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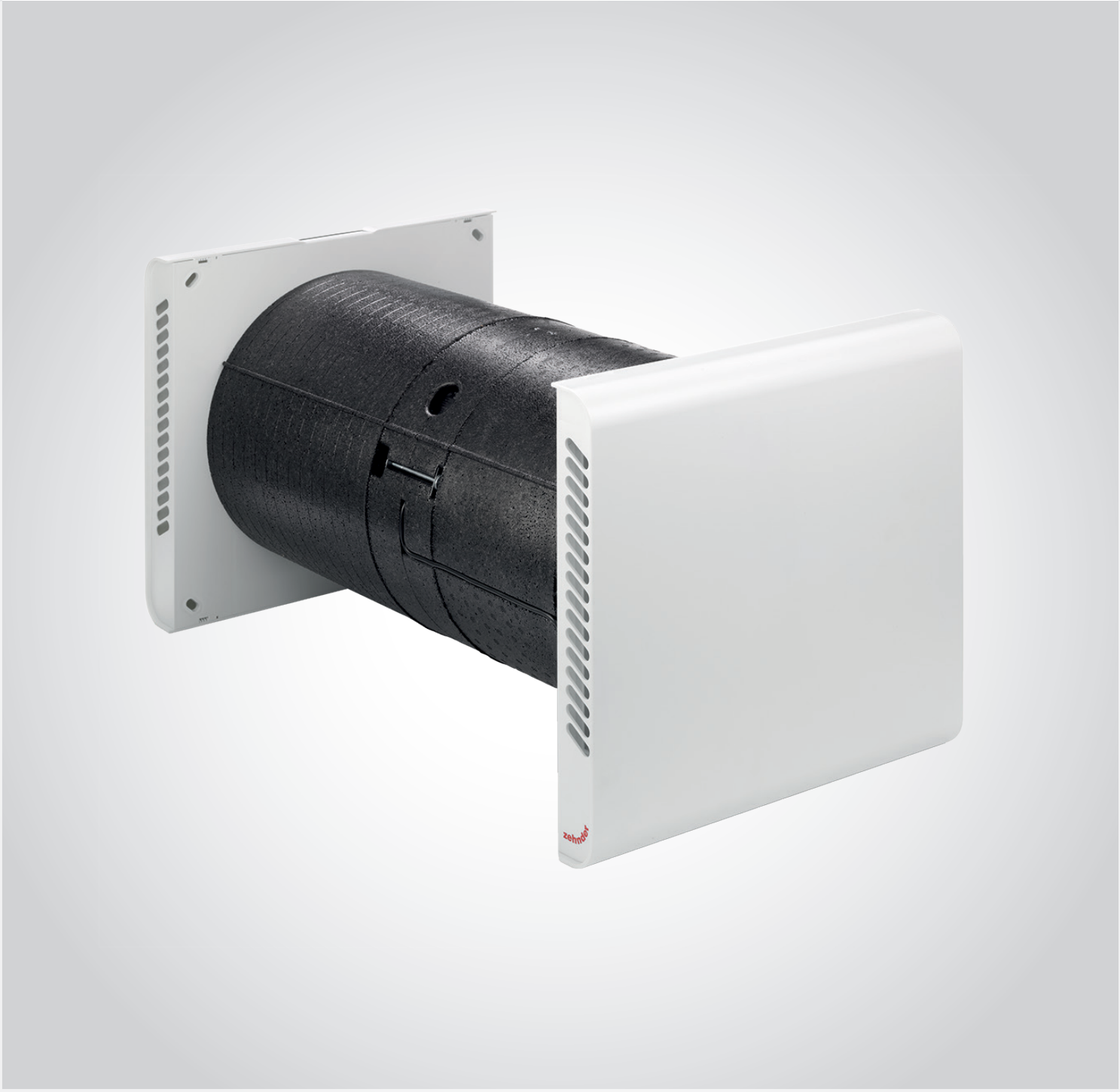
Zehnder ComfoSpot 50

User manual on operation and installation for operators and installers



Contents

1 Introduction

1.1 General

This translation of this original user manual contains instructions and information on the safe operation, correct installation, operation and maintenance of the ComfoSpot 50 ventilation unit.

This documentation has been compiled with the utmost care. However, no rights can be derived from this regarding the publisher's liability for damages due to missing or incorrect information in this documentation. As a result, it is possible that the unit may deviate slightly from this description. In the event of disputes, the German version of the documentation shall be binding.

- The user manual forms a part of the product.
- Read the instructions in full before installing and commissioning the ventilation unit. This will help you avoid hazards and errors.
- Be sure to observe all safety notes, warnings and information on precautionary measures.
- The user manual forms a part of the product. Keep the manual for future reference.

NOTE
In the meaning of this manual, a note includes important information about the product or the respective section of the manual to which special attention is drawn.

1.2 Validity

This document applies to:

- Unit type ComfoSpot 50 series

The unit type series are hereinafter designated with the common product name, ComfoSpot 50.
The subject of this user manual is the ComfoSpot 50 in series production. Accessories are only described to the extent necessary for appropriate operation of the unit. Please refer to the respective instructions for further information on accessory parts.

1.3 Target groups

This manual is for users and qualified personnel. The activities are only allowed to be carried out by appropriately trained personnel who are sufficiently qualified for the respective work involved.

1.3.1 Qualification of target group

1.3.1.1 Users

Users must be instructed by qualified personnel as follows:

- Instruction in hazards when handling electrical devices.
- Instructions on the operation of the ComfoSpot 50.
- Instruction in the maintenance of the ComfoSpot 50.
- Knowledge of and compliance with this manual, including all safety instructions.

1.3.1.2 Qualified personnel

Qualified personnel must have the following qualifications:

- Training in dealing with hazards and risks when installing and operating electrical devices
- Training for the installation and commissioning of electrical devices
- Knowledge of and compliance with the locally applicable building, safety and installation regulations of the relevant local authorities or municipalities, the regulations of the water and electric utilities, and other official regulations and guidelines
- Knowledge of and compliance with this document, including all safety instructions.

1.4 Conformity

The ComfoSpot 50 series ventilation units from the manufacturer

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August-Horch-Straße 7
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Chemnitz commercial register 21371

comply with the directives and standards of the EU and EAC Declaration of Conformity.

2 Proper use

This unit can be used by children aged 8 and over and also persons with reduced physical, sensory or mental abilities, or a lack of experience and knowledge provided that they are under supervision or have been instructed on the safe use of the unit and understand the risks that result from it. Children must not play with the unit. Children must not carry out cleaning and user maintenance without supervision.

2.1 Proper use

- The ComfoSpot 50 is intended for the ventilation of living rooms and spaces with a similar use. Any other use or any use beyond this is considered improper use.
- The ventilation unit is intended for use in rooms with a humidity level of approx. 40% to approx. 70% RH. It must not be installed in rooms where the relative air humidity is permanently above 80% during operation.
- The ventilation unit is not suitable for smoke extraction or drying buildings, for rooms with aggressive and corrosive gases or for rooms with extreme dust levels.
- The ventilation unit may only be operated when fully assembled with all the components (including facade finish).
- Intended use also includes observing all instructions in the user manual.

In the event of improper use, the Zehnder Group accepts no liability for any damage that may occur and no warranty for the proper and functional operation of the ventilation unit.

2.2 Provisions for operation with fireplaces

Local requirements must be taken into account through appropriate standards, laws and guidelines. The ComfoSpot 50 may only be installed in rooms, apartments or utilisation units of comparable size in which open flue fireplaces are installed if:

- safety features prevent simultaneous operation of open flue fireplaces and the air extracting system or
- the flue gas discharge of the open flue fireplace is monitored by special safety features. In case of open flue fireplaces for liquid or gaseous fuels, the fireplace or the ventilation system must be switched off if the safety feature is triggered. In case of open flue fireplaces for solid fuels, the ventilation system must be switched off if the safety feature is triggered.

The ventilation units for controlled ventilation of an apartment or comparable utilisation unit must not be installed if open flue fireplaces are connected to multiple-occupancy flue systems in the utilisation unit.
For proper operation, it must be possible to shut off any combustion ventilation lines and flue gas systems of open flue fireplaces. In case of flue gas systems of fireplaces for solid fuels, it must only be possible to operate the cut-off device manually. The position of the cut-off device must be recognisable from the setting of the operating handle. This is considered to be fulfilled if a cut-off device against soot (soot blocker) is used. Fire protection requirements with regard to the fire protection installation regulations for the construction of the ventilation system, and federal state regulations, in particular the building authority guideline on the fire protection requirements for ventilation systems in the currently valid version, must be observed.

2.3 Guarantee conditions, warranty and liability

2.3.1 Guarantee conditions

The manufacturer grants a guarantee of 24 months from installation or a maximum of 30 months from the date of manufacture on the device. Warranty claims may only be asserted for material defects and/or design faults that have occurred during the warranty period.
The costs of removal and installation on site are not covered by the warranty. The same applies to natural wear and tear. Zehnder reserves the right to change the design and/or configuration of its products at any time with no obligation to adjust products already supplied accordingly.

2.3.2 Warranty

In the event of a warranty claim, the unit must not be disassembled without the written consent of the manufacturer. Spare parts are only covered by the warranty if they have been supplied by the manufacturer and fitted by an approved technician.

The warranty shall be null and void if:

- The warranty period has elapsed.
- The installation has not been carried out in accordance with the applicable regulations.
- The unit is operated without a filter and without a facade finish.
- Original parts have been replaced by non-original parts.
- Unauthorised changes or modifications to the unit have been made.
- The defects are due to improper installation, improper use, or neglected maintenance of the system.

2.3.3 Liability

The ComfoSpot 50 is intended for use in the mechanical ventilation of apartments, offices and rooms with a similar purpose. Every other use other than that described in chapter 2 is considered “improper use” and may result in personal injury or damage to the balanced ventilation unit for which the manufacturer cannot be held liable.

The liability of the manufacturer becomes null and void in the following cases:

- Failure to observe the instructions specified in this manual pertaining to safety, operation, and maintenance.

- Modifications to the ventilation unit or the use of components that have not been approved or recommended by the manufacturer.
- Incorrect installation, improper use or contamination of the system.
- Original parts have been replaced by non-original parts.
- Operation of the unit without filters and without a facade finish.

2.4 Storage

NOTE
Store the ventilation unit in its original packaging in a dry place at temperatures between 0°C and +40°C.

2.5 Environmentally friendly disposal

NOTE
Packaging materials, consumables and waste equipment must be disposed of at the end of their useful life in accordance with the applicable regulations in your country.

3 Safety

This manual contains information that must be observed for your personal safety and in order to prevent personal injury and damage to property. This information is highlighted in the form of warning notes, which are shown below according to the degree of risk. Non-compliance may result in personal injury or damage to the unit.

3.1 Hazard classification

⚠ DANGER
This signal word indicates a hazard with a **high** level of risk which, if not avoided, will result in death or serious injury.

⚠ WARNING
This signal word indicates a hazard with a **medium** level of risk which, if not avoided, will result in death or serious injury.

⚠ CAUTION
This signal word indicates a hazard with a **low** level of risk which, if not avoided, will result in a minor or moderate injury.

3.2 Safety regulations

⚠ WARNING
Unless otherwise specified in this user manual, only a qualified person is authorised to install and commission the ventilation unit and to carry out servicing.

- Installation, commissioning and maintenance must be carried out by authorised persons or companies, unless otherwise stated in this document.
- Comply with the general locally applicable building, fire, safety and installation regulations of the relevant local authorities, the regulations of the water and electric utilities and all other official regulations.
- Installation, commissioning, and maintenance must be carried out by an authorized person or company, unless otherwise stated in this document.
- Do not disconnect the unit from the power supply unless instructions to the contrary are listed in the manual.
- Following installation, all parts that could lead to personal injury are protected by the housing. The unit cannot be opened without the use of a tool.
- After installation, have your system engineer/installer instruct you on the unit and the control panel. The ventilation unit may only be used in accordance with chapter 2 "Proper use".

3.3 Device installation

The national and local installation regulations must be observed for installation and assembly.

- The acceptable temperature range for the air being moved is between -20 °C and +40 °C
- The unit must not be installed in rooms subject to explosion hazards
- When installing the unit, make sure that the applicable country-specific standards / regulations for compliance with protection zones when installing electrical systems in rooms with a bathtub or a shower are observed!
- The unit must not be used for extracting combustible or explosive gases
- The unit must be connected to a fixed 230 VAC / 50-60 Hz power supply

- ▶ To switch off from the mains, a disconnection system using a contact opening width in accordance with the conditions from overvoltage category III for complete disconnection must be provided.
- ▶ Check whether the electrical installation is suitable for the maximum power of the unit.
- ▶ Check that the installation location of the unit meets the requirements in the “5.1 Installation requirements” chapter.

3.4 Operational reliability

- ▶ Only operate the ventilation unit when it is mounted.
- ▶ Only operate the ventilation unit with filters fitted.
- ▶ Only operate the ventilation unit with the interior top cover closed and engaged.
- ▶ Only operate the ventilation unit with a facade finish.

⚠ WARNING

Risk of injury from touching the fan during operation

Without an exterior wall panel, the fan is freely accessible and there is a risk of contact.

Make sure that the ventilation unit is disconnected from the power supply.

4 Chapter for operators and qualified personnel

4.1 Product description

The ComfoSpot 50 is built to the current state of the art and the recognized safety regulations. The unit is subject to continuous improvement and development. This is why it is possible for your unit to deviate slightly from the description.

4.1.1 Unit design and function

The ComfoSpot 50 is a decentralised comfort ventilation unit, with heat and humidity recovery, using synchronous supply and extract air operation.

The ventilation unit is designed for permanent operation and is only to be taken out of operation for maintenance and repair work. With the appropriate (optional) sensor technology in the unit, fully automatic, demand-controlled ventilation operation is possible.

An enthalpy exchanger, which can transfer both humidity and heat owing to the physical characteristics, is used in the ComfoSpot 50 for the heat recovery. The unit body, made from a high-quality polypropylene, is used for accommodating the essential unit components, and also makes sure there is the necessary heat insulation and unit soundproofing.

Both of the maintenance-free centrifugal fans are driven by energy-efficient EC direct-current motors. The fan output in the form of the air volume flow can be adjusted in four stages. In the automatic operating mode, the air volume flow is continuously controlled.

The air passage openings attached on both sides of the interior cover for the supply and extract air can be manually closed or opened using adjustable shutters by means of a thumb wheel.

The ventilation unit requires very little maintenance, but it is important to change the air filter regularly. Inside the unit, there is a filter with filter class ISO coarse 70% for the outdoor air and another one for the extract air in serial production. Optionally, a filter of filter class ISO ePM10 80% can be used for filtering the outdoor air.

The exterior and interior wall panels are made of impact-resistant plastic (ABS). The surfaces are moulded with a white, matt structure and can be painted overusing a solvent-free facade or interior paint. A stainless-steel outdoor air exhaust air cowling can be used as an alternative facade finish.

4.1.2 Operating variants

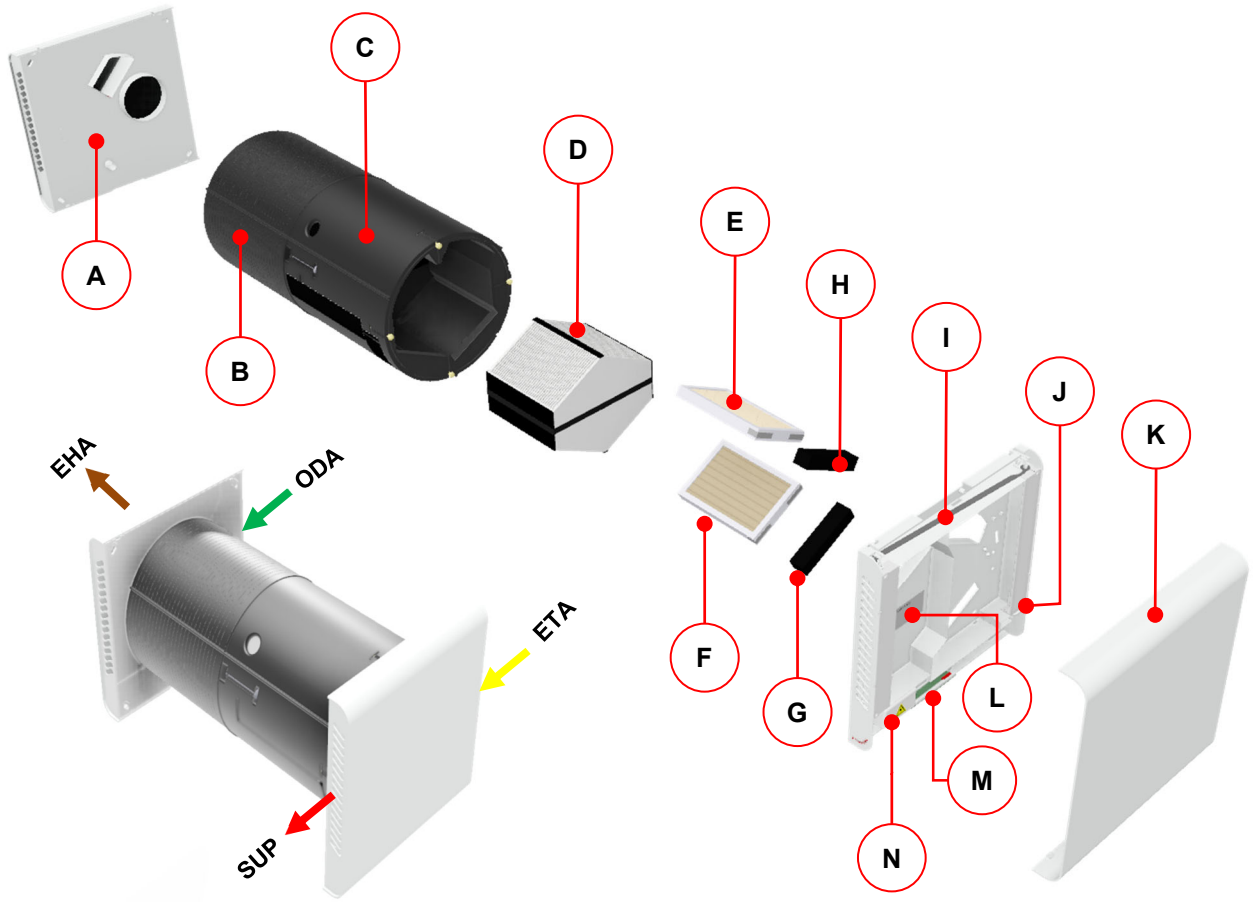
The ComfoSpot 50 offers the following variants that can be combined for convenient operation:

- Operation on the unit – standard version with internal control panel.
- Operation with ComfoLED – optional: External, wired control panel (max. cable length 25 m).
- Radio-based operation – optional: Radio networking via RF module, connection hub and Zehnder Connect app.

NOTE

The external control panel and the connection hub are only suitable for use in indoor areas.

4.1.3 Overview of assemblies



Item	Description
A	Facade finish, external wall panel
B	EPP housing section pipe extension
C	EPP housing section with integrated power supply unit, control board and fans
D	Enthalpy exchanger
E	Extract air filter ISO Coarse 70 %
F	Outdoor air filter ISO Coarse 70 % or ISO ePM10 80 %
G	Filter cap made of cellular rubber for outdoor air filter
H	Filter cap made of cellular rubber for extract air filter
I	Bottom cover of interior cover, with air passage openings on both sides, and flap mechanism
J	Thumb wheel for shutter adjustment
K	Interior top cover
L	Type label
M	Control panel carrier with control panel (either at bottom or top of the bottom cover of interior cover)
N	Cover for electrical connection

4.1.4 Type label

The type label identifies the product unequivocally. The type label is located on the bottom cover of the interior cover. You will need the details on the type label for the safe use of the product and in case of questions for service. The type label must be attached permanently on the product.

4.1.5 Frost protection

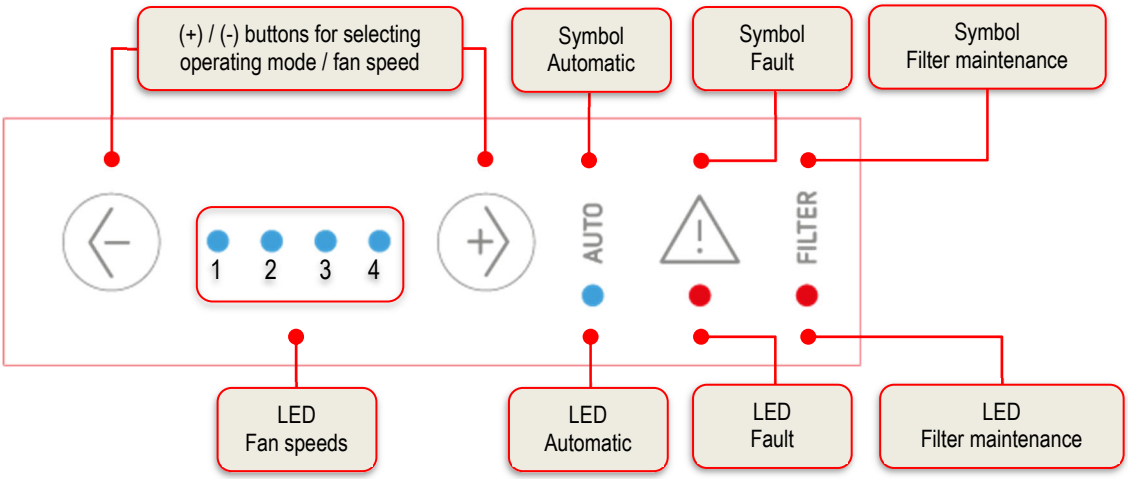
The ComfoSpot 50 is equipped with an automatic frost protection function to prevent the thermal exchanger from icing up. In working condition, the control unit acting in frost protection mode is activated when required for the four manual fan speeds as well as in automatic mode.

4.1.6 Operating and display elements of the control panel

The control panel has membrane buttons and LED status indicators.

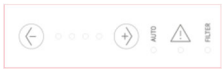
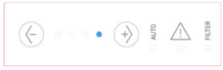
NOTE
The ventilation unit can be operated at the same time with the internal and the external control panel.

The two (+) / (-) membrane buttons are used for setting the various fan speeds and operating modes. The ventilation stages and the Automatic operating mode are indicated with blue LEDs, and the service information with red LEDs.



4.1.7 Description of the operating functions and signals

Icon	Description	Explanation
LED1 lights up	Fan speed operating mode Manual Fan speed 1 (FS1)	The selection for the current fan speed (in total 4 fan speeds with preset speeds for each fan) is made by using the (+) / (-) buttons. Pressing the (+) button sets the next higher fan speed and pressing the (-) button sets the next lower fan speed. **Reduced ventilation** The ventilation unit runs at the lowest ventilation level (15 m³/h). This fan speed can be selected when away and for the purpose of moisture protection. **NOTE** A cyclically limited reduced ventilation can be set with the Away operating mode.
LED1-2 light up	Fan speed 2 (FS2)	**Nominal ventilation** The ventilation unit runs at a low ventilation level (25 m³/h). This is normal operation, used to achieve the necessary ventilation for hygienic and health requirements when users are present.
LED1-3 light up	Fan speed 3 (FS3)	**Increased ventilation** The ventilation unit runs at a higher ventilation level (40 m³/h) to reduce peak loads, e.g., when several people are present.
LED1-4 light up	Fan speed 4 (FS4)	**Intensive ventilation** The ventilation unit runs at maximum ventilation level (50 m³/h). This fan speed is used for a fast air exchange. **NOTE** Intensive ventilation for a limited period of time can be set with the boost ventilation operating mode.
AUTO LED lights up	Automatic operating mode (AUTO)	**NOTE** The Automatic function can only be activated with a sensor module. Pressing the (+) key from the currently active FS4 transfers the unit to AUTO fan speed. AUTO fan speed is excited by pressing the (-) button, and the unit is transferred back to FS4. The Automatic function is visualized by the Automatic LED.
AUTO LED lights up	Bathroom function operating mode	**NOTE** The Bathroom function can only be activated with a sensor module and configured DIP switch setting. The fans are operated at maximum speed starting from a relative room air humidity of 80%. If this limit is not reached, the previously active operating mode is applied again.

Icon	Description	Explanation
 LED1-4 light up	Boost ventilation mode	**NOTE** The boost ventilation function as temporarily activated fan speed 4 can only be activated with a configured DIP switch setting. After the boost ventilation time has elapsed, the unit will be transferred to the most recently selected fan speed. The fan speed that was active for longer than 10 s is deemed as the last fan speed. When boost ventilation is active, the operating modes "Extract air mode" or "Supply air mode", that may be activated, are retained. The duration of the boost ventilation function can be set between 5 and 120 minutes by the customer service team using the programming module. (Factory setting: 15 minutes)
 LED1 lights up during the active time phase	Away mode	**NOTE** The Away function as temporarily activated fan speed 1 can only be activated with a configured fan speed 1. The active operating time of the FS1 can be set between 15 and 59 min/h by the customer service team using the programming module. (Factory setting: 60 min/h ≙ FS1 permanent operation).
	LED display for energy-saving mode	The LED display on the control panel changes after 10 seconds into energy-saving mode without operator input (unit functions remain active; the LED display is switched off). If any key is pressed, the LED indicator will be activated again. Pressing the button brings about no change to the operating mode, however.
	Standby mode	The unit can be switched from FS1 to Standby mode by pressing the (-) button. The fans then come to a stop. **NOTE** The shutters for the air passage openings must be closed using a thumb wheel. Standby mode is excited by pressing the (+) button. The unit will start with fan speed 1. **NOTE** Closed shutters must be opened again beforehand using the thumb wheel. There is no indication of the Standby mode from the LEDs of the control panel.
 LED1 flashes in alternation with the current fan speed	Extract air mode	Pressing the (-) key for 5 seconds in operating modes FS1 to FS4 activates or deactivates the Extract air mode. The supply air fan is switched off; the extract air fan continues to run with the current fan speed. The display for the current fan speed alternates every 2 seconds with the flashing LED1.
 LED4 flashes in alternation with the current fan speed	Supply air mode	Pressing the (+) key for 5 seconds in operating modes FS1 to FS4 activates or deactivates the Supply air mode. The extract air fan is switched off; the supply air fan continues to run with the current fan speed. If the outdoor temperature falls below 13 °C, the extract air fan will be activated. The display for the current fan speed alternates every 2 seconds with the flashing LED4.

Icon	Description	Explanation
 LEDs1-3 flash Flashing of most recently active fan speed when supply air fan is switched off (Display of LED1-3 as example)	Frost protection mode	From an outside air temperature of -4°C, the frost protection function is automatically activated. In frost protection operating mode, the ratio between the supply air and extract air volume flow is automatically adjusted depending on the outside air temperature, and the unit is shut down if the outside air temperature is lower than -15°C. A check is made regularly as to whether the temperature conditions in regard of frost protection have changed, and the respective operating mode (requiring frost protection) is activated automatically according to the result of that check. After the unit is switched off, a flashing in those LEDs (by pressing the (+) or (-) key) which denoted the most recently active fan speed will be signalled. The fan speed cannot be changed and is signalled with the flashing of Fault LED **NOTE** Changing from a higher to a lower fan speed may not be possible depending on the currently active frost protection routine.
 Fault LED flashes	Indication of locked modes	If an inaccessible operating mode is selected by pressing, it will be signalled by the flashing of Fault LED. These operating modes are the locked standby, locked supply and extract air mode and complete switch-off due to frost protection.
 LED filter maintenance lights up	Indication Filter maintenance	The filters are monitored based on running time. 90 days are preset by default. After the filter runtime has elapsed, notification in regard of a filter maintenance is signalled by the filter maintenance LED flashing. Simultaneously pressing the (+) and (-) keys for 3 seconds allows you to acknowledge the indication of the filter maintenance and to reset the filter runtime.
 Fault LED lights up Error code LED1-4	Signalling of error code fault message	If an error occurs, this is signalled by the fault LED. Faults that can be diagnosed by the unit are symbolized by LED1-4 using an error code. Simultaneously pressing the (+) and (-) keys for 3 seconds allows you to delete the indication of the fault notification.

4.2 Options for ventilation operation

The ComfoSpot 50 can also be equipped with optional accessories for convenient operation and demand-controlled ventilation mode.

NOTE

Ventilation operation by means of optional accessories requires the installation and configuration of those accessory components.

4.2.1 External control panel

The Zehnder ComfoLED external control panel offers the possibility to operate the ventilation unit at a distance from the integrated control unit. The operating and display elements of the external control panel correspond to those on the internal control panel installed on the unit. If an external control panel is installed, the internal control panel supplied as standard remains fully functional.

4.2.2 Operation via networking

4.2.2.1 Operation via radio module

Ventilation units in a ventilation zone can be easily networked with each other using radio modules. The function of the ventilation units is synchronised. The settings are still made on the internal or external control panels.
Mixing systems with ComfoAir 70 series ventilation units in a common ventilation zone are possible.

4.2.2.2 Operation via the connection hub and Zehnder Connect App

Using the connection hub and Zehnder Connect App, ventilation units with a radio module in a residential unit can be conveniently operated via a mobile device. This allows complex networks to be set up. The central point of these networks is the Zehnder connection hub. It serves as an interface between the ventilation units, the mobile end devices (app) and, if available, a WLAN network with Internet connection for operating the units while away.
Mixed systems with ComfoAir 70 series ventilation units in a common residential unit are possible.

4.2.3 Automatic operation via sensor module

The application of the Automatic function follows the logic of a demand-controlled system for optimizing the indoor air quality. Consequently, an optimized response is achieved, and mildew formation is prevented, which ultimately also leads to an increase in energy savings. The ventilation unit of the ComfoSpot 50 series with a sensor module is classified in energy efficiency class A.

NOTE
The automatic operating mode switches to frost protection operating mode if frost protection criteria are met.

4.2.3.1 Functional principle of HUMIDITY sensor

NOTE
The HUMIDITY sensor module is primarily supposed to be installed in units for the ventilation of rooms with an increased occurrence of humidity.

The HUMIDITY sensor module is equipped with a combined humidity and temperature sensor and calculates the relative humidity. In the evaluation of the current sensor signal for the setpoint selection, the fans are regulated in accordance with the characteristic curve in diagram 1. Since the dehumidification performance decreases the smaller the temperature difference between indoor and outdoor air, at a difference of $\Delta T < 5$ K the air volume is reduced to 20 m³/h. When the Bathroom function operating mode is active, the unit will be operated with the highest fan speed if the relative humidity amounts to 80% or more.

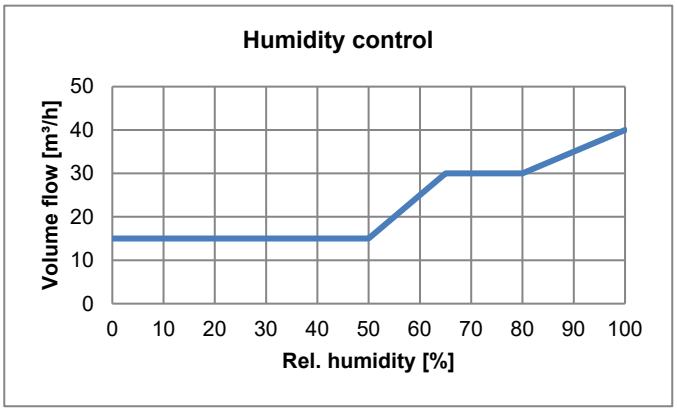


Diagram 1: Factory setting characteristic curve for Automatic operating mode with humidity control

4.2.3.2 Functional principle of CO_2 / VOC sensor

NOTE
The CO_2 sensor module and the VOC sensor module are each combined with a humidity/temperature sensor.

The CO_2 sensor module and the VOC sensor module both offer the option to evaluate relative air humidity as well as the air quality for controlling the ventilation unit. The VOC sensor module detects volatile organic compounds (VOC) and the CO_2 sensor module, as NDIR sensor (nondispersive infrared sensor), detects carbon dioxide (CO_2). Volatile organic compounds correlate with the CO_2 concentration in living spaces. In the evaluation of the current sensor signal for the setpoint selection, the fans are regulated in accordance with the characteristic curve in diagram 2.

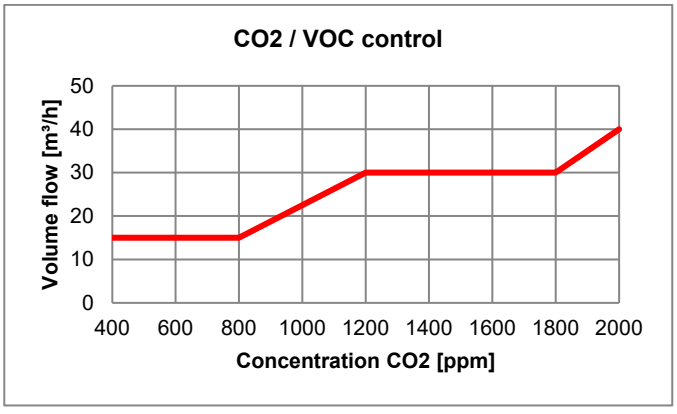


Diagram 2: Factory setting characteristic curve for Automatic operating mode with CO_2 / VOC control

NOTE
The CO_2 and VOC sensor modules combined with a humidity/temperature sensor can be deactivated separately if needed, in accordance with the humidity or air quality control. The HUMIDITY sensor technology is primarily supposed to be installed in units for the ventilation of rooms with an increased occurrence of humidity. However, if both sensor functions are configured as active, the control characteristic of the higher sensor signal becomes effective. The required hardware settings on the control system are only allowed to be made by qualified personnel.

4.3 Maintenance by the user

Maintenance work on the ventilation unit is limited to filter replacement and external cleaning as required.

NOTE

If the maintenance work is not carried out regularly, this will affect the functionality of the ventilation unit in the long run, in particular in the case of a failure to perform filter maintenance.

4.3.1 Filter maintenance

The ventilation unit has a runtime-controlled filter monitoring system with visual indication via the filter maintenance LED. The filter monitoring period is 90 days as standard but can be adjusted to a period of between 30 and 180 days by the customer service department using a programming module.

NOTE

If the air is heavily polluted (e.g. with road traffic, industrial use, in rooms with increased dust levels), change the filters every three months.

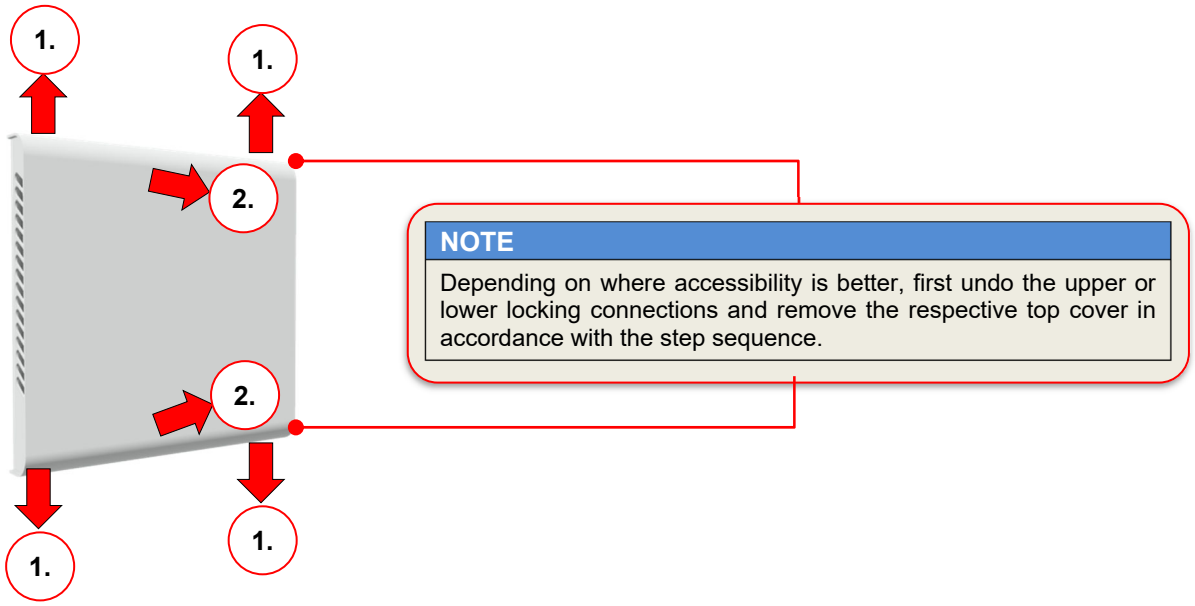
4.3.1.1 Replacing the air filter

NOTE

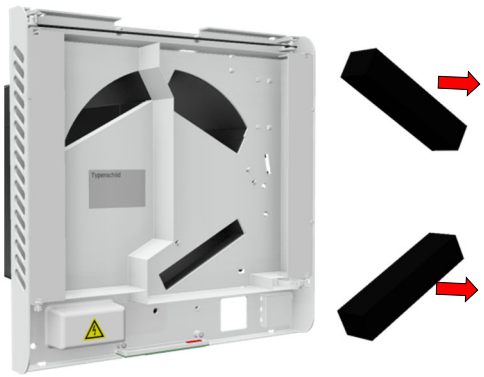
The ventilation unit must not be operated without filters. During filter maintenance, the unit needs to be transferred to the Standby operating mode.

The ventilation unit is equipped with two air filters of filter class ISO Coarse 70% as standard. Retrofitting with filters of filter class ISO ePM10 80% is possible, preferably the higher quality ePM10 filter is inserted into the lower filter compartment as an outdoor air filter. No tools are needed to change the air filter. Proceed as follows with the relevant filter maintenance LED signal:

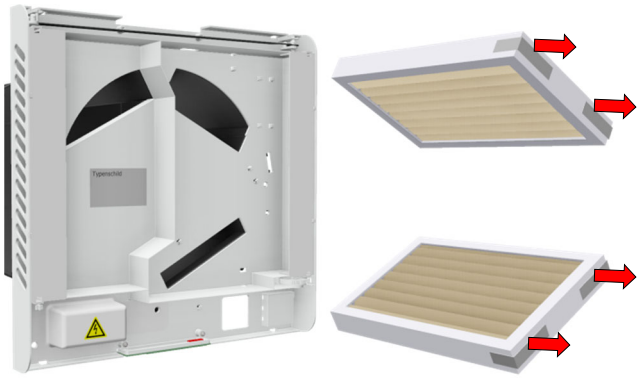
1. Put the unit into the Standby operating mode.
2. Take off the interior top cover, by disengaging the double locking connection (available on both sides) between the bottom and top cover of the interior top cover, either on the upper or lower curve (depending on the better accessibility). To do so, lift the relevant ends of the curved surface on the interior top cover approx. 2-3 mm upwards or downwards (1.) and pull it out to the front and out of the guides (2.), see figure.



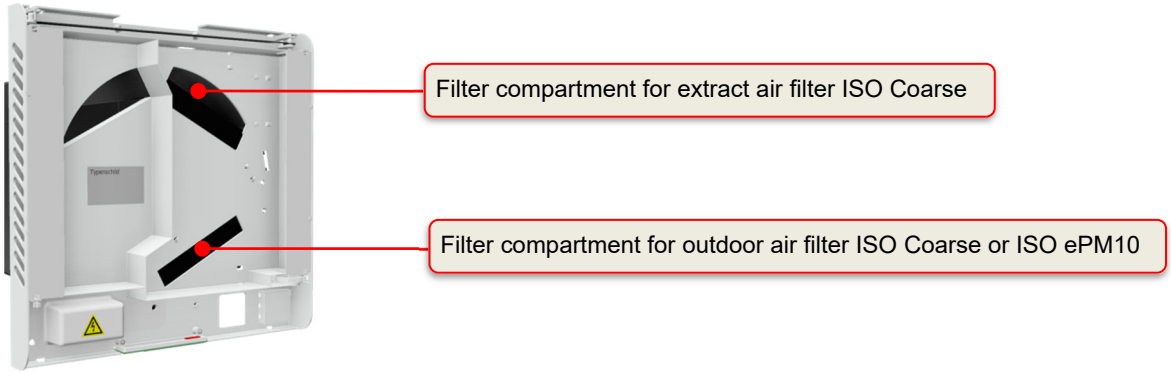
3. Use your finger to grasp at the side between the cellular rubber filter cap and the filter compartment opening of the bottom cover of the interior cover and pull out the filter cap.



4. Gripping the pulling tabs, pull the filter carefully out of the filter compartment.

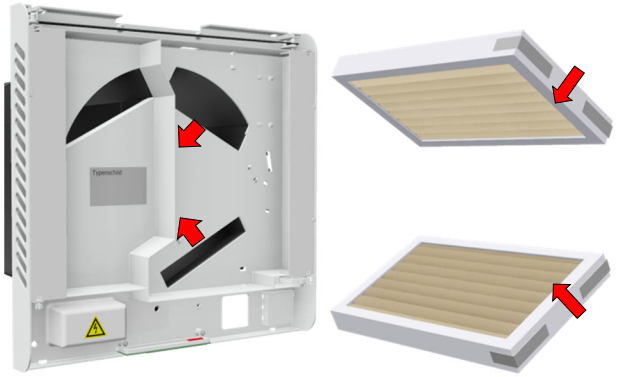


5. Insert the filters into the respective filter compartments in accordance with their class.

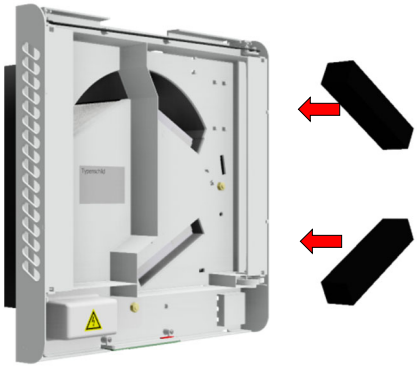


6. Using the directional arrow of the filter label pointing to the centre of the unit, insert the new filters.

NOTE
An arrow marker for the direction of flow for the filter is engraved on the bottom cover of the interior cover next to the filter compartment in each respective case. Make sure that the filter is not pushed into the filter compartment with force.



7. Insert the filter caps again so that the filter compartment is closed evenly.



8. Put the interior top cover onto the bottom cover and press them in the area of the locking connections until you can hear them engage.
9. Switch the unit back into the desired operating mode.

4.3.1.2 Resetting the filter maintenance display

The filter maintenance indicator must be reset after each air filter change in order to restart the filter maintenance cycle monitoring. To do this, press the (+) and (-) buttons on the control panel simultaneously for three seconds. The illuminated red intelligent filter alert LED will go out.

NOTE

As part of filter maintenance for units with a second room connection, check any other air filters that may be present in the ventilation system.

4.3.2 Unit maintenance

Maintenance of the unit is limited exclusively to the external surfaces of the ventilation unit and the operating surface of the control panel, which should be wiped down from time to time using a soft, damp cloth – never just wipe dry.

⚠ WARNING

Risk due to electric shock

Disconnect the ventilation unit from the power supply before cleaning.

Make sure that no moisture can enter the inside of the housing during cleaning.

Never use a high-pressure cleaner, steam cleaner or steam jet.

NOTE

Never use flammable, acidic, corrosive or abrasive cleaning agents.

4.3.3 What should I do in case of a malfunction?

In the event of a fault message (indicated by the LED fault lighting up continuously), contact customer service.
Information about the type of your ComfoSpot 50 can be found on the type label, which is located under the design cover of the unit.

NOTE

As a reaction to a fault status, the fans are shut down.

As soon as there is a disconnection, the apartment will no longer be mechanically ventilated. This may result in moisture and mould problems in the room that requires ventilation.

5 Chapter for qualified personnel

5.1 Installation requirements

The following requirements must be assured for the correct installation:

- ▶ Installation in accordance with the general and locally applicable safety and installation regulations from, among others, the electric utility, and in accordance with the regulations stipulated in this manual.
- ▶ Outside wall with final construction thickness of minimum 335 mm.
- ▶ Sufficient space from objects and for maintenance work (at least 10 cm on extract air side, 20 cm on the supply air side, 70 cm at the front, and 2 cm above the unit), with regard to the housing surfaces when installed.
- ▶ Minimum distances on the facade side of 10 cm for outdoor air and 20 cm for exhaust air; rrecommended suction opening for the outdoor air with respect to the ground >1 m, however, at least unpolluted air in the suction area t.
- ▶ Electrical connection for stationary units for a working voltage range between 100–240 VAC / 50–60 Hz.

5.1.1 Packaging and handling

The ventilation unit and the facade finish are packed in a transport-safe box. Proceed with care when unpacking and handling the ComfoSpot 50.

NOTE

Do not damage or dispose of the packaging before final installation of the ventilation unit.

5.1.2 Checking the scope of delivery

If damages or incompleteness should be determined at the delivered product, please contact the supplier immediately. Included in the scope of delivery are:

- ComfoSpot 50, including installation kit
- Facade finish including installation set
- User manual
- Product labels for energy-efficiency label

5.2 Installation

5.2.1 General installation requirements

The ComfoSpot 50 is intended exclusively for installation in an outside wall, where the side air passage openings must be located on the inner side, vertically and with the thumb wheel for shutter adjustment on the right side.

The following requirements and precautions at the installation site must be taken into account:

⚠ WARNING

Observe accident prevention regulations

Observe the accident prevention regulations when setting up the installation site.

Secure the outside area against falling parts.

⚠ WARNING

Danger due to escaping gas or electric shock

Make sure that there are no supply lines (e.g., electricity, gas, water) in the area of the external wall opening and that the external wall opening meets the static requirements on site.

⚠ WARNING

Risk due to electric shock

Observe the country-specific standards/regulations for compliance with the protection areas for installation in rooms with a bathtub or shower with regard to the IP11 degree of protection applicable to the ventilation unit.

NOTE

The electronics/control unit can be damaged by static charge, which is why you must always take measures to prevent electrostatic discharge when handling the control unit (e.g. by wearing an anti-static armband).

5.2.2 Installation preparations

5.2.2.1 Preparations for installing the wall mounting pipe

Prior to installing the ventilation unit, an appropriate wall mounting pipe must already be installed in the outside wall at the designated installation location. It must be adjusted flush with the dimensions of the final wall structure.
The square wall mounting pipe, intended in particular for new buildings, should be integrated in the outside wall construction in the course of constructing the outside wall. The round wall mounting pipe is to be inserted after drilling a core hole (∅ 340 mm) into the drill hole of the outside wall.

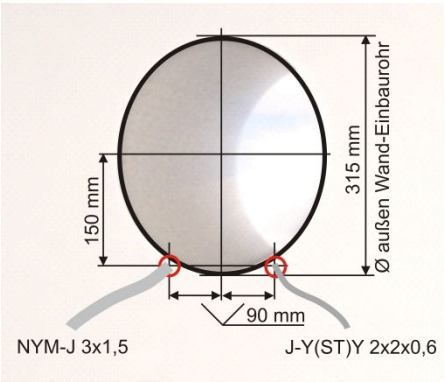
NOTE

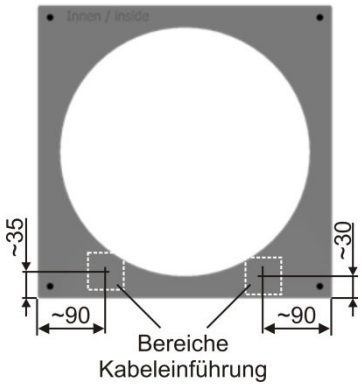
Installation of the ComfoSpot 50 requires the use of the round or square wall mounting pipe.

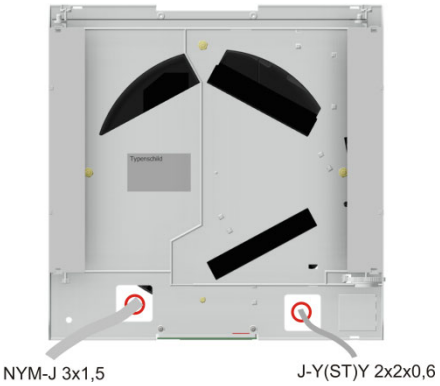
Observe the respective enclosed instructions on professional installation when installing the wall mounting pipe.

5.2.2.2 Preparations for installing electrical connections

The mains supply line for the power supply must be installed in the area of the bottom left side of the unit and, where applicable, the control cable for connecting an optional external control panel, must be installed up to the area of the bottom right side of the unit. The cable ends should protrude approx. 10 cm out of the wall surface in the respective area of the cable entry point of the bottom cover of the interior cover.







NOTE

For the power supply, a mains cable (recommended type NYM-J 3x1.5) for stationary units with disconnection with a contact opening width corresponding to the conditions of overvoltage category III for full disconnection must be provided on site.

For the connection of an optional, external control panel, a control cable (recommended type J-Y(ST)Y 2x2x0.6) must be laid on site between the external control panel and the ventilation unit.

5.3 Installing the ventilation unit

DANGER

Fatal voltages

Disconnect all poles of the mains cable intended for connection to the ventilation unit from the power supply before carrying out installation and maintenance work.

Proceed as follows for the installation of the unit:

NOTE

Optional accessories, such as sensor modules and wireless or wired operating modules, must be fitted into the unit before installation. For this purpose, use the installation instructions enclosed with the respective accessories.

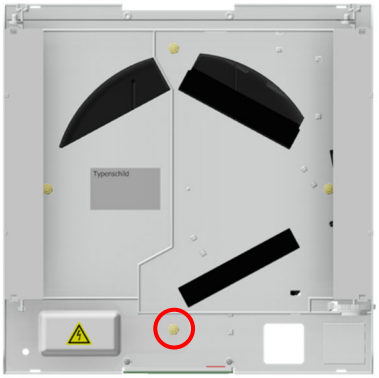
If necessary, the internal control unit on the bottom cover of the interior cover must also be moved before installation in the dismantled state.

1. Adjust the installation length of the unit either to the wall thickness or to the measure of length of the wall mounting pipe by shortening the EPP housing extension.

NOTE

The cut must be performed all around, perpendicular to the axis of the EPP pipe extension.

2. Remove the interior cover from the bottom cover, whilst considering the explanations given in 4.3.1.1, section 2.
3. Take off the cover for the electrical connection by undoing the yellow PVC nut.

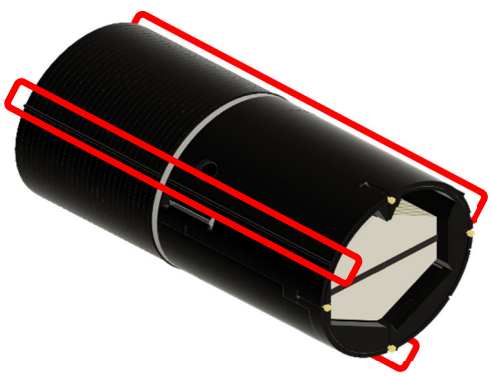


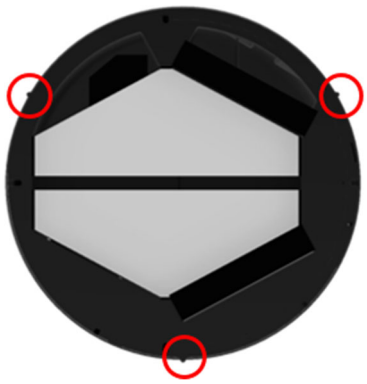
4. Insert the unit, together with the bottom cover of the interior cover, as far as it will go into the wall mounting pipe, whilst considering the position of the openings for the electrical connections.

NOTE

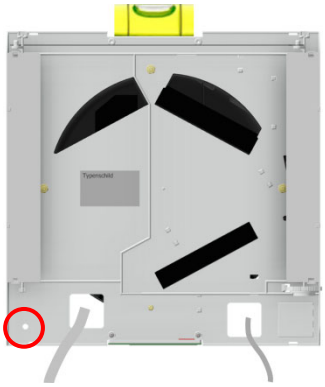
Spray silicone spray onto the interior of the wall mounting pipe.

If necessary, a suitable tool can be used to remove the centring spring raised 5 mm, and arranged 3 times on the EPP housing, to the dimension ∅ 300 of the EPP basic body, in order to facilitate the insertion.





5. Align the unit with the side air intake grills of the bottom cover of the interior cover being vertical. Transfer the drill hole onto the wall (in conjunction with the round wall mounting pipe) or onto the EPP housing for the square wall mounting pipe.



NOTE

The vertical installation of the bottom cover of the outside wall panel requires the precise horizontal positioning of the bottom cover of the interior cove.

6. Pull the unit out of the wall mounting pipe again. Drill a drill hole and install the dowel from the installation set or a different dowel suitable for the material.

NOTE

When the square wall mounting pipe is installed, the plasterboard dowel must be screwed into the EPP housing of the wall mounting pipe, and the bottom cover must be fastened using the countersunk wood screw! The plasterboard dowel and countersunk wood screw are an integral part of the installation set for the square wall mounting pip.

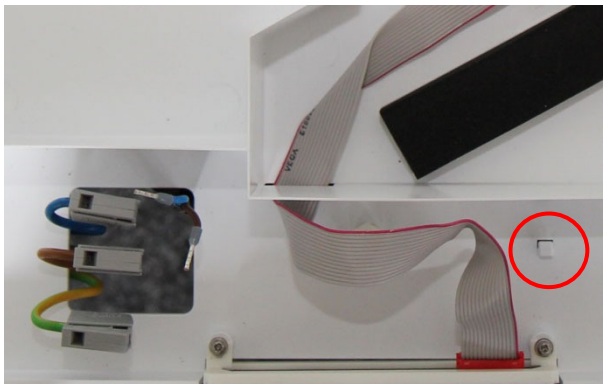
7. Slide the unit back into the wall mounting pipe as far as it will go, whilst considering the position of the openings for the electrical connections and fix the bottom cover of the interior cover in place using the screw from the installation set or the alternatively selected fixing material.

5.3.1 Relocating the internal control panel

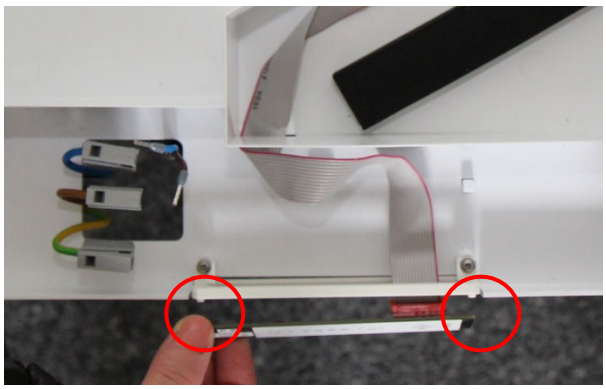
The control panel can be positioned for optimum accessibility either at the top or bottom of the interior cover of the unit, depending on the ventilation unit's wall mounting height.

Relocating this can be done as follows if the interior top cover is removed:

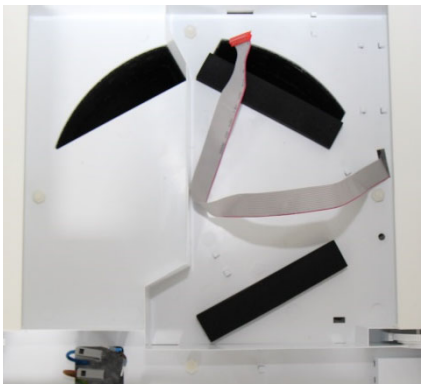
1. Take the ribbon cable out of the cable retainer in the connection area of the control pane.



2. Cautiously pull the control panel using the two interlocking fixings (at the side) off the control panel carrier, and guide the control panel, together with the still connected ribbon cable, out of the control panel carrier for better handling.



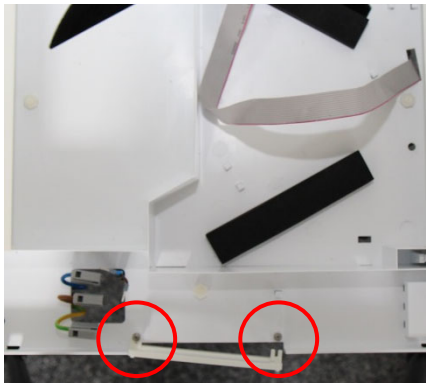
3. Disconnect the ribbon cable from the board for the control panel, by pulling the ribbon cable's plug (gripping with two fingers) out of the socket located on the board. Meanwhile, hold the control panel tight in the area of the plug connection using two fingers on your other hand. Remove the ribbon cable from the cable retainers and guide it back to the opening and into the bottom cover of the interior cover.



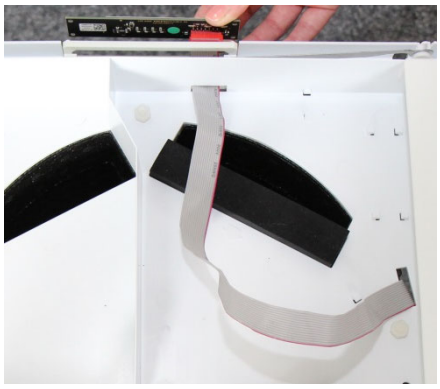
NOTE

Pull the plug of the ribbon cable cautiously out of the post connection.

4. Undo and remove the two screws for fastening the control panel carrier, bring them onto the opposite side, and fasten the control panel carrier equally on the two screw-in mandrels.



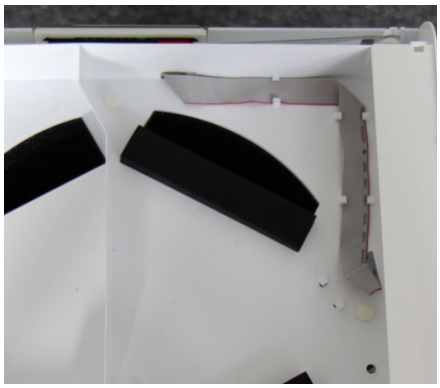
5. Guide the ribbon cable through the frame opening of the bottom cover and the control panel carrier. Restore the plug connection between the ribbon cable and control panel.



NOTE

Watch out for the reverse polarity protection for the post connection when connecting.

6. Install the ribbon cable in the designated fixing points, taking care to produce a smooth overlapping in the vicinity of the 90° bends. Then snap the control panel onto the control panel carrier in the correct position.



NOTE

When positioning the top cover, make sure that the cut-out on the curved surface of the top cover is on the side of the control panel.

5.4 Electrical connections

⚠ WARNING

The activities described in this chapter may only be carried out by skilled personnel with the following qualifications:

Training on the installation and commissioning of electrical units.

Training on electrical hazards and local safety regulations.

Knowledge of the relevant standards and guidelines.

Fat Fatal voltages

Fatal voltages

Only a qualified electrician may carry out the electrical installation.

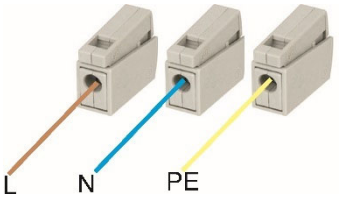
The VDE regulations or the special safety regulations of your country apply to the electrical installation.

Observe the five safety rules (DIN VDE 0105-100 when working on electrical systems:

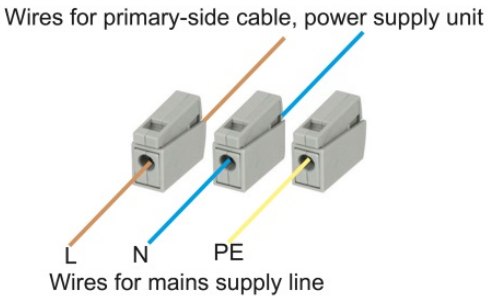
- ▶ Disconnect (all-pole disconnection of a system from live parts)
- ▶ Secure against restarting
- ▶ Determine absence of voltage
- ▶ Grounding and short-circuiting
- ▶ Cover or block off adjacent live parts

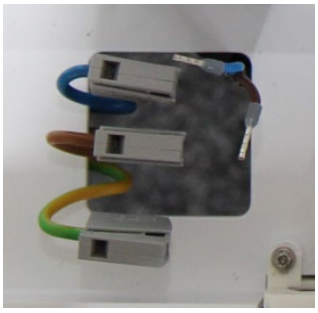
Der The power supply is connected after the final positioning of the unit in the wall mounting pipe. In doing so, proceed as follows:

1. Plug the WAGO lighting terminals (3 pieces included in the installation set) with the plug-in terminal connector for solid conductors onto one stripped wire of the mains supply line each.

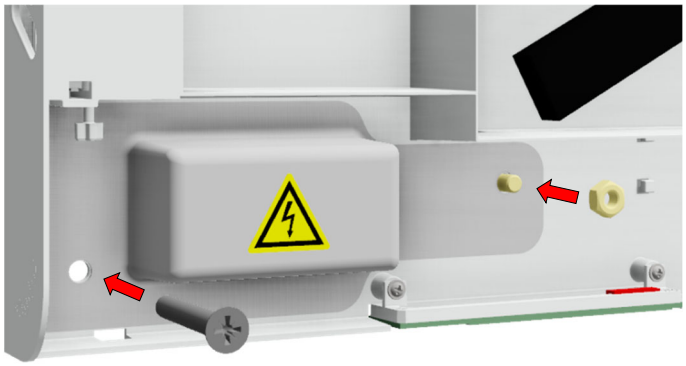


2. Connect one wire of the unit connecting cable respectively to the clamping connection for the stranded wire of the WAGO luminaire terminal for the L-conductor and the N-conductor. The WAGO luminaire terminal of the PE conductor remains unassigned (ventilation unit corresponds with protection class II – protective insulation).





3. Install the connections orderly and space saving so that the mounting of the plastic cover for the electric connections can be done without difficulty.
4. Mount the plastic box for covering the electrical connection and fix it in place on the right-hand side using the yellow PVC nut and on the left-hand side using the designated screw for fixing the unit on the wall.



5.5 Parameterisation of boost ventilation and absent operating modes

As described in “4.1.7 Description of the operating functions and signals”, the boost ventilation and absent operation modes can be adjusted according to user-specific needs.

NOTE

Parameterisation must be carried out in the accessible status of the control board.

5.5.1 Configuration of the boost ventilation mode

The temporarily active fan speed 4 operates as the boost ventilation function. To enable boost ventilation mode, DIP switch no. 3 in MODE SW1 must be set to the ON position.

DIP switch no.	Position of DIP switch
3	ON

The boost ventilation time can be parameterised between 5 and 120 minutes with the programming module.

5.5.2 Configuration of the Away mode

The temporarily activated fan speed 1 operates as the Away function. The active operating time of fan speed 1 can be parameterised between 15 and 59 min/h with the programming module.

5.6 Installing the exterior wall panel as a facade finish

⚠ WARNING

Danger due to falling exterior wall panel

The exterior wall panel is to be fixed using the supplied mounting accessories or with mounting material suitable for the facade construction. The professional and safe installation is to be checked and the responsibility of the technical crew performing the work.

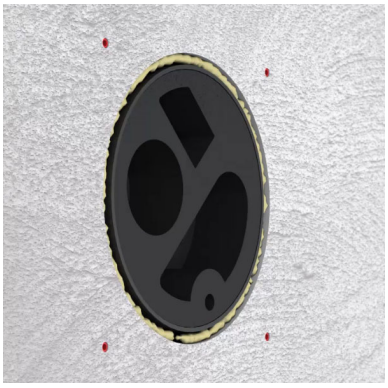
NOTE

The exterior wall panel should not be installed until the façade is completed, however, immediately following installation of the ventilation unit. Check the flatness between the wall mounting pipe, the EPP pipe housing, and the façade surface. The connection between the wall mounting pipe and the facade surface must be permanently sealed against moisture ingress.

Proceed as follows for the installation of the exterior wall panel:

1. Take the top cover of the outside wall panel off the bottom cover of outer cover as set out in 4.3.1.1, item 2.

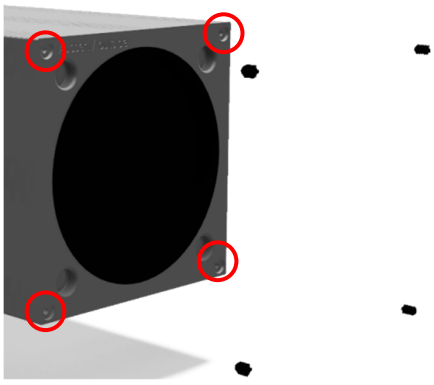
NOTE



Using the raised contours for the airflow, put the bottom cover of the outside wall panel onto the EPP housing section pipe extension so that it fits exactly, and transfer the drill holes onto the façade centrally.

Take the bottom cover of the outside wall panel off again and prepare a suitable fastening technique for the four fixing points as set out in the façade design.

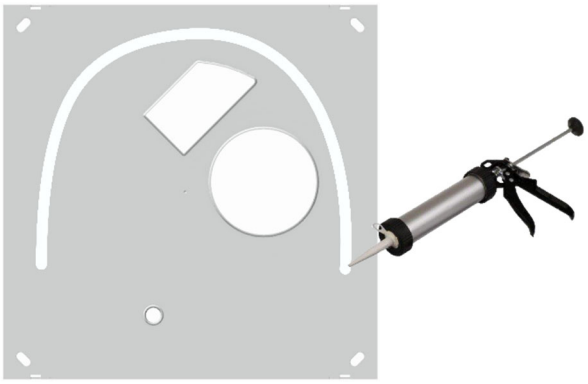
NOTE for the square wall mounting pipe



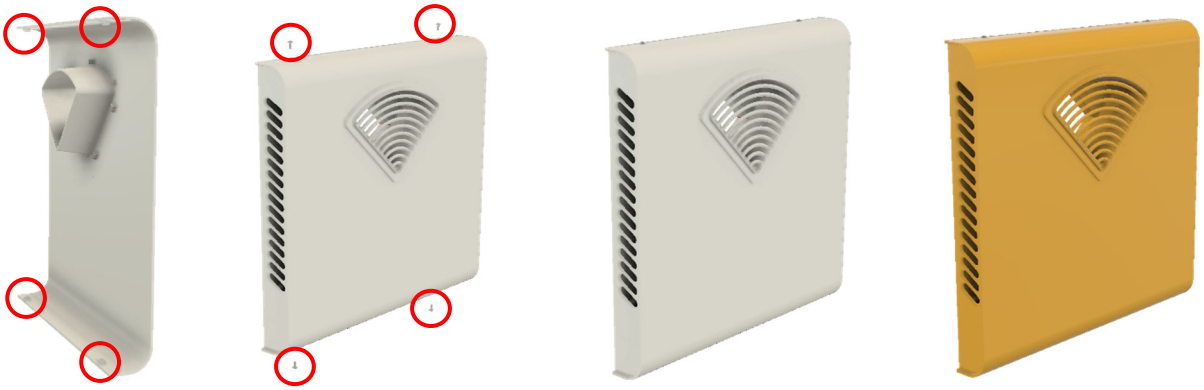
Use a hammer to cautiously tap in the respective driven-in dowel into the four receiving holes in the EPP housing for the wall mounting pipe surface plan.

2. Using the raised contours of the airflow, put the bottom cover of the outside wall panel onto the EPP housing and fasten it in the slots with the four screws.

NOTE
Then screwing the bottom cover to the wall, the bottom cover of the outside wall panel must not bend! If necessary, undo the screws again so that the bottom cover of the outside wall panel is still fitted tightly to the façade, but this does not cause any deformation. To protect against penetrating water, the gap between the bottom cover of the outside wall panel and the façade must be sealed using a suitable sealant (weatherproof acrylic).



3. Press the top cover for the outside wall panel onto the bottom cover using all four locking connections. Fasten the four screws from the supplied installation kit for the top cover of the outside wall panel on the bottom cover of the outside wall panel.



NOTE
In general, the top cover of the outside wall panel must be secured using additional fixing at 4 points. If needed, the top and bottom cover of the outside wall panel made of ABS can be painted over with the façade colour. Only solvent-free paint coatings may be used.

5.7 Commissioning

NOTE
Perform the commissioning process in compliance with the specifications in chapter “3.4 Operational reliability”.

Proceed as follows for the initial commissioning:

2. Check the ventilation unit for any damage and for the presence/completeness of all safety and functional assemblies.
3. Energise the mains supply line to establish the operating voltage at the ventilation unit.
4. After an initiation phase of approx. 3 seconds, indicated by the LEDs lighting up, the operating modes can be tested.

5.8 Specialist maintenance

Inspection and cleaning of the enthalpy exchanger must be carried out at two-yearly maintenance intervals.

NOTE
Instructions for proper disinfection can be found at www.core.life.

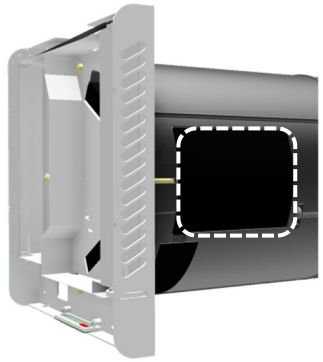
In doing so, proceed as follows:

1. Disconnect the ComfoSpot 50 from the supply voltage.
2. Take the interior top cover off and remove the filter caps and filters (see chapter “4.3 Maintenance by the user“).

3. Remove the plastic box for covering the electrical connection and disconnect the unit connecting cable (see chapter “5.3 Installing the ventilation unit” and “5.4 Electrical connections”).

NOTE
Disconnect the plug connection of the connecting cable if the external control panel is connected.

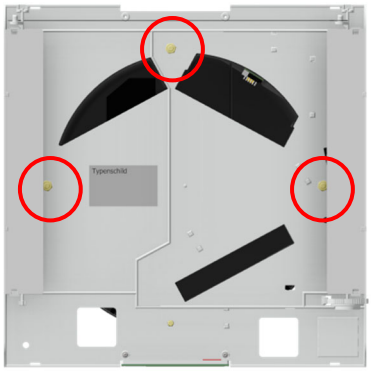
4. Pull the ventilation unit far enough out of the wall mounting pipe until the PVC cover for the control board is freely accessible.

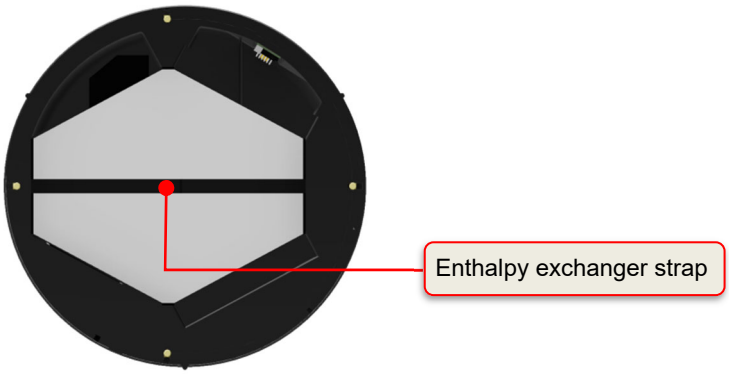


5. Remove the PVC cover of the control board at the side of the ribbon cable entry out of the slot on the EPP housing, and gripping the plug, cautiously pull the ribbon cable out of the UI X9 plug connection on the control board.

NOTE
In the case of a connected external control panel and/or a built-in radio module, pull the connection cable out of the BUS X7 connector on the control board in order to be able to remove it from the EPP housing together with the bottom cover of the interior cover.

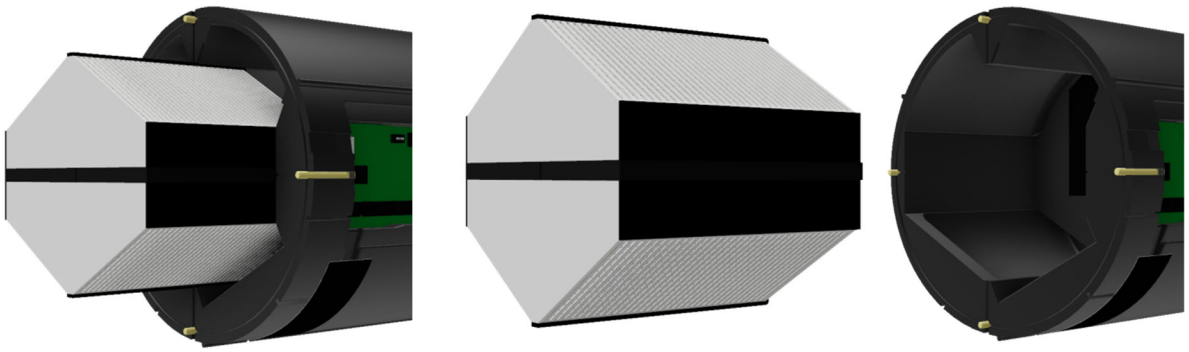
6. Undo the remaining three PVC nuts used to fasten the bottom cover of the interior cover from the threaded bolts and remove the bottom cover.





7. Gripping the strap, cautiously pull the enthalpy exchanger out of the EPP housing.

NOTE
When withdrawing the enthalpy exchanger, use your other hand to hold the EPP housing tight, gripping the lower filter compartment.



8. Proceed as follows when cleaning:

NOTE
Do not use aggressive or solvent-based cleaning agents.

- ▶ Immerse the enthalpy exchanger a few times in warm water of max. 40°C.
- ▶ Then rinse off the enthalpy exchanger thoroughly with warm tap water of max. 40°C.
- ▶ Place the enthalpy exchanger in the installed position for approx. 15 minutes so that the residual water can drain out of the openings.

9. Push the enthalpy exchanger carefully into the EPP housing as far as it will go.

NOTE
Also hold the EPP housing tight when doing so.

10. Following the inspection, install all parts whilst considering the restoration of all electrical connections in the reverse order.
11. Restore the power supply and set the ventilation unit to the operating mode desired by the operator.

5.9 Visualization of fault notifications

The unit control system is equipped with an internal system for recognizing faults. A fault notification is visualized through the flashing of the red "Fault LED" and a coded failure prediction using LED1-4.

Fault	LED1	LED2	LED3	LED4
Fan 1	flashes	-	-	flashes
Fan 2	-	flashes	-	flashes
Temp. sensor outdoor air	-	-	flashes	flashes
Humidity sensor	flashes	flashes	-	flashes
CO_2 / VOC sensor	-	-	-	flashes

5.10 Technical specifications

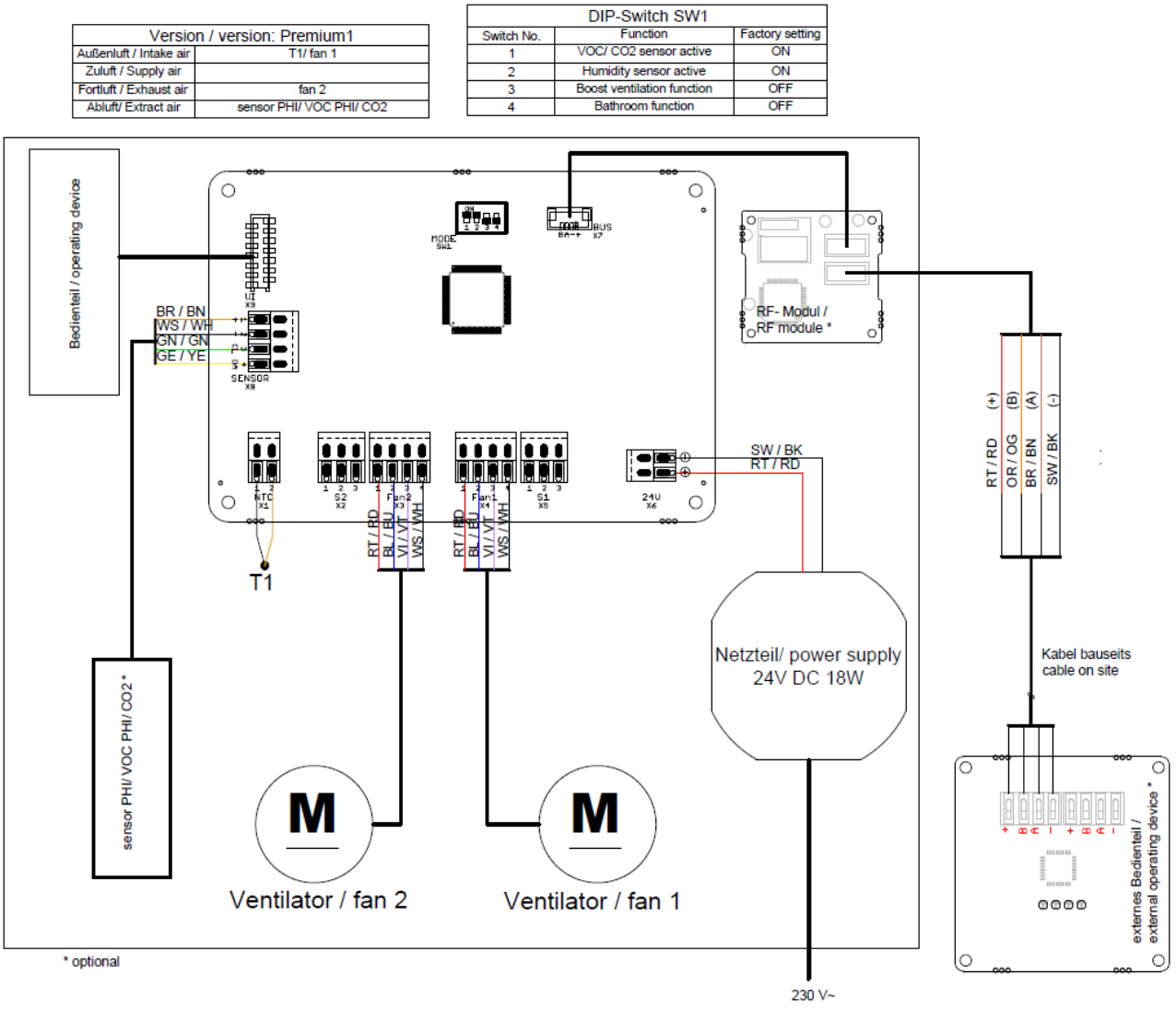
General specifications	Description / Value
Heat exchanger type	Enthalpy exchanger with polymer membrane
Housing / Interior lining	ABS plastic, UV-resistant; interior lining is made of expanded polypropylene (EPP) to provide heat and sound insulation
Weight	6 kg
Operating voltage	230 V AC (working voltage range 100 to 240 V AC)
Mains frequency	50 to 60 Hz
Max. current draw	0.07 A
Protection class	II
Degree of protection	IP11
Temperature ranges	-20 to 40 °C
Installation location	In a wall mounting pipe of a vertical outer wall wall thickness min. 335 mm to max. 600 mm (to 885 mm with extension set)
Mounting position	Horizontally in the wall mounting pipe; Air passage openings for supply and extract air laterally vertical on the interior cover, thumb wheel for shutter adjustment on the bottom cover ON THE RIGHT 

Operation data				
Fan speed	Volume flow [m³/h]	Thermal efficiency [%]	Humidity efficiency [%]	Power consumption [W]
Standby	-	-	-	< 1
FS1	15	85	74	4
FS2	25	76	58	6
FS3	40	66	46	10
FS4	50	62	44	15

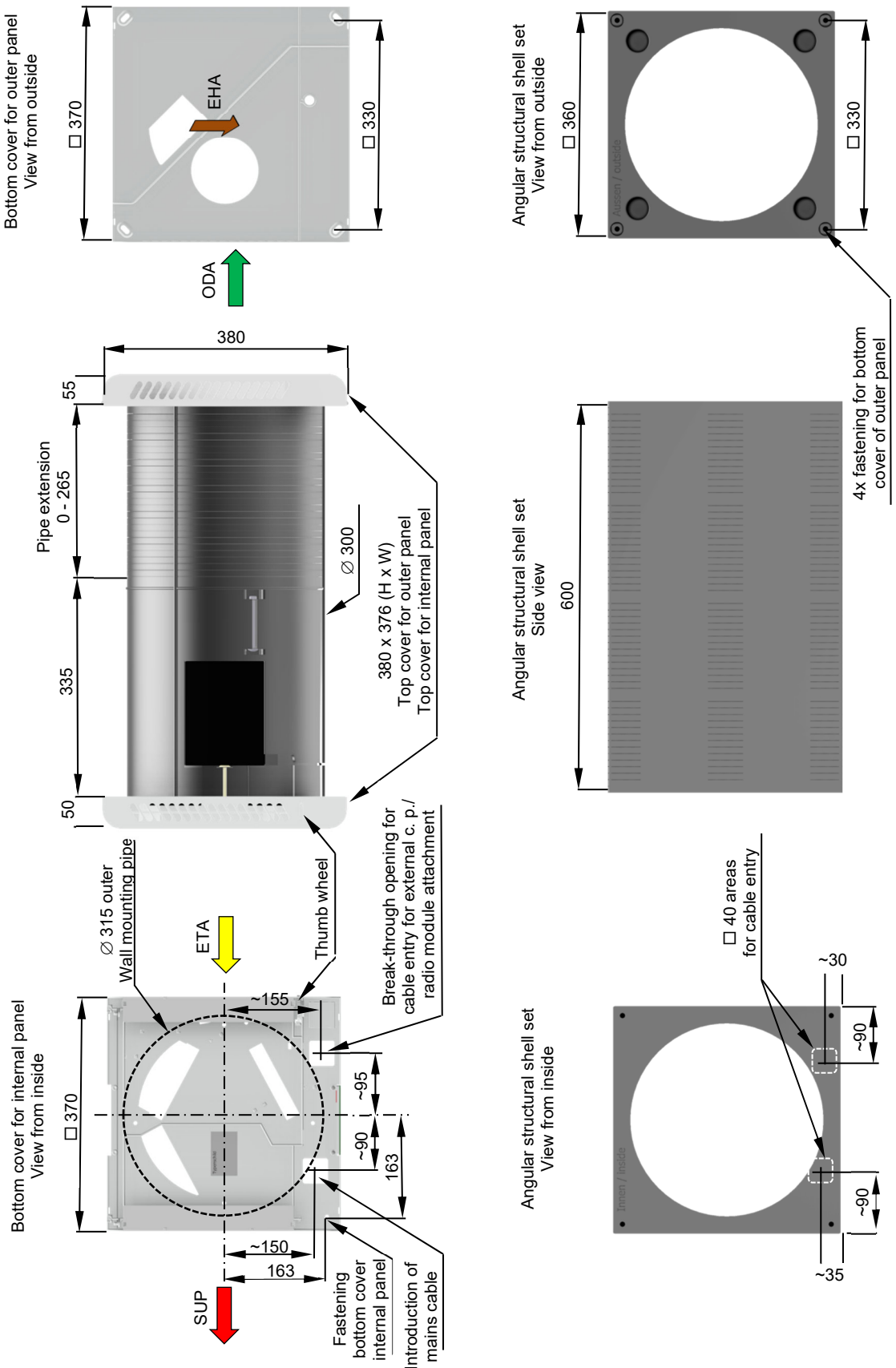
Sound data housing emission		
Sound pressure level L_{p3m} in [dB(A)], free-field conditions with 3 m clearance		
Fan speed	On the room side	On the outside
FS1	5,2	19,0
FS2	14,7	26,9
FS3	23,2	36,1
FS4	29,0	40,4

Sound data sound passage		
Working condition of shutters	Weighted sound reduction index $R_{w,P}$ (C;C_{tr}) [dB]	Weighted normalized level difference $D_{n,e,w}$ [dB]
Shutters open	30 (-2; -4)	48
Shutters closed	32 (-1; -3)	51

5.10.1 Terminal scheme



5.10.2 Dimensions



Product video on installation and function

PDE-Manual_CS50_V4.0_V0422,EN, subject to change

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