Ventilation system
GEALAN-CAIRE smart

Operating manual

English translation of the German original operating manual

Last updated: 02/2021

Table of contents

Notes on the manual and the manufacturer

This manual will help you to safely operate the 'GEALAN-CAIRE smart' ventilation system. The 'GEALAN-CAIRE smart' ventilation system is referred to as the 'ventilation system' for short below.

Keeping the manual available

This manual forms part of the ventilation system.

▶ Ensure that this manual is available to the user at all times.
▶ Supply this manual with the ventilation system if you ever sell it or pass it on in any other way.

Design features in the text

Various elements of this manual are provided with specified design features. This allows you to easily distinguish between the following elements:

Normal text

• Lists
▶ Call to action

Table headings are in bold.

ⓘ Tips contain additional information.

Design features in figures

When elements of a figure are referred to in a key or in the text, they are given a number (1). Numbering starts with the number 1 for each figure. Important details are magnified with magnifying glass views.
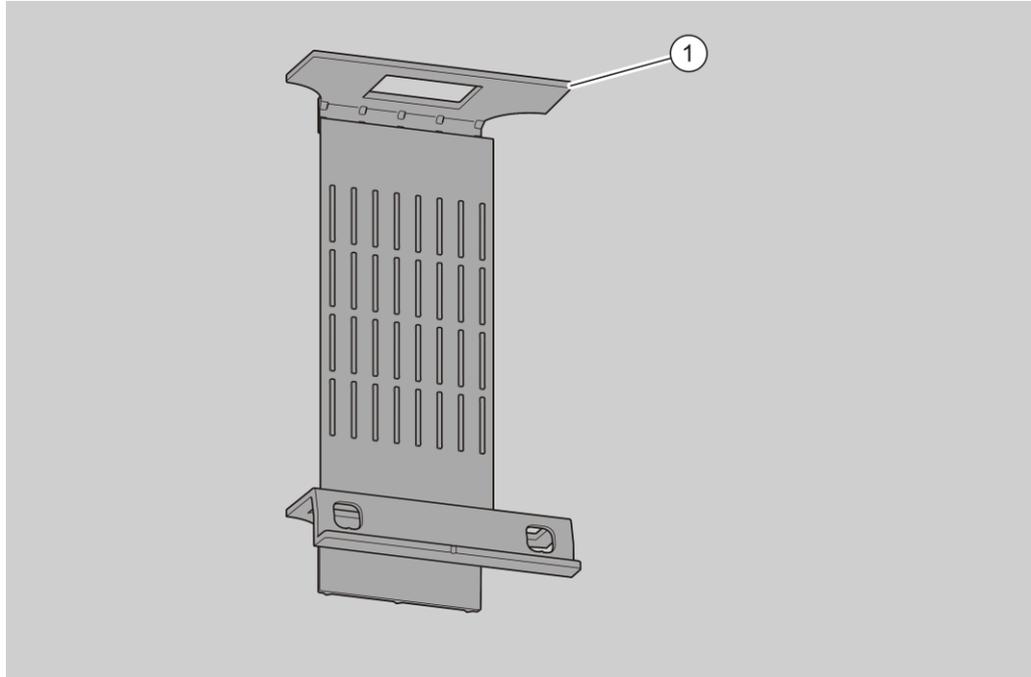
Manufacturer's address

GEALAN Fenster-Systeme GmbH
Hofer Strasse 80
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Copyright

Safety

Intended use

The ventilation system is used to aerate and ventilate frost-free rooms. It can be used in private or semi-public areas.

Intended use includes reading and understanding this manual, as well as observing and following all the information contained in this manual, especially the safety instructions.

Any other use is expressly deemed to be unintended.

Ban on unauthorised conversions

Unauthorised conversions or modifications to the ventilation system can result in serious or even fatal injuries.

▶ Do not make any modifications to the ventilation system's components.

Basic safety instructions

Incorrect handling of the ventilation system can result in serious injury and death.

▶ Do not place any objects on the ventilation system.
▶ Only use the ventilation system if it is in a technically perfect condition.
▶ Contact your specialist dealer immediately if you notice any damage.
▶ Have the ventilation system dismantled and repaired by specialist personnel.
▶ Have the ventilation system dismantled and disposed of by specialist personnel at the end of its service life.

Preventing property damage

Obstacles can lead to malfunction.

▶ Ensure that there are no obstacles between the ventilation unit and the mobile terminal device if possible.

If you have problems with WLAN reception, try removing the following obstacles:

- Furniture
- Bluetooth devices (e.g. wireless keyboards, wireless headphones, etc.)
- Plants
- Electrical appliances (e.g. microwave, wireless cameras, etc.)
- Water-carrying elements.

Design features of warning notices

⚠ WARNING	
	Notes with the word WARNING warn of a dangerous situation that may potentially lead to death or serious injury.

Design features of notes on property damage

ATTENTION!	
	These notices warn against situations that lead to property damage.

Description

Control elements
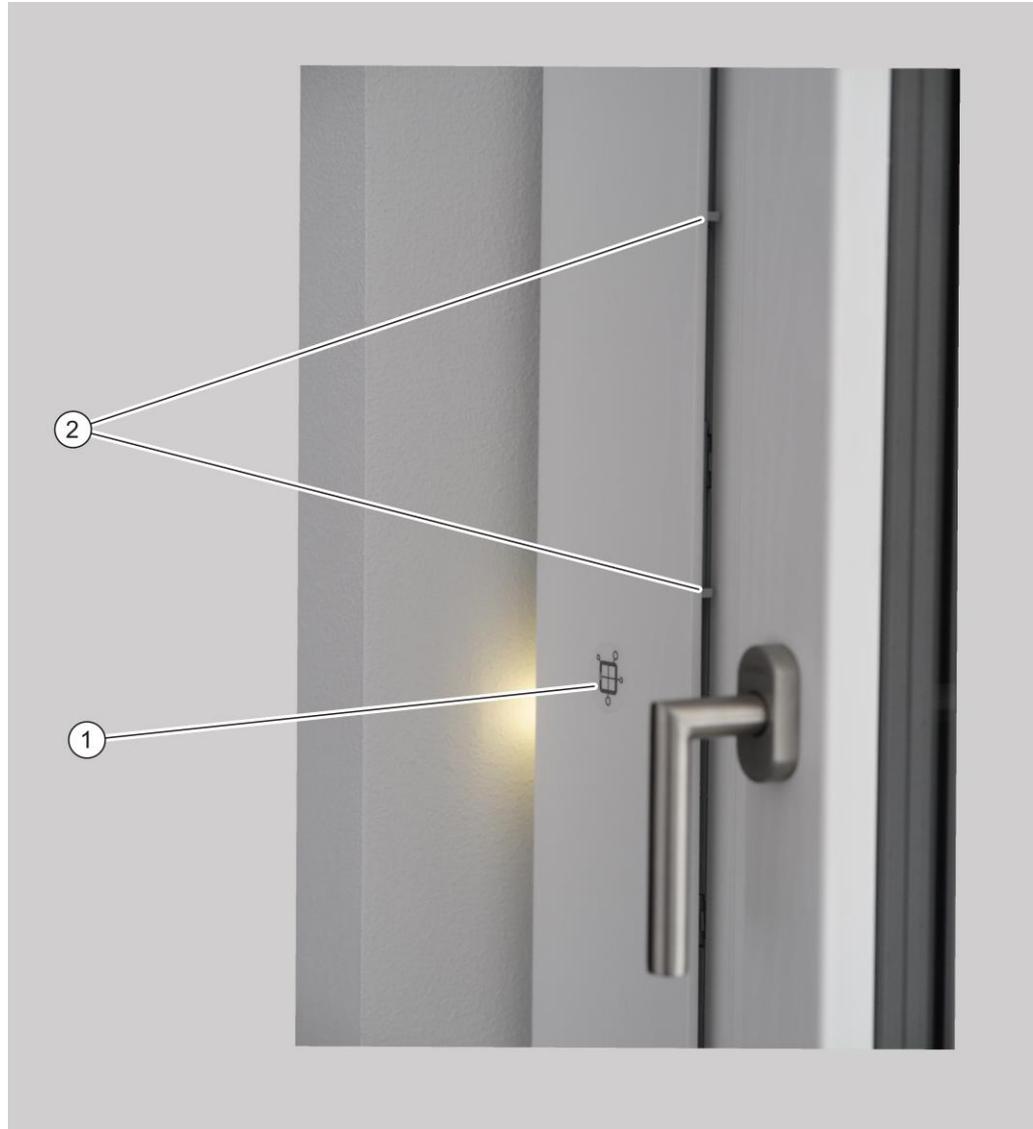
No.	Name
1	Button for operating the ventilation system
2	Fan cover for closing the air ducts (under the cover strip): When opened: Fan unit switched on When closed: Fan unit switched off
–	External button for operating the ventilation system (not shown)

Operating modes and LED indicators

Operating mode or status	LED 1	LED 2	LED 3	LED 4	LED 5	LED 6
Initialisation phase	Purple	Purple	Purple	Purple	Purple	Purple
Standby mode	Yellow	–	–	–	–	–
Power levels in manual mode:						
Level 1	Green	–	–	–	–	–
Level 2	Green	Green	–	–	–	–
Level 3	Green	Green	Green	–	–	–
Level 4	Green	Green	Green	Green	–	–
Level 5	Green	Green	Green	Green	Green	–
Automatic mode	–	–	–	–	–	Green
Frost protection or moisture protection	Blue	Blue	Blue	Blue	Blue	Blue
Night cooling	Turquoise	Turquoise	Turquoise	Turquoise	Turquoise	Turquoise
Cover closed	–	Red	Red	Red	Red	–
Filter change necessary	Flashes orange alternately with the operating mode (e.g. alternately three green LEDs and six orange LEDs at level 3)					
Filter change mandatory	All LEDs flash orange					
Other errors	All LEDs flash red alternately with the error code					

Task and function

The ventilation system is used to aerate and ventilate frost-free rooms. It can be used in private areas (living rooms, bedrooms, kitchens, showers, bathrooms, storage rooms) or semi-public areas (offices, hotel rooms, daycare centres, nursing homes).

Used, warm room air is extracted as exhaust air and discharged to the outside as outgoing air. At the same time, fresh outside air is drawn in and introduced into the rooms as filtered supply air.

The ventilation system has a position sensor. The position sensor detects when the ventilation system is not in the correct position in the ventilation profile. In this case, it blocks operation of the ventilation system.

The ventilation system has the following operating modes:
- a manual mode
- a standby mode
- an automatic mode.

In automatic mode, the speed of the fans is controlled according to the humidity. In manual mode, the speed of the fans is controlled according to the set power level.

The ventilation system has one button and six RGB LEDs. It can also be equipped and controlled with an external button as an option.

In addition, the ventilation system can also be controlled over a WLAN. WLAN control is carried out using the GEALAN Home app.

The LEDs indicate the current state of the ventilation system, filter change and errors. When the ventilation system is in operation, the LEDs switch on automatically. They switch off after two minutes by default. LED switch-off can be set in the GEALAN Home app.

Power-saving mode

When the ventilation unit is in standby mode and the set time to LED switch-off has elapsed, the ventilation unit starts power-saving mode. Power-saving mode is not displayed separately. Access to the ventilation system through the GEALAN Home app is still possible. The power-saving mode is automatically ended as soon as the ventilation system is operated or the LED switch-off is disabled.

Frost protection monitoring

The ventilation system has frost protection monitoring. Frost protection monitoring prevents freezing of and thus damage to the heat exchanger. Frost protection monitoring is active in all operating modes.

The heat exchanger's exhaust air duct may start to freeze due to condensate formation and sub-zero outdoor temperatures. So the exhaust air duct's cross-section through the heat exchanger is continuously reduced. As a result, less heat is transferred to the supply air. This causes a significant drop in supply air temperature.

The system continuously monitors the supply air temperature. As soon as the supply air temperature drops too low, the system automatically switches to frost protection mode.

The supply air fan is switched off in frost protection mode. The exhaust air fan runs continuously at level 2. It ensures defrosting and drying of the heat exchanger.

The frost protection ends automatically as soon as the danger to the heat exchanger has passed. Once frost protection has ended, the ventilation unit continues to run in the operating mode that was active previously.

Filters

The ventilation unit has two filters for supply air and exhaust air. The filters have a limited service life and have to be changed regularly. The filters' service life depends on the volume of air that passes through them and is therefore dependent on the ventilation unit's operating mode.

The filters have their own data memory. The operating hours and the running time are stored in this data memory depending on the operating mode.

When the service life of one or both of the filters is almost reached (after 11 months in level 1), 'Filter change necessary' is indicated. However, the ventilation unit continues to operate normally.

When the service life of one or both of the filters is finally reached (after a total of 13 months in level 1), 'Filter change mandatory' is indicated. The ventilation unit can no longer operate.

'Filter change necessary' and 'Filter change mandatory' are indicated by orange LEDs (see page 10 regarding this matter). The LED closest to the filter to be changed is displayed slightly darker than the other LEDs. This informs you which filter needs to be replaced.

Once the filters have been changed, the LED indicator goes out and the ventilation unit automatically continues in the last operating mode.

Cover for closing the air ducts

A cover is fitted over the fans (under the cover strip). This cover allows the airways to be closed. Both of the ventilation unit's fans switch off when the

cover is closed. As soon as the cover is opened again, the ventilation unit resumes operation in the most recently set operating mode.

Menu items

The ventilation system has a settings menu. You can set or display the following items in this menu:

- Delete errors
- Switch on WLAN
- Switch off WLAN
- Reset WLAN
- Restart communication processor.

The 'Switch on WLAN' menu item is displayed when the WLAN is switched off. The 'Switch off WLAN' menu item is displayed when the WLAN is switched on.

Delete errors

You can delete the errors that have occurred in this menu item.

Enable WLAN

You can enable the WLAN in this menu item.

Disable WLAN

You can disable the WLAN in this menu item.

Reset WLAN

You can reset all of the WLAN settings with the exception of the device name in this menu item. To this end, the WLAN is disabled, all the saved settings are deleted and the WLAN is reconfigured. The communication processor is restarted after a few seconds. The ventilation unit logs on as a software access point with the original password, as it did during initial commissioning process, and can be reconfigured.

Restart communication processor

You can restart the communication processor in this menu item (e.g. if there are problems with the WLAN connection). You do not have to disconnect the ventilation system from the power supply during this process.

Technical data

Fan unit	
Dimensions (L × W × H)	126 × 86 × 34 mm
Weight	2.4 kg
Number of fans	2
Output	34 W
Power supply	24 V
Volume flow	4 – 40 m³/h

Power supply unit	
Dimensions (L × W × H)	163 × 43 × 32 mm
Weight	500 g
Output	60 W
Input voltage	100 – 230 V AC
Output voltage	24 V DC
Protection class	IP67

Name plate

The name plate is located on the front of the ventilation system. You will find the following information on the name plate:

- Manufacturer's name and contact details
- Country of manufacture
- Model name
- Year of manufacture
- QR code
- CE mark
- WEEE Directive mark (rubbish bin)
- Input voltage range
- Serial number
- Item number
- MAC address.

Operating the ventilation system

You can operate the ventilation system as follows:

• with the button on the unit

• with the external button

• with the GEALAN Home app.

Operating the ventilation system with the buttons

ⓘ Operation is identical with both buttons. So reference is always made to both buttons when a button is mentioned below.

Switching the ventilation system on and off

▶ Slide the cover for closing the air ducts (1) to the open position.

The fans switch on. Following switch-on for the first time (initial commissioning process or after a power failure), the fan switches to automatic mode. When switched on again, the fan unit starts in the operating mode that was active last.

▶ Slide the cover for closing the air ducts (1) to the closed position.

The fan unit's fans switch off. The middle four LEDs light up red.
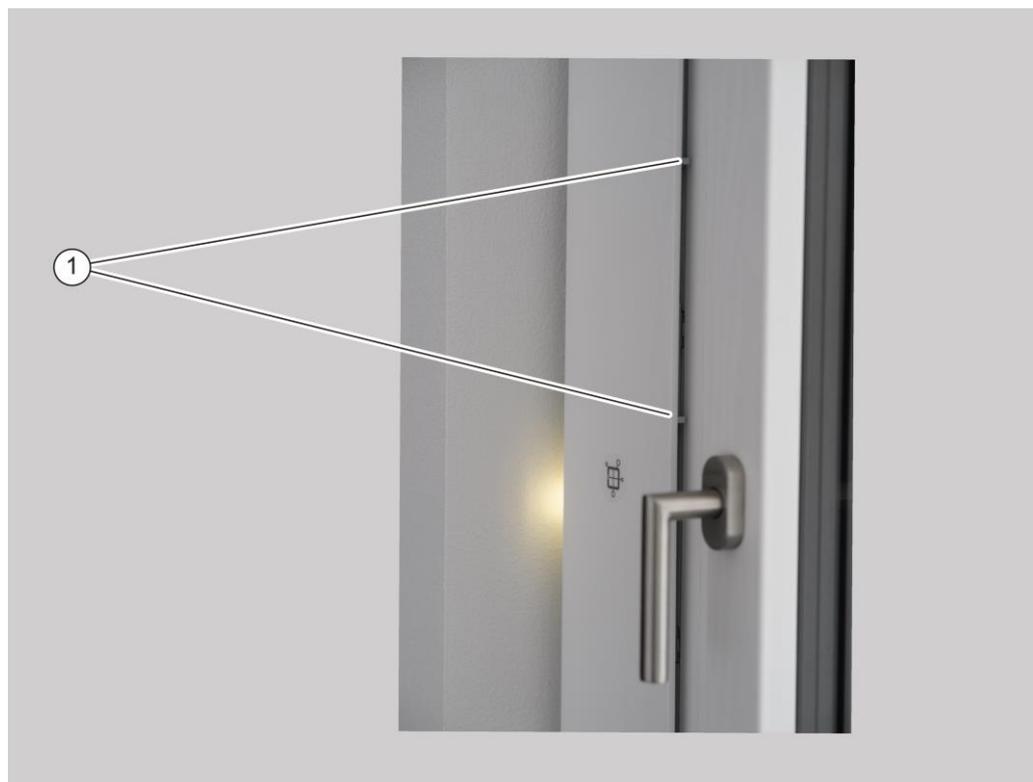
Switching operating modes

The ventilation system has the following operating modes:

- a manual mode
- a standby mode
- an automatic mode.

In manual mode, you can select the power levels (1, 2, 3, 4 and 5) and the standby mode. Proceed as follows to select the standby mode or a power level:

▶ Ensure that the cover for closing the air ducts is in the open position.

▶ Press the button once to switch to the next power level or to standby mode.

The set power level or standby mode is indicated by the LEDs.

▶ Repeat this step until the desired power level or standby mode is reached.

The unit switches through the mode and levels in the following sequence:

- Standby mode
- Power level 1
- Power level 2
- Power level 3
- Power level 4
- Power level 5.

The LEDs (in the case of horizontal installation: starting from the left; in the case of vertical installation: starting from the bottom) indicate the current fan state:

- Standby mode is active: one LED lights up yellow.
- Power level 1 is active: one LED lights up green.
- Power level 2 is active: two LEDs light up green.
- Power level 3 is active: three LEDs light up green.
- Power level 4 is active: four LEDs light up green.
- Power level 5 is active: five LEDs light up green.

ⓘ Operation in level 5 is limited to a maximum of 60 minutes to prevent the power supply unit from overheating. The ventilation unit automatically switches down to level 4 after 60 minutes in level 5.

Proceed as follows to switch from manual mode to automatic mode:

▶ Press and hold the button for three seconds.

The first LED from the right or the first LED from the top lights up green. The ventilation system is now in automatic mode.

Proceed as follows to switch from automatic mode to manual mode:

▶ Press and hold the button again for three seconds.

The ventilation system is now in manual mode.

Starting from the left or the bottom, the number of green LEDs indicates which ventilation level is active.

Selecting menu items

Proceed as follows to select a menu item:

▶ Press and hold the button for five seconds.

The first three LEDs flash purple. The settings menu opens.

The last three LEDs indicate the relevant menu item. The unit switches to the next menu item every six seconds. The settings menu is closed once the last menu item is displayed.

▶ Press the button once to select the relevant menu item.

The menu item currently displayed is selected and the settings menu is exited.

Refer to the table below for the colours of the LEDs for the relevant menu item:

No.	Menu item	LED 1	LED 2	LED 3	LED 4	LED 5	LED 6
1	Delete errors	Flashing purple			Red	Red	Red
2	Switch on WLAN				Blue	Blue	Green
3	Switch off WLAN				Blue	Blue	Red
4	Reset WLAN				Blue	Blue	Purple
5	Restart communication processor				Yellow	Yellow	Yellow

ⓘ The ventilation unit continues to operate normally throughout the entire process.

Operating the ventilation system with the GEALAN Home app

You must perform the following activities to use the ventilation system with the GEALAN Home app:

• Download the GEALAN Home app

• Establish a WLAN connection

For this, you will need:

• a tablet

• or a smartphone.

Operating system: Android or iOS

Downloading the GEALAN Home app

You can use the following links:

• www.gealan.de/gealan-home-app-android

• www.gealan.de/gealan-home-app-ios

▶ Download the app that's suitable for your terminal device's operating system.

▶ Follow the instructions in the app.

▶ Establish a WLAN connection.

Establishing a WLAN connection

ATTENTION!	
	Obstacles (e.g. furniture, plants, Bluetooth devices, etc.) can cause malfunctions.
	▶ Ensure that there are no obstacles (e.g. furniture, plants, Bluetooth devices, etc.) between the ventilation system and the mobile terminal device.

▶ Enable the WLAN according to the section entitled 'Selecting menu items' (see page 17 regarding this matter).

After switching on the WLAN for the first time (or after resetting the WLAN settings), the ventilation unit works as a software access point (SoftAP).

▶ Connect your device to the ventilation unit's software access point (SoftAP).

The WLAN network you need to connect to is displayed as GEALAN_AP_XXXXXX. The last six characters identify the ventilation unit, e.g. GEALAN_AP_188CC0. If you use several ventilation units, several WLAN networks are displayed too.

▶ The six characters (without dots) are taken from the MAC address on the name plate.

The SoftAP mode is secured with a password. The password is made up of your ventilation system's serial number (SN) and as many zeros as necessary to reach 12 digits including the serial number (SN). For example, the serial number (SN) 158329 results in the password 'SN0000158329'. The length of the serial number may vary.

The serial number (SN) is attached to the ventilation unit. If the sticker was removed by mistake, you can ask your specialist dealer for the serial number with the WLAN SSID. For security reasons, you must change the password after logging in for the first time. If you forget the password, you must reset all of the WLAN settings in the settings menu (see page 17 regarding this matter).

After connecting your device to the software access point (SoftAP), you can use the ventilation unit in this mode. We recommend integration in a home network.

▶ To do this, follow the instructions in the GEALAN Home app.

Changing the filters

When the service life of one or both of the filters is finally reached (after a total of 13 months in level 1), 'Filter change mandatory' is indicated. The ventilation unit can no longer operate.

'Filter change necessary' and 'Filter change mandatory' are indicated by orange LEDs (see page 10 regarding this matter). The LED closest to the filter to be changed is displayed slightly darker than the other LEDs. This informs you which filter needs to be changed. Proceed as follows to change the filters:

▶ Switch off the ventilation system.

▶ Remove the cover strip (1).

▶ Open the two filter flaps (1) in the direction of the arrow.

▶ Remove the used filters (2).
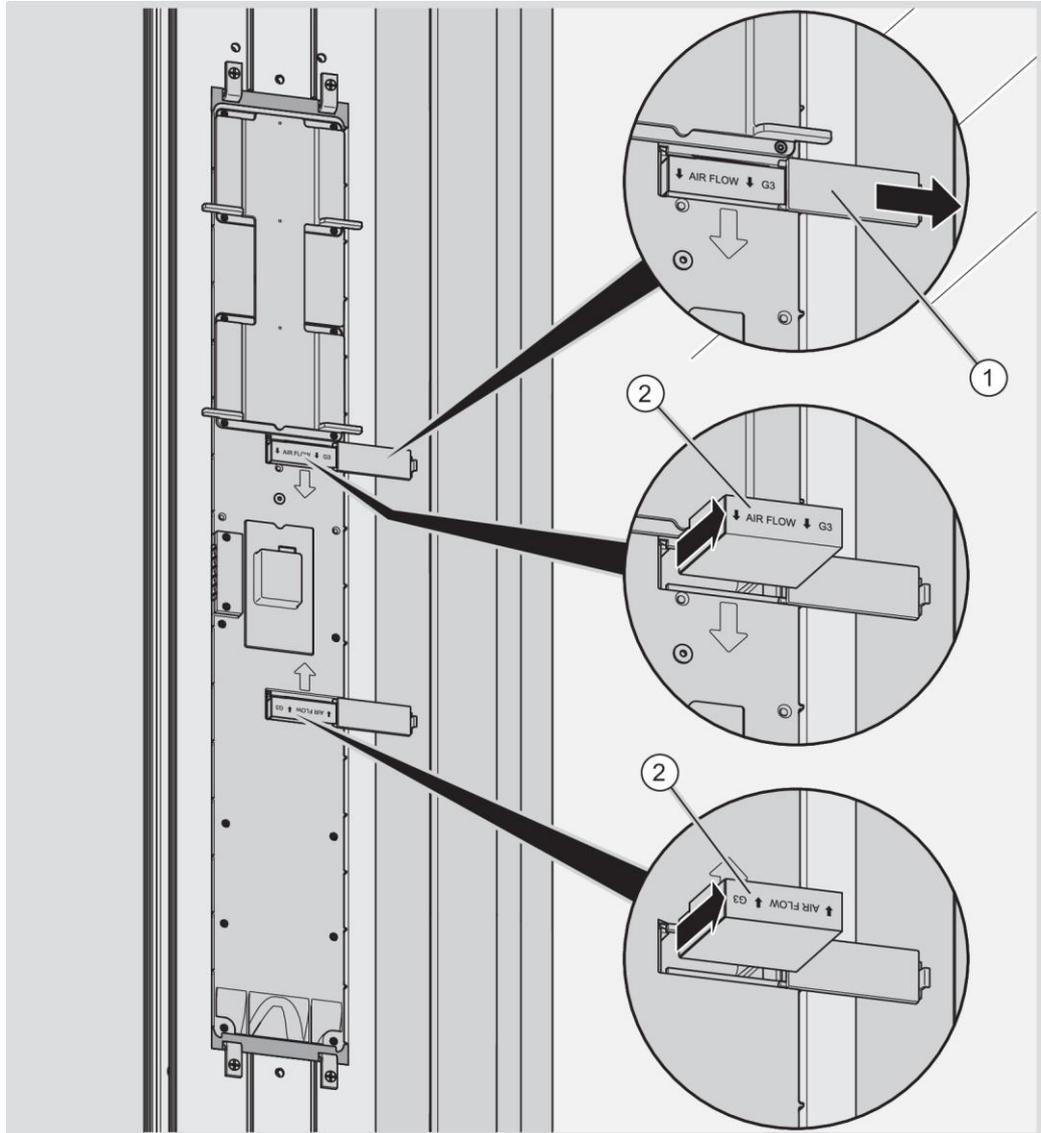
▶ Insert the new filters as shown (2).

▶ Close the filter flaps (1).
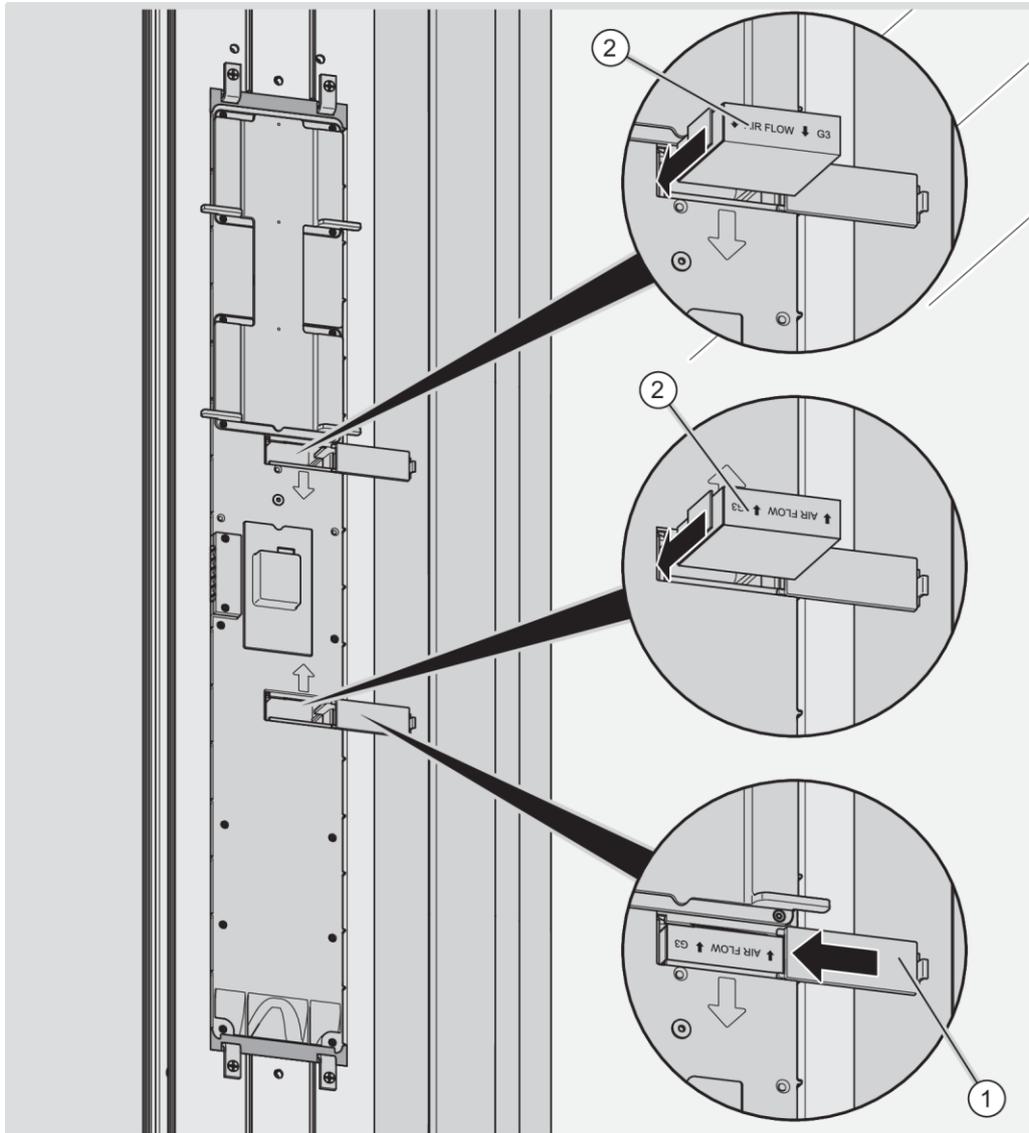
▶ Attach the cover strip to the ventilation profile.

▶ Switch on the ventilation system.

The LED indicator goes out. The ventilation unit automatically detects the new filters and continues working in the most recently active operating mode.

Maintaining the ventilation system

⚠ WARNING	
⚠	Danger of death possible due to electric shock or fire. ▶ Always disconnect the ventilation system from the mains before performing maintenance work. To do this, switch off the fuse. ▶ Ensure that no liquid gets inside the ventilation system.

▶ If necessary, clean the cover strip and the buttons with a clean, damp cloth only.

Troubleshooting

Errors are indicated by the LEDs flashing in different ways. Proceed as follows if this happens:

▶ Use the table below to check which error it is.

▶ Try to delete the error in the 'Delete errors' menu item (see page 17 regarding this matter).

▶ Switch off the ventilation system if the error that occurred cannot be deleted.

▶ Contact your specialist dealer.

LED1	LED2	LED3	LED4	LED5	LED6	Error code	Brief description	Source of the error
Red	Off	Off	Off	Off	Off	1	_EVENT_ ERROR_ TEMP_1	Temperature sensor 1 (Exhaust air outside)
Off	Red	Off	Off	Off	Off	2	_EVENT_ ERROR_ TEMP_2	Temperature sensor 2 (Supply air inside)
Red	Red	Off	Off	Off	Off	3	_EVENT_ ERROR_ TEMP_3	Temperature sensor 3 (Supply air outside)
Off	Off	Red	Off	Off	Off	4	_EVENT_ ERROR_ TEMP_4	Temperature sensor 4 (Exhaust air inside)
Red	Off	Red	Off	Off	Off	5	_EVENT_ ERROR_ HUMIDITY1	Humidity sensor 1 (Supply air outside)
Off	Red	Red	Off	Off	Off	6	_EVENT_ ERROR_ HUMIDITY2	Humidity sensor 2 (Exhaust air inside)
Off	Red	Off	Red	Off	Off	10	_EVENT_ ERROR_ SPEED_ FAN1	Fan 1
Red	Red	Off	Red	Off	Off	11	_EVENT_ ERROR_ SPEED_ FAN2	Fan 2
Red	Red	Red	Red	Off	Off	15	_EVENT_ ERROR_ SUPPLY-VOLT	Supply voltage

LED1	LED2	LED3	LED4	LED5	LED6	Error code	Brief description	Source of the error
Red	Off	Off	Red	Red	Off	25	_EVENT_ ERROR_ I2C_24XX	I2C memory
Off	Red	Red	Red	Red	Off	30	_EVENT_ ERROR_ ESP32	Communication processor
Off	Off	Off	Off	Off	Red	32	_EVENT_ ERROR_ COMMUNI-CATION	Main processor
Red	Off	Off	Off	Off	Red	33	_EVENT_ ERROR_-POSITION	Installation position of the ventilation unit

Disposal

Disposing of the filters

The filters have a data memory.

▶ Dispose of the used filters in an environmentally friendly manner.

Please contact your specialist dealer for information about disposal.

WEEE registration number: WEEE reg. no. DE 35001489

Disposing of the ventilation system

At the end of its service life, the ventilation system must be disposed of in an environmentally friendly manner.

▶ Have the ventilation system dismantled by specialist personnel.

▶ Dispose of the ventilation system through an approved specialist company or send it to your specialist dealer for disposal.

The ventilation system is mainly made of PA66-103HSL (all injection-moulded parts). It also consists of the following materials:

- Stainless steel (screws, fan suspension brackets), PVC (heat exchanger)
- Electronic components (fans, control board).

WEEE registration number: WEEE reg. no. DE 35001489