized pipelines lead to poor system operation and/or a loss of thermal and cooling performance.

Position and dimensions



		Silent Breeze High Wall		
Models		**10**	**15**	**20**
Pipelines minimum inner diameter d_{in}	mm	14	16	18

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

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- 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.

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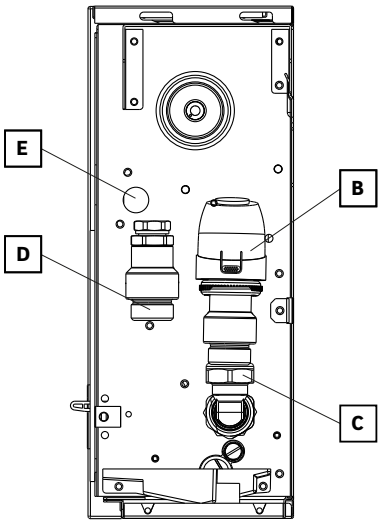
- The 2-way and 3-way valves with thermoelectric actuators are strongly recommended for the correct operation of the unit.
- The actuator does not have to be installed in the unit if a actuator is present at the manifold of the system and connected to the fan coil control board.

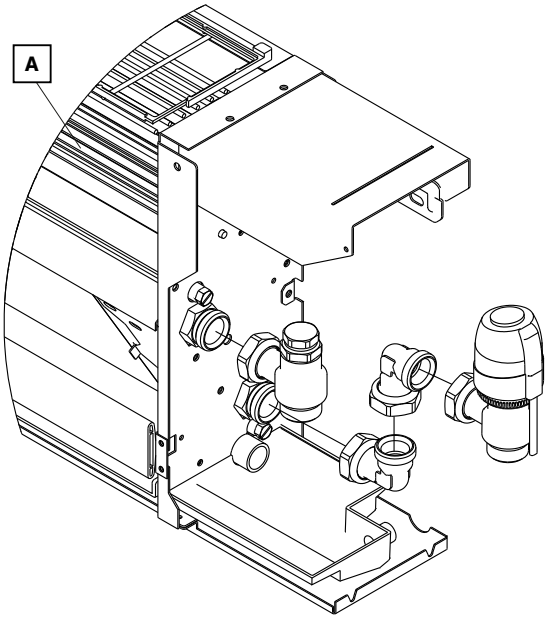
For the correct installation of the valve kits, refer to the installation manual of Silent Breeze Accessories.

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 to the supply at the bottom, connection to the return at the top



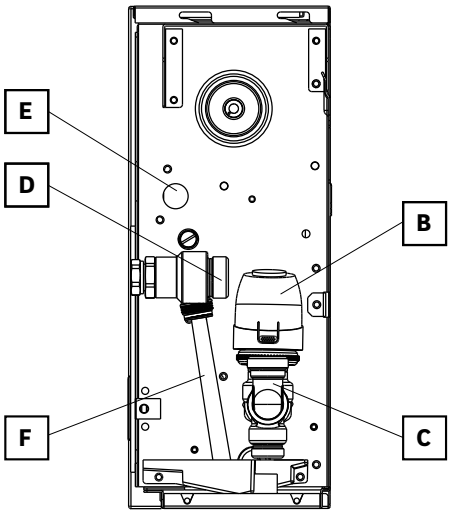


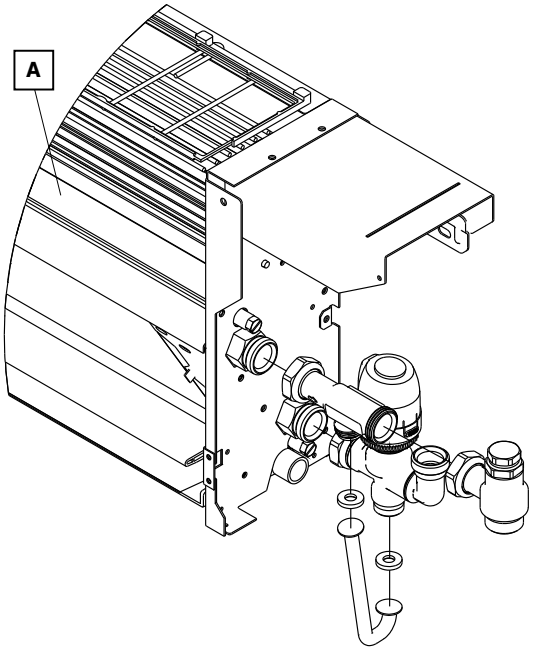
A Unit body
B Thermoelectric actuator
C Fitting for water inlet pipe
D Water outlet pipe fitting
E Electrical cable entry hole

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 to the supply at the bottom, connection to the return at the top

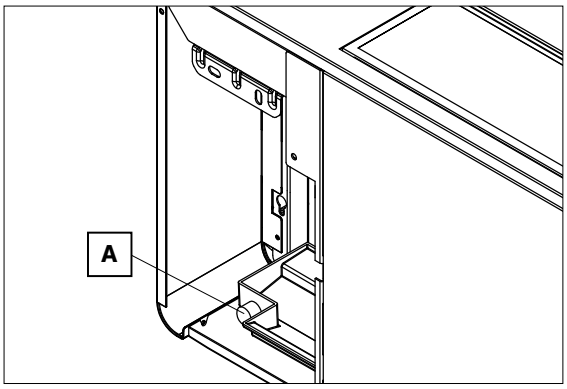




A Unit body
B Thermoelectric actuator
C Fitting for water inlet pipe
D Water outlet pipe fitting
E Electrical cable entry hole
F Not flexible connection pipe

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.

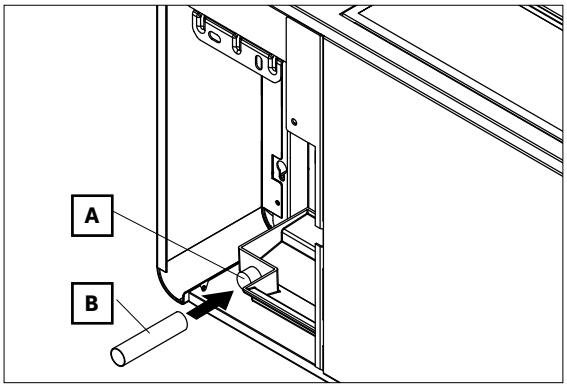


A Drain connection, Ø 14 mm

- 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.
- If you do not want to prepare an external drainage pipe in "heat only" mode, it is advisable to close the condensate drain with a plug.

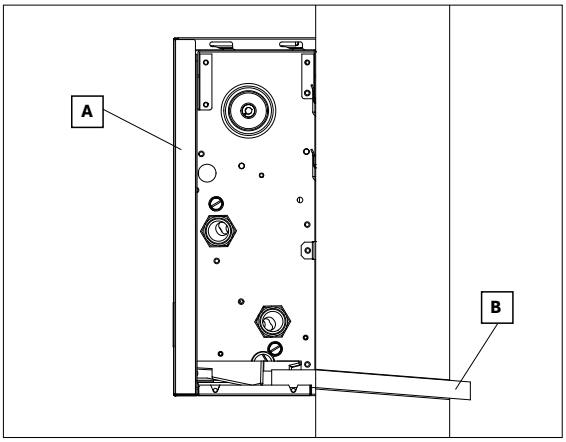
Positioning

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



A Drain connection
B Rubber drainage tube

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



A Silent Breeze High Wall
B Liquid drain pipe

- 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
- If the condensation is not collected, it will be deposited on the support surface.

Check

After the installation is completed:

- pour the water very slowly into the condensate drain tray
- check the right outflow

03.07 Filling the system

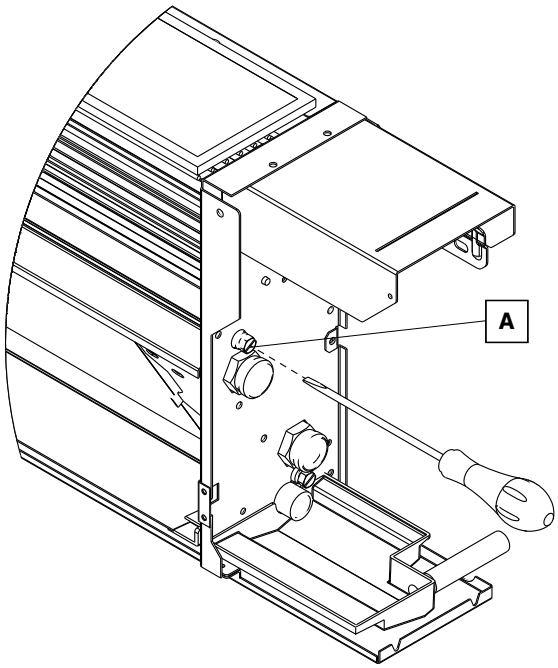
To fill the system:

- 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 Electric 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 High Wall		
Models		**10**	**15**	**20**
SYSBUS NEA SMART 2.0		J-Y(ST)Y 2 x 2 x 0.8 mm		
Power supply[1)]	mm²	3 x 1.5 mm², rigid		
Miniature circuit breaker	A	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.

Please note the information on the next page!

⚠

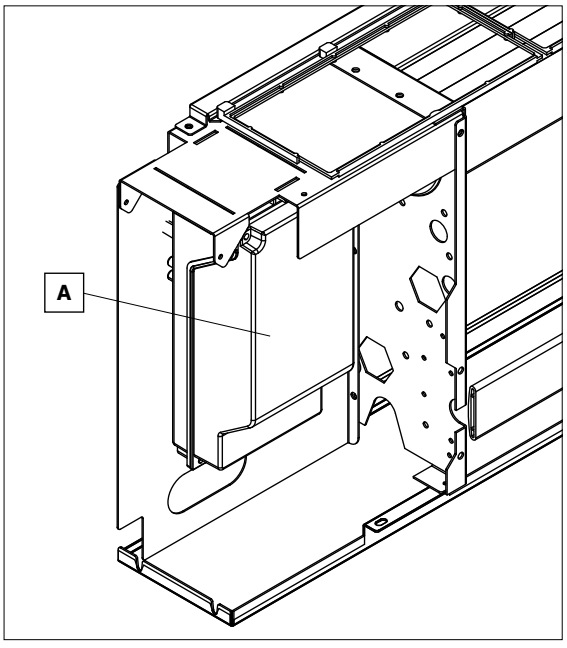
- The use of a residual current circuit breaker is mandatory.
- It is forbidden to use gas and water pipes for grounding the device.
- If you need to replace the power cord, consult a qualified electrician. The electrical installation must be carried out in accordance with the applicable national regulations 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

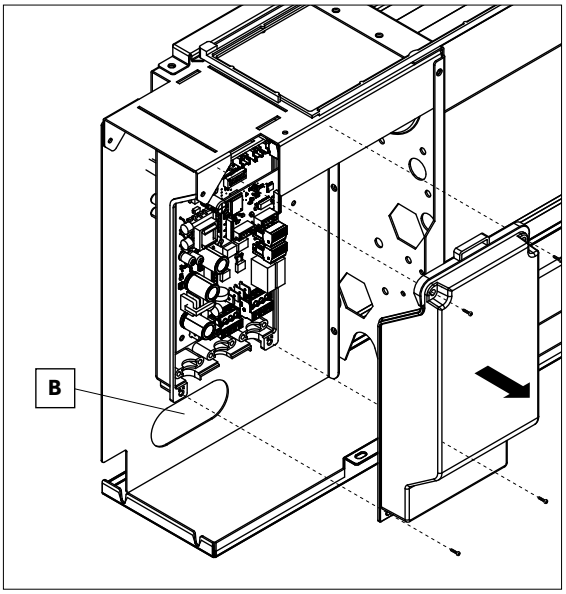
⚠

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



B Recess for cable entry

Route the cables for connecting the power supply and the system bus through the recess provided in the rear panel.

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

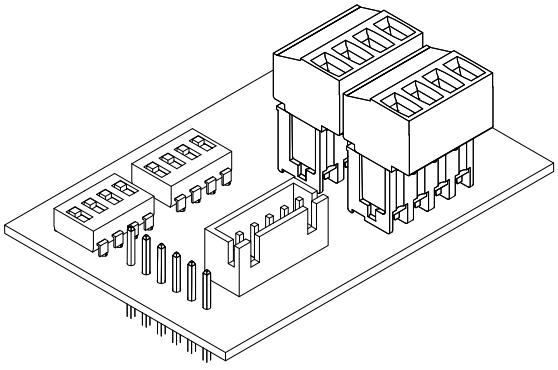
In any case, it is necessary to check whether the power supply is protected against overload and short circuit.

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

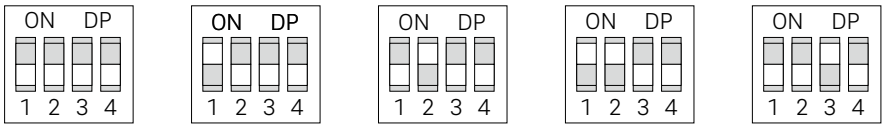
⚠

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.

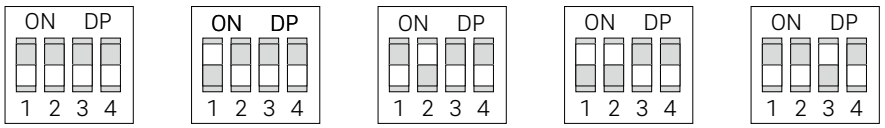
Assignment (Addressing)
Assignment (addressing) is done via two 4-pin DIP switches labeled B_ADR and FC_ADR.

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).

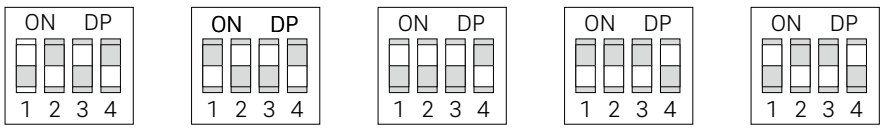


Base Master | Base Slave 1 | Base Slave 2 | Base Slave 3 | Base Slave 4

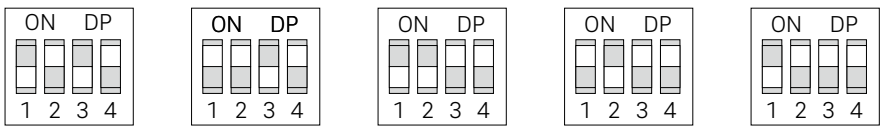
FC_ADR: Numbering (1 to 16) of the RAUCLIMATE SILENT BREEZE Fan Coil within an assigned base.



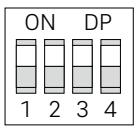
Fan Coil Nr. 1 | Fan Coil Nr. 2 | Fan Coil Nr. 3 | Fan Coil Nr. 4 | Fan Coil Nr. 5



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

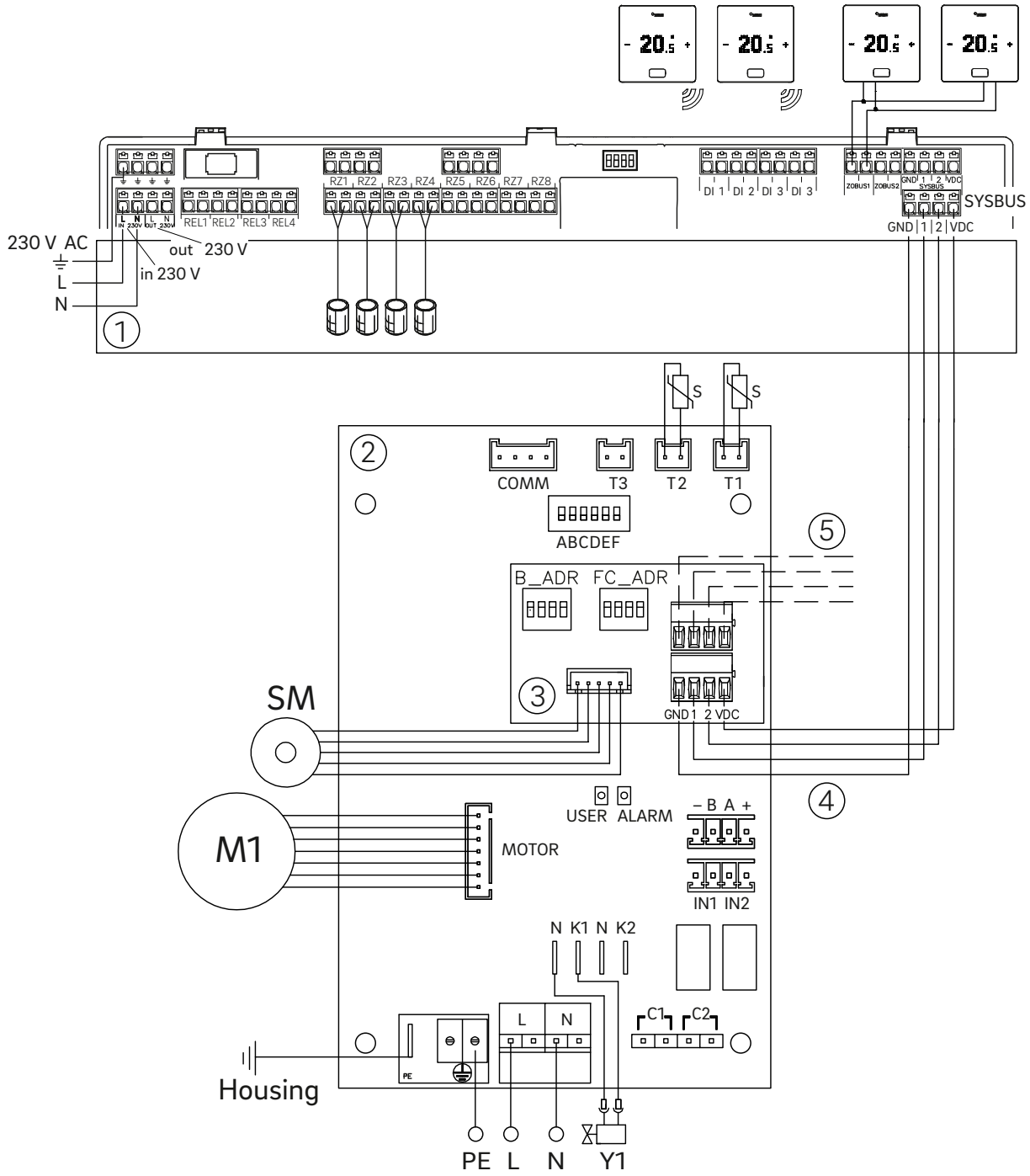
Connect the power supply (230 V, AC, single-phase, 50 Hz) to the Phase L, Neutral N and PE terminals of the device, as shown in the electrical diagram. To do this, use the pre-assembled pluggable terminal blocks.

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
SM	Step motor (flap)
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:

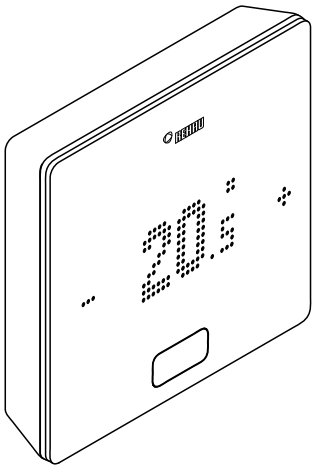
- NEA SMART 2.0 Room webpages
- NEA SMART 2.0 room unit
- NEA SMART 2.0 app

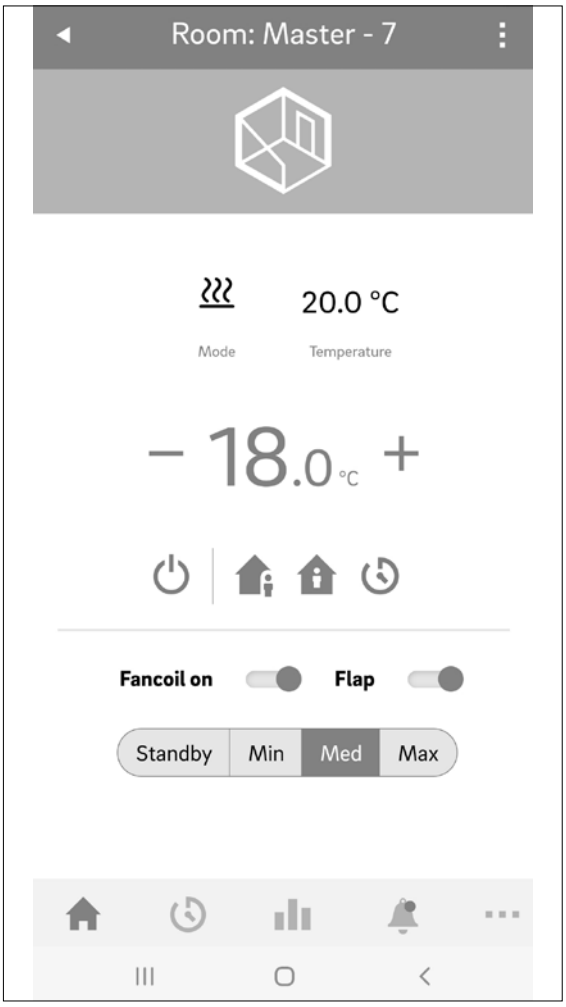
Available controls:

- 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.

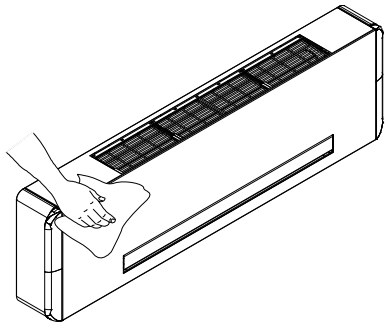
Before each cleaning and maintenance intervention: Disconnect the device from the power mains by turning the system master switch to "OFF".

⚠

- 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.
  - Do not manually move the horizontal louver of the air outlet. Always use the NEA SMART 2.0 room webpage, room unit or app for this operation.
  - 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.

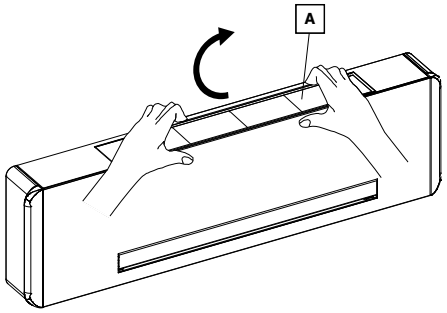


⚠

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

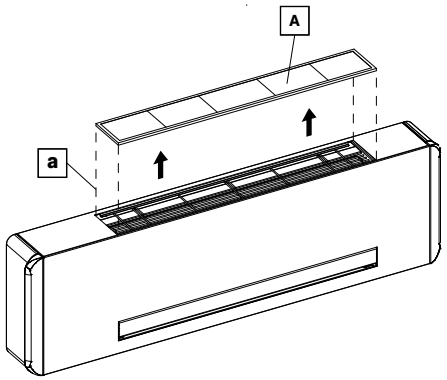
Air intake filter cleaning
Cleaning the filter must be carried out:
- after prolonged operation, considered the concentration of impurities in the air,
- when you plan to restart the system after prolungate disuse.

Filter extraction
Lift the filter slightly and turn it until it can be pulled out of the housing.



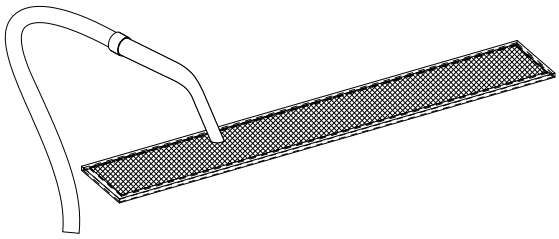
[A] Filter

Pull off the filter in the indicated direction.

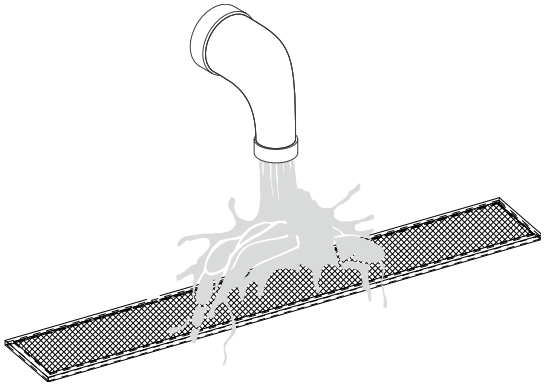


[A] Filter
[a] Extraction direction

Cleaning
The filter should be cleaned bay 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.



⚠

Do not use detergents or solvents to clean the filter.

Inserting the filter
Remount the filter paying particular attention to introduce the lower flap in its housing.

⚠

- 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 energy 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

Should you encounter any of the anomalies below:
- the ventilation does not start even if the water circuit is filled with hot or cold water
- the device is loosing water in heating mode
- the device is loosing water in cooling mode
- the device generates excessive noise
- there is dew on the front panel

Follow the instructions below:
- disconnect the device from power supply immediately
- close the water taps
- contact immediately an authorized technical support center or qualified staff

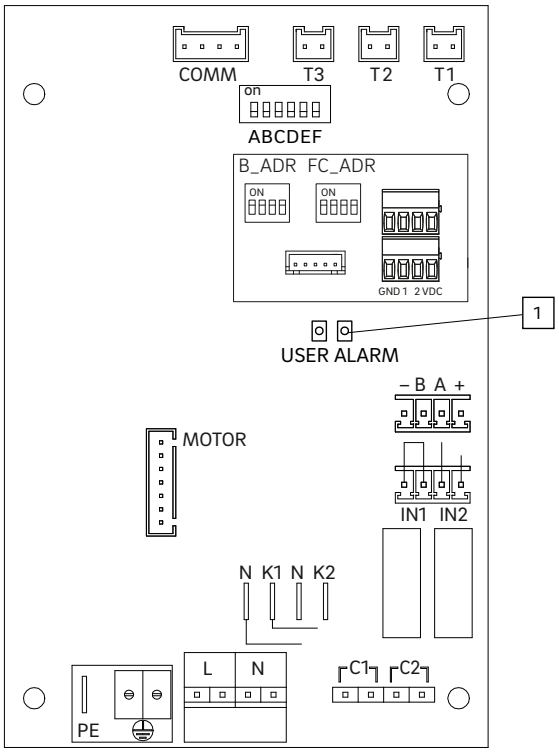
The interventions must be carried out by a qualified installer or by a specialized support center. Do not intervene personally.

06.02 Troubleshooting table

Effect	Cause	Solution
The ventilation starts with a delay with respect to new temperature or function settings.	The circuit valve requires a certain time to open and therefore to make the hot or cold water circulate inside the device.	Wait 2 or 3 minutes to allow the circuit valve to open.
The device does not activate the ventilation.	Cold or hot water is missing from the system.	Make sure the boiler or the chiller are on.
	No or bad venting – air in pipe/unit.	Venting the system by a skilled person.
The ventilation does not start even if the water circuit is filled with hot or cold water.	The hydraulic valve stays closed.	Demount the body of the valve and check if the water circulation is restored.
		Check the function of the valve by connecting it separately to 230 V. If it works, the problem may be in the electronic control.
	The ventilation motor is jammed or burnt.	Check the motor windings and check if the fan rotates freely.
	The wirings are not correct.	Check the electrical connections.
The device is losing water in heating mode.	Leaks at the hydraulic connections of the system.	Check the leak and tighten the connection.
	Losses in the valve group.	Check the condition of the gaskets.
	Venting valve not closed correctly.	Close venting valve completely.
There is dew on the front panel.	Detached thermal insulation.	Check the correct positioning of the thermal and acoustic insulations paying particular attention to the front one located on top of the finned coil.
There are water drops on the air vent.	High humidity conditions (> 60 %) might generate condensation, especially at minimum ventilation speeds.	As soon as the level of relative humidity drops, the phenomena disappears. However, a few water drops falling inside the device will not cause any malfunction.
The device is losing water in cooling mode.	The condensate tray is clogged.	Slowly pour a bottle of water in the lower section of the battery to check the drainage; if necessary clean the tray and/or improve the slope of the drain pipe.
	The condensate discharge pipe does not have the slope required for correct drainage.	
	The connection pipes and the valves unit are not well insulated.	Check the pipe insulation.
	Venting valve not closed correctly.	Close venting valve completely.
The device generates excessive noise.	The fan touches the structure.	Verify
	The fan is unbalanced.	The unbalancing generates excessive machine vibrations: replace the fan.
	Check the filters for dirt and clean them if necessary.	Clean 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 High Wall		
Models		10	15	20
Cooling performances (W 7/12 °C; A 27 °C)				
Total cooling capacity[1)]	kW	1,24	1,61	1,94
Sensible cooling capacity[1)]	kW	0,98	1,27	1,52
Water flow[1)]	l/h	208	279	365
Pressure drop[1)]	kPa	11,7	5,1	5,3
Heating performances (W 45/40 °C; A 20 °C)				
Heating capacity[2)]	kW	1,50	2,01	2,41
Water flow[2)]	l/h	260	349	451
Pressure drop[2)]	kPa	16,3	7,2	8,1
Hydraulic data				
Coil water content	l	0,50	0,61	0,77
Maximum operating pressure	bar	10	10	10
Hydraulic connections	" EC	3/4	3/4	3/4
Pipelines minimum inner diameter d_{in}	mm	14	16	18
Aeraulic data				
Air flow at the maximum fan speed	m^3/h	228	331	440
Air flow at the medium fan speed	m^3/h	155	229	283
Air flow at the minimum fan speed	m^3/h	84	124	138
Static pressure available	Pa	10	10	10
Electrical data				
Maximum absorbed current	A	0,10	0,12	0,16
Power supply	V/ph/Hz	230/1/50	230/1/50	230/1/50
Power consumption at the maximum speed	W	19	20	29
Power consumption at the minimum speed	W	5	5	5
Power supply (cable)			3 x 1.5 mm^2, rigid	
Circuit breaker	A	2	2	2
Sound data				
Maximum sound power level[4)]	dB(A)	53	54	55
Sound pressure level at maximum air flow[3)]	dB(A)	40	41	42
Sound pressure level at medium air flow[3)]	dB(A)	33	34	34
Sound pressure level at minimum air flow[3)]	dB(A)	25	25	26
Operating limits				
Minimum water inlet temperature	°C	4	4	4
Maximum water inlet temperature	°C	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)] Sound power level measured according to EN 16583

Notes

Notes

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